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FINAL PHASE I of the CORRECTIVE MEASURES STUDY INVESTIGATION SWMU 74 – FUEL PIPELINES and HYDRANT PITS

For NAVAL ACTIVITY PUERTO RICO
EPA I.D. No. PR2170027203
CEIBA, PUERTO RICO

Prepared for:

Department of the Navy
NAVFAC SOUTHEAST
North Charleston, South Carolina

Prepared by:

Michael Baker Jr., Inc.
Moon Township, PA

Contract No. N62470-07-D-0502
DO 0002

March 26, 2010

IQC for A/E Services for Multi-Media Environmental Compliance Engineering Support

FINAL

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DEPARTMENT OF THE NAVY
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North Charleston, SC

Under:

Contract No. N62470-07-D-0502
DELIVERY ORDER 0002

Prepared by:

MICHAEL BAKER JR., INC.
Moon Township, Pennsylvania

I certify under penalty of law that I have examined and am familiar with the information submitted in this document and all attachments and that this document and its attachments were prepared either by me personally or under my direction or supervision in a manner designed to ensure that qualified and knowledgeable personnel properly gather and present the information contained therein. I further certify, based on my personal knowledge or on my inquiry of those individuals immediately responsible for obtaining the information, that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowingly and willfully submitting a materially false statement.

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TABLE OF CONTENTS

Page

LIST OF ACRONYMS viii

1.0 INTRODUCTION 1-1
- 1.1 Purpose of Report 1-1
- 1.2 Objectives 1-1
- 1.3 Organization of Phase I of the CMS Investigation Report 1-1

2.0 BACKGROUND INFORMATION 2-1
- 2.1 NAPR Description and History 2-1
- 2.2 SWMU 74 Description 2-2
- 2.3 Previous Investigations 2-3
- 2.4 Breakdown of SWMU 74 into Five Geographic Areas 2-5
- 2.5 Physical Characteristics of the Study Area 2-5
  - 2.5.1 Climatology 2-5
  - 2.5.2 Topography 2-6
  - 2.5.3 Geology, Hydrology, and Hydrogeology 2-7

3.0 FIELD INVESTIGATION ACTIVITIES 3-1
- 3.1 Surface and Subsurface Soil Sampling 3-2
- 3.2 Monitoring Well Installation and Groundwater Sampling 3-5
- 3.3 Groundwater Level Measurements 3-7
- 3.4 Decontamination and Investigation Derived Waste 3-7
- 3.5 Utility Clearance 3-8
- 3.6 Surveying 3-8
- 3.7 QA/QC Sampling 3-8
  - 3.7.1 Field Duplicates 3-9
  - 3.7.2 Trip Blanks 3-9
  - 3.7.3 Matrix Spikes/Matrix Spike Duplicates 3-9
  - 3.7.4 Field Blanks 3-9
  - 3.7.5 Equipment Rinsates 3-10
- 3.8 Laboratory Analysis 3-10
- 3.9 Data Validation 3-10
  - 3.9.1 Summary of Detected Compounds in Field QA/QC Samples 3-10
  - 3.9.2 Third Party Data Validation Summary 3-11
- 3.10 Deviations from the Work Plan 3-14

4.0 EVALUATION CRITERIA 4-1
- 4.1 TPH 4-1
  - 4.1.1 TPH DRO and PAHs 4-1
  - 4.1.2 TPH and Metals 4-2
- 4.2 Background Criteria 4-2
- 4.3 Human Health Screening Criteria 4-3
  - 4.3.1 Soil 4-3
  - 4.3.2 Groundwater 4-4
- 4.4 Ecological Screening Values 4-4
  - 4.4.1 Soil 4-4
  - 4.4.2 Groundwater 4-5

TABLE OF CONTENTS
(continued)

5.0 AIRFIELD AREA 5-1
5.1 Area Description 5-1
5.2 Sampling Summary 5-1
5.3 Area Geology and Hydrogeology 5-1
5.4 Surface Soil Results 5-2
5.5 Subsurface Soil Results 5-3
5.6 Groundwater Results 5-4
5.7 Impacts from Other SWMUs 5-5
5.8 Conclusions 5-5
5.9 Recommendations for Phase II 5-5

6.0 SWMU 9 AREA A/B 6-1
6.1 Area Description 6-1
6.2 Sampling Summary 6-1
6.3 Area Geology and Hydrogeology 6-2
6.4 Surface Soil Results 6-2
6.5 Subsurface Soil Results 6-3
6.6 Groundwater Results 6-4
6.7 Impacts from Other SWMUs 6-5
6.8 Conclusions 6-6
6.9 Recommendations for Phase II 6-6

7.0 JP-5 HILL AND DFM AREA 7-1
7.1 Area Description 7-1
7.2 Sampling Summary 7-1
7.3 Area Geology and Hydrogeology 7-2
7.4 Surface Soil Results 7-2
7.5 Subsurface Soil Results 7-3
7.6 Groundwater Results 7-4
7.7 Impacts from Other SWMUs 7-5
7.8 Conclusions 7-6
7.9 Recommendations for Phase II 7-6

8.0 SWMU 9 AREA C 8-1
8.1 Area Description 8-1
8.2 Sampling Summary 8-1
8.3 Area Geology and Hydrogeology 8-1
8.4 Surface Soil Results 8-2
8.5 Subsurface Soil Results 8-2
8.6 Groundwater Results 8-3
8.7 Impacts from Other SWMUs 8-4
8.8 Conclusions 8-4
8.9 Recommendations for Phase II 8-4

9.0 FUELING PIERS AREA 9-1
9.1 Area Description 9-1
9.2 Sampling Summary 9-1
9.3 Area Geology and Hydrogeology 9-1
9.4 Surface Soil Results 9-2

TABLE OF CONTENTS
(continued)

9.5 Subsurface Soil Results 9-2
9.6 Groundwater Results 9-4
9.7 Impacts from Other SWMUs 9-4
9.8 Conclusions 9-4
9.9 Recommendations for Phase II 9-5

10.0 SUMMARY OF CONCLUSIONS AND RECOMMENDATIONS 10-1

11.0 REFERENCES 11-1

TABLES

3-1 Summary of Sampling and Analytical Program – Environmental Samples
3-2 Summary of Sampling and Analytical Program – QA/QC Samples
3-3 Method Performance Limits – Appendix IX Compound List and Contract Required Quantitation Limits (CRQL)
3-4 Summary of Detected Results - QA/QC Summary - Trip Blanks
3-5 Summary of Detected Results - QA/QC Summary - Equipment Rinsates and Field Blank

5-1 Summary of Detected Results – Airfield - Surface Soil
5-2 Summary of Detected Results – Airfield - Subsurface Soil
5-3 Summary of Detected Results – Airfield - Groundwater

6-1 Summary of Detected Results – SWMU 9 Area A/B - Surface Soil
6-2 Summary of Detected Results – SWMU 9 Area A/B - Subsurface Soil
6-3 Summary of Detected Results – SWMU 9 Area A/B - Groundwater

7-1 Summary of Detected Results – JP-5 Hill and DFM Area - Surface Soil
7-2 Summary of Detected Results – JP-5 Hill and DFM Area - Subsurface Soil
7-3 Summary of Detected Results – JP-5 Hill and DFM Area - Groundwater

8-1 Summary of Detected Results – SWMU 9 Area C - Surface Soil
8-2 Summary of Detected Results – SWMU 9 Area C - Subsurface Soil
8-3 Summary of Detected Results – SWMU 9 Area C - Groundwater

9-1 Summary of Detected Results – Fueling Piers Area - Surface Soil
9-2 Summary of Detected Results – Fueling Piers Area - Subsurface Soil
9-3 Summary of Detected Results – Fueling Piers Area - Groundwater

TABLE OF CONTENTS
(continued)

FIGURES

2-1 NAPR Location Map
2-2 SWMU/AOC Location Map
2-3 SWMU 74 Location
2-4 Index Map of SWMU 74 Areas

3-1 Sample Location Map – Airfield
3-2 Sample Location Map – SWMU 9 Area A/B
3-3 Sample Location Map – JP-5 Hill and DFM Areas
3-4 Sample Location Map – SWMU 9 Area C
3-5 Sample Location Map – Fueling Piers Area
3-6 Regional Groundwater Contour Map – Airfield

5-1 Organic Exceedances of Background and Screening Criteria in Soil - Airfield
5-2 Organic Exceedances of Screening Levels or TPH Criteria in Groundwater - Airfield
5-3 Phase II Sample Area Key Map - Airfield
5-4 Phase II Proposed Sample Locations - Segment A - Aircraft Hydrant Refueling Area - Airfield
5-5 Phase II Proposed Sample Locations – Segment B - Day Tank Area - Airfield
5-6 Phase II Proposed Sample Locations – Segment C - Airfield Fuel Pipeline Area - Airfield

6-1 Organic Exceedances of Background and Screening Criteria in Soil - SWMU 9 Area A/B
6-2 Organic Exceedances of Background and Screening Criteria and Selected Inorganic Compounds in Groundwater – SWMU 9 Area A/B
6-3 Phase II Proposed Sample Locations - SWMU 9 Area A/B

7-1 Organic Exceedances of Background and Screening Criteria and TPH Exceedances of Criteria in Soil – JP-5 Hill and DFM Area
7-2 Organic Exceedances of Background and Screening Criteria in Groundwater – JP-5 Hill and DFM Area
7-3 Phase II Sample Area Key Map – JP-5 Hill and DFM Areas
7-4 Phase II Proposed Sample Locations – Segment A – JP-5 Hill Tank Area - JP-5 Hill and DFM Area
7-5 Phase II Proposed Sample Locations – Segment B – DFM Area - JP-5 Hill and DFM Area

8-1 Organic Exceedances of Background and Screening Criteria and TPH Exceedances of Criteria in Soil – SWMU 9 Area C
8-2 Organic Exceedances of Background and Screening Criteria in Groundwater – SWMU 9 Area C
8-3 Phase II Proposed Sample Locations – SWMU 9 Area C

9-1 Organic Exceedances of Background and Screening Criteria and TPH Exceedances of Criteria in Soil – Fueling Piers Area
9-2 Organic Exceedances of Background and Screening Criteria in Groundwater – Fueling Piers Area
9-3 Phase II Proposed Sample Locations – Fueling Piers Area

10-1 SWMU 74 Phase II Investigation Areas

TABLE OF CONTENTS
(continued)

APPENDICES

Appendix A – Field Activities
Field Log Book Notes
Soil Boring Logs and Well Construction Records
Chain-of-Custody Forms
IDW Analytical Results and Waste Manifest
Site Photographs

Appendix B – Laboratory Analytical Data Tables
Surface Soil Data
Subsurface Soil Data
Groundwater Data
QA/QC Data

Appendix C - Data Validation Report Summaries
SDG 36289-2
SDG 36289-4
SDG 36360-1
SDG 36360-2
SDG 36419-3
SDG 36419-4
SDG 36419-5
SDG 36426-1
SDG 36426-2
SDG 36426-3
SDG 36426-4
SDG 36489-1
SDG 36489-2
SDG 36489-3
SDG 36489-4
SDG 36517-1
SDG 36517-2
SDG 36517-3
SDG 36517-5
SDG 36711-1
SDG 36766-1
SDG 36766-2
SDG 36806-1
SDG 36806-2
SDG 36806-3
SDG 36806-4
SDG 36880-1
SDG 36880-2
SDG 36880-3
SDG 36880-4
SDG 36891-1
SDG 36891-2
SDG 36891-3
SDG 36891-4
SDG 36891-5
SDG 36925-1
SDG 36925-2
SDG 36925-3

TABLE OF CONTENTS
(continued)

SDG 36925-4
SDG 36978-1 and SDG 36978-5
SDG 36978-2
SDG 36978-3
SDG 36978-4
SDG 37020-1
SDG 37020-2
SDG 37020-3
SDG 37020-4
SDG 37125-1
SDG 37178-1
SDG 37226-4
SDG 37251-3
SDG 37251-6
SDG 37369-4
SDG 37613-2
SDG 38888-2

Puerto Rican Chemist Certifications

Appendix D - Supporting Data Evaluation

PAH/DRO Correlation Plots
Metals/TPH Correlation Plots

LIST OF ACRONYMS AND ABBREVIATIONS

AOC	Area of Concern
AST	Aboveground Storage Tank
AVGAS	Aviation Gasoline
Baker	Michael Baker Jr., Inc.
bgs	below ground surface
BRAC	Base Realignment and Closure
BTEX	Benzene, Toluene, Ethylbenzene and Xylene
CADD	Computer Aided Design and Drafting
CCC	Criteria Continuous Concentration
CCME	Canadian Council of Ministers of the Environment
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CERFA	Community Environmental Response Facilitation Act
CMS	Corrective Measures Study
CRDL	Contract Required Detection Limit
CRQL	Contract Required Quantitation Limit
CSF	Cancer Slope Factor
DataQual	DataQual Environmental Services, LLC
DFM	Diesel Fuel Marine
DO	Delivery Order
DPT	Direct Push Technology
DRO	Diesel Range Organics
DGPS	Differential Global Positioning System
EC_{50}	Median Effective Concentration
Eco-SSL	Ecological Soil Screening Level
ECP	Environmental Condition of Property
EPA	Environmental Protection Agency
ESL	Ecological Screening Level
FCV	Final Chronic Value
FID	Flame Ionization Detector
ft	foot
GC/MS	Gas Chromatograph/Mass Spectrometer
GIS	Geographic Information System
GPS	Global Positioning System
GRO	Gasoline Range Organics
HSA	Hollow-Stem Auger
HQ	Hazard Quotient
ILCR	Incremental Lifetime Cancer Risk
IDW	Investigation-Derived Waste
ISCA	Interference Check Solution A
ISCAB	Interference Check Solution AB
IUR	Inhalation Unit Risk

LIST OF ACRONYMS AND ABBREVIATIONS
(continued)

J	Estimated
JFA	JFA Geological and Environmental Scientists
kg	kilogram
LANTDIV	Atlantic Division Naval Facility Engineering Command
LC_{50}	Median Lethal Concentration
LLPAH	Low-Level Polynuclear Aromatic Hydrocarbon
LOEC	Lowest Observed Effect Concentration
LOEL	Lowest Observable Effect Level
MATC	Maximum Acceptable Toxicant Concentration
MCL	Maximum Contaminant Level
MEK	Methyl Ethyl Ketone
MIBK	Methyl Isobutyl Ketone
mg/kg	milligram per kilogram
MHSPE	Ministry of Housing, Spatial Planning and Environment
MOGAS	Motor Gasoline
MS/MSD	Matrix Spike/Matrix Spike Duplicate
NAD	North American Datum
NAPR	Naval Activity Puerto Rico
NAVFAC	Naval Facilities Engineering Command Atlantic Division
NAWQC	National Ambient Water Quality Criteria
NFESC	Naval Facilities Engineering Service Center
NOAA	National Oceanic and Atmospheric Administration
NOEC	No Observed Effect Concentration
NOEL	No Observed Effect Level
NSRR	Naval Station Roosevelt Roads
PAH	Polynuclear Aromatic Hydrocarbon
PID	Photoionization Detector
PMO	Program Management Office
POL	Petroleum, Oil and Lubricants
PR	Puerto Rico
PREQB	Puerto Rico Environmental Quality Board
PRG	Preliminary Remediation Goal
PVC	Polyvinyl Chloride
QC	Quality Control
QA/QC	Quality Assurance/Quality Control
R	Rejected
RAGS	Risk Assessment Guidance for Superfund
RBC	Risk Based Calculation
RCRA	Resource Conservation and Recovery Act
RfD	Reference Dose

LIST OF ACRONYMS AND ABBREVIATIONS
(continued)

RfC	Reference Concentrations
RPD	Relative Percent Difference
RRF	Relative Response Factor
RTK	Real-Time Kinetic
SCV	Secondary Chronic Value
SDG	Sample Delivery Group
SE	Southeast
SL	Screening Level
SOP	Standard Operating Procedure
SPCC	Spill Prevention, Control, and Countermeasures Plan
SQUIRT	Screening Quick Reference Table
SVOC	Semi-Volatile Organic Compound
SWMU	Solid Waste Management Unit
TCLP	Toxicity Characteristic Leaching Procedure
TGO™	Trimble Geomatics Office
TPH	Total Petroleum Hydrocarbons
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
UST	Underground Storage Tank
VOA	Volatile Organic Analysis
VOC	Volatile Organic Compound
VP	Valve Pit

1.0 INTRODUCTION

This document presents the results of Phase I of the Corrective Measures Study (CMS) Investigation conducted for Solid Waste Management Unit (SWMU) 74 (Fuel Pipelines and Hydrant Pits) at Naval Activity Puerto Rico (NAPR), Ceiba, Puerto Rico, formerly known as Naval Station Roosevelt Roads (NSRR). This report has been prepared by Michael Baker Jr., Inc. (Baker), for the Navy Base Realignment and Closure (BRAC) Program Management Office (PMO) Southeast (SE) office under contract with the Naval Facilities Engineering Command (NAVFAC), SE (Contract Number N62470-07-D-0502, Delivery Order [DO] 0002).

The United States Environmental Protection Agency (USEPA) issued a Resource Conservation and Recovery Act (RCRA) 7003 Administrative Order on Consent (Environmental Protection Agency [EPA] Docket No. RCRA-02-2007-7301) (USEPA, 2007a), which identified SWMU 74 (formerly referred to as Environmental Condition of Property (ECP) Site 20) as having documented releases of solid and/or hazardous waste and hazardous constituents. The Administrative Order required preparation of an acceptable work plan to complete site characterization and completion of a CMS to determine the final remedy for the SWMU. The Final CMS Work Plan for SWMU 74 (Baker, 2007) was approved by the USEPA on April 10, 2008. Phase I of the CMS Investigation was conducted in April through July 2008 following the approved work plan.

1.1 Purpose of Report

This report has been prepared to document the findings of the April through July 2008 Phase I field work, which was implemented to identify areas with fuel related impacts in surface soil, subsurface soil and groundwater at SWMU 74.

1.2 Objectives

The objectives of Phase I of the CMS investigation are to:

- Identify areas impacted by potential releases of fuel related contaminants from SWMU 74 by comparison of analytical data for surface soil, subsurface soil and groundwater to applicable environmental screening and background criteria.

- Provide recommendations for the approach to delineate the identified areas of contamination for Phase II of the CMS investigation.

1.3 Organization of Phase I of the CMS Investigation Report

This Phase I of the CMS Investigation Report is organized into 11 sections. Sections 1 and 2 present the introduction and background information for SWMU 74. Section 3 provides a description of the field work activities including soil and groundwater sampling, quality assurance/quality control (QA/QC) procedures and other investigation considerations. Section 4 presents and discusses the rationale used for environmental data comparison and evaluation. Sections 5 through 9 present the results of the data evaluation for each media associated with SWMU 74. Section 10 discusses overall conclusions and recommendations and Section 11 presents the document references.

2.0 BACKGROUND INFORMATION

This section discusses the history and description of NAPR and SWMU 74. This section also includes a summary of the results of previous investigations conducted at SWMU 74.

2.1 NAPR Description and History

NAPR occupies over 8,800 acres on the northern side of the east coast of Puerto Rico; along Vieques Passage with Vieques Island lying to the east about ten miles off the harbor entrance (see Figure 2-1). NAPR also occupies the immediately adjacent islands of Piñeros and Cabeza de Perro, as presented on Figure 2-2. The northern entrance to NAPR is about 35 miles east along the coast road (Route 3) from San Juan. The property consists of 3,938 acres of upland (developable) property and 4,955 acres of environmentally sensitive areas including wetlands, mangrove, and wildlife habitat. The closest large town is Fajardo (population approximately 41,000), which is about five miles north of NAPR off Route 3. Ceiba (population approximately 18,000) adjoins the west boundary of NAPR (see Figure 2-1).

The facility was commissioned in 1943 as a Naval Operations Base, and re-designated as a Naval Station in 1957. Naval Station Roosevelt Roads operated as a Naval Station from 1957 until March 31, 2004. NSRR was one of the largest naval facilities in the world with more than 100 miles of paved roads, approximately 1,300 buildings, a large scale airfield (Ofstie Field), a deep water port and over 30 tenant commands. NSRR played a major role in providing communication support to the Atlantic and Caribbean areas and also served as a major training site for fleet exercises.

Section 8132 of fiscal year 2004 Defense Appropriations Act, signed into law on September 30, 2003, directed that NSRR be disestablished within six months, and that the real estate disposal/transfer be carried out in accordance with procedures contained in the BRAC Act of 1990. This legislation required that the base closure be conducted in accordance with the Comprehensive Environmental Response Compensation and Liability Act (CERCLA), as amended by the Community Environmental Response Facilitation Act (CERFA). NSRR has undergone operational closure as of March 31, 2004 and has been designated as Naval Activity Puerto Rico. The mission of NAPR is to protect the physical assets remaining, comply with environmental regulations, and sustain the value of the property until final disposal of the property. NAPR will continue until the real estate disposal/transfer is completed.

In anticipation of operational closure of NSRR, the Naval Facilities Engineering Command, Atlantic Division (LANTDIV) prepared Phase I/Phase II ECP Reports to document the environmental condition of NSRR. The Draft Phase I Environmental Condition of Property Report dated March 31, 2004 (LANTDIV, 2004) identified new sites at NAPR based on the results of a review of records, an analysis of historic aerial photographs, physical site inspections, and interviews with persons familiar with past and current operations and activities. The new ECP sites had not been previously identified or investigated under existing environmental program areas. A Phase II ECP field investigation was performed in 2004 to conduct environmental sampling to determine if a release/disposal actually occurred at any of the Phase I ECP sites recommended for further evaluation in the Phase I ECP and, if so, whether any potential risk to human health was present (NAVFAC Atlantic, 2005). The Final ECP report recommended completion of a RCRA corrective action for ECP Site 20 (SWMU 74), which was the basis for the Corrective Measure Study and this report.

The USEPA issued a RCRA 7003 Administrative Order (Environmental Protection Agency Docket No. RCRA-02-2007-7301), which identifies SWMU 74 (formerly referred to as ECP Site 20) as having documented releases of solid and/or hazardous waste and hazardous constituents and requiring development of an acceptable work plan to complete a CMS. Following a public comment period the Administrative Order became effective on January 29, 2007.

2.2 SWMU 74 Description

SWMU 74 (Fuel Pipelines and Hydrant Pits), consisting of fuel pipelines, valve pits, and hydrants, transverses across a large area of the central and eastern portions of the Base, as shown on Figure 2-2. It is estimated that approximately 60,000 feet of pipelines are present in SWMU 74, based on information provided in a fuel pipeline and tank cleaning Project Completion Report (AGVIQ-CH2M Hill, 2005). SWMU 74 does not include sediments in Ensenada Honda, as these have been designated as Area of Concern (AOC) D, or the Tow Way Fuel Farm, which has been designated as SWMU 7/8.

As shown on Figure 2-3, SWMU 74 endpoints are the deep water piers located at the Ensenada Honda and the Airfield Hydrant System. There are three piers located at the Ensenada Honda of which two were used for ship refueling and are equipped with fuel lines out over the water. The Airfield endpoint includes a line of four aircraft refueling hydrants fed by a day tank storage area equipped with pumps, valves, and a filtration system. Typically, diesel fuel marine (DFM) was piped to the piers to fuel ships and JP-5 to the Airfield to fuel planes. Although, JP-5 was also used in some military ships because of the reduced flashpoints and was considered safer during combat. DFM and JP-5 were stored in large steel above ground storage tanks or concrete cut and cover below ground (bunkered) tanks located at up to six different areas of the Base. For reference, these fuel storage areas will be discussed in chronological order of when they were put into service according to the Spill Prevention Control and Countermeasures (SPCC) Plan (Baker, 2003). However, SWMU 74 is limited to the piping and valve pits between these storage areas and not the storage areas themselves.

An original underground day tank (underground storage tank [UST] 429) of 218,000 gallons was installed to supply the immediate need of the hydrant system at the airfield. The exact date of installation of this tank is unknown, but was most likely installed in conjunction with the airfield construction in the 1940's. A new day tank was installed in 1997 and consisted of a 2.6 million gallon above ground storage tank (AST) 2436.

Tanks at the SWMU 9 Areas A, B, and C and some of the tanks located at the Tow Way Fuel Farm are recorded as installed in 1940. SWMU 9 Area A includes two cut and cover underground tanks (USTs 212 and 213) each with a nominal capacity of 50,000 gallons. Tank 212 was used to store straight diesel and Tank 213 was used to store motor gasoline (MOGAS), originally. There is a fill stand located at SWMU 9 Area A and it is believed that the fuels stored at SWMU 9 Area A were not typically pumped through the pipeline. SWMU 9 Area B also contains two cut and cover underground tanks (USTs 214 and 215) with nominal capacity of 248,000 and 245,000 gallons, respectively. The two tanks at SWMU 9 Area B are reported to store DFM. SWMU 9 Area C includes two cut and cover underground tanks (UST 216 and 217) with nominal capacity of 247,000 and 245,000 gallons, respectively. Similar to the SWMU 9 Area B tanks, these tanks reportedly stored DFM, although both the SWMU 9 Area B and Area C areas also contained JP-5 fuel over the years. The SWMU 74 investigation does not include the fuel storage tanks as they are not part of the SWMU as listed in the 7003 Administrative Order on Consent.

The Tow Way Fuel Farm, located near the piers had two cut and cover underground storage tanks installed in 1940. These tanks are identified as Tanks 82 and 83, had nominal capacities of 2.115 and 1.157 million gallons and reportedly stored DFM. Two additional cut and cover tanks (UST 84 and 85) were installed in 1944 at the Tow Way Fuel Farm with nominal capacities of 585,000 and 1.152 million gallons, respectively. These additional two tanks were used to store JP-5 fuel. In 1968, three additional cut and cover tanks (Tanks 1080, 1082, and 1088) were installed at the Tow Way Fuel Farm. Tanks 1080 and 1082 each with a nominal capacity of 1.165 million gallons reportedly were used to store DFM. Tank 1088 had a nominal capacity of 425,000 gallons and was used to store JP-5 fuel. The Tow Way Fuel Farm (SWMU 7/8) tank network is not part of the SWMU 74 investigation.

In 1955, the first cut and cover underground storage tank was installed in what is known as JP-5 Hill Tank Farm Area. This tank, identified as UST 381, had a nominal capacity of 1.180 million gallons and stored JP-5 fuel. In 1968 two additional cut and cover tanks were installed near UST 381 in the JP-5 Hill Tank Farm Area. These tanks were identified as UST 1084 and 1086, each had a nominal capacity of 1.181 million gallons, and each were used to store JP-5 fuel. In 1988, five additional above ground storage tanks, each containing a nominal capacity of 4.2 million gallons, were installed at the JP-5 Hill Tank Farm Area. These five tanks are identified as AST 2270 through 2274 and each stored JP-5 fuel. Again, the tank network at JP-5 Hill Tank Farm was not part of the SWMU 74 investigation, but borings were placed near the pipelines leading to the tanks and in between the cut and cover tanks and ASTs.

The last fuel storage area is referred to as the DFM Tank Farm Area. In 1978, two above ground storage tanks each with a nominal capacity of 4.2 million gallons were installed adjacent to the Tow Way Fuel Farm to the west. These tanks are identified as 1995 and 1996 and were used to store DFM. One additional above ground storage tank (AST 2437) was installed in 1997 in the DFM Tank Farm Area. This tank was also 4.2 million gallons in nominal capacity and used to store DFM.

As mentioned previously, SWMU 74 does not include the tanks and Tank Farm areas. However, SWMU 74 does include the piping network connecting these areas and the associated valve pits (USEPA, 2007a).

2.3 Previous Investigations

SWMU 74 includes the previously designated ECP Site 20. The ECP site consisted of specific portions of the JP-5 and DFM fuel pipelines, and the aircraft hydrant refueling pits.

In 1995, NAVFAC, Atlantic Division evaluated the integrity of specific portions of the base petroleum, oils, and lubricant (POL) system. This evaluation identified leaks at two locations along the JP-5 line and at selected valve pits, and indicated historic petroleum product impacts to soil at various locations throughout the tested portion of the JP-5 and DFM pipelines. No action has since been taken at these locations. In addition, interviews indicated that numerous small spills and leaks of fuel have occurred at the aircraft hydrant refueling area since it went into operation in the early 1960s.

The Phase I/II ECP investigation performed in 2004 indicated that there were no apparent areas of surficial staining or stressed vegetation in the seven areas investigated (NAVFAC Atlantic, 2005). The seven areas investigated as part of the ECP consisted of the following:

- Flat area at the Airfield north of Hangar 200, in the vicinity of valve pit (VP-2).

- Flat grassy area located south of Valley Forge Road, and just east of Forrestal Drive.
- Flat area located just south of Forrestal Drive in the southeastern portion of the site.
- A flat lying area located south of Forrestal Drive and east of SWMU 60 (ECP Site 6).
- A flat lying area located north of Forrestal Drive and east of the baseball field. This area was located adjacent to VP-8.
- Grassy area located along a power line north of SWMU 59 (ECP Site 5).
- Flat lying area located northwest of SWMU 59, along the road that intersects both Forrestal Drive and Valley Forge Road.

A total of seven soil borings were advanced near suspected leaky valves and pipeline runs. Subsurface soil samples were collected from each boring location using a Macro-Core® sampler in conjunction with a Geoprobe® rig with direct push technology (DPT). Subsurface soil samples were collected from two-foot intervals (i.e., 1 to 3 feet below ground surface (bgs), 3 to 5 feet bgs, etc…) down to the groundwater interface through the use of a Macro-Core® sampler in conjunction with a Geoprobe® rig with DPT methods. The depth of the soil borings at this site ranged from 10 feet bgs to a maximum of 22 feet bgs at 20E-SB05. All subsurface soil samples were screened in the field utilizing a flame ionization detector (FID) with the results recorded in the field logbook. The screening results were compared against background to indicate if the soil has been impacted by past operations.

Soil samples submitted to the fixed-base laboratory included seven subsurface soil samples (20E-SB01-02, 20E-SB02-02, 20E-SB03-04, 20E-SB04-04, 20E-SB05-05, 20E-SB06-05, and 20E-SB07-06), one from each boring. These samples were submitted to the fixed-base analytical laboratory for analysis of Appendix IX Volatile Organic Compounds (VOCs), Appendix IX Semivolatile Organic Compounds (SVOCs), total petroleum hydrocarbons (TPH) diesel range organics (DRO) and gasoline range organics (GRO).

A groundwater program followed the soil sampling program. Based on the FID levels observed at soil boring locations 20E-SB05 and 20E-SB06, as well as the decision tree presented in the work plan, the decision was made to install one temporary monitoring well at each of these two locations. The temporary monitoring wells were installed and groundwater samples (20E-GW05 and 20E-GW06) were collected and submitted to the fixed-base analytical laboratory for Appendix IX VOCs, SVOCs, inorganics, as well as TPH DRO and GRO. The inorganic analysis requested was for dissolved metals only.

Evidence of fuel line impacts was observed in two borings (20E-SB05 and 20E-SB06). At 20E-SB05, a strong fuel odor and staining were observed with elevated FID readings in the residual clay and bedrock, from a depth of approximately 8- to 20-feet bgs. At 20E-SB06, a slight fuel odor (with a slight FID response and no staining) was observed from a depth of approximately 10- to 11.9-feet bgs.

The VOCs and SVOCs detected are associated with fuel contamination from past and present activities at this site. Location 20E-SB05 is associated with Valve Pit No. 8. It is likely that some leakage from this valve pit has occurred. Previous investigations near this location include those conducted at Tank 1995, where the larger fuel tanks are located just to the east of 20E-SB05. At the time of the ECP investigation, monitoring wells from the Tank 1995 site, located near 20E-SB05 had not indicated any free product during the previous six months; no free

product has been observed since March 2006 (Tetra Tech, 2007).

None of the organic compounds exceeded EPA Region III Residential risk based concentrations (RBCs) except dibenzo(a,h)anthracene at 20E-SB05. This was also the only location where groundwater concentrations of certain VOCs (ethylbenzene, benzene, and xylene) exceeded EPA Region III Tap Water RBCs. The concentration of ethylbenzene also exceeded its federal maximum contaminant level (MCL) and its Puerto Rico (PR) Water Quality Standard. Among inorganic compounds, arsenic, chromium, copper and vanadium exceeded their EPA Region III Residential RBCs in soil, and concentrations of copper and vanadium exceeded their EPA Region III Tap Water RBCs. Arsenic (at 20E-SB02) and copper (at 20E-SB04) also exceeded twice the average detected background concentrations established for NAPR in subsurface soil. Although the concentrations of vanadium in subsurface soil exceeded their RBCs, they did not exceed background levels. Lead in groundwater also exceeded its EPA action level and the Puerto Rico Water Quality Standard of 0.015 mg/L at one location (20E-SB05). This is also the location where the relatively higher fuel-related organic compounds were detected.

From the detections of fuel compounds and exceedence of criteria for ethylbenzene, benzene, xylene, and lead in the groundwater, it was concluded that the groundwater near 20E-SB05 has been impacted by activities occurring at this site. However, the soil at this location did not appear to be contaminated significantly above any RBCs. Nevertheless, because of the releases and the findings of the investigation, the ECP recommended further investigation under the RCRA Corrective Action Program. The recommendation in the ECP forms the basis for this CMS investigation.

2.4 Breakdown of SWMU 74 into Five Geographic Areas

Since SWMU 74 covers a large area consisting of approximately 60,000 linear feet of pipeline which traverses the Base from the Airfield to the piers, this report will break the SWMU area into smaller pieces for the purposes of discussion. The breakdown will include:

- Airfield Area
- SWMU 9 Area A/B
- JP-5 Hill and DFM Area
- SWMU 9 Area C
- Fueling Piers Area.

The boundaries for these five areas are presented on Figure 2-4, Index Map of SWMU 74 Areas. The narrative, tables and figures are discussed in this manner for consistency throughout the report.

2.5 Physical Characteristics of the Study Area

The physical setting of NAPR was documented in the 1984 Initial Assessment Study (IAS) (Naval Energy and Environmental Support Activity [NEESA], 1984). This information is summarized in the paragraphs that follow.

2.5.1 Climatology

The climate associated with NAPR is characterized as warm and humid, with frequent showers occurring throughout the year. A major factor affecting the weather is the pattern of trade winds associated with the Bermuda High, the center of which is in the vicinity of 30° North, 30° West.

The prevailing wind direction reflects the easterly trade winds. The area receives a surface flow varying between the northeast to the southeast about 75 percent of the year, and as much as 95 percent of the time in July when the easterly winds are strongest. The differential heating of the land and sea during the day tends to give a more northerly component to the flow on the northern side of the island and a more southerly component on the southern side. During the night, a land breeze causes a prevailing southeasterly flow in the north and a prevailing northeasterly flow over the southern coast. The mean annual wind velocity is 5.5 knots, with a minimum in November and a maximum in August. Gales associated with westward moving disturbances in the trade winds or hurricanes passing either north or south of the area have the highest probability of occurrence from June through October.

Uniform temperatures prevail, with small diurnal ranges as a result of insular exposure and the relatively small land areas. The warmest months are August and September, while the coolest are January and February. Mean annual maximum temperatures range from 82.0° Fahrenheit (F) in January to 88.2° F in August. The mean annual minimum temperatures vary from 64.0° F in January to 73.2° F in June. The highest maximum temperature recorded was 95.0° F, while the lowest minimum was 59.0° F. Rain usually occurs at least nine days in every month, with an average of 60 inches per year although a dry winter season occurs from December through April. About 22 thunderstorm-days occur per year, with maximum frequencies of 3 days per month from May through October.

In late summer, the mean sky cover begins a steady decrease from a monthly maximum average of 6.5-tenths coverage in September to a minimum monthly average of 4.4-tenths coverage in February. From March through August, the monthly average cloud cover increases steadily from 4.5- to 6.0 tenths coverage during the period. Over the open sea, a maximum of clouds (usually broken stratocumulus) occurs during early morning, with the skies clearing or becoming scattered with cumulus by afternoon. Completely clear or overcast skies are rare during daylight hours, while clear skies frequently occur at night.

The hurricane season is from mid-June through mid-September; maximum winds exceed 95 knots during severe hurricanes. An average of two tropical storms per year occurs in the study area, one of which usually reaches hurricane intensity.

2.5.2 Topography

The regional area of NAPR consists of an interrupted, narrow coastal plain with small valleys extending from the Sierra de Luquillo range, which has been severely eroded by streams into valleys several hundreds of feet deep. Slopes of up to 60° are common.

In the immediate area of NAPR, elevations range from sea level to approximately 295 feet. Immediately to the north of the NAPR boundary, the hills rise abruptly to heights of 800 to 1,050 feet above sea level, with the tallest peak located within 2 kilometers of the NAPR boundary. There is a series of three hilly areas on NAPR, two of which separate the southern airfield area from the Port/Industrial, Housing, and Personnel Support areas. The third set of hills is in the Bundy area. These ridgelines not only separate sections of NAPR, but also dictate the degree of allowable development. The ridgeline south of the airfield provides an excellent barrier, which effectively decreases the aircraft-generated noise reaching the Unaccompanied Enlisted Personnel Housing areas to an acceptable level. Relief is low along the shoreline and lagoons and mangrove swamps are common.

2.5.3 Geology, Hydrology, and Hydrogeology

The following sections present general descriptions of the geologic, hydrologic, and hydrogeologic conditions across NAPR. Specific geology and hydrogeologic information collected during Phase I of the CMS Investigation from the five geographic areas of SWMU 74, including the Airfield Area, SWMU 9 Area A/B, JP-5 Hill and DFM Area, SWMU 9 Area C, and the Fueling Piers Area, is provided in Sections 5.3, 6.3, 7.3, 8.3 and 9.3, respectively.

2.5.3.1 Regional Geology

The underlying geology of the NAPR area is predominantly volcanic (composed of lava and tuff), as well as sedimentary (rocks derived from discontinuous beds of limestone). These rocks all range in age from early Cretaceous to middle Eocene. The volcanic rocks and interbedded limestone have been complexly faulted, folded, metamorphosed, and variously intruded by dioritic rocks.

This complex geological structuring occurred sometime after the deposition of the limestone during the middle Tertiary, when Puerto Rico was separated from the other major Antillean Islands by block faulting, and was arched, uplifted, and tilted to the northeast. Culebra, Vieques, and the Virgin Islands are part of the Puerto Rican block; they are separated from the main island simply because of the drowning that resulted from the tilting.

In addition to the predominant volcanic and sedimentary rock, unconsolidated alluvial and older deposits from the Quaternary period underlie the northwestern and western sectors of the base. The primary geologic formations on and near NAPR are various beach deposits, alluvium, quartz diorite and granodiorite, quartz keratophyre, the Daguao Formation, and the Figuera Lava. The Peña Pobre fault zone traverses NAPR.

2.5.3.2 Regional Hydrology

The surface waters that flow across the northeastern plain of Puerto Rico, where NAPR is located, originate on the eastern slopes of the Sierra De Luquillo Mountains. Surface runoff is channeled into various rivers and streams that eventually flow into the Caribbean Sea. The Daguao River and Quebrada Seca Stream (a tributary to Rio Daguao) collect surface waters from the hills immediately north of NAPR and, in periods of heavy rain, flooding on NAPR occurs.

The Daguao-Quebrada Seca watershed comprises an area of approximately 7.6 square miles (4,900 acres), and the river falls some 700 feet from its source to sea level. Increased development in the town of Ceiba, especially in areas adjacent to NAPR's northern boundary, has significantly increased the surface runoff reaching NAPR, causing ponding and erosion in the Boxer Drive area. Boxer Drive, for a major portion of its length, is subject to surface water flooding, as are Hangar 200 and AIMD Hangar 379 and adjacent apron areas. This condition has been alleviated by the construction of Highway Route 3 immediately outside the fence and the realignment of Boxer Drive both with attendant storm water management features.

In the low-lying shore areas, seawater flooding results from storms, wind, and abnormally high tides. The tidal ranges in the NAPR area are rather small, with a maximum spring range of less than three feet. The tides are semidiurnal and have a usual range of about one-foot in the main harbor of NAPR. The quality of surface waters is variable, reflecting the drainage area through which the water flows. Generally, surface waters have high turbidities and bio-organics (naturally occurring organics, such as decay products of vegetable and animal matter) due to the periodic heavy rains that can easily erode soils from steep slopes, exposed areas and disturbed

streambeds. Water from alluvial aquifers along the coast of NAPR is of a calcium bicarbonate type, and has high concentrations of iron and manganese. The source of these minerals is unknown, but they may be derived from buried swamp or lagoon deposits.

A seawater-freshwater interface is present in the aquifers throughout the coastal areas of Puerto Rico, usually within a short distance inland of the coastline.

2.5.3.3 Regional Hydrogeology

Little information exists concerning the hydrogeology of NAPR. The only known potential sources of groundwater lie in lenticular beds of clay, sand and gravel, and rock fragments, which occur at a depth of less than 30 meters. No supply wells, and few monitoring wells, have been developed on site from these layers. Some wells had been developed upgradient of NAPR in Ceiba, some three kilometers from the former base headquarters, but were abandoned due to high levels of salinity. Some consistent stratigraphic trends have been observed during previous investigations conducted by Baker throughout NAPR. The site hydrogeology can be better understood in the context of NAPR regional geology. For the sake of simplicity, considering the complex geological conditions, the NAPR regional geology can be divided into three regions:

- Upland areas
- Near-shore flat lands
- Inland flat lands

The upland areas of NAPR includes the hills encompassing the Tow Way Fuel Farm and hospital areas, and the hills encompassing the area behind the Exchange, the former Atlantic Fleet Weapons Training Facility (AFWTF) Command, and Fort Bundy area. These upland areas are underlain by bedrock (predominately Gabbro) and exhibit varying degrees of weathering. Typically, the bedrock is overlain by a relatively thin residual soil (i.e., residuum). Residuum is unconsolidated soil, originating from weathered-in-place bedrock. This residuum generally consists of sand, silt, and clay.

The near-shore areas include the mangrove swamp areas as well as the shores of Ensenada Honda and Puerca Bay. The near-shore areas are typically underlain by marine sand layers (with coral and shell fragments), silt and clay layers, and occasional peat layers. In some near-shore areas, particularly by the harbor and Camp Moscrip in the southeastern portion of the base, fill material overlays the marine layers. The fill consists of rock fragments, debris (e.g., brick), sand, silt, and clay.

The inland flat land area generally encompasses the airfield and golf course areas. The inland flat land area is typically underlain by relatively thick residuum. The residuum generally consists predominately of clay. Fill material overlays the residuum, particularly the airfield, and generally consists of sand and gravel with lesser amounts of silt and clay.

3.0 FIELD INVESTIGATION ACTIVITIES

This section summarizes Phase I of the CMS Investigation field work, laboratory analysis, and data validation activities that were conducted. The work was conducted in accordance with the approved Final Corrective Measures Study Work Plan for SWMU 74 (Baker, 2007). The fieldwork was primarily conducted in April through June 2008; an additional round of groundwater elevation measurements was collected from the Airfield Area monitoring wells in July 2008.

The field activities conducted at SWMU 74 primarily consisted of:

- A soil boring program which included of the installation of one boring every 100 feet along the fuel pipeline runs, and two borings near the underground valve pits for a total of 317 soil borings. The borings were designated as 74SB01 through 74SB285, although not every boring was drilled and/or sampled, depending on site conditions. A total of 22 valve pits were encountered along the pipeline not including the valving and pumps associated with the Day Tank and Fueling Hydrants at the Airfield. Some of the borings adjacent to valve pits were given a "VP" designation with a unique site number. Site and sample designations are given on Table 3-1.

- Surface soil samples were collected at a rate of one sample for every ten soil borings. A total of 28 surface soil samples plus three duplicate samples were collected. The surface soil samples were submitted for laboratory analysis of Appendix IX VOCs, total metals, TPH GRO, and TPH DRO. One surface soil sample was additionally analyzed for low level polynuclear aromatic hydrocarbons (LLPAHs).

- Subsurface soil samples were collected at a rate of two samples per boring. One sample from a depth with PID detections, if found, and one above the water table, if found, not to exceed the 9 to 11 foot below ground surface (ft bgs) sample interval. In some cases, subsurface soil samples were not collected due to shallow water elevations, boring refusal, or lack of recovery after multiple attempts. A total of 535 subsurface soil samples plus 55 duplicate samples were collected from the pipeline and valve pit borings. It should be noted that some of the valve pit subsurface soil samples were collected below 10 feet bgs if photoionization detector (PID) readings indicated impact at deeper zones. The subsurface soil samples were submitted for laboratory analysis of Appendix IX VOCs, total metals, TPH GRO, and TPH DRO. Fifty four (54) subsurface soil samples were additionally analyzed for LLPAHs.

- Temporary monitoring wells were installed at 54 boring locations along the pipeline and next to the valve pits. Temporary wells were constructed with sandpacks, bentonite seals, and concreted protective casings. The wells were designated as temporary because they were constructed with 1.5 inch diameter polyvinyl chloride (PVC) casing and because protective bollards and two foot by two foot pads were not installed.

- Groundwater samples were collected from 52 groundwater monitoring wells (plus four duplicates); of these, seven were existing wells. Note that some of the newly installed monitoring wells were dry so that no groundwater sample could be collected. The groundwater samples were submitted for laboratory analysis of Appendix IX VOCs, total and dissolved metals, TPH GRO, and TPH DRO if adequate water was available. Some groundwater samples were analyzed for a limited parameter list depending on the

production of groundwater from the wells. A total of thirty groundwater samples were additionally analyzed for LLPAHs.

- Other field activities conducted in support of this investigation included utility clearance, groundwater elevation measurement, surveying, decontamination, management of investigation derived wastes, and QA/QC sampling.

The environmental samples collected from the site were analyzed at a fixed-base laboratory, Test America Laboratories, Inc. and the data was validated by an independent third party, DataQual Environmental Services, LLC. A summary matrix showing the primary environmental samples collected and the analyses conducted on each sample is shown in Table 3-1. Field duplicates and matrix spike/matrix spike duplicate (MS/MSD) samples are also shown in Table 3-1. Other QA/QC samples (trip blanks, field blanks, and equipment rinsates) collected and the analyses conducted on these samples are shown in Table 3-2. The analytical parameter lists and the contract required quantitation limits are shown in Table 3-3.

Field notes containing descriptions of the site activities, field logs, soil boring and well construction records and chain-of-custody records are presented in Appendix A. Complete laboratory analytical results are presented in Appendix B. Data Validation report summaries are provided in Appendix C.

3.1 Surface and Subsurface Soil Sampling

Per the approved work plan, two subsurface soil samples were collected from each boring. The only exception to this was if shallow groundwater or drilling refusal was encountered at a shallow depth thereby preventing collection of two subsurface soil samples. In general, surface soil samples were collected approximately every 1,000 feet or one surface soil sample for every ten completed borings. Soil samples were analyzed for Appendix IX VOCs and metals, TPH DRO, and TPH GRO. The work plan stated that approximately 15 percent of the samples were to be analyzed for LLPAHs; following completion of the field work it was determined that approximately 11 percent of the total number of soil samples were sampled for LLPAHs. These samples were selected based on the presence of contamination through PID measurements, visual inspection, or presence of odor, as well as by random selection.

Soil sampling locations were flagged in the field and were surveyed for horizontal location using a portable global positioning system (GPS) unit. In addition, encountered valve pits were surveyed for horizontal location using a portable GPS unit.

The surface soil samples were obtained from a depth of 0 to 1 foot bgs with a stainless steel spoon or using the Geoprobe® DPT sleeve. The subsurface soil samples were obtained with the 66DT Geoprobe® drill rig capable of DPT and hollow stem augering (HSA). The three DPT rigs used during the investigation were operated by JFA Geological and Environmental Scientists (JFA) and GeoEnviroTech. JFA supplied one tracked mounted 66DT Geoprobe® drill rig with augering capability for installation of monitoring wells. GeoEnviroTech supplied one track mounted 66DT Geoprobe® drill rig with augering capability and one truck mounted 5400 Geoprobe® drill rig.

Boring logs were prepared by a qualified geologist indicating, lithology, water occurrence, and miscellaneous observations. Soil samples were screened with a PID to develop a semi-quantitative profile. Soil boring logs are presented in Appendix A.

Soil samples were collected continuously from the ground surface to the water table using a 4-foot or 5-foot long Macro-Core® Sampler, with two subsurface soil samples being collected for fixed-base laboratory analysis. One subsurface soil sample per location was collected from a depth of any suspected volatile organic contamination, determined by the PID screening at a depth generally below the pipeline (assumed to be between 3 and 5 feet bgs). The other subsurface soil sample was collected from the depth either just above the water table, or not exceeding 11 feet bgs. Soil samples for VOCs and GRO were placed directly into laboratory supplied containers and placed on ice. Soil samples for other laboratory analyses (e.g. TPA, DRO, LLPAHs and metals) were homogenized prior to placement in laboratory supplied containers and cooled with ice. If four foot liners were used the borings were typically advanced to 12 feet; if five foot liners were used the boring were typically advanced to 10 feet below ground surface.

The soil boring samples were labeled consecutively (beginning with 74SB01) in a manner consistent with previous sample designations at NAPR. Extensions to the sample identification reflect the depth at which the sample was obtained. Sample identification extensions will follow the pattern shown below.

74SB01-00	SWMU 74 Sample
74SB01-00	Soil Boring Sample
74SB01-00	Soil Boring Location Identifier
74SB01-00	0 to 1 foot bgs (surface soil) sampling interval

Subsurface soil sample intervals were designated as follows:

74SB01-01	1-3 feet bgs
74SB01-02	3-5 feet bgs
74SB01-03	5-7 feet bgs
74SB01-04	7-9 feet bgs
74SB01-05	9-11 feet bgs
74SB01-06	11-13 feet bgs
74SB01-07	13-15 feet bgs
74SB01-08	15-17 feet bgs
74SB01-09	17-19 feet bgs

Sampling intervals may have varied somewhat from those listed above because of variations in site conditions.

Following sample collection each borehole was backfilled with the remaining soil to the extent practicable, in order to minimize the amount of investigation-derived waste (IDW) generated. In cases where elevated PID readings and obvious visual impact was observed the soil cores were placed in a 55-gallon drum for off-site disposal as IDW. The boreholes were then filled with cement/bentonite grout.

As mentioned previously, SWMU 74 will be divided up into five areas for ease of discussion. These areas will include the Airfield, SWMU 9 Area A/B, JP-5 Hill and DFM, SWMU 9 Area C, and the Fueling Piers.

Airfield Area

Soil borings were placed, beginning at the Hydrant Refueling System, every 100 feet along the pipeline run past the Day Tank Area, then turning southeast toward the runway, past the Hanger

200 Area, and onto the fence line of the Airfield, as shown on Figure 3-1. In addition, two borings were placed adjacent to the two concrete valve pits (VP), not associated with the Day Tank Area, located within the Airfield and identified as VP-1 and VP-2. Subsurface soil samples were collected from only one of the two borings associated with each valve pit. The soil borings along the pipeline were identified as 74SB01 through 74SB62. The only exceptions to a continual numbering of borings was 74SB03 and 74SB08 were not drilled because of taxiway concrete at the Hydrant Refueling Area and 74SB17 through 74SB21 were eliminated so as not to drill through the secondary containment of the Day Tank. Borings 74SB45, 74SB46, and 74SB47 were attempted to be drilled multiple times, but encountered refusal just below the ground surface and no samples were collected.

SWMU 9 Area A/B

Soil borings in this area start at the fence line of the airfield (location 74SB63) and follow the pipeline east along Forrestal Road to the entrance of SWMU 9 Area A/B along Manila Bay Street. The SWMU 9 Area A/B is comprised of four cut and cover tanks (Tanks 212 through 215) constructed in the 1940's and used to store aviation gasoline, diesel fuel, and marine diesel fuel. More recently these tanks stored unleaded gasoline. Soil borings are numbered sequentially from 74SB63 through 74SB124 for this area, as shown on Figure 3-2. There are a total of seven (7) valve pits that were located in this area. The valve pits are identified as VP-3, VP-11, VP-1A/9, VP-1B/9, VP-1C/9, VP-2/9, and VP-3/9. Two borings were drilled adjacent to each valve pit and wells were installed in each of these borings. Of the two borings at each valve pit, subsurface soil samples were collected only at one of the two boring locations. One boring, 74SB78, encountered shallow refusal and no soil samples were collected at this location.

JP-5 Hill and DFM Area

This area includes the JP-5 Hill and the DFM tank farms. The JP-5 Hill tank farm contains five above ground storage tanks, each with approximately 4.2 million gallons of capacity. This tank farm is relatively new, put into service in the early 1990s. The DFM tank farm contains two above storage tanks with approximately 4.2 million gallons of capacity each. The two tanks are referenced as Tanks 1995 and 1996. In the mid 1990's an investigation was performed at Tank 1995 to characterize petroleum hydrocarbons detected in an excavation in 1994. Tank 1995 reportedly contained JP-5 fuel historically and in 1985 leaked when a truck filling pipe ruptured. Tank 1995 is part of AOC F as defined in the RCRA Administrative Order. Soil borings for this area include 74SB125 through 74SB160, 74SB185 through 74SB187, 74SB200 through 72SB211, 74SB226 through 74SB230, and 74SB268 through 74SB285, as shown on Figure 3-3. There are nine (9) valve pits identified in this area, including VP-5, VP-7, VP-8, VP-9/JP-5 Hill, VP-10/JP-5 Hill, VP-11/JP-5 Hill, VP-10/DFM, VP-19, and VP-20. It should be noted, VP-19 and VP-20 are located within the Tow Way Fuel Farm, which was not part of the SWMU 74 investigation. The Tow Way Fuel Farm is a cut and cover tank farm and has been investigated separately as SWMU 7/8. Two borings were drilled adjacent to the valve pits and two wells installed. Subsurface soil samples were collected at one of the two borings at the valve pits. Two locations, 74SB208 and 74SB276, encountered shallow refusal and no soil samples were collected.

SWMU 9 Area C

This area includes two cut and cover tanks located east of SWMU 9 Area A/B, which historically contained aviation gas, and more recently contained unleaded gasoline, marine diesel fuel, and JP-5. These two tanks are referred to as Tanks 216 and 217. Soil borings for this area include 74SB144 through 74SB148, 74SB161 through 74SB184, and 74SB188 through 74SB197, as

shown on Figure 3-4. There are four (4) valve pits associated with this area and include VP-6, VP-6A, VP-6B, and VP-6C. Two borings were drilled adjacent to the valve pits and two wells installed. Subsurface soil samples were collected at one of the two borings at the valve pits.

Fueling Piers Area

The fueling piers area is the area along the lower end of Forrestal Road and includes the two fueling piers, as shown on Figure 3-5. The western pier is included in SWMU 7/8 associated with the Tow Way Fuel Farm. During the field investigation numerous product recovery wells were observed in this western pier area. Soil borings for the fueling piers area include 74SB212 through 74SB225 and 74SB231 through 74SB267. Two valve pits were identified as VP-24 and VP-56, both located within the SWMU 7/8 boundary. Existing wells were found surrounding these valve pits and were included in the groundwater sampling program. No additional soil borings were drilled adjacent to these two valve pits. Numerous locations encountered shallow refusal during drilling in this area, and subsequently no soil samples were collected. These locations included 74SB212, 74SB214, 74SB217, 74SB219, 74SB220, 74SB242, 74SB243, 74SB244 and 74SB257.

3.2 Monitoring Well Installation and Groundwater Sampling

In general, monitoring wells were constructed of 1.5-inch ID, Schedule 40 PVC, with flush joint threads. Each well was provided with 10-foot long well screens and installed to straddle the water table; longer screen lengths were used in some wells as field conditions dictated. The well screen and bottom cap were set at the bottom of the borehole. The screen was connected to a threaded, flush-joint, riser. The annular space around the well screen was backfilled with a well-graded, fine to medium sand as the augers/Geoprobe casings were withdrawn from the borehole. The sand was extended to approximately two feet above the top of the screened interval. An approximately two-foot thick sodium bentonite seal was placed above the sand pack. The bentonite was hydrated with potable water. The annular space above the bentonite seal was backfilled with cement or cement/bentonite grout to prevent surface water from infiltrating into the screened groundwater monitoring zone. An expandable, water tight locking cap or slip-cap with a vent hole was placed at the top of the casing.

The work plan specified using a 1.5- inch (inside diameter), Schedule 40 PVC riser with a ten-foot pre-packed sand filter screen and placed through the Macro-Core® casing. Because of the tight clays, there was some difficulty advancing the Geoprobe equipment to 20 feet. In addition, it was determined that it was more economical to auger with 3-1/4-inch hollow stem augers or place 1.5-inch PVC well materials down the Geoprobe casing and build the monitoring well conventionally with poured sand and bentonite, than to ship Geoprobe pre-packed well screens to the island. If a zone of high water yield was observed with flowing sand or creating a high turbidity slurry downhole, then the pre-packed well screens were used. But in most cases, the monitoring wells were installed with 1.5-inch well materials and conventional well construction practices. Each monitoring well was completed with a steel protective casing to secure the wellhead. Note that the monitoring wells are considered temporary because of their 1.5-inch diameter and because protective bollards and two foot by two foot pads were not installed.

Monitoring well development typically consisted of low flow pumping until water production ceased. The groundwater was sampled using a low-flow sampling technique, when practical, to the extent that actual recovery rates at each location allowed. Field parameters of pH, temperature, turbidity, conductivity, dissolved oxygen, and oxidation-reduction potential were measured. The groundwater samples were obtained using a peristaltic pump and polyethylene tubing and placed into appropriate laboratory supplied containers. The groundwater samples

were filtered in the field for the dissolved metals analyses. The groundwater sample designations correspond to the representative soil boring location. For example, groundwater collected from soil boring location 74SB01 will have a groundwater sample identification of 74GW01. The temporary monitoring wells will not be abandoned in this phase. Following completion of sampling and surveying, each well was secured with a padlock.

Airfield Area

Eleven groundwater samples were obtained from approximately one in ten soil boring locations in order to evaluate contamination that may have migrated downward toward the aquifer from the pipeline; this includes groundwater samples that were obtained from the two soil boring locations around two valve pits located at the Airfield. Samples were collected from the top of the water table and groundwater samples were analyzed for Appendix IX VOCs, total and dissolved metals, and TPH GRO/DRO. Some groundwater samples were additionally analyzed for polynuclear aromatic hydrocarbons (PAH), based on PID measurements, visual inspection, and presence of odor in the soil boring at that location, or by random selection. As shown on Figure 3-1, the monitoring wells that were installed and sampled included; 74SB05, 74SB09, 74SB22, 74SB26, 74GW34, and 74SB57 along the pipeline and 74VP1a, 74VP1b, 74VP2a, and 74VP2b near the two valve pits. One existing well 74HYD3, associated with the Hydrant Refueling Area was also sampled. An additional two existing wells were located at the Hydrant Refueling Area that were not sampled because of limited groundwater production.

SWMU 9 Area A/B

Seventeen groundwater monitoring wells were sampled in this area, including three wells along the pipeline and 14 wells adjacent to valve pits, see Figure 3-2. Samples were collected from the top of the water table and groundwater samples were analyzed for Appendix IX VOCs, total and dissolved metals, and TPH GRO/DRO. Some groundwater samples were additionally analyzed for PAHs based on the presence of contamination through PID measurements, visual inspection, and presence of odor in the soil boring at that location, or by random selection. The monitoring wells that were installed and sampled included 74SB74, 74SB84, 74VP3a, 74VP3b, 74VP11a, 74VP11b, 74VP1Aa/9, 74VP1Ab/9, 74VP1Ba/9, 74VP1Bb/9, 74VP1Ca/9, 74VP1Cb/9, 74VP2b/9, 74VP2a/9, 74VP3a/9, and 74VP3b/9 in the SWMU 9 Area A/B. In addition, one existing well, 9MW02S, was utilized as a well located along the pipeline.

JP-5 Hill and DFM Area

Twenty groundwater monitoring wells were installed in this area, including two wells along the pipeline and 18 wells adjacent to valve pits, see Figure 3-3. Some of the newly installed wells did not produce sufficient water for sample collection and were not sampled during this investigation. A total of 12 of the 20 wells were sampled. Samples were collected from the top of the water table and groundwater samples were analyzed for Appendix IX VOCs, total and dissolved metals, and TPH GRO/DRO. Some samples were additionally analyzed for PAHs based on PID measurements, visual inspection, and presence of odor in the soil boring at that location, or by random selection. The monitoring wells that were installed included 74VP05a, 74VP05b, 74VP9a/JP5, 74VP9b/JP5, 74VP10a/JP5, 74SB137, 74VP11a/JP5, 74VP11b/JP5, 74SB273, 74SB285, 74SB151, 74VP07b, 74VP08a, 74VP08b, 74VP10a/DFM, 74VP10b/DFM, 74VP19a, 74VP19b, 74VP20, and 74VP1982 in the JP-5 Hill and DFM Area. No existing wells were utilized in this area. Newly installed temporary wells that were not sampled because of limited or no water production included 74VP05b, 74VP11b/JP5, 74VP9a/JP5, 74SB137, 74VP10b/DFM, 74VP19a, 74VP11a/JP5, and 74SB285. Limited sample collection was completed at 74VP9b/JP5.

SWMU 9 Area C

Eight groundwater wells were sampled in this area, all of which were adjacent to valve pits. Of these 8 wells, 6 were newly installed and two wells were existing wells near valve pits VP-6 and VP-6B, as shown on Figure 3-4. Samples were collected from the top of the water table and groundwater samples were analyzed for Appendix IX VOCs, total and dissolved metals, and TPH GRO/DRO. Some samples were additionally analyzed for PAHs based on PID measurements, visual inspection, and presence of odor in the soil boring at that location, or by random selection. The wells that were installed included 74SB145, 74VP6Aa, 74VP6Ab, 74VP6Ba, 74VP6Ca, and 74VP6Cb in the SWMU 9 Area C. The two existing wells sampled were identified as 18GW01 and 13GW11. Two wells, 74VP6Aa and 74VP6Ab, within this area did not produce enough groundwater for sampling.

Fueling Piers Area

Six groundwater wells were sampled in this area. Three wells were existing wells near valve pits VP-24 and VP-56 located within SWMU 7/8 and identified as GW04, MW02, and UGW12. The other three temporary wells were installed along the pipeline and are identified as 74SB236, 74SB246, and 74SB256, as shown on Figure 3-5. Samples were collected from the top of the water table and groundwater samples were analyzed for Appendix IX VOCs, total and dissolved metals, and TPH GRO/DRO. Some samples were additionally analyzed for PAHs based on PID measurements, visual inspection, and presence of odor in the soil boring at that location, or by random selection.

3.3 Groundwater Level Measurements

A depth to groundwater measurement was collected from each monitoring well prior to sampling. For the Airfield area, the depth to the groundwater in thirteen newly installed temporary monitoring wells was measured on July 22, 2007. In addition, groundwater elevation measurements for three existing airfield monitoring wells and fifteen monitoring wells from SWMUs 56 and 69 were also collected. Water levels were measured from the top of PVC riser and the groundwater elevations were calculated from the surveyed elevation of the top of riser. The elevations of the tops of risers were surveyed on May 6, 2008. A groundwater contour map for the Airfield area is shown on Figure 3-6 and indicates a groundwater flow direction to the southeast. Groundwater level measurements are given in the field log book and notes in Appendix A.

3.4 Decontamination and Investigation Derived Waste

Disposable sampling tools were used for soil and groundwater sampling to the extent practicable, in order to minimize the generation of liquid IDW from decontamination. Surface soil samples were collected with a stainless steel spoon or using the Geoprobe® DPT Macro-Core® sleeve. Subsurface soil samples were collected using the Geoprobe® DPT with a 4-foot or 5-foot long Macro-Core® sleeve. Groundwater samples were collected using polyethylene tubing.

The drill rigs and the reusable drilling and sampling tools were steam cleaned prior to entering the site, before leaving the site and between each sample location. PVC well screen and riser pipe were also steam cleaned prior to use for monitoring well construction. Decontamination pads were constructed of polyethylene sheeting with a sump to facilitate collection and containerization of decontamination fluids. Because of the large geographic areas covered by the SWMU 74 investigation, and because of restricted access to the airfield area, two decontamination pads were used. One pad was located in the airfield area southeast of Hangar

200; the decontamination pad for the Base-side work was located in the parking lot across the street from the security building (Building 1205).

IDW associated with soil sampling and monitoring well installation, including soil cuttings and decontamination fluids, was collected and stored in 55-gallon drums. However, the soil cuttings from the soil boring in which no wells were installed, were placed back into the boring from which they came, unless contamination was present. As much as possible, soils last out of the hole were returned first, thereby, approximating original stratigraphy.

Two IDW samples were collected during this investigation. One composite aqueous sample was collected from drums containing decontamination fluid (from sampling equipment and drill rig), and one composite soil sample was collected from drums containing drill cuttings. The soil IDW samples were analyzed for toxicity characteristic leaching procedure (TCLP) VOCs and metals, ignitability, reactive sulfide, reactive cyanide, and pH. The water IDW samples were analyzed for Appendix IX VOCs, total Appendix IX metals, ignitability, reactive sulfide, reactive cyanide, and pH. The drums were moved and stored at a secure location on base following the field work completion. The soil and water IDW has been removed and disposed of from the site by an approved vendor. Copies of the IDW analytical data and disposal manifest are presented in Appendix A.

3.5 Utility Clearance

All proposed boring locations were first checked for the presence of subsurface utilities. A facility map showing all utilities was obtained and the boring locations verified for absence of utilities. The sampling locations were field-located using a survey-grade GPS and the absence of subsurface utilities was field verified.

3.6 Surveying

Initial locations of borings were determined using a mapping grade differential GPS (DGPS) that utilizes satellite corrections from Omnistar in “real-time”. Prior to entering the field, an electronic "shape file" (which included each proposed soil boring location) was obtained from the Computer Aided Design and Drafting (CADD)/Geographic Information System (GIS) at Baker and uploaded to the GPS data collector. Once in the field, the GPS unit was used to navigate to each sample location. Each sample location was flagged and numbered accordingly. Then, the borings were advanced at these locations.

After the monitoring wells were installed, their coordinates were more accurately surveyed using Real-Time Kinematic (RTK) GPS methods. RTK GPS surveying was selected specifically because of the accuracy of data it provides to produce groundwater contour mapping. RTK GPS surveying employs a GPS base station and a GPS rover that reads satellite carrier phase signals. Using the carrier phase signal in conjunction with a base station is expected to provide a horizontal accuracy of approximately 0.1 feet and an elevation accuracy of approximately 0.02 feet. The coordinate system used for the DGPS and RTK GPS surveys was U.S. State Plane 1983, Puerto Rico/Virgin Island 5200, and the NAD 1983, with units in feet.

Each monitoring well at SWMU 74 was surveyed using the RTK GPS method on May 6, 2008. An elevation was obtained from the top of PVC riser for water level elevation calculations and a spot ground surface elevation was also obtained. All survey data was downloaded and processed using Trimble Geomatics Office™ (TGO), which is a software application tool used to convert

survey data collected in the field into electronic files for use in office application software such as Auto CADD.

3.7 QA/QC Sampling

The following QA/QC samples were collected during the SWMU 74 investigation:

- Field Duplicates
- MS/MSDs
- Trip Blanks
- Equipment Rinsate Blanks
- Field Blanks

Tables 3-1 and 3-2 provide a summary of the QA/QC samples collected and their associated laboratory analysis.

3.7.1 Field Duplicates

Field duplicates were collected at the target rate of 10 percent of primary environmental samples in accordance with the approved Work Plan. Three field duplicate surface soil samples (74SB13-00D, 74SB161-00D, and 74SB221-00D) were collected corresponding to 28 surface soil samples. 55 field duplicate subsurface soil samples were collected, corresponding to 535 subsurface soil samples. Four field duplicate groundwater samples (74GWHYD3D, 74GWVP1Cb/9D, 74GW9MW02SD, and 74GW12-VP-56D) were collected corresponding to 52 groundwater samples. Field duplicates were analyzed for the same parameters as the primary environmental samples and the results were used to evaluate the field sampling methodology. Field duplicate samples are shown on Table 3-1.

3.7.2 Trip Blanks

One trip blank sample was included in each cooler containing samples from the site intended for VOC or GRO analysis. As shown on Table 3-2, a total of 36 trip blanks accompanied samples from the SWMU 74 investigation. These trip blanks were analyzed for Appendix IX VOCs and/or GRO to evaluate whether cross contamination occurred during shipping of samples.

3.7.3 Matrix Spike/Matrix Spike Duplicates

Matrix spike/matrix spike duplicates were collected at the rate of approximately five percent of primary environmental samples from soil and groundwater, as shown on Table 3-1. Two sets of MS/MSDs were collected corresponding to 28 surface soil samples and 28 MS/MSD were collected corresponding to 535 subsurface soil samples. Three MS/MSD were collected corresponding to 52 groundwater samples. The MS/MSD samples were analyzed for the same parameters as the primary environmental samples and the results were used to evaluate the effect of each type of matrix on the analytical method.

3.7.4 Field Blanks

One field blank sample (FB01) was collected from laboratory-grade deionized water used as the source water for the equipment rinsate samples. No store bought distilled water was purchased during this investigation, so an additional field blank for store bought distilled water was not necessary. The field blank sample was analyzed for Appendix IX VOCs, SVOCs (including low-

level PAHs), and metals, to determine whether the water used for generating the equipment rinsates was free of chemicals at levels of concern for the site.

3.7.5 Equipment Rinsates

Equipment rinsate samples were collected from the disposable sampling tools and analyzed for the same parameters as the corresponding primary environmental samples. A total of 23 equipment rinsates were collected from Macro-Core® liners and stainless steel spoons used for soil sample collection or were collected from tubing that was used for groundwater sampling. One equipment rinsate was collected per day of field investigation work with sample collection occurring. All equipment rinsate samples were analyzed for Appendix IX VOCs and metals. ER01 through ER06, ER22 and ER24 were also analyzed for Appendix IX SVOCs; 74ER11, 74ER12, 74ER18, 74ER20 and 74ER21 were also analyzed for LLPAHs; ER22 and ER24 were also analyzed for Appendix IX pesticides/PCBs and ERO1 through ERO3 and ER06 through ER24 were also analyzed for TPH GRO and DRO.

3.8 Laboratory Analysis

Fixed-base laboratory analysis was conducted by TestAmerica Laboratories, Inc. (Test America) located in Savannah, Georgia. The list of parameters under the analytical program and the Contract Required Quantitation Limits (CRQLs) are provided in Table 3-3. The data was certified by a Puerto Rico certified chemist. Laboratory analytical data is provided in Appendix B; Puerto Rican Chemist Certificates are given in Appendix C.

3.9 Data Validation

All fixed-base laboratory data were validated by DataQual Environmental Services, LLC (DataQual) of St. Louis, Missouri, an independent third party. The USEPA Region II Data Validation Standard Operating Procedures were followed. Validation reports are provided for each Sample Delivery Group (SDG) in Appendix C.

3.9.1 Summary of Detected Compounds in Field QA/QC Samples

Field generated QA/QC samples for the field effort consisted of a field blank, equipment rinsates, trip blanks, and environmental duplicates. The blanks were analyzed for all fractions requested in this investigation. Tables 3-4 and 3-5 present the detected compounds found in the trip blanks, equipment rinsates, and field blank.

A total of thirty-six trip blanks were collected in association with the SWMU 74 field investigation. Minor detections of 4-methyl-2-pentanone (MIBK) in 74TB17 and chloromethane in 74TB02 were reported. Three trip blanks were rejected (56TB01, 74TB04, and 74TB06) by the data validator due to the size bubbles in the volatile organic analysis (VOA) vials, which were provided by the analytical laboratory. Trip blank 74TB01 was not analyzed for VOCs but was analyzed for GRO. GRO was not detected in any of the trip blanks. A summary of the trip blank results is present on Table 3-4.

One field blank sample was collected; FB01 representing laboratory grade deionized water. Detections in field blank FB01 included 2-Butanone, 1,4-dichlorobenzene, acetophenonel, diethyl phthalate, and di-n-butyl phthalate, copper, and lead. A summary of field blank FB01 data is presented in Table 3-5.

Twenty-three equipment rinsate samples were collected as part of the SWMU 74 field investigation. Minor VOC detections including one or more of the following parameters; 2-butanone, toluene, acetone, benzene, chloroform, methylene chloride, and styrene affected thirteen of the twenty-three rinsate samples. Five rinsate samples were analyzed for LLPAHs which were not detected. Minor detections of the SVOCs 1,4-dichlorobenzene, acetophenone, bis(2-ethylhexyl)phthalate, diethyl phthalate, di-n-butyl phthalate, butyl benzyl phthalate and phenol were detected. Minor concentrations of metals were reported in many of the rinsate samples. Of significance, are the results for ER08, which detected a majority of the reported metals and had detections of barium and copper, and zinc at concentrations of 14, 15, and 40 J mg/L, respectively. Equipment rinsate ER08 was a rinsate of groundwater sample tubing collected on May 5, 2008. Minor detections of DRO were reported for four rinsates and GRO for two rinsate samples. A summary of equipment rinsate data is presented in Table 3-5.

3.9.2 Third Party Data Validation Summary

A total of fifty-seven SDGs were produced by Test America and sent to the third party data validator, DataQual for SWMU 74. The data validation was performed in accordance with the SW-846 methods utilized by the laboratory, the Region II Standard Operating Procedures for the Validation of Organic Data Acquired Using SW-846 Methods (8260B-Rev 2, January 2006- SOP #HW-24 and 8270D-Rev 3, October 2006- SOP #HW-22), and professional judgment. Region II has not developed a validation checklist SOP for the methods used to assess the inorganic methods in these SDGs (SW-846 methods 6020B, 7417A) or the organic methods for hydrocarbons (SW-846 methods 8015_DRO and 8015_GRO). Therefore, alternative worksheets were provided. Region II flagging conventions were used. The samples were evaluated based on the following criteria:

- Data Completeness
- Sample Condition
- Technical Holding Times
- Gas Chromatograph (GC)/ Mass Spectrometer (MS) Tuning
- GC Performance
- Initial/Continuing Calibrations
- Interference Check Solution A (ICSA)/ Interference Check Solution AB (ICSAB) Standards
- Contract Required Detection Limits (CRDL) Standards
- Blanks
- Internal Standards
- Surrogate Recoveries
- Laboratory Control Samples
- Matrix Spike Recoveries
- Matrix Duplicate RPDs
- Serial Dilutions
- Field Duplicates
- Identification/Quantitation
- Reporting Limits
- Tentatively Identified Compounds

A brief summary of the more significant data validation results, including data rejections, will be discussed in this section. Data that was qualified as “estimated” or some other qualifier will not be discussed in this section due to the amount of data. Full data validation report summaries are presented in Appendix C. Changes in the results of the laboratory data (qualifiers) due to the application of the data validation objectives did not significantly compromise the data quality. The data as qualified by the validator is acceptable for its intended use. Listed below is a brief discussion of data that was rejected and thus not useable for this investigation.

VOCs

Multiple SDGs reported some compounds with low relative response factor (RRF) values during initial and continuing calibrations resulting in qualifying certain non-detected values as rejected.

VOCs that were rejected included one or more of the following compounds including: acetone, acrolein, acetonitrile, isobutyl alcohol, 3-chloro-1-propene, pentachloroethane, and propionitrile.

The laboratory supplied sample vials for trip blanks 74TB04 and 74TB06 in SDG 36426-4, and 56TB01 in SDG 36289-4 were received with headspace, therefore all non-detects were qualified as rejected and detections were qualified as estimated.

One sample (74SB235-04) in SDG 36978-3 was analyzed out of holding time limits by one day and all positive results were qualified as estimated (J) and non-detected results were rejected (R).

SVOCs/PAHs

In SDG 36419-4 the initial and continuing calibrations exhibited some compounds with low RRF values, which resulted in qualifying the non-detect values as rejected. In addition, due to high percent difference values in the continuing calibrations, hexachlorophene and 4-nitroquinoline-1-oxide were rejected.

DRO/GRO

Two soil samples from SDG 36489-3 (74VP3a-03 and 74VP3a-04) were re-analyzed fourteen days outside of the holding time. The original results were used and the reanalysis was rejected.

Soil samples 74SBVP19b-03 and 74SBVP19b-05 from SDG 36891-4 were re-analyzed outside of the holding time for the GRO fraction. The original results were used and the reanalysis was rejected.

Two soil samples (74SB265-03 and 74SB265-03D) from SDG 37020-1 were re-extracted outside of the holding time because the field duplicate results did not correspond. The re-extracted results were rejected, the original analysis was used. In the same SDG, five samples (74SB265-03, 74SB265-03D, 74SB269-04, 74SB269-05 and 74SB256-03) for the DRO fraction was re-analyzed; however, the original results were used.

Metals

The matrix spikes of sample 74SB14-03 within SDG 36360-2 analyzed for metals exhibited non-compliant recoveries below the QC limits for antimony, cobalt, and lead. All results for antimony and cobalt were qualified as estimated. Lead exhibited negative recoveries so all reported positive and non-detect results for lead were rejected based on Region II guidance.

The field duplicate pair 74SB22-03 and 74SB22-03D in SDG 36426-1 exhibited non compliant relative percent differences (RPDs) for chromium, copper, nickel, vanadium, and zinc that required qualification as estimated. In addition, cobalt and lead were required to be qualified as rejected.

The matrix spikes of sample 74SB51-00 in SDG 36426-2 analyzed for the metals fraction exhibited non-compliant percent recoveries for antimony and lead. The lead sample was rejected and the antimony sample estimated. In addition, the field duplicate pair of samples 74SB48-01 and 74SB48-01D exhibited non-compliant RPDs for nickel and chromium. Nickel was qualified as estimated and the chromium qualified as rejected.

The associated matrix spikes within SDG 36426-4 exhibited non-compliant percent recoveries for three analytes for which qualifications were required. Positive and non-detect results for

antimony were flagged as estimated in the samples. Positive results for barium were flagged as estimated and positive and non-detect results for mercury was rejected. In addition, mercury was rejected in the field duplicate pair for exhibiting an absolute difference of greater than 4 times the contract required detection limit (CRDL).

In SDG 36489-2, the associated matrix spikes exhibited non-compliant percent recoveries for three analytes for which qualifications were required. Positive and non-detect results for antimony were flagged as estimated in the samples. Positive results for lead were qualified as estimated. Positive and non-detect results for chromium were rejected.

In SDG 36517-1, the associated matrix spikes exhibited non-compliant percent recoveries for analytes for which qualifications were required. Positive and non-detect results for antimony and chromium were flagged as estimated in the samples. Positive results for cobalt were flagged as estimated and positive results for barium were rejected.

In SDG 36517-1, the field duplicate pair of samples 74SB86-03 and 74SB86-03D exhibited non-compliant RPD for cobalt, nickel, and zinc and was flagged as estimated. Barium and chromium exhibited non-compliant RPDs and lead exhibited an absolute difference of greater than four times the CRDL and was rejected. The field duplicate pair of samples 74SB91-03 and 74SB91-03D exhibited non-compliant RPD for chromium and nickel and was flagged as estimated. Lead exhibited an absolute difference greater than four times the CRDL and was rejected.

In SDG 36711-1, the field duplicate pair of samples 74SB96-03 and 74SB96-03D exhibited a non-compliant RPD for barium and the field duplicate pair of samples 74SB121-05 and 74SB121-05D exhibited non-compliant RPD for barium. Barium in both field duplicate pairs was rejected.

In SDG 36806-2, the field duplicate pair of samples 74SB146-02 and 74SB146-02D exhibited non-compliant RPDs for cobalt. Cadmium exhibited an absolute difference greater than four times the CRDL and was rejected.

In SDG 36891-2, the associated matrix spikes of sample 74SB171-04 exhibited non-compliant percent recoveries for two analytes for which qualifications were required. Positive and non-detect results for antimony were flagged as estimated in the samples. Positive and non-detect results for mercury were rejected due to recoveries above 200%.

The field duplicate pair of samples 74SB201-04 and 74SB201-04D in SDG 36891-3 exhibited metals results for one analyte that did not compare. Lead exhibited an absolute difference that was more than four times plus or minus the reporting limit and was rejected in the field duplicate pair based on Region II guidance.

In SDG 36891-5, the percent differences between total and dissolved results were above 20% for some analytes and above 50% for cobalt in two samples. Those above 20% (nickel and barium) were flagged as estimated in both the total and dissolved sample. Those above 50% were rejected in both the total and dissolved sample. These qualifications were made according to Region II guidelines.

The field duplicate pair of samples 74SB191-03 and 74SB191-03D in SDG 36925-1 exhibited metal results that did not compare. The analyte barium exhibited a RPD of 157 percent and was rejected in both samples.

In SDG 36925-4, the associated matrix spike pair exhibited non-compliant recoveries for the dissolved metals analytes. Arsenic, copper, and nickel were recovered above the QC limit and positive results were qualified as estimated in all dissolved metal samples. Barium and zinc were recovered above 200% in both MS and MSD and positive and non-detect results were rejected in all dissolved metals samples.

In addition in SDG 36925-4, the total/dissolved metals analysis comparison exhibited percent differences greater than 50% for three analytes in one pair. Two of these analytes were not qualified because the total sample was analyzed without dilution but the dissolved sample was analyzed with dilution. The analyte cobalt was rejected in sample pair 74VP10a/JP5 and 74VP10a/JP5F.

In SDG 36978-4, the associated matrix spike pair exhibited non-compliant recoveries for the dissolved metals analytes. Arsenic, copper, and nickel were recovered below 200% and were qualified as estimated. Barium and zinc were recovered above 200% in both the MS and MSD and positive and non-detect results were rejected. The field duplicate sample 74GW9MW02SDF should not be used to assess precision and the sample is rejected. Results reported from the 10X dilution in the field duplicate sample are biased high by approximately a factor of 10. Positive results reported from the undiluted analysis of the field duplicate exhibited acceptable reproducibility with the associated field sample. The results reported in the dissolved analysis field duplicate are actually reproducible with the total analysis field duplicate results. Perhaps the field duplicate did not get filtered. Because of the anomalous results, the validator opines that the field duplicate sample should not be used to assess precision.

In addition in SDG 36978-4, the total/dissolved metals analysis comparison exhibited percent differences a percent difference greater than 50% for one analyte in one pair. Cobalt (60%) was qualified as rejected in sample 74VPGCb (total and dissolved).

In SDG 37020-3 the field duplicate pair of samples 74SB246-03 and 74SB246-03D exhibited DRO results that did not compare. The analytes vanadium and chromium exhibited absolute differences that were greater than four times the reporting limit and were rejected in both samples.

In SDG 37125-1, the field duplicate (74SB271-03 and 74SB271-03D) pair exhibited non-compliant results for zinc and barium. Zinc was qualified as estimated and barium was rejected in both samples.

In SDG 37226-4, the total/dissolved metals analysis comparison exhibited percent differences greater than 50% for one analyte in three pair. Cobalt was qualified as rejected in the sample pairs 74UGW04VP24 / 72UGW04VP24F, 74GWM2-2VP56 / 74GWM2-2VP56F, and 74GW12VP56D / 74GW12VP56DF.

3.10 Deviations from the Work Plan

The following discusses some deviations from the approved Work Plan for Phase I of the CMS Investigation for SWMU 74:

- The Work Plan states that samples will be compared to USEPA Region IX Preliminary Remediation Goals (PRGs); however, the USEPA came out with new criteria tables in July 2008, which are referred to as Regional Screening Levels (SLs). The September 2008 Update to the Regional SLs were used for data comparison verses the PRGs as stated in the Work Plan.

- The Work Plan states that approximately 15 percent of the surface soil, subsurface soil and groundwater samples were to be analyzed for LLPAHs; following completion of the field work approximately 11 percent of the total was sampled for LLPAHs. These samples were selected based on the presence of contamination as ascertained by PID readings, visual inspection, or presence of odor, as well as by random selection. Phase II of the CMS Investigation for SWMU 74 will incorporate LLPAH analyses for all samples collected.

- Groundwater duplicates were collected at a frequency slightly less than 10 percent (approximately 8 percent) because of difficulty collecting enough volume for duplicate analysis from the 1.5-inch diameter monitoring wells. In most cases, groundwater duplicates were collected from existing wells that were larger diameter.

- The format of this report was changed from the original format proposed in the approved Work Plan to enable a more comprehensive discussion of the data. The overall size of the data package was rather large and an expanded reporting format made for an easier presentation.

- Two of the monitoring wells in SWMU 9 Area C (74VP6Aa and 74VP6Ab) failed to produce sufficient water for sample collection during the investigation resulting in a data gap associated with valve pit VP-6A.

- The Work Plan states that the temporary wells will not be developed. However, many of the wells were installed in clay-rich formations and exhibited very low yields. Consequently, the 1.5-inch diameter monitoring wells were developed prior to sampling using low flow pumping in an effort to increase communication with the aquifer and improve groundwater production.

4.0 EVALUATION CRITERIA

This section discusses the methods and criteria used to evaluate the data collected during Phase I of the CMS Investigation. As discussed in Sections 1 through 3, the first phase of this CMS investigation is a screening step that included the collection of soil and groundwater samples from areas along the pipeline and near valve pits to determine whether releases have occurred and if they have impacted the adjacent soil and groundwater. To accomplish this goal, the Phase I data were compared to criteria for total TPH, environmental background concentrations of inorganic compounds, as well as to various human health and ecological screening criteria.

4.1 TPH

Phase I of the CMS Investigation for SWMU 74 is a screening step focused on identifying potential releases from the pipelines and associated valve pits. Subsequent phases of the CMS Investigation will focus on confirming, characterizing and delineating site related contamination. Petroleum hydrocarbons are the primary expected contaminants associated with SWMU 74. As indicated in the EPA approved Final Corrective Measures Study Work Plan for SWMU 74 (Baker, 2007), to efficiently screen such a large area, total TPH was selected as an indicator of a release from the pipeline or valve pit. All soil and groundwater samples collected for this Phase I investigation were analyzed for TPH DRO and GRO. TPH (DRO, GRO, or Total) values exceeding a set screening criterion were considered indicative of a release and those areas were recommended for further investigation. The Puerto Rico Environmental Quality Board (PREQB) screening criteria for TPH (GRO, DRO, and/or Total) in soil is 100 milligrams per kilogram (mg/kg) and for TPH (GRO, DRO, and/or Total) in groundwater is 50 mg/L. As discussed below and in detail in the approved Work Plan, a screening value of 25% of the TPH criteria for soil and groundwater was used in this investigation (25 mg/kg TPH (GRO, DRO, and/or Total) in soil and 12.5 mg/L in groundwater).

The soil samples were also analyzed for Appendix IX VOCs and metals; approximately 11 percent of the soil samples were analyzed for low level PAHs. Similarly, the groundwater samples were additionally analyzed for Appendix IX VOC, and total and dissolved metals; approximately 60 percent of the groundwater samples were analyzed for low level PAHs. Detections of these compounds (VOCs, PAHs, and metals) above background and applicable screening criteria, as discussed in Sections 4.2 through 4.4 is not necessarily an indication of a release from SWMU 74 and will be considered on a case-by-case basis when identifying areas for additional investigation.

4.1.1 TPH DRO and PAHs

The approved Work Plan indicated that the relationship between PAHs and TPH would be explored to determine a potential trigger level for TPH, above which the presence of one or more PAH constituents would be likely. PAH compounds were not analyzed for in every soil and groundwater sample collected at SWMU 74. Potential fuel-based contamination in soil was evaluated first in those soil samples analyzed for PAHs. This was accomplished by combining all available co-located TPH DRO and PAH soil data from each area (surface soil and subsurface soil) into a single unified data set and running linear regressions that examined the relationship between TPH DRO and PAH concentrations. Separate linear regressions were performed on each PAH compound. For a given TPH DRO and PAH co-located pair, if a result was rejected during data validation activities, analytical data for that pair was omitted from the combined data. In addition, non-detected results were evaluated at the detection limit.

The results of this evaluation show that there is no strong correlation between TPH DRO and PAH concentrations. The correlation coefficient for all PAHs was less than 0.08 except for fluorene and phenanthrene where the correlation coefficients were 0.617 and 0.789, respectively. Note that a correlation coefficient of greater than 0.2 may conservatively be considered to have some significance. The regressions for these two compounds appear to be controlled by the co-location of the maximum PAH detection with the maximum DRO detection. It is noted that the phenanthrene data were re-evaluated after removal of the maximum DRO concentration and its co-located phenanthrene concentration (7,400 mg/kg and 7,900 mg/kg, respectively). The re-evaluation was performed to determine if there is evidence of a linear relationship in the remaining data (maximum DRO concentration may represent a potential outlier influencing the detected linear relationship with phenanthrene). As evidenced by Figure D-17a, included as Appendix D, a possible linear relationship is still evident ($r^2 = 0.503$). The overall results of this evaluation suggest that the detection of PAHs in the soil and groundwater samples is not necessarily the result of a release from SWMU 74. (Regression plots for PAHs compounds verses TPH DRO are provided in Appendix D). Consequently, PAHs detections in excess of human health and/or ecological screening criteria were considered on a case-by-case basis and did not automatically trigger identification of an area for additional investigation. As indicated in the Work Plan, if the results of the linear regressions indicate that there is no correlation between TPH and PAH compounds, fuel-related impacts in surface soil and subsurface soil will be identified using a screening value equal to 25 percent of the current PREQB screening criterion for TPH of 100 mg/kg for soil and 50 mg/L for groundwater.

4.1.2 TPH and Metals

A similar evaluation was conducted on the detected metals concentrations in soil to explore the potential relationship between TPH and detected metals. In this evaluation, co-located TPH and metals data from each area (surface and subsurface soil) were combined into a single unified data set. Separate linear regressions were then run for each metal. Identical to the TPH DRO and PAH evaluation, if a result for a given co-located TPH and metal pair was rejected during data validation activities, analytical data for that pair was omitted from the combined data set. Non-detected results also were evaluated at the detection limit reported by the analytical laboratory.

The results of this evaluation also show that there is no strong correlation between TPH and individual metals concentrations in soil. The correlation coefficients for all regressions were less than 0.03 (note that a correlation coefficient of greater than 0.2 may conservatively be considered to have some significance). Regression plots are provided in Appendix D. This lack of correlation between TPH and detected metals concentrations in soil indicates that the presence of a metal in soil is not necessarily the result of a release from SWMU 74. Consequently, detections of metals in excess of background and human health and/or ecological screening values were considered on a case-by-case basis and did not automatically trigger identification of an area for additional investigation. This was applied, by analogy, to groundwater as well.

4.2 Background Criteria

Detected inorganic compounds were compared against their respective background screening values (upper limit of the mean) following Navy guidance (Naval Facilities Engineering Service Center, [NFESC], 2002 and 2004). The background data used in the evaluations are those presented in the Revised Final II Summary Report for Environmental Background Concentrations of Inorganic Compounds (Baker, 2008). Background criteria for surface soil, subsurface soil (fine sand/silt and clay) and groundwater were used in the evaluation. Detected compounds for each media were compared to applicable human health or ecological screening criteria, as discussed in Sections 4.3 and 4.4, as well as to background concentrations.

4.3 Human Health Screening Criteria

Applicable human health criteria for soils include USEPA Regional Industrial SLs and USEPA Regional Residential SLs (USEPA, 2008), and the upper limit of the mean background levels (inorganics only) (Baker, 2008). Applicable human health criteria for groundwater are USEPA Regional Tap Water SLs, Federal Drinking Water MCLs, and any inorganic background levels present in the groundwater at NAPR (Baker, 2008).

4.3.1 Soil

The EPA recently developed the Regional SLs to support the risk assessment screening process, while improving consistency across EPA Regions and incorporating updated guidance in a timely manner. The Regional SL Table was developed with the Department of Energy's Oak Ridge National Laboratory under an Interagency Agreement as an update of the individual screening tables that had previously been maintained by Regions III, IV, and IX. As recommended by the USEPA, these Regional SLs are to replace all other screening values.

The Regional SL Table contains risk-based screening levels derived from standardized equations (representing ingestion, dermal contact, and inhalation exposure pathways), calculated using the latest toxicity values, default exposure assumptions and physical and chemical properties. The SLs contained in the Regional SL Table are generic; they are calculated without site-specific information. Regional SLs should be viewed as Agency guidelines, not legally enforceable standards. The SLs for potentially carcinogenic chemicals are based on a target Incremental Lifetime Cancer Risk (ILCR) of $1x10^{-06}$. The SLs for noncarcinogens are based on a target hazard quotient (HQ) of 1.0. However, in order to account for cumulative risk from multiple chemicals in a medium, the noncarcinogenic SLs will be divided by a factor of ten, yielding a target HQ of 0.1. For potential carcinogens, the toxicity criteria applicable to the derivation of SL values are oral Cancer Slope Factors (CSFs) and inhalation unit risk (IUR) factors; for noncarcinogens, they are chronic oral reference doses (RfDs) and inhalation reference concentrations (RfCs). These toxicity criteria are subject to change as more updated information and results from the most recent toxicological/epidemiological studies become available. The SL table is updated periodically to reflect such changes. It should be noted that the September 2008 update (USEPA, 2008) was used in this report.

Residential Soil SLs are developed using equations modeling the ingestion, dermal contact, and inhalation exposure routes. Residential Soil SLs for carcinogens are based on combined childhood and adult exposure, while those for noncarcinogens are based on childhood exposure only. Default exposure parameters used in the calculations include an exposure frequency of 350 days per year for both adult and child, exposure durations of 6 years for childhood exposures and 30 years for childhood and adult combined, and body weights of 15 kilogram (kg) for a child and 70 kg for an adult. Soil ingestion rates of 200 mg/day for a child and 100 mg/day for adults are also used. Additionally, age-dependent adjustments are made for the development of residential soil SLs for chemicals identified to be carcinogenic via a mutagenic mode of action (e.g., carcinogenic PAHs).

Industrial Soil SLs are developed using equations modeling the ingestion, dermal contact, and inhalation exposure routes. Industrial Soil SLs for carcinogens and noncarcinogens are based on adult outdoor worker soil exposures. Default exposure parameters include an exposure frequency of 250 days per year, exposure duration of 25 years, and a soil ingestion rate of 100 mg/day. The adult outdoor worker exposure scenario also assumes an 8 hour work day.

4.3.2 Groundwater

As indicated in Section 4.3, Regional SLs were also used in the evaluation of groundwater analytical results. Regional Tap Water SLs are developed using equations modeling the ingestion and inhalation exposure routes. The dermal exposure route is not included due to uncertainty in the determination of dermal permeability constants for many of the chemicals. Tap Water SLs for carcinogens are based on childhood and adult (drinking water) exposure, while those for noncarcinogens are based on adult exposure only. Default exposure parameters used in the calculations include an exposure frequency of 350 days per year for both adult and child, exposure durations of 6 years for childhood exposures and 30 years for childhood and adult combined, and body weights of 15 kg for a child and 70 kg for an adult. Tap water ingestion rates of 1 liter per day for a child and 2 liters per day for adults are also used. Additionally, age-dependent adjustments are made for the development of Tap Water SLs for chemicals identified to be carcinogenic via a mutagenic mode of action (e.g., carcinogenic PAHs).

MCLs were also used in the screening evaluation of the groundwater analytical results. MCLs are Federal Groundwater Standards that are enforceable standards for public water supplies promulgated under the Safe Drinking Water Act and are designed for the protection of human health. MCLs are based on laboratory or epidemiological studies and apply to drinking water supplies consumed by a minimum of 25 persons. They are designed for prevention of human health effects associated with a lifetime exposure (70 year lifetime) of an average adult (70 kg) consuming 2 liters of water per day. MCLs also consider the technical feasibility of removing the contaminant from the public water supply (USEPA, 2008).

4.4 Ecological Screening Values

Ecological screening values for soil and groundwater were developed from numerous sources, as discussed in the following sections.

4.4.1 Soil

Surface soil (collected from 0 to 1 foot bgs) and shallow subsurface soil (collected from the 1 to 3 foot bgs interval) represent the most likely zones for exposure of ecological receptors to site contaminants. Consequently, ecological screening values for soil were only applied to surface and shallow subsurface soil.

USEPA ecological soil screening levels (Eco-SSLs) (documentation available at http://www.epa.gov/ecotox/ecossl/) were preferentially used as soil screening values. Eco-SSLs have been developed for eight receptor groups: plants, soil invertebrates, avian herbivores, avian ground insectivores, avian carnivores, mammalian herbivores, mammalian ground insectivores, and mammalian carnivores. For a given chemical, the lowest Eco-SSL value for plants, soil invertebrates, avian herbivores, avian ground insectivores, avian carnivores, mammalian herbivores was selected as the soil screening value. Eco-SSLs for mammalian ground insectivores were not considered for soil screening value development because there are no mammalian ground insectivores in Puerto Rico (mammalian insectivores are limited to aerial insectivores [i.e., bats]). As discussed in Guidelines for Developing Ecological Soil Screening Levels (USEPA, 2005), aerial and arboreal insectivorous birds and mammals were excluded from Eco-SSL development because they are considered inappropriate (i.e., they do not have a clear or indirect exposure pathway link to soil [indirect exposure pathways involve ingestion of prey that have direct contact with soil]). Eco-SSLs for mammalian carnivores also were not considered for soil screening value development because there are no carnivorous mammals on Puerto Rico. With the exception of bats, the terrestrial mammals represented by potentially complete exposure

pathways are limited to nonindigenous, nuisance species (i.e., Norway rat, black rat, and mongoose) that have been implicated in the decline of native reptilian and bird populations (Mac et al., 1998 and United States Fish and Wildlife Service [USFWS], 1996). Eco-SSLs for mammalian herbivores are considered appropriate for soil screening value development based on the presence of fruit-eating and nectivorous bats in Puerto Rico.

For those chemicals lacking plant, soil invertebrate, avian herbivore, avian ground insectivore, avian carnivore, and mammalian herbivore Eco-SSLs, the literature-based toxicological benchmarks listed below were used as soil screening values.

- Toxicological thresholds for earthworms and microorganisms (Efroymson et al., 1997a)

- Toxicological thresholds for plants (Efroymson et al., 1997b)

Identical to the Eco-SSLs, when more than one screening value was available for a given chemical from Efroymson et al. (1997a and 1997b), the lowest value was selected as the soil screening value. For those chemicals lacking plant, soil invertebrate, avian herbivore, avian ground insectivore, avian carnivore, and mammalian herbivore Eco-SSLs and a toxicological threshold from Efroymson et al. (1997a and 1997b), the following literature-based values, listed in their order of decreasing preference, were used as soil screening values:

- Toxicity reference values for plants and invertebrates listed in Screening Level Ecological Risk Assessment Protocol for Hazardous Waste Combustion Facilities (USEPA, 1999).

- Soil standards developed by the Ministry of Housing, Spatial Planning and Environment (MHSPE).

- Canadian soil quality guidelines (agricultural land use) developed by the Canadian Council of Ministers of the Environment (CCME, 2007).

Soil screening values based on MHSPE soil standards represent an average of the target and intervention soil standards. Values are based on a default organic carbon content of 2.0 percent, which represents the minimum adjustment range (2.0 to 30.0 percent). CCME soil quality guidelines were given the lowest preference since many are background-based interim guidelines that do not represent effect concentrations.

4.4.2 Groundwater

Groundwater concentrations were compared to ecological surface water screening values in case of groundwater discharge to surface water. Chronic saltwater National Ambient Water Quality Criteria (NAWQC) (USEPA, 2009) were preferentially used as groundwater screening values. For those chemicals lacking a saltwater NAWQC, groundwater screening values were identified from the following information listed in their order of decreasing preference:

- Final Chronic Values (FCVs) for saltwater contained in Eco Update Volume 3, Number 2 (USEPA, 1996).

- USEPA Region 4 chronic screening values for saltwater contained in Ecological Risk Assessment Bulletins – Supplement to Risk Assessment Guidelines for Superfund (RAGS) (USEPA, 2001).

- Minimum chronic toxicity test endpoints (No Observed Effect Concentration [NOEC], No Observed Effect Level [NOEL], and Maximum Acceptable Toxicant Concentration [MATC] values) for marine species reported in the ECOTOX Database System (USEPA, 2007b).

- Chronic Lowest Observable Effect Levels (LOELs) for saltwater contained in National Oceanic and Atmospheric Administration (NOAA) Screening Quick Reference Tables (SQUIRTs) (Buchman, 2008) with a safety factor of 10 (Wentsel et al., 1996).

The order of preference was selected based on their level of protection. For example, FCVs would be expected to offer a greater degree of protection than a single species NOEC, MATC, or LOEL since their derivation considers a larger toxicological database. In the absence of the above-mentioned FCVs, USEPA Region 4 chronic screening values, chronic test endpoints, and chronic LOELs, screening values were derived from the acute literature values listed below:

- Acute LOELs for saltwater contained in NOAA SQUIRTs (Buchman, 2008).

- Acute toxicity test endpoints (NOEC, Lowest Observed Effect Concentration [LOEC], median lethal concentration [LC_{50}], and median effective concentration [EC_{50}] values) for mariner species contained in the ECOTOX Database System (USEPA, 2007b).

- LC_{50} values for marine species contained in Superfund Chemical Matrix (USEPA, 2004)

Chronic-based screening values were extrapolated from acute NOEC, LOEC, LOEL, LC_{50}, and EC^{50} values as follows:

- An uncertainty factor of 30 was used to convert an acute NOEC, LOEC, or LOEL to a chronic-based screening value (Wentsel et al., 1996).

- An uncertainty factor of 50 was used to convert an acute LOEC or LOEL to a chronic-based screening value (Wentsel et al., 1996).

- An uncertainty factor of 100 was used to convert an EC_{50} or LC_{50} to a chronic-based screening value (Wentsel et al., 1996).

When acute toxicity data were used to extrapolate a chronic screening value, NOECs/NOELs were given preference over LOECs/LOELs, LOECs/LOELs were given preference over LC_{50} and EC_{50} values, and EC_{50} values were given preference over LC_{50} values. When more than one value was available from the literature for a given test endpoint (e.g., NOEC), the minimum value was conservatively used to extrapolate a chronic screening value.

The screening values used for arsenic, cadmium, chromium, copper, lead, mercury, nickel, selenium, and zinc are USEPA saltwater NAWQC (i.e., continuous criteria concentrations [CCCs]). The USEPA saltwater CCC values for these nine metals can be expressed as dissolved or total recoverable concentrations (USEPA, 2009). Because groundwater samples were analyzed for total recoverable and dissolved metals, the total recoverable CCC values for these nine metals were converted to dissolved screening values by multiplying the total recoverable CCC values by the following conversion factors (USEPA, 2009):

- Arsenic: 1.000

- Cadmium: 0.994
- Chromium: 0.993
- Copper: 0.830
- Lead: 0.951
- Mercury: 0.850
- Nickel: 0.990
- Selenium: 0.998
- Zinc: 0.946

Total recoverable screening values were conservatively used to screen the dissolved analytical data for those metals lacking screening values expressed as dissolved concentrations (i.e., antimony, barium, beryllium, cobalt, silver, thallium, tin, and vanadium).

For chemicals lacking saltwater toxicological thresholds and literature values, surface water screening values were identified or developed from the literature-based freshwater values listed below in their order of decreasing preference.

- Chronic freshwater NAWQC (USEPA, 2009).

- FCVs for freshwater contained in ECO Update Volume 3, Number 2 (USEPA, 1996).

- USEPA Region 4 chronic screening values for freshwater contained in Ecological Risk Assessment Bulletins – Supplement to RAGS (USEPA 2001) and USEPA Region 5 ecological screening levels (ESLs) (http://www.epa.gov/reg5rcra/ca/ESL.pdf) (USEPA, 2003).

- Minimum chronic toxicity test endpoints (NOEC, NOEL, and MATC values) for freshwater species reported in the ECOTOX Database System (USEPA, 2007b).

- Great Lakes basin Tier II Secondary Chronic Values (SCVs) listed in the Great Lakes Initiative Toxicity Data Clearinghouse (http://www.epa.gov/gliclearinghouse/) (USEPA, 2007c).

- Chronic LOELs for freshwater contained in NOAA SQUIRTs (Buchman, 2008) with a safety factor of 10 (Wentsel et al., 1996).

Identical to saltwater-based values, the order of preference was selected based on their level of protection. It is noted that USEPA Region 4 and Region 5 screening values were given equal preference. When a value was available from both sources, the minimum value was selected as the surface water screening value. In the absence of the above-mentioned freshwater FCVs, freshwater USEPA Region 4 and Region 5 screening values, freshwater chronic test endpoints, and freshwater chronic LOELs, screening values were derived from the acute literature values listed below:

- Acute LOELs for freshwater contained in NOAA SQUIRTs (Buchman, 2008).

- Acute toxicity test endpoints (NOEC, NOEL, LOEL, LOEC, LC_{50}, and EC_{50} values) for freshwater species contained in the ECOTOX Database System (USEPA, 2007b).

- LC_{50} values for freshwater species contained in Superfund Chemical Matrix (USEPA, 2004).

Chronic-based screening values were extrapolated from acute NOEC, NOEL, LOEC, LOEL, LC_{50}, and EC_{50} values using the safety factors from Wentsel et al. (1996) identified above.

In some cases, acute and/or chronic saltwater LOELs for chemical classes (e.g., PAHs) were available from the literature (Buchman, 2008). A saltwater LOEL based on a chemical class was used as the groundwater screening value only if that chemical lacked freshwater and saltwater literature-based benchmarks and/or toxicity test endpoints.

5.0 AIRFIELD AREA

The following section describes the investigation results for the Airfield Area portion of SWMU 74. The analytical data is discussed and presented by media type; i.e. surface soil, subsurface soil, and groundwater.

5.1 Area Description

The Airfield Area consists of approximately 5,500 linear feet of pipeline, two valve boxes, the Aircraft Hydrant Refueling System, and the Day Tank Storage System (not part of SWMU 74). The aircraft hydrant refueling system is comprised of four filling stands or hydrants located north of the main runway. The Day Tank Area (not included in SWMU 74) consists of one above ground storage tank with approximately 2.6 million gallons of capacity, a smaller cut and cover tank with approximately 218,000 gallons of capacity and large above ground pumps, filtration systems, and valves. The above ground storage tank and ancillary components including pumps, filtration and valving is protected by a secondary containment structure.

5.2 Sampling Summary

A total of six surface soil samples, 105 subsurface soil samples, and eleven groundwater samples were collected from the Airfield Area, not including duplicates or other QA/QC samples. Sample locations are shown in Figures 5-1 and 5-2.

Six surface soil samples (74SB01-00, 74SB13-00, 74SB22-00, 74SB34-00, 74SB51-00, and 74SB61-00) and one duplicate sample (74SB13-00D) were collected and analyzed during Phase I of the CMS Investigation at SWMU 74 Airfield. Surface soil samples were analyzed for Appendix IX VOCs, metals, TPH GRO and TPH DRO. Select samples were also analyzed for LLPAHs, including 74SB01-00 and 74SB22-00.

One hundred five (105) subsurface soil samples and ten duplicate samples were collected and analyzed during Phase I of the CMS Investigation at SWMU 74 Airfield. All of the subsurface soil samples were analyzed for Appendix IX VOCs, metals, TPH GRO and TPH DRO. Select samples were analyzed for LLPAHs.

A total of eleven groundwater samples [74GW05, 74GW09, 74GW22, 74GW26, 74GW34, 74GW57, 74GWHYD3 (existing), 74GWVP1a, 74GWVP1b, 74GWVP2a, and 74GWVP2b] and one duplicate sample (74GWHYD3D) were collected and analyzed during Phase I of the CMS Investigation at SWMU 74 Airfield. All of the groundwater samples were analyzed for Appendix IX VOCs, total metals and dissolved metals, TPH GRO and TPH DRO. A total of five of the eleven samples were analyzed for LLPAHs.

5.3 Area Geology and Hydrogeology

The entire SWMU 74 Airfield Area is located within the Inland Flat Land regional geology area. The inland flat land area is typically underlain by relatively thick residual soil (i.e., residuum). The residuum generally consists predominately of clay. However, during construction of the Airfield Area a significant portion, if not all, of the surface was cut, filled and reworked to support development. Due to the age of the Airfield (constructed late 1940's), the significant volume of fill and surface reworking required during construction, and the boring location relative to the pipeline and valve box backfill, it is often difficult to identify the fill and natural overburden transition; although the fill/natural overburden sometimes is obvious when coarser grained materials were introduced as fill (e.g., beach sands, gravels, cobbles).

Fill materials, generally ranging in depth from near surface to approximately 12 feet bgs along the pipeline, were observed in the Airfield borings. The fill generally consisted of clay rich profiles with varying amounts of silt and sand. Occasionally, coarse sand, gravel and cobbles were observed in the borings. Native soils, also clay rich and generally light olive green in color and mottled, were observed.

The water bearing zones in the clay rich subsurface soil of the Airfield were difficult to ascertain. Occasionally, a sand rich or gravelly zone at depth would produce observable groundwater. In general, it was determined that water bearing zones ranged from typically 10 to 14 feet below ground surface, accordingly the monitoring wells were generally installed between 15 and 20 feet below ground surface with the well screen extending across the 10 to 14 foot interval. A groundwater contour map for the Airfield area is shown on Figure 3-6 and indicates a groundwater flow direction to the southeast. Soil Boring Logs, Well Construction Records, and groundwater level measurements (listed in the field log books) are provided in Appendix A.

5.4 Surface Soil Results

The detected analytical results for the surface soil data set are provided in Table 5-1. Figure 5-1 presents the detected organic parameters which exceeded criteria in the surface soil and subsurface soil at SWMU 74 Airfield. A complete data set is provided in Appendix B.

Acetone was detected in all six surface soil samples with concentrations ranging from 21 J ug/kg to 830J ug/kg. Idomethane was detected in four of the six surface soil samples with concentrations ranging from 1 J ug/kg to 3.4 J ug/kg. Acetone and iodomethane were reported as laboratory artifacts in the data validation summaries for many of the SDGs (see Appendix C) and are believed to be an artifact of the TerraCore sampling procedure rather than contamination from a release from SWMU 74.

Benzo(a)pyrene was the only LLPAH detected in the surface soil samples collected from the Airfield Area. Benzo(a)pyrene was detected at location 74SB22 at a concentration of 0.96 J ug/kg, which is well below the residential and industrial soil SLs.

A total of five metals were detected in the surface soil samples exceeding at least one criteria comparison. These five metals are:

- Arsenic
- Cobalt
- Copper
- Selenium
- Vanadium

Of these five metals, three were detected in one or more samples at concentrations in excess of the NAPR basewide background screening value, and one other screening criteria. Arsenic exceeded the NAPR basewide background screening value and the residential and industrial soil SLs at location 74SB01 and 74SB34. Selenium exceeded the NAPR basewide background screening value and the ecological screening value at one surface soil sample location, 74SB34. Vanadium exceeded the NAPR basewide background screening value, the residential and industrial soil SLs, and the ecological screening values at one location, 74SB34.

Total TPH was evaluated with a screening level of 25 mg/kg; two surface soil locations exceeded this value. Locations 74SB01 and 74SB34 reported concentrations of 129 and 29.5 mg/kg, respectively.

In summary, surface soil was determined to be impacted by site related contaminants (Total TPH) at 74SB01 and 74SB34 at SWMU 74 Airfield. Arsenic concentrations exceeding background, residential and industrial soil SLs were also detected at both of these locations. Selenium exceeded background and ecological screening values at 74SB34. Vanadium was detected at concentrations exceeding background, residential and industrial soil SLs and ecological screening values at 74SB34.

5.5 Subsurface Soil Results

The detected results for the subsurface soil data set are provided in Table 5-2. Figure 5-1 presents the location of organic parameters which exceeded any criteria comparison at SWMU 74 Airfield. The complete data set is provided in Appendix B.

VOCs were detected in the subsurface soil at very low concentrations and no VOC detections exceeded the screening criteria. Acetone and isobutyl alcohol were detected in numerous samples and many of the results were rejected by the validator because of initial and continuing calibration low relative response factor values for these compounds.

Fourteen (14) subsurface soil samples and three duplicates were analyzed for LLPAHs based on visual observations and PID measurements in the field. Two subsurface soil samples from the same boring (74SB22) exhibited PAHs above the residential soil SLs at the SWMU 74 Airfield. Benzo(a)anthracene, benzo(a)pyrene, and benzo(b)fluoranthene exceeded the residential soil SLs at boring 74SB22 from 5 to 7 feet and 7 to 9 feet below ground surface. Benzo(a)pyrene concentrations in the 5 to 7 foot depth interval also exceeded the industrial soil SL. A duplicate sample was also collected for LLPAHs at 74SB22 from 5 to 7 feet which confirmed the elevated detections of benzo(a)anthracene, benzo(a)pyrene, and benzo(b)fluoranthene. No other PAHs were detected above screening criteria from the other twelve subsurface soil samples analyzed for LLPAHs.

A total of eight (8) different metals were reported as exceeding the NAPR basewide background screening value and at least one other screening criteria. These metals included:

- Arsenic
- Cobalt
- Copper
- Lead
- Mercury
- Thallium
- Vanadium
- Zinc

Arsenic was detected in 74 of the 105 subsurface soil samples collected, including duplicates, at concentrations above the background standard of 1.59 mg/kg and either the residential (0.39 mg/kg) or industrial (1.6 mg/kg) soil SLs. Overall, these detected arsenic concentrations were reported less than 10 mg/kg, except for one sample. Boring 74SB39 subsurface soil collected from 7 to 9 feet bgs reported an arsenic concentration of 79 mg/kg. Cobalt exceeded the background concentration and ecological screening values of 26.9 mg/kg in 2 subsurface soil

samples. Cobalt was detected above the NAPR background concentration and above the residential soil SL in 16 samples and three duplicates. Cobalt was also detected above the background concentration and above the industrial soil SL of 30 mg/kg in 12 samples. Copper was detected above background and the residential soil SL at seven subsurface soil samples.

Four subsurface soil samples exceeded the NAPR background concentration (0.108 mg/kg) and ecological screening value (0.1 mg/kg) for mercury for the 1 to 3 foot bgs interval. Thallium exceeded the NAPR background concentration (0.92 mg/kg) and the residential SL (0.51 mg/kg) in four (4) subsurface soil samples. Vanadium was detected above the NAPR background concentration of 434 mg/kg and either the residential soil SL (55 mg/kg) or the industrial soil SL (720 mg/kg) in eight (8) subsurface soil samples. Zinc was detected above background (88 mg/kg) and the ecological screening value (46.0 mg/kg) at two locations. As indicated in Section 4.0, these detections generally are not considered to be the result of a release from the SWMU 74 pipeline or valve pits.

Total TPH was evaluated using 25 mg/kg as the screening criteria for subsurface soil. A total of eighteen subsurface soil samples exceeded the screening value with concentrations ranging from 36 J mg/kg to 2,380 J mg/kg. These TPH exceedences were reported in borings 74SB05, 74SB06, 74SB16, 74SB22, 74SB23, 74SB26, 74SB27, 74SB28, and 74SB30. These borings are located within the hydrant refueling area and the day tank area. Total TPH samples from the hydrant refueling area were reported as predominantly GRO, while samples from the day tank area were predominantly reported as DRO. Figure 5-1 shows the distribution of total TPH exceedences across the SWMU 74 Airfield, particularly the hydrant refueling and day tank areas.

5.6 Groundwater Results

The detected results for the groundwater data set are provided in Table 5-3. Figure 5-2 presents the location of detected organic compounds above SLs and the established TPH criteria of 12.5 mg/L. The complete data set is provided in Appendix B.

Three VOCs, benzene, ethylbenzene, and tetrachloroethene were detected in the groundwater samples above the tap water SLs but below MCLs. Each of these compounds were detected in only one of the eleven samples. Tetrachloroethene was detected in well 74SB05 and benzene and ethylbenzene were detected in well 74SB26.

LLPAHs were analyzed at four of the eleven groundwater wells sampled including 74SB05, 74SB09, 74SB22, and 74HYD3. Only 2-methylnaphthalene and phenanthrene were detected at estimated concentrations just above the detection limit.

Barium was the only total metal detected above both the NAPR basewide background and tap water SLs at wells 74SB22 and 74SB26. Barium concentrations were 950 and 1,300 ug/L, respectively.

Barium remained as a dissolved metal above the tap water SLs and NAPR basewide background in two groundwater wells, 74SB22 and 74SB26, at concentrations of 1,000 and 1,700J ug/L respectively. Note however that, as discussed in Section 4.0, the presence of metals is not necessarily the result of releases from SWMU 74.

Total TPH was detected above the established screening value of 12.5 mg/L in well 74SB26 with a reported concentration of 16.04J mg/L. None of the remaining 10 groundwater wells sampled at the Airfield reported concentrations close to the 12.5 mg/L screening value.

5.7 Impacts from Other SWMUs

Other SWMUs that are located within the Airfield Area and have a close proximity to SWMU 74 include SWMUs 69 and 56. SWMU 69 is an aircraft parking area in which contaminants potentially migrated from the concrete apron to nearby surface soils. SWMU 56 is a drainage ditch located adjacent to the concrete apron surrounding Hanger 200. Aircraft were stored in these areas and contaminants potentially migrated from the concrete apron to nearby soils. These SWMUs are currently being investigated and the chemicals of concern in these areas are predominantly metals. Based on the results of the analytical data collected during Phase I of the CMS Investigation for SWMU 74, it does not appear that SWMU 74 has been impacted by releases at SWMUs 56 or 69.

At the Air Field, a known release of JP-5 jet fuel occurred at the Day Tank Area in October 1999. An approved compensatory restoration project was completed in 2007 within the Los Machos Mangrove Forest to address the damage caused by the JP-5 Airfield release. A bridge was installed along Lake Chamberlain Road where culverts once existed to allow a more enhanced tidal flow into the Los Machos Mangrove Forest. This will improve the quality of the Los Machos Mangrove Forest and compensate for the fuel impacts to the Ensenada Honda mangrove system. Therefore, it is possible some of the data collected in the Day Tank Area that indicate fuel impact may be a result of the October 1999 release. Regardless, fuel impacts to soil and groundwater in the Day Tank Area will be delineated during Phase II of the CMS Investigation for SWMU 74.

5.8 Conclusions

Surface soil fuel related impacts were found at 74SB01 and 74SB34 with regards to total TPH values of 129 and 29.5 J mg/kg, respectively.

Subsurface soil total TPH exceeded the screening value at nine different soil borings including 74SB05, 74SB06, 74SB16, 74SB22, 74SB23, 74SB26, 74SB27, 74SB28, and 74SB30. The total TPH concentrations ranged from 36 J to 2,380 J mg/kg and ranged in depth from 1 to 3 feet to a total depth of 9 to 11 feet at 74SB26 and 74SB27. LLPAH samples were not collected at every sampling location during Phase I of the CMS Investigation. LLPAH exceedences were observed at boring 74SB22 and were co-located with the highest TPH detections in this area. These LLPAH exceedences included benzo(a)anthracene, benzo(a)pyrene, and benzo(b)fluoranthene.

Metals were detected above screening and background values at numerous soil boring locations at various depths. These metals included arsenic, cobalt, copper, mercury, thallium, vanadium and zinc. As discussed in Section 4, no statistical correlation was observed between the metals concentrations and TPH, and these detections are generally not considered to be the result of a release from SWMU 74.

Groundwater fuel related impacts were found at location 74SB26 with a concentration of total TPH of 16.04 ug/L. No free product was noted at any of the groundwater wells installed at the Airfield.

5.9 Recommendations for Phase II

At each location where fuel related contamination is noted above screening, trigger, or background levels additional samples will be collected in order to delineate the contamination. For subsurface fuel contamination, one surface soil sample, a maximum of two subsurface soil samples and one groundwater sample will be collected from these locations. These samples will

be analyzed for Appendix IX VOCs, metals, LLPAHs, TPH DRO, and TPH GRO. The inclusion of LLPAHs to the analytical requirement in Phase II is intended to provide data for evaluation of human health and ecological concerns during the CMS.

During Phase II, subsurface soil samples will be collected during boring advancement for monitoring well installation. Soil samples will be collected continuously from ground surface to the water table using 2-foot long split-spoon samplers or Macro-Core®, with two subsurface soil samples and one surface soil sample per boring location being collected for fixed-base laboratory analysis. The subsurface soil samples will be collected from the depth of any suspected contamination, based on PID screening, but at a depth shallower than the water table or 10 feet bgs, whichever occurs first. For conditions where the water table is greater than 10 feet bgs, if PID measurements or visual or olfactory screening indicate potential contamination between 10 feet bgs, and the water table, an additional subsurface soil sample may be collected at the discretion of the field geologist. Sampling procedures and drilling methodology for borings and well installations will follow the approved SWMU 74 CMS Work Plan dated December 6, 2007.

Synoptic groundwater elevation measurements for each area will be collected after allowing the well to remain undisturbed for at least 48 hours to determine groundwater gradients and flow directions for each investigation area with groundwater impact. Slug testing will also be performed at the groundwater well locations to determine hydraulic conductivity values at each location. This will aid in understanding contaminant migration potential via groundwater.

For ease of discussion, the SWMU 74 Airfield will be further segmented into three separate areas, see Figures 5-3 through 5-6. Figure 5-3 is a key map showing the boundaries of each segment. These areas will be referred to as Segment A or the Aircraft Hydrant Refueling Area, Segment B or the Day Tank Area, and Segment C or the Airfield Fuel Pipeline. The following sections discuss the number of samples, approximate location of samples, and analysis parameters for the three segments.

Segment A - Aircraft Hydrant Refueling Area

The Aircraft Hydrant Refueling Area will be referred to as Segment A, and is shown on Figure 5-4. Activities for Phase II of the CMS Investigation in this area consist of both surface soil and subsurface soil delineation.

- Three surface (0 to 1 foot bgs) and shallow subsurface (1 to 3 feet bgs) soil sample locations are proposed around 74SB01 to further delineate the TPH impacts horizontally and to a depth of three feet. These surface soil samples will be analyzed for VOCs, LLPAHs, metals, and TPH GRO/DRO. If PID measurements indicate potential contamination, up to an additional four shallow borings (to a depth of three feet) may be installed in this area.

- Six surface and subsurface soil sample locations are proposed around 74SB05 and 74SB06 to further delineate the TPH. These sampling locations will be analyzed for VOCs, LLPAHs, metals, and TPH GRO/DRO. No wells are proposed in this area since 74SB05 was a well location and no significant TPH was observed in the groundwater at this location. However, if PID measurements indicate potential contamination, up to an additional four soil borings may be installed to delineate contamination in this area. Note that soil sampling will be limited to the vegetated areas and that boring through the concrete apron will not be conducted.

Segment B - Day Tank Area

The Day Tank Area will be referred to as Segment B, and is presented on Figure 5-5. The Phase II of the CMS Investigation activities in Segment B consists of surface and subsurface soil sample collection and groundwater well installation and sampling.

- Twenty two boring locations are proposed for the Day Tank Area to further delineate the fuel related impacts to surface and subsurface soil. Surface and subsurface soil samples will be analyzed for VOCs, LLPAHs, metals, and TPH GRO/DRO. Up to an additional twelve soil borings (two of which may be converted to wells) may be installed at the discretion of the field geologist and based on PID measurements and visible signs of contamination. Where possible, boring locations will be based on 50 foot grid.

- Of the 22 boring locations, five will be constructed into groundwater monitoring wells. These wells will be installed as permanent 2" diameter wells with steel bollards protecting the stick up casing. The wells will be sampled for VOCs, LLPAHs, metals, and TPH GRO/DRO. The two existing monitoring wells 74GW22 and 74GW26 will be included in the Phase II of the CMS Investigation sampling program.

Segment C - Airfield Fuel Pipeline Area

The Airfield Fuel Pipeline will be referred to as Segment C, and is presented on Figure 5-6. The Phase II Investigation of the CMS activities for Segment C will consist of collection of surface soil samples.

- Five surface soil samples will be collected surrounding 74SB34 to further delineate the TPH impacts in the surface soil found there. These samples will be analyzed for VOCs, LLPAHs, metals, and TPH GRO/DRO. Based on the results of the PID measurements and visual observations, an additional three surface soil samples (or shallow (0 to 1 foot bgs) subsurface, as conditions warrant) may be collected on an approximate 50 foot spacing at this area to complete the delineation.

6.0 SWUMU 9 AREA A/B

The following sections describe the investigation results for the SWMU 9 Area A/B portion of SWMU 74. The analytical data is discussed and presented by media type; i.e. surface soil, subsurface soil, and groundwater.

6.1 Area Description

The area included in the SWMU 9 Area A/B portion of SWMU 74 starts at the fence line of the Airfield Area, extends east along Forrestal Road, and includes Manilla Bay Street leading north to the SWMU 9 Area A/B tank area. Boring numbers ranged from 74SB63 through 74SB124 along the underground pipeline runs. A total of seven valve pits were encountered within this area including VP-3, VP-11, VP-1A/9, VP-1B/9, VP-1C/9, VP-2/9, and VP-3/9. The SWMU 9 Area A/B contains four cut and cover underground tanks (UST 212 through 215) installed in 1940. A fill stand is located within the SWMU 9 Area A south of Tanks 212 and 213.

6.2 Sampling Summary

A total of six surface soil samples, 129 subsurface soil samples, and 17 groundwater samples were collected from the SWMU 9 Area A/B portion of SWMU 74, not including duplicates or other QA/QC samples. Sample locations are shown on Figures 6-1 and 6-2.

Six surface soil samples (74SB71-00, 74SB81-00, 74SB91-00, 74SB101-00, 74SB111-00, and 74SB121-00) were collected and analyzed during the 2008 Phase I Investigation of the CMS at SWMU 74 SWMU 9 Area A/B. Surface soil samples were analyzed for Appendix IX VOCs, metals, TPH GRO and TPH DRO.

A total of 129 subsurface soil samples and fourteen duplicate samples were collected and analyzed during Phase I of the CMS Investigation at SWMU 74 SWMU 9 Area A/B. All of the subsurface soil samples were analyzed for Appendix IX VOCs, metals, TPH GRO and TPH DRO. Thirteen subsurface soil samples plus one duplicate sample were analyzed for LLPAHs.

A total of seventeen groundwater wells were installed or found as existing wells near the pipeline in the SWMU 9 Area A/B. These wells included:

74VP3a	74VP1Bb/9
74VP3b	74VP1Ca/9
74SB74	74VP1Cb/9
74SB84	74VP2a/9
74VP11a	74VP2b/9
74VP11b	74VP3a/9
74VP1Aa/9	74VP3b/9
74VP1Ab/9	9MW02S (existing)
74VP1Ba/9	

Duplicate samples were collected from 74VP1Cb/9 and 9MW02S. Groundwater samples were analyzed for Appendix IX VOCs, total metals and dissolved metals, TPH GRO and TPH DRO. A total of 14 of the 17 samples were analyzed for LLPAHs.

6.3 Area Geology and Hydrogeology

Approximately one-third of the western portion of the SWMU 9 Area A/B is located within the Inland Flat Land regional geology area with the remaining portion located in the Upland regional geology area. Subsurface conditions for the Inland Flat Land area of SWMU 9 Area A/B one similar to those described in Section 5.3 for the Airfield Area. The upland areas are underlain by bedrock (predominately Gabbro) and exhibit varying degrees of weathering. Typically, the weathered bedrock is overlain by relatively thin residuum.

Due to the shallow depth of the soil borings (12 feet bgs or less) along the pipeline, only fill, residuum, and highly weathered bedrock (saprolite) were observed during borehole advancement in the SWMU 9 Area A/B area. Similar to the Airfield Area, the fill generally consisted of clay rich profiles with varying amounts of silt and sand and the occasional presence of coarse sand, gravel, and varying amounts of rock fragments. Beach sand and shell fragments also were observed in the fill at some borings. The depth of the fill generally ranged between near surface and approximately six feet bgs along the pipeline and up to 20 feet bgs in the vicinity of cut and cover underground Tanks 212 through 215 and associated valve pits where total boring depths reached up to 24 feet bgs. The saprolite consisted of varying colors (predominantly light/olive greens and white) of mottled clay with varying amounts of silt and fine sand. Competent bedrock was not encountered in any of the borings advanced in SWMU 9 Area A/B.

Groundwater was not readily observed in the shallow clay-rich soils, but did occur typically between 14 and 16 feet below ground surface. This area is surrounded, except to the south, by estuarine wetlands and mangrove. Groundwater can be expected at the elevation of the wetlands which surround the SWMU 9 Area A/B. Due to the close proximity of the estuarine wetlands, groundwater at SWMU 9 Area A/B likely is influenced by tidal movement to some degree. A groundwater contour map was not created for SWMU 9 Area A/B due to the linear nature of the pipeline investigation (i.e., lack of appropriate well placement required for triangulation calculations of groundwater flow and gradient) and the ground surface elevation variation along the pipeline in this area. Testing to evaluate groundwater flow velocities or tidal influence also was not performed during the Phase I investigative activities. Soil boring logs, well construction records, and groundwater level measurements (listed in the field log books) are provided in Appendix A.

6.4 Surface Soil Results

The detected analytical results for the surface soil data set are provided in Table 6-1. Figure 6-1 presents the detected organic parameters which exceeded any screening levels in the surface soil. A complete data set is provided in Appendix B.

VOCs detected in the surface soil samples for the SWMU 74 SWMU 9 Area A/B included acetone, carbon disulfide, and iodomethane. Acetone was detected in every sample and iodomethane in one sample; both are most likely laboratory artifacts. Acetone and iodomethane were detected in the QA/QC samples. Carbon disulfide was detected in three samples and may be a result of laboratory contamination; however, carbon disulfide is a naturally occurring chemical in marine environments. A detection of carbon disulfide at 74SB81 was reported at a concentration of 7 ug/kg, but is well below screening levels.

A total of six metals were reported as exceeding at least one criteria comparison. These metals are:

- Arsenic
- Cobalt
- Copper
- Lead
- Selenium
- Vanadium

Of these six metals, only arsenic and lead were detected in one or more samples at concentrations in excess of the NAPR basewide background screening value and one other screening criteria. Arsenic was detected in every surface soil sample above residential soil SLs, above industrial soil SLs in three of six samples and above background at two of the six sample locations 74SB101 and 74SB121. Lead was detected above ecological screening values and background in samples 74SB91 and 74SB121.As indicated in Section 4.0, these detections generally are not considered to be the result of a release from the SWMU 74 pipelines or valve pits.

Total TPH was detected in each of the six surface soil samples located at SWMU 74 SWMU 9 Area A/B. The screening value of 25 mg/kg was exceeded in two of these samples, 74SB91-00 and 74SB121-00 at concentrations of 48.31 and 33 mg/kg, respectively.

In summary, surface soil was determined to be impacted by site related contaminants at 74SB91 and 74SB121 at SWMU 74 SWMU 9 Area A/B. This is based on the TPH DRO concentrations reported at these two locations in excess of the screening value.

6.5 Subsurface Soil Results

The detected results for the subsurface soil data set are provided in Table 6-2. Figure 6-1 presents the location of organic parameters which exceeded any screening level comparison at SWMU 74 SWMU 9 Area A/B. The complete data set is provided in Appendix B.

VOCs were detected in the subsurface soil at very low concentrations with only acrolein detected at location 74SB113 above the residential soil SLs. This detection was estimated and many of the acrolein results were rejected by the data validator. Acetone and isobutyl alcohol were detected in numerous samples and many of the results were rejected by the validator because initial and continuing calibration exhibited low relative response factor values. The detections of acetone or isobutyl alcohol were all less than the screening values.

Thirteen subsurface soil samples plus one duplicate sample were analyzed for LLPAHs based on visual observations and PID measurements in the field. LLPAH parameters were not reported above the screening criteria in these subsurface soil samples.

A total of six different metals were reported as exceeding the NAPR basewide background screening value and at least one other screening criteria. These metals included:

- Arsenic
- Cadmium
- Cobalt
- Copper
- Vanadium
- Zinc

Arsenic and cobalt were detected above the residential soil SL and NAPR background concentrations (based on a clay matrix) at thirty-nine (39) and thirty-four (34) locations, respectively. Cadmium exceeded the ecological screening value and background at one location. Copper was detected above residential soil SLs and background concentrations at five locations and vanadium at one location. Zinc was detected above the ecological screening value and background at one location. As indicated in Section 4.0, these detections are not believed to represent releases from SWMU 74.

Total TPH was detected above the established screening value of 25 mg/kg in thirteen of the subsurface soil samples from ten locations and in one duplicate sample. These subsurface soil samples are:

Sample ID	Total TPH (mg/kg) [(1)]	Dominant TPH Fraction
74SB81-04	530 J	DRO
74SB81-04D	52 J	DRO
74SB86-04	740	DRO
74SB108-04	160 J	GRO
74SB109-05	3602 J	GRO
74SB113-04	145	GRO
74SB114-05	43 J	GRO
74VP1Ba/9-09	3,903 J	GRO
74VP3b/9-05	512 J	GRO
74VP3b/9-07	453 J	GRO
74VP2a/9-08	129	GRO
74VP2a/9-10	28 J	DRO
74VP3b-03	359 J	DRO
74VP3b-04	199 J	DRO

(1) Values rounded to the nearest one.

Six of the reported concentrations above the screening criteria were predominantly comprised of DRO, while the other eight were predominantly reported as GRO. This difference in TPH fuel types will be further evaluated in Phase II of the CMS Investigation.

6.6 Groundwater Results

The detected results for the groundwater data set are provided in Table 6-3. Figure 6-2 presents the location of detected organic compounds exceeding background and screening criteria and selected inorganic compounds believed to be associated with the fuel pipeline.

Seven VOCs, including benzene, ethylbenzene, toluene, xylenes, vinyl chloride, 4-methyl-2-pentanone (MIBK), and chloroform were detected in the groundwater samples above the tap water SLs. Benzene was also detected above the MCL at two locations, 74VP1Cb/9 and 74VP1Aa/9, at concentrations of 8.1 and 2,500 ug/L, respectively. Benzene was also detected in the duplicate sample 74GWVP1Cb/9D at 12 ug/L. The remaining detected VOCs reported above tap water SLs were chloroform at well 74VP2a/9 as an estimated value of 0.67 J and ethylbenzene and total xylenes in well 74VP11a at concentrations of 2.7 and 23 ug/L respectively. In addition to SLs exceedences, MIBK, benzene, ethylbenzene, toluene, and total xylenes were reported above ecological screening values at well 74VP1Aa/9.

LLPAHs were analyzed at fourteen of the groundwater wells sampled. Well 74VP3b reported benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene,

dibenz(a,h)anthracene, and indeno[1,2,3-cd]pyrene above their respective tap water SLs Benzo(a)pyrene was reported above both the tap water SL and the MCL, benzo(a)anthracene was reported above both the tap water SL and the ecological SL and pyrene was reported above the ecological screening value. Naphthalene was detected in well 74VP11b above the tap water SLs. 1-Methylnaphthalene and naphthalene were reported above the tap water SLs in well 74VP11a. 1-Methylnapthalene, 2-methylnapthalene, and naphthalene were detected in well 74VP1Aa/9 above their respective tap water SLs; 2-methylnaphthalene and naphthalene concentrations in this well also exceeded the ecological screening value.

Total metals that were detected above screening criteria and background concentrations included arsenic, cadmium, cobalt, lead, and nickel. Total arsenic was detected above tap water SLs, ecological screening levels, and background at locations 74VP2b/9 with a concentration of 130 ug/L and 9MW02S and its duplicate sample at a concentration of 57 and 59 ug/L, respectively. Total cadmium was detected above tap water SLs, MCLs, ecological screening levels, and background at location 9MW02S with a concentration of 23 ug/L. Total cobalt was detected above tap water SLs, ecological screening levels, and background at location 74VP11b with a concentration of 670 ug/L. Total lead exceeded the MCL, the ecological screening level and background at locations 74VP1Ca/9 and 74VP1Cb/9 with concentrations of 36 and 81 ug/L. Total nickel was detected above SLs, ecological screening levels, and background at locations 74VP11b with a concentration of 160 ug/L and 9MW025 at a concentration of 110 ug/L.

Dissolved metals that were detected above screening criteria and background concentrations included arsenic, cobalt, lead, nickel, vanadium, and zinc. Dissolved arsenic remained above tap water SLs and background concentrations at location 74VP2b/9 with a concentration of 120 ug/L. Dissolved cobalt was detected above tap water SLs, ecological screening levels, and background at location 74VP11b with a concentration of 680 ug/L. Dissolved lead exceeded the MCL, the ecological screening level and background at locations 74VP1Ca/9, 74VP1Cb/9, 74VP1Aa/9. Dissolved lead also exceeded the ecological screening level and background at 74VP1Bb/9. Dissolved nickel remained above tap water SLs, ecological screening levels and background concentrations at location 74VP11b with a concentration of 150 ug/L. Dissolved vanadium was detected above ecological screening levels and background at locations 74VP1Ca/9, 74VP3a, 74VP3b, and 74SB74. Additionally dissolved vanadium was detected above tap water SLs at locations 74VP3b and 74SB74. Dissolved zinc was detected above ecological screening levels and background at location 74VP11b with a concentration of 490 ug/L.

Total TPH was detected above the established screening value of 12.5 mg/L in well 74VP1Aa/9 with a reported concentration of 49.7 mg/L. None of the remaining 15 groundwater wells sampled at the SWMU 74 SWMU 9 Area A/B reported concentrations close to the 12.5 mg/L screening value.

Although the comparison plots in Appendix D do not show correlation with the TPH detections, the co-location of metals such as lead with organic detections (i.e. benzene in 74VP1Aa/9 and 74VP1Cb/9) should be further evaluated in subsequent phases of this CMS. The complete data set is provided in Appendix B.

6.7 Impacts from Other SWMUs

Other SWMUs located within the SWMU 9 Area A/B and that have a close proximity to SWMU 74 include SWMU 9 Area A and Area B, and AOC F 1738. The USTs at SWMU 9 Areas A and B were constructed in the 1940's for the storage of aviation gasoline (AVGAS) for piston-driven airplanes. Most recently, Tanks 214 and 215 in Area B were changed from AVGAS storage to diesel fuel marine. Previous reports indicate that each UST was cleaned of

petroleum-based sludge every five years. Sludge material collected during tank cleaning activities prior to 1978 was reportedly disposed of onsite in unlined earthen pits. Since 1978, any sludge materials generated during tank cleaning activities have been removed and disposed off-site by a licensed contractor. All tanks were cleaned and put out of service in 2001.

At Area A (the vicinity of Tanks 212 and 213) there is evidence of the impact of past site operations within the subsurface soil and groundwater. Benzene, toluene, ethylbenzene, and xylene (BTEX) were the primary contaminants.

Finally, AOC F 1738 is a former fueling station located along Forrestal Road. This site is part of an ongoing monitored natural attenuation program to observe the natural degradation of fuel impacts to soil and groundwater.

There is potential of fuel impacts from these other SWMUs and AOCs to be interrelated to fuel impacts found during the Phase I of the CMS Investigation for SWMU 74. During Phase II of the CMS Investigation for SWMU 74, efforts will be made to differentiate between pipeline leaks and outside influences whenever possible. Regardless, fuel related impacts will be delineated within the limits of SWMU 74.

6.8 Conclusions

Surface soil fuel related impacts were found at 74SB91 and 74SB121 based on total TPH concentrations of 48.31J and 33 mg/kg, respectively.

Subsurface soil total TPH exceeding the screening value was identified at ten different soil borings including 74SB81, 74SB86, 74SB108, 74SB109, 74SB113, 74SB114, 74VP1Ba/9, 74VP2a/9, 74VP3b/9, and 74VP3b. TPH impacts were reported in the borings near valve pit VP-1B/9, VP-2/9, VP-3 and VP-3/9 within the SWMU 9 Area A/B. These impacts were found at various depths including 5 to 7 feet down to 19 to 21 feet. Isolated total TPH impacts were found at locations 74SB81 and 74SB86 from a depth of 7 to 9 feet.

Potential groundwater fuel related impacts were found at locations 74VP3b, 74VP11a, 74VP11b, 74VP2a/9, 74VP1Aa/9, and 74VP1Cb/9.

6.9 Recommendations for Phase II

At each location where fuel related contamination is noted above screening, trigger, or background levels additional soil borings will be installed in order to delineate the contamination. For subsurface fuel contamination, one surface soil sample, two subsurface soil samples and one groundwater sample will be taken from each location. These samples will be analyzed for Appendix IX VOCs, metals, low-level PAHs, TPH DRO, and TPH GRO. The inclusion of LLPAHs to the analytical requirement in this phase is intended to provide data for evaluation of human health and ecological concerns during the CMS for PAHs.

During Phase II, subsurface soil samples will be collected during boring advancement for monitoring well installation. Soil samples will be collected continuously from the ground surface to the water table using 2-foot long split-spoon samplers or Macro-Cores®, with two subsurface soil samples and one surface soil sample per boring location being collected for fixed-base laboratory analysis. One subsurface soil sample per location will be collected from a depth of 1.0-3.0 feet bgs. The subsurface soil samples will be collected from the depth of any suspected contamination, based on PID screening, but at a depth shallower than the water table or 10 feet bgs, whichever occurs first. For conditions where the water table is greater than 10 feet bgs, if

PID measurements or visual or olfactory screening indicate potential contamination between 10 feet bgs and the water table, an additional subsurface soil sample may be collected at the discretion of the field geologist. Sampling procedures and drilling methodology for borings and well installations will follow the approved SWMU 74 CMS Work Plan dated December 6, 2007.

Synoptic groundwater elevation measurements for each area will be collected after allowing the well to remain undisturbed for at least 48 hours to determine groundwater gradients and flow directions for each investigation area with groundwater impact. Slug testing will also be performed at the groundwater well locations to determine hydraulic conductivity values at each location. This will aid in understanding contaminant migration potential via groundwater.

Phase II of the CMS Investigation in this area consists of additional delineation of surface and subsurface soil and groundwater. The following paragraphs discuss the number of samples, approximate location of samples, and analysis parameters. Proposed Phase II sample locations are shown on Figure 6-3.

- Six surface and subsurface soil sample locations are proposed around 74SB81 to further horizontally delineate the TPH impacts to the subsurface soil. These surface and subsurface soil samples will be analyzed for VOCs, LLPAHs, metals, TPH GRO and TPH DRO. Two of these boring locations will become groundwater monitoring wells to determine potential impact to groundwater in this area. Groundwater samples will be analyzed for the same parameters as soil. Based on the results of the PID measurements and visual observation, an additional four locations (on an approximate 50 foot spacing) may be sampled for soil to complete the delineation.

- Six surface and subsurface soil sample locations are proposed around 74SB86 to further horizontally delineate the TPH impacts to the subsurface soil. These surface and subsurface soil samples will be analyzed for VOCs, LLPAHs, metals, TPH GRO and TPH DRO. Two of these boring locations will become groundwater monitoring wells to determine potential impact to groundwater in this area. Groundwater samples will be analyzed for the same parameters as soil. Based on the results of the PID measurements and visual observation, an additional four locations (on an approximate 50 foot spacing) may be sampled for soil to complete the delineation.

- Six surface (0 to 1 foot bgs) and shallow subsurface (0 to 3 feet bgs) soil sample locations are proposed around 74SB91 to further delineate the TPH impacts horizontally and to a depth of three feet. Samples collected from these locations will be analyzed for VOCs, LLPAHs, metals, and TPH GRO and TPH DRO. Based on the results of the PID measurements and visual observation, up to an additional four shallow borings (to a depth of three feet) may be collected from this area to complete the delineation.

- Six surface (0 to 1 foot bgs) soil sample locations are proposed around 74SB121 to further delineate the TPH impacts horizontally and to a depth of three feet. Samples collected from these locations will be analyzed for VOCs, LLPAHs, metals, and TPH GRO and TPH DRO. Based on the results of the PID measurements and visual observation, up to an additional four shallow borings (to a depth of three feet) may be collected from this area to complete the delineation.

- Three additional groundwater monitoring wells will be installed surrounding valve pit VP-11 to further delineate VOC and LLPAH impacts to groundwater is this area. Surface, subsurface soil and groundwater samples will be collected at the three well

locations. In addition, the two existing wells at valve pit VP-11 (74VP11a and 74VP11b) will be sampled. These sampling locations will be analyzed for VOCs, LLPAHs, metals, and TPH GRO and TPH DRO.

- Six borings will be advanced in the vicinity of VP-3, of which three will be converted to groundwater monitoring wells that will be installed surrounding valve pit VP-3 at the Airfield fence line to delineate LLPAHs in groundwater at 74VP3b. Surface and subsurface soil will be collected from the six locations; groundwater will be collected from three new wells and two existing wells. These sampling locations will be analyzed for VOCs, LLPAHs, metals, and TPH GRO and TPH DRO.

- Within the tank area, an additional 29 borings from which surface and subsurface soil samples will be collected surrounding 74SB108, 74SB109, 74SB113, 74SB114, 74VP1Ba/9, 74VP2a/9, and 74VP3b/9 due to impacts to the subsurface soil. These sampling locations will be analyzed for VOCs, LLPAHs, metals, and TPH GRO and TPH DRO. Based on the results of the PID measurements and visual observation, an additional twelve locations may be sampled to complete the delineation.

- Six additional groundwater monitoring wells are proposed in the SWMU 9 Area A tank area to delineate VOC, LLPAH, metals, and TPH impacts to the groundwater surrounding 74VP1Aa/9 and 74VP1Cb/9. In addition, surface and subsurface soil samples will be collected at these six well locations. The six existing valve pit well locations will also be resampled. Samples from these locations will be analyzed for VOCs, LLPAHs, metals, and TPH GRO and TPH DRO.

7.0 JP-5 HILL AND DFM AREA

The following section describes the investigation results for the JP-5 Hill and DFM Area portion of SWMU 74. The analytical data is discussed and presented by media type; i.e. surface soil, subsurface soil, and groundwater.

7.1 Area Description

The JP-5 Hill and DFM Area consists of the underground pipeline runs along Forrestal Road and includes the most significant elevation change of the SWMU 74 pipeline. Pipeline runs were also followed into the JP-5 Hill Tank Area and samples were collected in between the cut and cover tanks and the newer above ground surface tanks. Three individual piping runs leading into the JP-5 Hill Tank Area were sampled. Borings continued down Forrestal Road passing west and south of the DFM Tank Farm Area approaching the Tow Way Fuel Farm. Boring numbers ranged from 74SB125 through 74SB143, 74SB149 through 74SB160, 74SB200 through 74SB211, 74SB226 through 74SB230, and 74SB268 through 74SB285. A total of ten valve pits were investigated within this area including VP-5, VP-7, VP-8, VP-9/JP5, VP-10/JP5, VP-11/JP5, VP-10/DFM, VP-19, VP-20 and VP-1982.

The JP-5 Hill Tank Area contains three cut and cover underground tanks and five above ground storage tanks with a total capacity of approximately 24.5 million gallons. The DFM Tank Area contains three above ground storage tanks with a total capacity of approximately 12.6 million gallons.

7.2 Sampling Summary

A total of seven surface soil samples, 147 subsurface soil samples, and 12 groundwater samples were collected from the JP-5 Hill and DFM Area, not including duplicates or other QA/QC samples. Sample locations are shown on Figures 7-1 and 7-2.

Seven surface soil samples (74SB131-00, 74SB141-00, 74SB151-00, 74SB201-00, 74SB211-00, 74SB271-00, and 74SB281-00) were collected and analyzed during Phase I of the CMS Investigation at SWMU 74 JP-5 Hill and DFM Area. Surface soil samples were analyzed for Appendix IX VOCs, metals, TPH GRO and TPH DRO. Surface soil was not sampled for LLPAH in this area.

A total of 147 subsurface soil samples and thirteen duplicate samples were collected and analyzed during Phase I of the CMS Investigation at SWMU 74 JP-5 Hill and DFM Areas. All of the subsurface soil samples were analyzed for Appendix IX VOCs, metals, TPH GRO and TPH DRO. Twenty samples and two duplicate samples were analyzed for LLPAHs.

A total of twenty groundwater wells were installed or found as existing wells near the pipeline in the JP-5 Hill and DFM Area. These wells included:

74SB151	74VP9b/JP5	74VP10a/DFM
74SB273	74VP10a/JP5	74VP10b/DFM
74SB285	74SB137	74VP19a
74VP07b	74VP11a/JP5	74VP19b
74VP08a	74VP11b/JP5	74VP20
74VP08b	74VP05a	74VP1982
74VP9a/JP5	74VP05b	

Of these twenty wells, eight wells failed to produce enough water for sample collection during the investigation, including 74SB285, 74VP9a/JP5, 74VP10b/JP5, 74VP11a/JP5, 74VP11b/JP5, 74VP05b, 74VP10b/DFM, and 74VP19a. No duplicate groundwater samples were collected from the SWMU 74 SWMU JP-5 Hill and DFM Area. Groundwater samples were analyzed for Appendix IX VOCs, total metals and dissolved metals, TPH GRO and TPH DRO. A total of four of the twelve groundwater samples were analyzed for LLPAHs.

7.3 Area Geology and Hydrogeology

The entire JP-5 Hill and DFM Area is located within the Upland regional geology area. Subsurface conditions for the JP-5 Hill and DFM Area are similar to those described in Section 6.3 for the Upland regional geology portion of SWMU 9 Area A/B. The upland areas are underlain by bedrock (predominately Gabbro) and exhibit varying degrees of weathering. Typically, the weathered bedrock is overlain by relatively thin residuum.

Fill materials, residuum, and highly and moderately weathered bedrock (saprolite) were observed during borehole advancement in the JP-5 Hill and DFM Area. The JP-5 Hill Tank Area is the topographic high of SWMU 74 and saprolite was observed at relatively shallow depths (up to 4 feet bgs). Similar to SWMU 9 Area A/B, the saprolite consisted of varying colors (predominantly light/olive greens and white) of mottled clay with varying amounts of silt and fine sand. Competent bedrock was not encountered in any of the borings advanced in the JP-5 Hill and DFM Area. The fill generally consisted of clay rich profiles with varying amounts of silt and sand and the occasional presence of coarse sand, gravel, and varying amounts of rock fragments. Beach sand and shell fragments also were observed in the fill. The depth of the fill generally ranged between near surface and approximately nine feet bgs along the pipeline and up to 21 feet bgs in the vicinity of cut and cover underground tanks and associated valve pits where total boring depths reached up to 30 feet bgs.

Little groundwater was readily observed in the clay-rich fill and soils. Monitoring wells located at JP-5 Hill were slow to produce groundwater if at all. Groundwater fracture flow appears to be the primary system of groundwater movement based on the highly variable production rate from wells in the same geographic area. As the boring program followed the pipeline along Forrestal Road, the amount of fill, sand, and silt increased and groundwater became visible within 12 feet bgs. It should be noted that the DFM Tank Area and the Tow Way Fuel Farm are located in more topographically high or upland locations when compared to the distribution pipeline runs along Forrestal Road. At the bend of Forrestal Road near the DFM Tank Farm the pipeline is located approximately 300 feet from the water's edge of the Ensenada Honda. Soil boring logs, well construction records, and groundwater level measurements (listed in the field log books) are provided in Appendix A.

7.4 Surface Soil Results

The detected analytical results for the surface soil data set are provided in Table 7-1. Figure 7-1 presents the detected organic parameters which exceeded any screening level in the surface soil. A complete data set is provided in Appendix B.

Overall, VOCs detected in the surface soil samples for the SWMU 74 JP-5 Hill and DFM Area are acetone, carbon disulfide, and iodomethane similar to the SWMU 9 Area A/B. Acetone, iodomethane, and carbon disulfide are most likely laboratory artifacts; note, however that carbon disulfide is a naturally occurring chemical in marine environments.

Metals detected above screening levels and background in the surface soil at SWMU 74 JP-5 Hill and DFM Areas are; arsenic and chromium. Arsenic was detected in all seven samples above the residential soil SL, and was detected above background in one sample, 74SB201. Chromium was detected above the ecological screening value and background at location 74SB271. However, as discussed in Section 4, these are not necessarily considered site related contaminates.

Total TPH was detected in six of the seven surface soil samples located at SWMU 74 JP-5 Hill and DFM Area. The screening value of 25 mg/kg was exceeded in one sample 74SB151 at a concentration of 27 mg/kg for TPH DRO.

In summary, surface soil was determined to be minimally impacted by site related contaminants at 74SB151 at SWMU 74 JP-5 Hill and DFM Areas. This is based on the total TPH concentration of 27 mg/kg reported at this location.

7.5 Subsurface Soil Results

The detected results for the subsurface soil data set are provided in Table 7-2. Figure 7-1 presents the location of organic parameters which exceeded screening levels at SWMU 74 JP-5 Hill and DFM Area. The complete data set is provided in Appendix B.

VOCs were detected above the residential soil SLs for benzene, ethylbenzene, and xylenes at locations within SWMU 74 JP-5 Hill and DFM Area. Benzene was reported in samples 74SB210-04, 74SB210-05, and 74SB269-05 above residential soil SLs, and in sample 74SB269-05 above both residential and industrial soil SLs. Ethylbenzene was detected at sampling locations 74SB210-04, 74SB210-05 above residential soil SLs, and 74SB269-04 above both residential and industrial soil SLs. Total xylenes were reported above residential soil SLs at sampling locations 74SB210-04 and 74SB210-05. These two boring locations 74SB210 and 74SB269 are located near AOC F 1995 and SWMU 7/8, the Tow Way Fuel Farm Area, see Figure 7-1.

Twenty-two (22) subsurface soil samples including two duplicate samples were analyzed for LLPAHs based on visual observations and PID measurements. Benzo(a)pyrene was reported above the residential soil SLs at locations 74SB226 and 74VP10b/DFM with concentrations of 44J and 51J from its duplicate, and 29 ug/kg, respectively. No other LLPAHs exceeded the screening criteria.

A total of five different metals were reported as exceeding the NAPR basewide background screening value and at least one other screening criteria. These metals are:

- Arsenic
- Cobalt
- Copper
- Lead
- Vanadium

Arsenic and cobalt were detected above the residential soil SL and NAPR background concentrations based on a clay matrix at twenty-five (25) and thirty-five (35) locations, respectively. Arsenic and cobalt also exceeded the industrial soil SL at 18 and 29 locations, respectively. Copper was detected at two locations at concentrations exceeding the background screening value and the residential soil SL; lead was detected at one location at concentrations exceeding background and the SL for both residential and industrial soil. Similarly, vanadium

was detected at one location at a concentration exceeding background and the SL for both residential and industrial soil. These detections are not considered to be the result of a release from SWMU 74.

TPH was detected above the established screening value of 25 mg/kg in thirty-one of the subsurface soil samples including three duplicates. These subsurface soil samples are:

Sample ID	Total TPH (mg/kg)	Dominant Fraction
74SB138-04	60	DRO
74SB150-02	51	DRO
74SB151-01	62	DRO
74SB151-01D	31 J	DRO
74SB155-05	89	DRO
74SB156-04	1,012 J	DRO
74SB156-05	958 J	DRO
74SB156-05D	1,100 J	DRO
74SB157-05	308	DRO
74SB210-04	713 J	GRO
74SB210-05	46 J	DRO
74VP20-06	226 J	DRO
74SB268-03	1,620	DRO
74SB268-05	126 J	GRO
74SB269-04	1,130 J	GRO
74SB269-05	840 J	GRO
74SB226-04	549	DRO
74SB226-05	453 J	DRO
74SB226-05D	1,348 J	DRO
74SB227-05	159	GRO
74SB228-04	120	DRO
74SB228-05	238	GRO
74SB229-05	196	GRO
74SB230-05	75 J	DRO
74VP10a/JP5-04	371	DRO
74VP10a/JP5-05	245	DRO
74VP9b/JP5-03	89.43	DRO
74VP9b/JP5-05	62.3 J	DRO
74VP19b-03	7,424 J	DRO
74VP19b-05	281 J	DRO
74VP1982-03	520 J	DRO/GRO

Total TPH from these 28 samples (plus three duplicate samples) range from 31 J mg/kg to 7,424 J mg/kg. Twenty-three of the reported concentrations above the screening criteria were predominantly comprised of DRO, while the other seven were predominantly reported as GRO. One of the samples (74VP1982-03) had just about equal concentrations of both DRO and GRO in the sample. The DRO/GRO dominance will be further characterized during Phase II of the CMS Investigation for SWMU 74.

7.6 Groundwater Results

The detected results for the groundwater data set are provided in Table 7-3. Figure 7-2 presents the location of detected organic compounds above screening levels. The complete data set is provided in Appendix B.

Four VOCs, including benzene, chloroform, ethylbenzene, and total xylenes were detected in the groundwater samples above tap water SLs, MCLs or ecological screening values. Benzene and ethylbenzene were reported above criteria at locations 74VP20 and 74VP1982. Total xylenes were also detected at 74VP20 at a concentration exceeding the tap water SL. Chloroform was detected at 1.3 ug/L at location 74GW273, which is above the tap water SL; however chloroform is also a common laboratory artifact.

LLPAHs were analyzed at four of the groundwater wells sampled. 1-Methylnaphthalene and naphthalene were detected above tap water SLs and 2-Methylnaphthalene was detected above ecological surface water screening values at location 74VP1982. Pyrene was detected above the ecological screening level at location 74VP10a/JP5. 1-Methylnaphthalene, 2-methylnaphthalene, benzo(a)anthracene, benzo(a)pyrene, benzo(b) fluoranthene, benzo(k)fluoranthene, dibenz(a,h)anthracene, indeno(1,2,3-cd)pyrene, naphthalene, and pyrene were detected above tap water SLs , MCLs and/or ecological surface water screening levels at location 74VP20.

Barium was the only total metal that was detected above tap water SLs, and background concentrations with a concentration of 1,600 ug/L at 74VP1982 and tapwater SLs, MCLs and background with a concentration of 3,400 ug/L at 74VP20.

Dissolved metals that were detected above screening criteria and background concentrations included barium and vanadium. Dissolved barium remained above tap water SLs, and background concentrations at location 74VP1982 with a concentration of 1,900 ug/L and at 74VP20 with a concentration of 3,900 ug/L. Dissolved vanadium was detected above regional tap water SLs, ecological surface water screening values, and background at locations 74VP10a/DFM, 74VP10a/JP5, 74VP08b, and 74SB273.

No total TPH detections were reported above the established screening value of 12.5 mg/L in the wells sampled in the SWMU 74 JP-5 Hill and DFM Areas.

7.7 Impacts from Other SWMUs

Other SWMUs located within the JP-5 Hill and DFM Area and that have a close proximity to SWMU 74 include SWMUs 7/8, 13, 59, and AOC F (both 1738, and 1995).

SWMU 7/8 is the Tow Way Fuel Farm, which is currently undergoing active free product removal, routine monitoring and the implementation of the activities called out in the CMS. The Tow Way Fuel Farm, in addition to the SWMU 9 Area Tanks, were the first bulk fuel storage facilities installed at the Base in the 1940's. SWMU 13 is a former Pest Control Shop where pesticides were mixed and pesticide application equipment was cleaned. SWMU 13 does not have fuel related contaminants associated with it. SWMU 59 was a vehicle maintenance and refueling area from the 1940's to the 1980's. The site is known to previously have fueling islands and underground storage tanks. The AOC F sites include the previously mentioned 1738 fueling station located along Forrestal Road and the AST Tank 1995 located at the DFM Tank Area west of the Tow Way Fuel Farm. A reported spill at Tank 1995 in 1985 caused a release of approximately 2,000 to 3,000 gallons of JP-5. The Tank was switched to DFM from JP-5 in 1988 according to records.

With respect to the Tow Way Fuel Farm and DFM Tank Area, fuel related contaminants in the soil and groundwater were known to be present in these areas along Forrestal Road. During the Phase II Investigation for SWMU 74 the horizontal edges of the fuel impacts will be delineated east and west. To the north of the pipeline are the tank storage areas and to the south of the

pipeline is the Ensenada Honda. Therefore, delineation will focus on the east and west extents of fuel related impacts in this area.

With respect to SWMU 59 and AOC F 1738, during Phase II of the CMS Investigation for SWMU 74, efforts will be made to differentiate between pipeline leaks and outside influences whenever possible. Regardless, fuel related impacts will be delineated within the limits of the SWMU 74 boundary.

7.8 Conclusions

Surface soil fuel related impacts were found at 74SB151 based on a TPH DRO concentration of 27 mg/kg.

Subsurface soil fuel related impacts based on total TPH were observed at nineteen (19) locations. Three of these locations were identified in the JP-5 Hill Fuel Farm and included 74SB138, 74VP9b/JP5, and 74VP10a/JP5. The concentration range of total TPH in this area was 60 to 371 mg/kg and extended down to 11 feet.

Total TPH concentrations for locations 74SB150 and 74SB151 ranged from 31 J to 62 mg/kg from depths 1 to 5 feet. These two locations are within the boundary of SWMU 59, (ECP Site 5) a former vehicle maintenance facility. These two boring locations also surrounded valve pit VP-7.

Total TPH concentration for three locations including 74SB155, 74SB156, and 74SB157 range from 89 to 1,100 J mg/kg from 7 to 11 feet. Although these locations are within the boundary of AOC F 1995 (1985 fuel spill from Tank 1995 at the DFM fuel storage tanks 300 feet east of these locations), the TPH occurrence at depth indicated that SWMU 74 is a likely source.

The remaining boring locations (except for 74SB210) in this area with observed TPH impact are located along Forrestal Road and are within the SWMU 7/8 boundary or the Tow Way Fuel Farm. Location 74SB210 is just west of the SWMU 7/8 boundary along Forrestal Road. The borings within SWMU 7/8 include 74SB226, 74SB227, 74SB228, 74SB229, 74SB230, 74SB268, 74SB269, 74VP1982, 74VP19b, and 74VP20. Some of these locations contained LLPAHs and VOCs significantly above screening levels, in addition to the TPH.

Potential groundwater impacts were found within the Tow Way Fuel Farm. Two wells within the Two Way Fuel Farm (74VP20 and 74VP1982) contained VOCs, LLPAHs, and metals above their respective screening criteria. No total TPH detections were reported above the screening value.

7.9 Recommendations for Phase II

At each location where fuel related contamination is noted above screening, trigger, or background levels additional soil borings will be installed in order to delineate the contamination. For subsurface fuel contamination, one surface soil, two subsurface soil and one groundwater sample will be taken from these locations. These samples will be analyzed for Appendix IX VOCs, metals, LLPAHs, TPH DRO, and TPH GRO. The inclusion of LLPAHs to the analytical requirement in this phase is intended to provide data for evaluation of human health and ecological concerns during the CMS for PAHs, including those with low screening levels.

During Phase II, subsurface soil samples will be collected during boring advancement for monitoring well installation. Soil samples will be collected continuously from the ground surface to the water table using 2-foot long split-spoon samplers or Macro-Core®, with two subsurface soil samples and one surface soil sample per boring location being collected for fixed-base laboratory analysis. One subsurface soil sample per location will be collected from a depth of 1.0-3.0 feet bgs. The other subsurface soil sample will be collected from the depth of any suspected contamination, based on PID screening, but at a depth shallower than the water table or 10 feet bgs, whichever occurs first. For conditions where the water table is greater than 10 feet bgs, if PID measurements or visual or olfactory screening indicate potential contamination between 10 feet bgs and the water table, an additional subsurface soil sample may be collected at the discretion of the field geologist. Sampling procedures and drilling methodology for borings and well installations will follow the approved SWMU 74 CMS Work Plan dated December 6, 2007.

For ease of discussion, the SWMU 74 JP-5 Hill and DFM Area will be segmented into two separate areas, see Figures 7-4 and 7-5. A key map showing the limits of each segment is shown on Figure 7-3. Segment A is the JP-5 Hill Tank Area and surrounding pipeline areas, while Segment B is the DFM Tank Area and surrounding pipeline areas. The following sections discuss the number of samples, location of samples, and analysis parameters for the two segments.

Segment A – JP-5 Hill Tank Area

The JP-5 Hill Tank Area will be referred to as Segment A, and is presented on Figure 7-4. Phase II of the CMS Investigation activities in this area consists of both surface soil and subsurface soil additional delineation. In addition, newly installed wells as well as some of the wells installed during Phase I will be resampled.

- Six surface and subsurface soil sample locations are proposed around 74VP9b/JP5 to further horizontally delineate the TPH impacts to the subsurface soils. Since the subsurface impacts are shallow, no groundwater monitoring wells are proposed for this area. These soil samples will be analyzed for VOCs, LLPAHs, metals, and TPH GRO and TPH DRO. Based on the results of the PID measurements and visual observations, an additional four locations may be sampled to complete delineation.

- Ten surface and subsurface soil sample locations are proposed around 74SB138 and 74VP10a/JP5 to further delineate the TPH impacts to subsurface soils. Although impacts to groundwater were minimal, two of these borings will become groundwater sampling locations to confirm these results. Additionally, groundwater samples from 74VP10a/JP5 and 74SB137 will be collected. Samples from these locations will be analyzed for VOCs, LLPAHs, metals, and TPH GRO and TPH DRO. Based on the results of the PID measurements and visual observations, an additional four locations may be sampled to complete delineation.

- Twelve surface and subsurface soil sample locations are proposed around 74SB150 and 74SB151 to further delineate the TPH impacts to the soils. Since the subsurface impacts are shallow no groundwater monitoring wells are proposed for this area. Samples from these locations will be analyzed for VOCs, LLPAHs, metals, and TPH GRO/DRO. Based on the results of the PID measurements and visual observations, an additional four locations may be sampled to complete delineation.

- Existing groundwater monitoring wells (from which samples were not collected during Phase I because of a lack of water) to be sampled during Phase II include; 74VP9a/JP5, 74VP11a/JP5, 74VP11b/JP5, 74SB273, and 74SB285. Samples from these locations will be analyzed for VOCs, LLPAHs, metals, and TPH GRO/DRO. If there is not a sufficient volume of water for sample collection, then the existing well will be abandoned and a replacement well will be installed in a more productive groundwater bearing interval.

Segment B - DFM Tank Area

The DFM Tank Area will be referred to as Segment B, and is presented on Figure 7-5. The Phase II of the CMS Investigation activities in Segment B consists of surface and subsurface soil sampling and groundwater well installation and sampling.

- TPH DRO contamination was detected in the 9 to 11 foot bgs depth interval at locations 74SB155, 74SB156 and 74SB157 and in the 7 to 9 foot bgs depth interval at 74SB156. Ten borings will be advanced in the vicinity of these three locations, of which three will be converted to groundwater monitoring wells. Surface and subsurface soil samples will be collected from each boring location and groundwater samples will be collected from the three new wells. Samples from these locations will be analyzed for VOC, LLPAHs, metals, TPH GRO and TPH DRO. Based on the results of PID measurements and visual observations, an additional eight locations may be sampled to complete the delineation.

- Potential contamination associated with 74SB226 through 74SB230, 74SB268, 74SB269, 74VP19a, 74VP19b, 74VP1982 and 74VP20 are being evaluated as part of SWMU 7/8.

- Five surface and subsurface soil sample locations are proposed around 74SB210 to further define TPH and BTEX impacts to the soils. One of these locations will be converted to a monitoring well. Samples from these locations will be analyzed for VOCs, LLPAHs, metals and TPH DRO/GRO. Based on the results of field screening, four additional locations (two of which may be wells) may be sampled to complete delineation.

8.0 SWMU 9 AREA C

The following sections describe the investigation results for the SWMU 9 Area C portion of SWMU 74. The analytical data is discussed and presented by media type; i.e. surface soil, subsurface soil, and groundwater.

8.1 Area Description

The SWMU 9 Area C portion of SWMU 74 includes the pipeline runs along Antietam Road, along the utility right-of-way from Forrestal Road and meeting at the entrance leading back to the SWMU 9 Area C tank area. Borings are identified as 74SB144 through 74SB148, 74SB161 through 74SB184, and 74SB188 through 74SB197. A total of four valve pits were investigated including VP-6, VP-6A, VP-6B, and VP-6C. The SWMU 9 Area C tank area contains two cut and cover underground tanks with a total capacity of approximately 500,000 gallons.

8.2 Sampling Summary

A total of four surface soil samples, 84 subsurface soil samples, and six groundwater samples were collected from the SWMU 9 Area C, not including duplicates or other QA/QC samples.

Four surface soil samples (74SB161-00, 74SB171-00, 74SB181-00, and 74SB191-00) and one duplicate sample (74SB161-00D) were collected and analyzed during Phase I of the CMS Investigation at SWMU 74 SWMU 9 Area C. Surface soil samples were analyzed for Appendix IX VOCs, metals, TPH GRO and TPH DRO. No surface soil samples in this area were analyzed for LLPAHs.

A total of 84 subsurface soil samples and eight duplicate samples were collected and analyzed during Phase I of the CMS Investigation at SWMU 74 SWMU 9 Area C. All of the subsurface soil samples were analyzed for Appendix IX VOCs, metals, TPH GRO and TPH DRO. Three samples were analyzed for LLPAHs.

A total of eight groundwater wells were installed or found as existing wells near the pipeline in the SWMU 9 Area C. These wells included:

18GW01 (existing)	74VP6Ba
74SB145	13GW11 (existing)
74VP6Aa	74VP6Ca
74VP6Ab	74VP6Cb

Of these eight wells, two of the installed wells (74VP6Aa and 74VP6Ab) failed to produce enough water for sample collection during the investigation. No duplicate samples were collected from the SWMU 74 SWMU 9 Area C groundwater samples. Groundwater samples were analyzed for Appendix IX VOCs, total metals and dissolved metals, TPH GRO and TPH DRO. One of the six wells (74VP6Cb) sampled in this area was analyzed for LLPAHs.

8.3 Area Geology and Hydrogeology

The entire SWMU 9 Area C is located within the Upland regional geology area. The pipeline and Tanks 216 and 217 were constructed on a peninsula of higher ground (Upland regional area) surrounded by lower elevation wetlands. Subsurface conditions are similar to those observed in the eastern portion of SWMU 9 Area A/B and the JP-5 Hill and DFM Area. As with the fill material observed throughout SWMU 74, it generally consists of clay rich profiles with varying

amounts of silt and sand and the occasional presence of coarse sand, gravel, and varying amounts of rock fragments. As in other areas along the SWMU 74 pipeline, the saprolite consists of varying colors (predominantly light/olive greens and white) of mottled clay with varying amounts of silt and fine sand. Competent bedrock was not encountered in any of the borings advanced in SWMU 9 Area C. The depth of the fill generally ranged between near surface and approximately four feet bgs along the pipeline and up to 20 feet bgs in the vicinity of cut and cover underground tanks and associated valve pits where total boring depths reached up to 22 feet bgs.

Groundwater depths were variable depending on the location along the pipeline. Groundwater was deeper and scarcer in the vicinity of valve pit VP-6A, the groundwater became shallower and wells more productive to the east. Soil boring logs, well construction records, and groundwater level measurements (listed in the field log books) are provided in Appendix A.

8.4 Surface Soil Results

The detected analytical results for the surface soil data set are provided in Table 8-1. Figure 8-1 presents the detected organic parameters which exceeded any screening levels in the surface soil. A complete data set is provided in Appendix B.

VOCs detected in the surface soil samples for the SWMU 74 SWMU 9 Area C include acetone, 2-butanone, benzene, and iodomethane. All detections were well below all of the screening criteria. Benzene was detected at location 74SB191 with an estimated concentration of 1.1 J ug/kg, which is well below screening levels. Acetone, 2-butanone, and iodomethane are most likely laboratory artifacts.

Metals detected above screening levels and background in the surface soil at SWMU 74 SWMU 9 Area C include: arsenic, barium, chromium, lead, and vanadium. Arsenic was detected above residential SLs in each of the four surface soil samples (plus the duplicate sample) and above the industrial SL and background in three of the four samples (plus the duplicate sample). Barium and chromium were detected above the ecological screening level and background concentration at location 74SB181. Lead was detected above background and ecological screening levels at 74SB191. Vanadium was detected above residential soil SLs and ecological screening levels at each location and above background concentrations at location 74SB181. However, as discussed in Section 4.0, these detections are not necessarily considered site related contaminants.

Total TPH was detected in three of the four surface soil samples (plus the duplicate) located at SWMU 74 SWMU 9 Area C. The screening value of 25 mg/kg is exceeded in one sample 74SB191 at a concentration of 77.018 J mg/kg.

In summary, surface soil was determined to be impacted by site related contaminants at 74SB191 at SWMU 74 SWMU 9 Area C. This is based on the TPH concentrations reported at location 74SB191.

8.5 Subsurface Soil Results

The detected results for the subsurface soil data set are provided in Table 8-2. Figure 8-1 presents the location of organics which exceeded screening levels in the subsurface soil at SWMU 74 SWMU 9 Area C. The complete data set is provided in Appendix B.

VOCs were detected in the subsurface soil at very low concentrations and no VOC detections exceeded the screening criteria.

Three (3) subsurface soil samples were analyzed for LLPAHs based on visual observations and PID measurements collected in the field. Benzo(a)anthracene, benzo(a)pyrene, and benzo(b)fluoranthene, exceed both the residential and industrial soil SL in sample 74SB174-04. Dibenz(a,h)anthracene, and indeno[1,2,3-cd]pyrene exceed residential soil SLs in sample 74SB174-05; dibenz(a,h)anthracene also exceeded the SLs for industrial soil in this sample.

A total of six (6) different metals were reported as exceeding the NAPR basewide background screening value and at least one other screening criteria. These metals include:

- Arsenic
- Chromium
- Cobalt
- Copper
- Nickel
- Vanadium

Arsenic and cobalt were detected above the residential soil SL and/or industrial SL and NAPR background concentrations based on a clay matrix at twenty-two and twenty-nine locations, respectively. Chromium and nickel were above residential soil SLs and background concentrations at one location each. Copper and vanadium were detected above the residential soil SL and NAPR background at two locations each. As discussed in Section 4.0, these detections do not necessarily represent a release from SWMU 74.

Total TPH was detected above the established screening value of 25 mg/kg in two subsurface soil samples, 74SB174-05 and 74VP6Cb-07, at concentrations of 1,940 and 480 J mg/kg. Both of these samples were reported predominantly as GRO.

8.6 Groundwater Results

The detected results for the groundwater data set that exceed NAPR background and the tap water SL, the MCL, and for ecological surface water screening values are provided in Table 8-3. Figure 8-2 presents the location of detected organic compounds above the applicable screening levels. The complete data set is provided in Appendix B.

Three VOCs, including benzene, carbon disulfide, and vinyl chloride were detected in the groundwater samples above the tap water SLs or ecological screening values. Benzene and carbon disulfide were detected at location 74VP6Ca with low concentrations of 1.1 and 52 ug/L. Vinyl chloride was detected at location 74SB145 with an estimated concentration of 0.2 J ug/L and is not considered fuel related.

LLPAHs were not detected from sample 74GWVP6Cb located in SWMU 74 SWMU 9 Area C.

No detections of total metals were above screening criteria and NAPR background concentrations.

Dissolved metals that were detected above screening criteria and background concentrations included lead and silver. Dissolved lead was detected above the tapwater SL, MCL, ecological screening level and background at location 74VP6Ca with a concentration of 17 ug/L. Dissolved silver was detected above the ecological screening and background levels at location 13GW11 with a concentration of 8.8 J ug/L.

No total TPH detections were reported above the established screening value of 12.5 mg/L in the wells located in the SWMU 74 SWMU 9 Area C.

8.7 Impacts from Other SWMUs

Other SWMUs that are located within the SWMU 9Area C and that have a close proximity to the SWMU 74 pipelines are SWMUs 9 Area C, 13, 53, 57, and 59.

SWMU 9 Area C has two cut and cover tanks used to store various fuels since the original construction in 1940's. As was previously mentioned, SWMU 13 was a pesticide storage facility and did not report any fuel related contaminants. SWMU 53 was the former Malaria Control Building and was used to store pesticides. Therefore, similar to SWMU 13, SWMU 53 does not have fuel related contaminants related to it. SWMU 57 was a former drum storage area consisting of a concrete pad. SWMU 59 was a vehicle maintenance and fueling facility from the 1940's to 1980's.

8.8 Conclusions

Surface soil fuel related impacts were identified at location 74SB191. A total TPH concentration of 77.018 J mg/kg was reported at location 74SB191.

Subsurface soil fuel related impacts based on total TPH were observed at two locations including 74SB174 and 74VP6Cb. 74SB174 is located where the pipeline crosses Antietam Road and 74VP6Cb is located near valve pit VP-6C. Numerous PAHs were also observed at location 74SB174.

Potential groundwater fuel related impacts were found at location 74VP6Ca. Groundwater at location 74VP6Ca contained fuel related contaminants such as benzene. In addition, carbon disulfide was detected above screening levels.

8.9 Recommendations for Phase II

At each location where fuel related contamination is noted above screening, trigger, and background levels additional soil borings will be installed in order to delineate the contamination. For subsurface fuel contamination, a maximum of one surface soil, two subsurface soil, and one groundwater sample will be collected from these locations. These samples will be analyzed for Appendix IX VOCs, metals, LLPAHs, TPH DRO, and TPH GRO. The inclusion of LLPAHs to the analytical requirement in this phase is intended to provide data for evaluation of human health and ecological concerns during the CMS.

During Phase II, subsurface soil samples will be collected during boring advancement for monitoring well installation. Soil samples will be collected continuously from the ground surface to the water table using 2-foot long split-spoon samplers or Macro-Core®, with two subsurface soil samples and one surface soil sample per boring location being collected for fixed-base laboratory analysis. One subsurface soil sample per location will be collected from a depth of 1.0-3.0 feet bgs. The other subsurface soil sample will be collected from the depth of any suspected contamination, based on PID screening, but at a depth shallower than the water table or 10 feet bgs, whichever occurs first. For conditions where the water table is greater than 10 feet bgs, if PID measurements or visual or olfactory screening indicate potential contamination between 10 feet bgs and the water table, an additional subsurface soil sample may be collected at the discretion of the field geologist. Sampling procedures and drilling methodology for borings

and well installations will follow the approved SWMU 74 CMS Work Plan dated December 6, 2007.

Synoptic groundwater elevation measurements for each area will be collected after allowing the well to remain undisturbed for at least 48 hours to determine groundwater gradients and flow directions for each investigation area with groundwater impact. Slug testing will also be performed at the groundwater well locations to determine hydraulic conductivity values at each location. This will aid in understanding contaminant migration potential via groundwater.

The Phase II of the CMS Investigation activities in this area consists of surface and subsurface soil and groundwater additional delineation. The following discusses the number of samples, approximate location of samples, and analytical parameters. Proposed Phase II sample locations are shown on Figure 8-3.

- Eight surface and subsurface soil sample locations are proposed around 74SB174 to further horizontally delineate the TPH and LLPAH impacts to the subsurface soils. Two of these boring locations will become groundwater well locations to determine impacts to groundwater in this area. These samples will be analyzed for VOCs, LLPAHs, metals, TPH GRO and TPH DRO. An additional four locations may be added to complete delineation based on field observations.

- Four surface (0 to 1 foot bgs) and shallow subsurface (1 to 3 feet bgs) soil sample locations are proposed around 74SB191 to further delineate the TPH in the surface soil impacts horizontally and to a depth of three feet. These surface and shallow subsurface soil samples will be analyzed for VOCs, LLPAHs, metals, TPH GRO and TPH DRO.

- Four borings are proposed surrounding valve pit VP-6C to delineate TPH in the subsurface soil at 74VP6Cb and VOCs in the groundwater at 74VP6Ca. All four borings will be sampled for surface and subsurface soils, and two of the borings will involve construction of groundwater monitoring wells. Samples from these locations will be analyzed for VOCs, LLPAHs, metals, TPH GRO and TPH DRO. A total of four wells will be sampled, the two existing wells at valve pit VP-6C and the two newly installed wells. An additional six locations may be added to complete delineation based on field observations.

- Groundwater samples will be collected from existing groundwater monitoring wells 74VP6Aa and 74VP6Ab, if there is a sufficient volume of water for sampling. If there is not sufficient water in one or both wells, then replacement monitoring wells will be installed in a more productive water bearing zone.

9.0 FUELING PIERS AREA

The following sections describe the investigation results for the Fueling Piers Area portion of SWMU 74. The analytical data is discussed and presented by media type; i.e. surface soil, subsurface soil, and groundwater.

9.1 Area Description

The Fueling Piers Area consists of the underground pipeline along Forrestal Road and the spurs that lead to the Deep Water Fueling Pier (Pier No. 1) and the Berthing Pier (Pier No. 3). Only one valve pit, VP-56, was included in the investigation for this area. No tanks are located within the Fueling Piers Area; however, the Tow Way Fuel Farm is located immediately north of VP-56.

9.2 Sampling Summary

A total of five surface soil samples, 69 subsurface soil samples, and six groundwater samples were collected from the Fueling Piers Area, not including duplicates or other QA/QC samples.

Five surface soil samples (74SB221-00, 74SB231-00, 74SB241-00, 74SB251-00, and 74SB261-00) and one duplicate (74SB221-00D) were collected at the Fueling Piers Area and analyzed during Phase I of the CMS Investigation. Surface soil samples were analyzed for Appendix IX VOCs, metals, TPH GRO and TPH DRO. None of the surface soil samples were analyzed for LLPAHs.

A total of 69 subsurface soil samples and ten duplicate samples were collected at the Fueling Piers Area and analyzed during Phase I of the CMS Investigation. All of the subsurface soil samples were analyzed for Appendix IX VOCs, metals, TPH GRO and TPH DRO. Five subsurface soil samples also were analyzed for LLPAHs.

A total of six groundwater wells were installed or found as existing wells near the pipeline in the Fueling Piers Area:

74SB236	MW02 (existing)
74SB246	UGW12 (existing)
74SB256	GW04 (existing)

Groundwater samples were collected from these six wells and analyzed for Appendix IX VOCs, total metals, dissolved metals, TPH GRO, TPH DRO, and LLPAHs. A duplicate and MS/MSD also was collected at UGW 12 and analyzed for these same parameters.

9.3 Area Geology and Hydrogeology

The Fueling Piers Area is exclusively located along the coastal boundary of the Ensenada Honda waters and within the near-shore flat lands regional geology area. The near-shore areas include the mangrove swamp areas as well as the shores of Ensenada Honda and Puerca Bay. The near-shore areas are typically underlain by marine sand layers (with coral and shell fragments), silt and clay layers, and occasional peat layers. In some near-shore areas, particularly by the harbor and Camp Moscrip in the southeastern portion of the base, fill material overlays the marine layers. The fill consists of rock fragments, debris (e.g., brick), sand, silt, and clay.

The fill material along the pipeline in the Fueling Piers Area was primarily sands and gravels mixed with shell and coral fragments. In places wood and concrete were identified in the fill

material. The depth of the fill generally ranged between five and 12 feet bgs (the total depth of most borings) but reached a depth of 19 feet bgs in one boring. Peat was observed in borings 74SB256 and 74SB236 at depths of 19 and 15 feet bgs, respectively. Bedrock, consisting of relatively competent Gabbro, was observed in boring 74SB246 at a depth of 11 feet bgs. Gabbro is an intrusive, mafic-mineral, igneous rock, which is generally fine-grained and dark green to black in color (Strahler 1981). Marine deposits, generally consisting of sand and shell fragments, were observed below the fill in some borings. Soil boring logs, well construction records, and groundwater level measurements (listed in the field log books) are provided in Appendix A.

Groundwater is believed to be directly connected to the surface waters of the Ensenada Honda; however, no formal testing was performed during this phase of investigation to ascertain the porosity and interconnectivity to the surface water, including tidal influence, and salinity. In areas near the Tow Way Fuel Farm, free product was encountered on the groundwater surface. There is an active free product recovery and monitoring system in place for SWMU 7/8, and recovery wells were observed on the north side of Forrestal Road.

9.4 Surface Soil Results

The detected analytical results for the surface soil data set are provided in Table 9-1. Figure 9-1 presents the detected organic parameters which exceed screening levels in the surface soil. A complete data set is provided in Appendix B.

VOCs detected in the surface soil samples for the SWMU 74 Fueling Piers C Area included acetone, benzene, and carbon disulfide. Benzene was detected at location 74SB221 with an estimated concentration of 1.1 J ug/kg, which is well below residential soil SLs and ecological screening levels. Acetone and carbon disulfide were well below residential soil SLs screening levels; ecological screening values have not been established for these two compounds. Although acetone is most likely a laboratory artifact, carbon disulfide is a naturally occurring chemical in marine environments.

Metals detected above screening levels and background in the surface soil at SWMU 74 Fueling Piers Area were limited to arsenic. Arsenic was detected above the residential and industrial SL at each of the five surface soil locations and was above the background concentration at four of the five locations.

Total TPH was detected in each of the five surface soil samples located at SWMU 74 Fueling Piers Area. The screening value of 25 mg/kg was exceeded in two samples 74SB221-00 (and the duplicate) and 74SB231-00 at concentrations of 100 J and 69 mg/kg. These detections of TPH were entirely DRO.

In summary, surface soil collected at the Fueling Piers Area was determined to be impacted by site related contaminants (i.e., TPH DRO) at two locations (74SB221 and 74SB231).

9.5 Subsurface Soil Results

The detected results for the subsurface soil data set are provided in Table 9-2. Figure 9-1 presents the location of organic parameters which exceed background and screening levels at SWMU 74 Fueling Piers Area. The complete data set is provided in Appendix B.

VOCs were detected in subsurface soil at very low concentrations and none of the detected concentrations exceed the screening criteria.

Five subsurface soil samples (plus one duplicate sample) were analyzed for LLPAHs based on visual observations and PID measurements collected in the field. Benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, and indeno[1,2,3-cd]pyrene exceeded the residential soil SLs in subsurface soil sample 74SB222-03; the industrial soil SL for benzo(a)pyrene was also exceeded in this sample. In addition, benzo(a)anthracene and benzo(a)pyrene exceeded the residential soil SLs in subsurface soil sample 74SB223-03.

A total of three different metals were reported as exceeding the NAPR basewide background screening value and at least one of the human health Regional SLs. These metals are:

- Arsenic
- Copper
- Vanadium

Arsenic was detected above the residential and industrial soil SL and NAPR background concentrations based on a fine sand/silt matrix at six locations (74SB232, 74SB233, 74SB235, 74SB236, 74SB239, and 74SB246). Copper was detected above the NAPR background concentration and above the residential soil SL at one location, 74SB260. Vanadium was detected above the background concentration and above the residential soil SL at three locations: 74SB216, 74SB218 and 74SB262. As discussed in Section 4.0, these detections are not necessarily the result of a release from SWMU 74.

Total TPH was detected above the established screening value of 25 mg/kg in twenty-six subsurface soil samples. These subsurface soil samples include:

Sample ID	Total TPH	Fraction Exceeding Screening Values
74SB215-03	320	DRO
74SB216-03	2,929	DRO
74SB216-05	2,300.46	DRO
74SB216-05D	2,400.42	DRO
74SB218-03	341	DRO/GRO
74SB218-05	185	DRO/GRO
74SB221-02	1,400.08 J	DRO
74SB221-02D	44 J	DRO
74SB222-03	1,800	DRO
74SB223-03	2,575	DRO/GRO
74SB224-04	155	GRO
74SB224-05	187.3	DRO
74SB256-04	1,000	DRO
74SB258-03	37	DRO
74SB258-05	96	DRO
74SB260-03	25.018 J	DRO
74SB260-04	150.044 J	DRO
74SB261-03	32 J	DRO
74SB261-03D	370 J	DRO
74SB263-04	29	DRO
74SB264-04	54.4	GRO
74SB265-03	45 J	GRO
74SB265-03D	384 J	DRO/GRO
74SB265-04	1,280	DRO/GRO
74SB267-02	45.7	DRO
74SB267-03	520	DRO/GRO

Total TPH from these twenty-six samples ranged from 25.018 J mg/kg (74SB260-03) to 2,929 mg/kg (74SB216-03). Twenty-three of the reported concentrations above the screening criteria were predominantly comprised of DRO, while the other three were predominantly reported as GRO.

9.6 Groundwater Results

The detected results for the groundwater data set are provided in Table 9-3. Figure 9-2 presents the location of detected organic compounds above screening levels. The complete data set is provided in Appendix B.

Carbon disulfide was the only VOC detected in the monitoring wells located at the SWMU 74 Fueling Piers Area. Carbon disulfide was reported below screening criteria.

LLPAHs were analyzed at six of the groundwater wells sampled. Benzo(a)anthracene was detected above the tap water SL and ecological screening value in the groundwater sample collected at 74GW246 with a concentration of 0.036 J ug/L.

Total metals (arsenic, cobalt, copper, and vanadium) were detected above the tap water SLs and ecological screening levels, but no detections of total metals were above NAPR background concentrations.

The only dissolved metal that was detected above screening criteria and background concentrations was vanadium. Dissolved vanadium was detected above the ecological screening level and background at location 74SB246 with a concentration of 23 ug/L. However, as discussed in Section 4.0, this detection is not necessarily the result of a release from SWMU 74.

No total TPH detections were reported above the established screening value of 12.5 mg/L in the wells located at the Fueling Piers Area.

9.7 Impacts from Other SWMUs

Other SWMUs that are located within the Fueling Piers Area and that have a close proximity to SWMU 74 are SWMUs 7, 8, 10, 55, 75 and 76.

As previously mentioned SWMU 7/8 is the Tow Way Fuel Farm, with known fuel related contaminants migrating via groundwater and soil through the SWMU 74 boundary. SWMU 10 was a former area where electrical transformers were repaired; SWMU 55 is associated with a TCE plume in the groundwater; and SWMU 75 was a former Emergency Fire Deluge System Building housing water transfer pumps. Diesel and suspected waste oil was identified in this building possibly migrating from the building floor at SWMU 75. SWMU 76 is the U.S. Army Reserve Boat Maintenance Facility; contaminants potentially associated with this SWMU include metals and paint-related hydrocarbons.

9.8 Conclusions

Surface soil fuel related impacts were identified at locations 74SB221 and 74SB231 based on total TPH concentrations of 100 J and 69 mg/kg, respectively.

A total of fifteen (15) subsurface soil locations reported total TPH above the screening levels in the Fueling Piers Area. These detections are grouped together and are further verification of the historical fuel impacts from the Tow Way Fuel Farm (SWMU 7/8). Petroleum recovery has been

historically performed along Forestall Road and leading out to the western most fueling pier. The easternmost boring reporting TPH impact is location 74SB256. Boring location 74SB235 reported benzene at 2.3J from 9 to 11 feet bgs. No total TPH detections were reported above the established screening level in the groundwater monitoring wells at the Fueling Piers Area.

9.9 Recommendations for Phase II

At each location where fuel related contamination is noted above screening, trigger, and background levels additional soil borings will be installed in order to delineate the contamination. For subsurface fuel contamination, a maximum of one surface soil, two subsurface soil, and one groundwater sample will be collected from these locations. These samples will be analyzed for Appendix IX VOCs, metals, LLPAHs, TPH DRO, and TPH GRO. The inclusion of LLPAHs to the analytical requirement in this phase is intended to provide data for evaluation of human health and ecological concerns during the CMS.

Following sample collection at the groundwater monitoring wells, the wells will be allowed to recover for 48 hours. After this time period the wells will be gauged for groundwater elevation measurements to determine groundwater gradients and flow directions. This will aid in understanding contaminant migration potential via groundwater

Phase II of the CMS Investigation for the Fueling Piers Area will consist of surface soil sampling and groundwater sampling from an existing monitoring well. The following sections discuss the number of samples, approximate location of samples, and analysis parameters. Proposed Phase II sample locations are shown on Figure 9-3.

- Six surface (0 to 1 foot bgs) and shallow subsurface (1 to 3 feet bgs) soil sample locations are proposed around 74SB231 to further horizontally delineate the TPH horizontally and to a depth of three feet. These surface and shallow subsurface soil samples will be analyzed for VOCs, LLPAHs, metals, TPH GRO and TPH DRO.

- Benzo(a)anthracene was detected in the groundwater at well 74SB246 at a low estimated concentration. This well location will be resampled to confirm this detection. This sample will be reanalyzed for VOCs, LLPAHs, metals, TPH GRO and TPH DRO.

- Potential contamination noted at 74SB215, 74SB216, 74SB218, 74SB221 through 74SB224, 74SB256, 74SB258, 74SB260, 74SB261, 74SB263, 74SB264, 74SB265 and 74SB267 are most likely the result of known releases from SWMU 7/8. These areas are already being investigated under SWMU 7/8.

10.0 SUMMARY OF CONCLUSIONS AND RECOMMENDATIONS

This section summarizes the overall findings of Phase I of the CMS Investigation for SWMU 74 for each of the five areas. Figure 10-1 presents an overall view of SWMU 74, where fuel related contamination was present, and where the Phase II investigation will further delineate the Phase I screening results for the SWMU 74 CMS. Following regulatory approval of the proposed additional sampling locations, Phase II Investigation activities will be completed.

Airfield Area

Surface soil fuel related impacts were found at 74SB01 and 74SB34 with regards to total TPH values of 129 and 29.5 mg/kg, respectively.

Subsurface soil total TPH exceeded the screening value at nine different soil borings including 74SB05, 74SB06, 74SB16, 74SB22, 74SB23, 74SB26, 74SB27, 74SB28, and 74SB30. The total TPH concentrations ranged from 36 J to 2,380 J mg/kg and ranged in depth from 1 to 3 feet to a total depth of 9 to 11 feet at 74SB26 and 74SB27. LLPAH exceedences were observed at boring 74SB22. These LLPAH exceedences included benzo(a)anthracene, benzo(a)pyrene, and benzo(b)fluoranthene.

Groundwater fuel related impacts were found at location 74SB26 with a concentration of Total TPH of 16.04 ug/L. Barium was detected above screening and background values at locations 74SB22 and 74SB26 with total concentrations of 950 and 1300 ug/L, respectively. No free product was noted at any of the groundwater wells installed at the Airfield.

Phase II activities at the Airfield Area will include further characterization of surface soil, subsurface soil, and groundwater. The Phase I investigation has identified three areas or segments along the SWMU 74 pipeline runs and hydrant pits to be delineated. In Segment A – Aircraft Hydrant Refueling Area, collection of up to 17 surface soil samples and 23 subsurface soil samples are recommended. In Segment B – Day Tank Area, collection of up to 34 surface soil samples, 68 subsurface soil samples and seven groundwater samples are recommended. In Segment C – Airfield Fuel Pipeline Area, collection of up to eight surface soil samples and the subsurface soil samples is recommended. All samples will be analyzed for VOCs, LLPAHs, metals, TPH DRO and TPH GRO. Additional “step out” borings/samples may be required to completely delineate fuel related contaminants.

SWMU 9 Area A/B

Surface soil fuel related impacts were found at 74SB91 and 74SB121 based on total TPH concentrations of 48.31 and 33 mg/kg, respectively.

Subsurface soil total TPH exceeded the screening value at ten different soil borings including 74SB81, 74SB86, 74SB108, 74SB109, 74SB113, 74SB114, 74VP1Ba/9, 74VP2a/9, 74VP3b/9, and 74VP3b. TPH impacts were reported in the borings near valve pit VP-1B/9, VP-2/9, VP-3 and VP-3/9 within the SWMU 9 Area A/B. These impacts were found at various depths including 5 to 7 feet down to 19 to 20 feet. An isolated total TPH impact was found at locations 74SB81 and 74SB86 from a depth of 7 to 9 feet.

Potential groundwater fuel related impacts were found at locations 74VP3b, 74VP11a, 74VP11b, 74VP1Aa/9, and 74VP1Cb/9.

Phase II activities at the SWMU 9 Area A/B will include further characterization of surface soil, subsurface soil, and groundwater. The Phase I investigation has identified eight areas along the SWMU 74 pipeline runs to be delineated. Collection of approximately 96 surface soil, 190 subsurface soil, and 26 groundwater samples is recommended to further delineate the extent of potential contamination at the SWMU 9 Area A/B. Additional "step out" borings/samples may be required to completely delineate fuel related contaminants.

JP-5 Hill and DFM Area

Surface soil fuel related impacts were found at 74SB151 based on a total TPH concentration of 27 mg/kg.

Subsurface soil fuel related impacts based on total TPH was observed at nineteen (19) locations. Three of these locations were identified in the JP-Hill Fuel Farm and included 74SB138, 74VP9b/JP5Hill, and 74VP10a/JP5Hill. The concentration range of total TPH in this area was 60 to 371 mg/kg and extended down to 10 feet.

Locations 74SB150 and 74SB151 reported total TPH concentrations of ranging from 31 J to 62 mg/kg from depths 1 to 5 feet. These two locations are within the boundary of SWMU 59 (ECP Site 5) a former vehicle maintenance facility. These two boring locations also surrounded valve pit VP-07.

Three locations including 74SB155, 74SB156, and 74SB157 reported total TPH ranging from 89 to 1,100 mg/kg from 7 to 11 feet. Although these borings are within the boundary of AOC F, the TPH occurrence at depth indicated that SMWU 74 is a likely source.

The remaining boring locations (except for 74SB210) in this area with observed TPH impact are located along Forrestal Road and are located within the SWMU 7/8 boundary or the Tow Way Fuel Farm. Location 74SB210 is located just west of the SWMU 7/8 boundary along Forrestal Road. The borings with SWMU 7/8 include 74SB226, 74SB227, 74SB228, 74SB229, 74SB230, 74SB268, 74SB269, 74SB1982, 74VP19b, and 74VP20. These locations contained LLPAHs and VOCs significantly above screening levels, in addition to the TPH.

Potential groundwater impacts were found within the JP-5 Hill Tank Farm, the DFM Tank Farm, and the Tow Way Fuel Farm. Two wells within the Two Way Fuel Farm (74VP20 and 74VP1982) contained VOCs, LLPAHs, and metals above their respectively screening criteria. No total TPH detections were reported above screening values.

Phase II activities at the JP-5 Hill and DFM Area will include further characterization of surface soil, subsurface soil, and groundwater. The Phase I investigation subdivided this area into two segments. In Segment A, the JP-5 Hill Tank Area collection of up to 40 surface soil samples, 80 subsurface soil samples and nine groundwater samples is recommended. In Segment B-DFM Tank Area, collection of up to 27 surface soil samples, 54 subsurface soil samples and six groundwater samples is recommended. All samples will be analyzed for VOCs, LLPAHs, metals, TPH DRO and TPH GRO. Additional "step out" borings may be required to completely delineate fuel related contaminants.

SWMU 9 Area C

Surface soil fuel related impacts were identified at location and 74SB191. Location 74SB191 reported total TPH at a concentration of 77.018 mg/kg.

Subsurface soil fuel related impacts based on total TPH was observed at two locations including 74SB174 and 74VP6Cb. 74SB174 is located at Antietam Road where the pipeline crosses and 74VP6Cb is located near valve pit VP-6C. Numerous PAHs were also observed at location 74SB174.

Groundwater fuel related impacts were found at locations 74VP6Ca. Groundwater at location 74VP6Ca contained fuel related contaminants including benzene. In addition, carbon disulfide was detected above screening levels. Low groundwater yield prevented the collection of groundwater samples from two wells, 74VP6Aa and 74VP6Ab.

Phase II activities at the SWMU 9 Area C will include further characterization of surface soil, subsurface soil, and groundwater. The Phase I investigation has identified three areas along the SWMU 74 pipeline runs to be delineated. Collection of approximately 26 surface soil, 48 subsurface soil, and eight groundwater samples is recommended to further delineate contamination at the SWMU 9 Area C. Additional "step out" borings may be required to completely delineate fuel related contaminants.

Fueling Piers Area

Surface soil fuel related impacts were identified at locations 74SB221 and 74SB231 based on total TPH concentrations of 100 J and 69 mg/kg, respectively.

A total of fifteen (15) subsurface soil locations reported TPH above the screening levels in the fueling piers area. These detections are grouped together and are further verification of the historical fuel impacts from the Tow Way Fuel Farm (SWMU 7/8).

Phase II activities at the Fueling Piers Area will include further characterization of surface soil in the vicinity of 74SB231. Collection of approximately six surface, six shallow subsurface soil samples is recommended to horizontally delineate the contamination. Additionally, well 74SB24b will be resampled to confirm the detection of benzo(a)anthracene.

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TABLES

TABLE 5-1

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - AIRFIELD - SURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB01 74SB01-00 4/28/2008 0.0-1.0	74SB13 74SB13-00 4/30/2008 0.0-1.0	74SB13 74SB13-00D 4/30/2008 0.0-1.0	74SB22 74SB22-00 5/3/2008 0.0-1.0	74SB34 74SB34-00 5/1/2008 0.0-1.0	74SB51 74SB51-00 5/3/2008 0.0-1.0	74SB61 74SB61-00 5/3/2008 0.0-1.0
Volatile Organic Compounds (ug/kg)											
Acetone	6,100,000 [2]	61,000,000 [2]	NE	NE	21 J	400 J	450 J	210 J	830 J	410 J	130 J
Iodomethane	NE	NE	NE	NE	1.2 U	1.4 J	1.7 J	1 J	3.4 J	1.5 J	0.72 U
LLPAHs (ug/kg)											
Benzo[a]pyrene	15	210	NE	NE	8 U	NA	NA	0.96 J	NA	NA	NA
PAH Totals (ug/kg):											
Low molecular weight PAHs	NE	NE	29,000 [5]	NE	122.6	NA	NA	12.32	NA	NA	NA
High molecular weight PAHs	NE	NE	18,000 [5]	NE	142.9	NA	NA	14.51	NA	NA	NA
Metals (mg/kg)											
Antimony	3.1 [2]	41 [2]	10 [6]	3.17	0.15 UJ	0.14 U	0.12 U	0.2 U	0.23 J	0.095 UJ	0.08 UJ
Arsenic	0.390	1.600	18 [7]	2.65	***2.7***	***1.8***	**1.5**	***2.3***	***3.3***	**1.3**	**0.5** J
Barium	1,500 [2]	19,000 [2]	330 [8]	199	65 J	96 J	63 J	120	41	93	37
Beryllium	16 [2]	200 [2]	21 [9]	0.59	0.17	0.24	0.22	0.35	0.21	0.2	0.13
Cadmium	7.0000 [2]	81 [2]	0.77 [10]	1.02	0.19	0.13	0.11	0.09 J	0.14 J	0.19	0.075 J
Chromium	280	1,400	26 [11]	49.8	28 J	25	22	41	40 J	36 R	5.1 J
Cobalt	2.3 [2]	30 [2]	13 [12]	46.2	**25**	**22**	**18**	**17**	**8.2**	**21**	**21**
Copper	310 [2]	4,100 [2]	28 [13]	168	93	93	88	150	150	79	77
Lead	400 [3]	800 [3]	11 [14]	22	20	6.3 J	5.4 J	6.8	10 J	5.7	0.42
Mercury	2.3 [2]	31 [2]	0.1 [15]	0.109	0.005 U	0.05	0.046	0.059	0.1 J	0.007 J	0.005 J
Nickel	160 [2]	2,000 [2]	38 [16]	20.7	19	13	11	9.1	7.9	14	5.9
Selenium	39 [2]	510 [2]	0.52 [17]	1.48	0.16 J	0.6	0.6	0.9	1.6	0.21 J	0.13 UJ
Silver	39 [2]	510 [2]	4.2 [18]	NE	0.05 U	0.054 J	0.22 J	0.051 U	0.1 J	0.032 J	0.02 U
Thallium	0.51 [2]	6.6 [2]	1 [19]	NE	0.13 U	0.14 U	0.13 U	0.19 J	0.18 U	0.15 U	0.13 U
Vanadium	55 [2]	720 [2]	7.8 [20]	259	**170**	**220**	**210**	**160**	**440** J	**140**	**160**
Zinc	2,300 [2]	31,000 [2]	46.0 [21]	115	86	64	58	43	46	65 J	59 J

TABLE 5-1

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - AIRFIELD - SURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB01 74SB01-00 4/28/2008 0.0-1.0	74SB13 74SB13-00 4/30/2008 0.0-1.0	74SB13 74SB13-00D 4/30/2008 0.0-1.0	74SB22 74SB22-00 5/3/2008 0.0-1.0	74SB34 74SB34-00 5/1/2008 0.0-1.0	74SB51 74SB51-00 5/3/2008 0.0-1.0	74SB61 74SB61-00 5/3/2008 0.0-1.0
TPH DRO and GRO (mg/kg)											
Diesel Range Organics	25 [4]	NE	NE	NE	**88**	11	10	4 J	**28** J	15	4.6
Gasoline Range Organics	25 [4]	NE	NE	NE	**41** J	0.25 J	0.4 J	0.13 J	1.5 J	0.46	0.062 J
Total TPH	25 [4]	NE	NE	NE	**129** J	11.25 J	10.4 J	4.13 J	**29.5** J	15.46	4.662 J

TABLE 5-1

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - AIRFIELD - SURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Notes/Qualifiers:

J - Estimated, The analyte was positively identified; the quantitation is an estimation
R - Result is rejected
U - Undetected at the Limit of Detection.
UJ - Reported quantitation limit is qualified as estimated
ft bgs - feet below ground surface
ug/kg - microgram per kilogram
mg/kg - milligram per kilogram
NA - Not Analyzed
NE - Not Established

DRO - Diesel Range Organics
GRO - Gasoline Range Organics
TPH - Total Petroleum Hydrocarbons

NAPR - Naval Activity Puerto Rico
USEPA - United States Environmental Protection Agency

(1) NAPR basewide background surface soil screening value (upper limit of the means concentration [mean plus two standard deviations]) (Baker, 2008)
(2) Noncarcinogenic Regional Screening Levels based on a target hazard quotient of 0.1 for conservative screening purposes
(3) USEPA Action Level for lead in soils
(4) Screening level for TPH is 25% of PREQB soil criterion, as proposed in the approved Work Plan dated 12/6/07
(5) Ecological soil screening level for soil invertebrates [USEPA 2007a]
(6) Ecological soil screening level for mammalian herbivores [USEPA 2005a]
(7) Ecological soil screening level for plants [USEPA 2005b]
(8) Ecological soil screening level for soil invertebrates [USEPA 2005c]
(9) Ecological soil screening level for mammalian herbivores [USEPA 2005d]
(10) Ecological soil screening level for avian ground insectivores [USEPA 2005e]
(11) Ecological soil screening level for avian ground insectivores [USEPA 2008]
(12) Ecological soil screening level for plants [USEPA 2005f]
(13) Ecological soil screening level for avian ground insectivores [USEPA 2007b]
(14) Ecological soil screening level for avian ground insectivores [USEPA 2005g]
(15) Toxicological threshold for earthworms [Efroymson et al. 1997a]
(16) Ecological soil screening level for plants [USEPA 2007c]
(17) Ecological soil screening level for plants [USEPA 2007d]
(18) Ecological soil screening level for avian ground insectivores [USEPA 2006]
(19) Toxicological threshold for plants [Efroymson et al. 1997b]
(20) Ecological soil screening level for avian ground insectivores [USEPA 2005h]
(21) Ecological soil screening level for avian ground insectivores [USEPA 2007e]

TABLE 5-1

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - AIRFIELD - SURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

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USEPA. 2007c. Ecological Soil Screening Levels for Nickel (Interim Final). Office of Solid Waste and Emergency Response, Washington, D.C. OSWER Directive 9285.7-76.

USEPA. 2007d. Ecological Soil Screening Levels for Selenium (Interim Final). Office of Solid Waste and Emergency Response, Washington, D.C. OSWER Directive 9285.7-72.

USEPA. 2007e. Ecological Soil Screening Levels for Zinc (Interim Final). Office of Solid Waste and Emergency Response, Washington, D.C. OSWER Directive 9285.7-72.

USEPA. 2006. Ecological Soil Screening Levels for Silver (Interim Final). Office of Solid Waste and Emergency Response, Washington, D.C. OSWEER Directive 9285.7-77.

USEPA. 2005a. Ecological Soil Screening Levels for Antimony (Interim Final). Office of Solid Waste and Emergency Response, Washington, D.C. OSWER Directive 9285.7-61.

USEPA. 2005b. Ecological Soil Screening Levels for Arsenic (Interim Final). Office of Solid Waste and Emergency Response, Washington, D.C.

USEPA. 2005c. Ecological Soil Screening Levels for Barium (Interim Final). Office of Solid Waste and Emergency Response, Washington, D.C. OSWER Directive 9285.7-63.

USEPA. 2005d. Ecological Soil Screening Levels for Beryllium (Interim Final). Office of Solid Waste and Emergency Response, Washington, D.C. OSWER Directive 9285.7-63.

USEPA. 2005e. Ecological Soil Screening Levels for Cadmium (Interim Final). Office of Solid Waste and Emergency Response, Washington, D.C. OSWER Directive 9285.7-62.

USEPA. 2005f. Ecological Soil Screening Levels for Cobalt (Interim Final). Office of Solid Waste and Emergency Response, Washington, D.C. OSWER Directive 9285.7-67

USEPA. 2005g. Ecological Soil Screening Levels for Lead (Interim Final). Office of Solid Waste and Emergency Response, Washington, D.C. OSWER Directive 9285.7-70.

USEPA. 2005h. Ecological Soil Screening Levels for Vanadium (Interim Final). Office of Solid Waste and Emergency Response, Washington, D.C. OSWER Directive 9285.7-75.

TABLE 5-2

SUMMARY OF DETECTED RESULTS - AIRFIELD - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB01 74SB01-02 4/28/2008 3.0 - 5.0	74SB01 74SB01-04 4/28/2008 7.0 - 9.0	74SB02 74SB02-03 4/28/2008 5.0 - 7.0	74SB02 74SB02-05 4/28/2008 9.0 - 11.0	74SB04 74SB04-01 4/28/2008 1.0 - 3.0
Volatile Organic Compounds (ug/kg)									
2-Chloro-1,3-butadiene	860 [2]	3,600 [2]	NE	NE	0.55 UJ	0.68 UJ	0.58 UJ	0.63 UJ	0.49 UJ
Acetone	610,000 [2]	61,000,000 [2]	NE	NE	21 J	5.2 R	23 J	4.9 R	5.8 J
Carbon disulfide	670,000 [2]	300,000 [2]	NE	NE	1.8 J	0.61 U	0.52 U	0.57 U	0.44 U
Chlorobenzene	31,000 [2]	150,000 [2]	40,000 [5]	NE	0.7 U	0.87 U	0.74 U	0.81 U	0.63 U
Chloroform	300	1,500	1,002 [6]	NE	0.48 U	0.6 U	0.51 U	0.56 U	0.43 U
Chloromethane	1,700	8,400	NE	NE	0.68 U	0.85 U	0.72 U	0.79 U	0.62 U
Ethyl methacrylate	7,000,000 [2]	9,200,000 [2]	NE	NE	2.1 U	2.6 U	2.2 U	2.4 U	1.9 U
Ethylbenzene	5,700	29,000	5,003 [6]	NE	0.72 U	0.89 U	0.76 U	0.83 U	0.65 U
Iodomethane	NE	NE	NE	NE	0.96 U	1.2 U	1 U	1.1 U	0.87 U
Isobutyl alcohol	23,000,000 [2]	31,000,000 [2]	NE	NE	66 R	82 R	130 J	77 R	60 R
Methyl methacrylate	4,700,000 [2]	2,000,000 [2]	NE	NE	3.5 U	4.4 U	3.8 U	4.1 U	3.2 U
LLPAHs (ug/kg)									
1-Methylnaphthalene	22,000	99,000	NE	NE	1.5 U	1.6 U	NA	NA	NA
2-Methylnaphthalene	31,000 [2]	410,000 [2]	NE	NE	2.1 U	2.3 U	NA	NA	NA
Acenaphthylene	340,000 [2]	3,300,000 [2]	NE	NE	2.1 U	2.3 U	NA	NA	NA
Anthracene	1,700,000 [2]	170,000 [2]	NE	NE	2.1 U	2.3 U	NA	NA	NA
Benzo[a]anthracene	150	2,100	NE	NE	2.1 U	2.3 U	NA	NA	NA
Benzo[a]pyrene	15	210	NE	NE	0.82 U	0.9 U	NA	NA	NA
Benzo[b]fluoranthene	150	2,100	NE	NE	0.95 U	1 U	NA	NA	NA
Benzo[g,h,i]perylene	1,700	17,000	NE	NE	2.1 U	2.3 U	NA	NA	NA
Benzo[k]fluoranthene	1,500	21,000	NE	NE	1.2 U	1.4 U	NA	NA	NA
Chrysene	15,000	210,000	NE	NE	0.76 U	0.83 U	NA	NA	NA
Dibenz(a,h)anthracene	150	210	NE	NE	0.74 U	0.8 U	NA	NA	NA
Fluoranthene	230,000 [2]	2,200,000 [2]	NE	NE	2.1 U	2.3 U	NA	NA	NA
Fluorene	230,000 [2]	2,200,000 [2]	NE	NE	0.96 U	1.1 U	NA	NA	NA
Indeno[1,2,3-cd]pyrene	150	2,100	NE	NE	1.5 U	1.6 U	NA	NA	NA

TABLE 5-2

SUMMARY OF DETECTED RESULTS - AIRFIELD - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB01 74SB01-02 4/28/2008 3.0 - 5.0	74SB01 74SB01-04 4/28/2008 7.0 - 9.0	74SB02 74SB02-03 4/28/2008 5.0 - 7.0	74SB02 74SB02-05 4/28/2008 9.0 - 11.0	74SB04 74SB04-01 4/28/2008 1.0 - 3.0
LLPAHs (ug/kg)									
Naphthalene	3,900	20,000	NE	NE	0.75 U	0.82 U	NA	NA	NA
Phenanthrene	NE	NE	NE	NE	2.1 U	2.3 U	NA	NA	NA
Pyrene	170,000 [2]	1,700,000 [2]	NE	NE	2.1 U	2.3 U	NA	NA	NA
PAH Totals (ug/kg):									
Low molecular weight PAHs	NE	NE	29,000 [7]	NE	12.32	13.5	NA	NA	NA
High molecular weight PAHs	NE	NE	18,000 [7]	NE	14.37	15.73	NA	NA	NA
Metals (mg/kg)									
Arsenic	0.390	1.60	18 [8]	1.59	***2.2***	**1.5**	***4.9***	***2.2***	**1.2**
Barium	1500 [2]	19,000 [2]	330 [9]	220	61 J	80 J	25 J	23 J	49 J
Beryllium	16 [2]	200 [2]	21 [10]	0.596	0.28	0.088 U	0.17	0.13	0.26
Cadmium	7.0 [2]	81 [2]	0.77 [11]	0.54	0.058 J	0.04 U	0.036 U	0.042 J	0.035 U
Chromium	280	1,400	26 [12]	114.5	24 J	12 J	38 J	23 J	22 J
Cobalt	2.3 [2]	30 [2]	13 [13]	26.9	**20**	**3.9**	**11**	**6.9**	**14**
Copper	310 [2]	4,100 [2]	28 [14]	246	95	82	150	87	67
Lead	400 [3]	800 [3]	11 [15]	6.3	14	1.2	4.6	2.7	3.3
Mercury	2.3 [2]	31 [2]	0.1 [16]	0.108	0.036 J	0.037 J	0.051	0.0051 U	0.05
Nickel	160 [2]	2,000 [2]	38 [17]	24.7	12	21	7	5	7
Selenium	39 [2]	510 [2]	0.52 [18]	5.94	0.5 J	0.62 J	1.2	0.96	0.28 J
Silver	39 [2]	510 [2]	4.2 [19]	NE	0.071 U	0.077 U	0.048 U	0.057 U	0.029 U
Thallium	0.51 [2]	7 [2]	1 [20]	0.92	0.14 U	0.15 U	0.14 U	0.15 U	0.23 J
Vanadium	55 [2]	720 [2]	7.8 [21]	434	**270**	**240**	**430**	**290**	**180**
Zinc	2300 [2]	31,000 [2]	46.0 [22]	88	54	28	35	29	63
TPH DRO/GRO (mg/kg)									
Diesel Range Organics	25 [4]	NE	NE	NE	14	4.3 U	2.6 U	3.5 U	2.1 U
Gasoline Range Organics	25 [4]	NE	NE	NE	2.1	0.073 U	0.067 U	0.074 U	0.055 U
Total TPH	25 [4]	NE	NE	NE	16.1	4.373 U	2.667 U	3.574 U	2.155 U

TABLE 5-2

SUMMARY OF DETECTED RESULTS - AIRFIELD - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB04 74SB04-04 4/28/2008 7.0 - 9.0	74SB05 74SB05-01 4/29/2008 1.0 - 3.0	74SB05 74SB05-01D 4/29/2008 1.0 - 3.0	74SB05 74SB05-02 4/29/2008 3.0 - 5.0	74SB06 74SB06-01 4/29/2008 1.0 - 3.0
Volatile Organic Compounds (ug/kg)									
2-Chloro-1,3-butadiene	860 [2]	3,600 [2]	NE	NE	0.61 UJ	0.59 U	55 UJ	0.69 U	0.56 U
Acetone	610,000 [2]	61,000,000 [2]	NE	NE	4.7 R	15 R	430 R	24 R	20 R
Carbon disulfide	670,000 [2]	300,000 [2]	NE	NE	0.55 U	0.52 U	49 U	0.62 U	0.5 U
Chlorobenzene	31,000 [2]	150,000 [2]	40,000 [5]	NE	0.79 U	0.75 U	71 U	0.89 U	0.72 U
Chloroform	300	1,500	1,002 [6]	NE	0.54 U	0.51 U	48 U	0.61 U	0.49 U
Chloromethane	1,700	8,400	NE	NE	0.76 U	0.73 U	69 U	0.86 U	0.7 U
Ethyl methacrylate	7,000,000 [2]	9,200,000 [2]	NE	NE	2.4 U	2.3 U	210 U	2.7 U	2.2 U
Ethylbenzene	5,700	29,000	5,003 [6]	NE	0.81 U	0.77 U	73 U	0.91 U	0.74 U
Iodomethane	NE	NE	NE	NE	1.1 U	1 U	97 U	1.2 U	0.99 U
Isobutyl alcohol	23,000,000 [2]	31,000,000 [2]	NE	NE	74 R	71 R	6,700 R	84 R	68 R
Methyl methacrylate	4,700,000 [2]	2,000,000 [2]	NE	NE	4 U	3.8 UJ	360 U	4.5 UJ	3.7 UJ
LLPAHs (ug/kg)									
1-Methylnaphthalene	22,000	99,000	NE	NE	NA	NA	NA	NA	NA
2-Methylnaphthalene	31,000 [2]	410,000 [2]	NE	NE	NA	NA	NA	NA	NA
Acenaphthylene	340,000 [2]	3,300,000 [2]	NE	NE	NA	NA	NA	NA	NA
Anthracene	1,700,000 [2]	170,000 [2]	NE	NE	NA	NA	NA	NA	NA
Benzo[a]anthracene	150	2,100	NE	NE	NA	NA	NA	NA	NA
Benzo[a]pyrene	15	210	NE	NE	NA	NA	NA	NA	NA
Benzo[b]fluoranthene	150	2,100	NE	NE	NA	NA	NA	NA	NA
Benzo[g,h,i]perylene	1,700	17,000	NE	NE	NA	NA	NA	NA	NA
Benzo[k]fluoranthene	1,500	21,000	NE	NE	NA	NA	NA	NA	NA
Chrysene	15,000	210,000	NE	NE	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	150	210	NE	NE	NA	NA	NA	NA	NA
Fluoranthene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	NA	NA	NA
Fluorene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	NA	NA	NA
Indeno[1,2,3-cd]pyrene	150	2,100	NE	NE	NA	NA	NA	NA	NA

TABLE 5-2

SUMMARY OF DETECTED RESULTS - AIRFIELD - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB04 74SB04-04 4/28/2008 7.0 - 9.0	74SB05 74SB05-01 4/29/2008 1.0 - 3.0	74SB05 74SB05-01D 4/29/2008 1.0 - 3.0	74SB05 74SB05-02 4/29/2008 3.0 - 5.0	74SB06 74SB06-01 4/29/2008 1.0 - 3.0
LLPAHs (ug/kg)									
Naphthalene	3,900	20,000	NE	NE	NA	NA	NA	NA	NA
Phenanthrene	NE	NE	NE	NE	NA	NA	NA	NA	NA
Pyrene	170,000 [2]	1,700,000 [2]	NE	NE	NA	NA	NA	NA	NA
PAH Totals (ug/kg):									
Low molecular weight PAHs	NE	NE	29,000 [7]	NE	NA	NA	NA	NA	NA
High molecular weight PAHs	NE	NE	18,000 [7]	NE	NA	NA	NA	NA	NA
Metals (mg/kg)									
Arsenic	0.390	1.60	18 [8]	1.59	***3.4***	***2.2***	***2.1***	***2.8***	***2.1***
Barium	1500 [2]	19,000 [2]	330 [9]	220	18 J	47 J	68 J	74 J	55 J
Beryllium	16 [2]	200 [2]	21 [10]	0.596	0.14	0.21	0.19	0.25	0.23
Cadmium	7.0 [2]	81 [2]	0.77 [11]	0.54	0.033 U	0.16 J	0.22 J	0.22 J	0.23 J
Chromium	280	1,400	26 [12]	114.5	34 J	29	38	62	36
Cobalt	2.3 [2]	30 [2]	13 [13]	26.9	**4.7**	**24** J	**29** J	**27**	**27**
Copper	310 [2]	4,100 [2]	28 [14]	246	100	95	110	99	110
Lead	400 [3]	800 [3]	11 [15]	6.3	3.6	22 J	12 J	27 J	17 J
Mercury	2.3 [2]	31 [2]	0.1 [16]	0.108	0.41	0.004 U	0.0043 U	0.0047 J	0.0042 U
Nickel	160 [2]	2,000 [2]	38 [17]	24.7	4.1	20	21	22	21
Selenium	39 [2]	510 [2]	0.52 [18]	5.94	1.1	0.2 J	0.13 U	0.22 J	0.19 J
Silver	39 [2]	510 [2]	4.2 [19]	NE	0.051 U	0.057 J	0.061 J	0.053 J	0.056 J
Thallium	0.51 [2]	7 [2]	1 [20]	0.92	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
Vanadium	55 [2]	720 [2]	7.8 [21]	434	**330**	**170**	**170**	**200**	**190**
Zinc	2300 [2]	31,000 [2]	46.0 [22]	88	27	94	89	87	96
TPH DRO/GRO (mg/kg)									
Diesel Range Organics	25 [4]	NE	NE	NE	2.9 U	14	10	2.9 U	3.6 U
Gasoline Range Organics	25 [4]	NE	NE	NE	0.06 U	0.055 UJ	**340** J	**36** J	0.096 J
Total TPH	25 [4]	NE	NE	NE	2.96 U	14	**350** J	**36** J	0.096 J

TABLE 5-2

SUMMARY OF DETECTED RESULTS - AIRFIELD - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB06 74SB06-02 4/29/2008 3.0 - 5.0	74SB07 74SB07-02 4/29/2008 3.0 - 5.0	74SB07 74SB07-04 4/29/2008 7.0 - 9.0	74SB09 74SB09-02 4/29/2008 3.0 - 5.0	74SB09 74SB09-05 4/29/2008 9.0 - 11.0
Volatile Organic Compounds (ug/kg)									
2-Chloro-1,3-butadiene	860 [2]	3,600 [2]	NE	NE	110 UJ	0.69 U	0.57 U	0.56 U	5.2
Acetone	610,000 [2]	61,000,000 [2]	NE	NE	1,800 R	91 R	63 R	38 R	40 R
Carbon disulfide	670,000 [2]	300,000 [2]	NE	NE	95 U	1.2 J	0.51 U	0.5 U	0.47 U
Chlorobenzene	31,000 [2]	150,000 [2]	40,000 [5]	NE	140 U	0.88 U	0.74 U	0.71 U	0.68 U
Chloroform	300	1,500	1,002 [6]	NE	93 U	0.6 U	0.5 U	0.49 U	0.46 U
Chloromethane	1,700	8,400	NE	NE	130 U	0.86 U	0.72 U	0.69 U	0.66 U
Ethyl methacrylate	7,000,000 [2]	9,200,000 [2]	NE	NE	410 U	2.7 U	2.2 U	2.1 U	2 U
Ethylbenzene	5,700	29,000	5,003 [6]	NE	140 U	0.91 U	0.76 U	0.73 U	0.69 U
Iodomethane	NE	NE	NE	NE	190 U	1.2 U	1 U	0.97 U	0.93 U
Isobutyl alcohol	23,000,000 [2]	31,000,000 [2]	NE	NE	13,000 R	83 R	70 R	67 R	64 R
Methyl methacrylate	4,700,000 [2]	2,000,000 [2]	NE	NE	690 U	4.5 UJ	3.7 UJ	3.6 UJ	3.4 UJ
LLPAHs (ug/kg)									
1-Methylnaphthalene	22,000	99,000	NE	NE	NA	NA	NA	NA	NA
2-Methylnaphthalene	31,000 [2]	410,000 [2]	NE	NE	NA	NA	NA	NA	NA
Acenaphthylene	340,000 [2]	3,300,000 [2]	NE	NE	NA	NA	NA	NA	NA
Anthracene	1,700,000 [2]	170,000 [2]	NE	NE	NA	NA	NA	NA	NA
Benzo[a]anthracene	150	2,100	NE	NE	NA	NA	NA	NA	NA
Benzo[a]pyrene	15	210	NE	NE	NA	NA	NA	NA	NA
Benzo[b]fluoranthene	150	2,100	NE	NE	NA	NA	NA	NA	NA
Benzo[g,h,i]perylene	1,700	17,000	NE	NE	NA	NA	NA	NA	NA
Benzo[k]fluoranthene	1,500	21,000	NE	NE	NA	NA	NA	NA	NA
Chrysene	15,000	210,000	NE	NE	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	150	210	NE	NE	NA	NA	NA	NA	NA
Fluoranthene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	NA	NA	NA
Fluorene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	NA	NA	NA
Indeno[1,2,3-cd]pyrene	150	2,100	NE	NE	NA	NA	NA	NA	NA

TABLE 5-2

SUMMARY OF DETECTED RESULTS - AIRFIELD - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB06 74SB06-02 4/29/2008 3.0 - 5.0	74SB07 74SB07-02 4/29/2008 3.0 - 5.0	74SB07 74SB07-04 4/29/2008 7.0 - 9.0	74SB09 74SB09-02 4/29/2008 3.0 - 5.0	74SB09 74SB09-05 4/29/2008 9.0 - 11.0
LLPAHs (ug/kg)									
Naphthalene	3,900	20,000	NE	NE	NA	NA	NA	NA	NA
Phenanthrene	NE	NE	NE	NE	NA	NA	NA	NA	NA
Pyrene	170,000 [2]	1,700,000 [2]	NE	NE	NA	NA	NA	NA	NA
PAH Totals (ug/kg):									
Low molecular weight PAHs	NE	NE	29,000 [7]	NE	NA	NA	NA	NA	NA
High molecular weight PAHs	NE	NE	18,000 [7]	NE	NA	NA	NA	NA	NA
Metals (mg/kg)									
Arsenic	0.390	1.60	18 [8]	1.59	***4.8***	***2.1***	**1.6**	***1.8***	**1.4**
Barium	1500 [2]	19,000 [2]	330 [9]	220	53 J	26 J	24 J	61 J	93 J
Beryllium	16 [2]	200 [2]	21 [10]	0.596	0.24	0.27	0.23	0.38	0.26
Cadmium	7.0 [2]	81 [2]	0.77 [11]	0.54	0.25 J	0.035 UJ	0.048 J	0.056 J	0.051 J
Chromium	280	1,400	26 [12]	114.5	29	29	22	23	20
Cobalt	2.3 [2]	30 [2]	13 [13]	26.9	**26**	**26**	**13**	**18**	**25**
Copper	310 [2]	4,100 [2]	28 [14]	246	100	120	100	110	94
Lead	400 [3]	800 [3]	11 [15]	6.3	24 J	3.5 J	2.6 J	2.5 J	2.7 J
Mercury	2.3 [2]	31 [2]	0.1 [16]	0.108	0.0041 U	0.025	0.027	0.038	0.016 J
Nickel	160 [2]	2,000 [2]	38 [17]	24.7	19	8.6	8.3	11	8.4
Selenium	39 [2]	510 [2]	0.52 [18]	5.94	0.29 J	0.76	0.51 J	0.37 J	0.39 J
Silver	39 [2]	510 [2]	4.2 [19]	NE	0.14 J	0.042 J	0.053 J	0.024 J	0.036 J
Thallium	0.51 [2]	7 [2]	1 [20]	0.92	0.14 U	0.2 J	0.18 J	0.13 U	0.14 U
Vanadium	55 [2]	720 [2]	7.8 [21]	434	**170**	**330**	**270**	**320**	**310**
Zinc	2300 [2]	31,000 [2]	46.0 [22]	88	72	52	51	50	40
TPH DRO/GRO (mg/kg)									
Diesel Range Organics	25 [4]	NE	NE	NE	**100**	2.9 U	1.7 U	3.2 U	3.1 U
Gasoline Range Organics	25 [4]	NE	NE	NE	**350** J	0.065 U	0.057 U	0.062 U	0.057 U
Total TPH	25 [4]	NE	NE	NE	**450** J	2.965 U	1.757 U	3.262 U	3.157 U

TABLE 5-2

SUMMARY OF DETECTED RESULTS - AIRFIELD - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB10 74SB10-02 4/29/2008 3.0 - 5.0	74SB10 74SB10-04 4/29/2008 7.0 - 9.0	74SB11 74SB11-02 4/30/2008 3.0 - 5.0	74SB11 74SB11-04 4/30/2008 7.0 - 9.0	74SB11 74SB11-04D 4/30/2008 7.0 - 9.0
Volatile Organic Compounds (ug/kg)									
2-Chloro-1,3-butadiene	860 [2]	3,600 [2]	NE	NE	0.51 U	0.52 U	0.54 U	0.62 U	0.59 U
Acetone	610,000 [2]	61,000,000 [2]	NE	NE	50 R	24 R	34 J	40 J	50 R
Carbon disulfide	670,000 [2]	300,000 [2]	NE	NE	0.46 U	0.47 U	0.78 J	0.56 U	0.53 U
Chlorobenzene	31,000 [2]	150,000 [2]	40,000 [5]	NE	0.65 U	0.67 U	0.69 U	0.8 U	0.75 U
Chloroform	300	1,500	1,002 [6]	NE	0.45 U	0.46 U	0.47 U	0.55 U	0.52 U
Chloromethane	1,700	8,400	NE	NE	0.63 U	0.65 U	0.67 U	0.78 U	0.73 U
Ethyl methacrylate	7,000,000 [2]	9,200,000 [2]	NE	NE	2 U	2 U	2.1 U	2.4 U	2.3 U
Ethylbenzene	5,700	29,000	5,003 [6]	NE	0.67 U	0.69 U	0.71 U	0.82 U	0.77 U
Iodomethane	NE	NE	NE	NE	0.89 U	0.92 U	0.95 U	1.1 U	1.9 J
Isobutyl alcohol	23,000,000 [2]	31,000,000 [2]	NE	NE	62 R	63 R	65 R	76 R	71 R
Methyl methacrylate	4,700,000 [2]	2,000,000 [2]	NE	NE	3.3 UJ	3.4 UJ	3.5 U	4.1 U	3.8 UJ
LLPAHs (ug/kg)									
1-Methylnaphthalene	22,000	99,000	NE	NE	NA	NA	NA	1.6 U	1.5 U
2-Methylnaphthalene	31,000 [2]	410,000 [2]	NE	NE	NA	NA	NA	2.3 U	2.1 U
Acenaphthylene	340,000 [2]	3,300,000 [2]	NE	NE	NA	NA	NA	2.3 U	2.1 U
Anthracene	1,700,000 [2]	170,000 [2]	NE	NE	NA	NA	NA	2.3 U	2.1 U
Benzo[a]anthracene	150	2,100	NE	NE	NA	NA	NA	2.3 U	2.1 U
Benzo[a]pyrene	15	210	NE	NE	NA	NA	NA	0.88 U	0.8 U
Benzo[b]fluoranthene	150	2,100	NE	NE	NA	NA	NA	1 U	0.92 U
Benzo[g,h,i]perylene	1,700	17,000	NE	NE	NA	NA	NA	2.3 U	2.1 U
Benzo[k]fluoranthene	1,500	21,000	NE	NE	NA	NA	NA	1.3 U	1.2 U
Chrysene	15,000	210,000	NE	NE	NA	NA	NA	1 J	0.74 U
Dibenz(a,h)anthracene	150	210	NE	NE	NA	NA	NA	0.79 U	0.72 U
Fluoranthene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	NA	2.3 U	2.1 U
Fluorene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	NA	1 U	2.2 J
Indeno[1,2,3-cd]pyrene	150	2,100	NE	NE	NA	NA	NA	1.6 U	1.5 U

TABLE 5-2

SUMMARY OF DETECTED RESULTS - AIRFIELD - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB10 74SB10-02 4/29/2008 3.0 - 5.0	74SB10 74SB10-04 4/29/2008 7.0 - 9.0	74SB11 74SB11-02 4/30/2008 3.0 - 5.0	74SB11 74SB11-04 4/30/2008 7.0 - 9.0	74SB11 74SB11-04D 4/30/2008 7.0 - 9.0
LLPAHs (ug/kg)									
Naphthalene	3,900	20,000	NE	NE	NA	NA	NA	0.8 U	0.73 U
Phenanthrene	NE	NE	NE	NE	NA	NA	NA	2.3 U	2.1 U
Pyrene	170,000 [2]	1,700,000 [2]	NE	NE	NA	NA	NA	2.3 U	2.1 U
PAH Totals (ug/kg):									
Low molecular weight PAHs	NE	NE	29,000 [7]	NE	NA	NA	NA	13.36	13.52
High molecular weight PAHs	NE	NE	18,000 [7]	NE	NA	NA	NA	15.77	14.28
Metals (mg/kg)									
Arsenic	0.390	1.60	18 [8]	1.59	***1.9***	**1.4**	***1.7***	***2.2***	***2***
Barium	1500 [2]	19,000 [2]	330 [9]	220	51 J	120 J	130 J	31 J	24 J
Beryllium	16 [2]	200 [2]	21 [10]	0.596	0.21	0.3	0.36	0.15	0.22
Cadmium	7.0 [2]	81 [2]	0.77 [11]	0.54	0.21 J	0.13 J	0.13 J	0.083 J	0.053 J
Chromium	280	1,400	26 [12]	114.5	36	21	22	19 J	36 J
Cobalt	2.3 [2]	30 [2]	13 [13]	26.9	**27**	***31***	***49***	**11** J	**6.9** J
Copper	310 [2]	4,100 [2]	28 [14]	246	100	100	110	260 J	160 J
Lead	400 [3]	800 [3]	11 [15]	6.3	14 J	2.6 J	2.7 J	2.8 J	3.2 J
Mercury	2.3 [2]	31 [2]	0.1 [16]	0.108	0.0044 U	0.058	0.035	0.042 R	0.11 R
Nickel	160 [2]	2,000 [2]	38 [17]	24.7	21	9.5	13	13 J	8.2 J
Selenium	39 [2]	510 [2]	0.52 [18]	5.94	0.2 J	0.4 J	0.43 J	0.91	0.73
Silver	39 [2]	510 [2]	4.2 [19]	NE	0.039 J	0.036 J	0.035 J	0.042 J	0.067 J
Thallium	0.51 [2]	7 [2]	1 [20]	0.92	0.13 U	0.15 J	0.18 J	0.14 U	0.16 J
Vanadium	55 [2]	720 [2]	7.8 [21]	434	**200**	**330**	**300**	**400** J	**280** J
Zinc	2300 [2]	31,000 [2]	46.0 [22]	88	80	50	56	70	77
TPH DRO/GRO (mg/kg)									
Diesel Range Organics	25 [4]	NE	NE	NE	2.3 U	2 U	2.3 U	1.2 U	1.5 U
Gasoline Range Organics	25 [4]	NE	NE	NE	0.059 J	0.059 U	0.055 U	0.064 U	0.06 U
Total TPH	25 [4]	NE	NE	NE	0.059 J	2.059 U	2.355 U	1.264 U	1.56 U

TABLE 5-2

SUMMARY OF DETECTED RESULTS - AIRFIELD - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB12 74SB12-03 4/30/2008 5.0 - 7.0	74SB12 74SB12-05 4/30/2008 9.0 - 11.0	74SB13 74SB13-02 4/30/2008 3.0 - 5.0	74SB13 74SB13-04 4/30/2008 7.0 - 9.0	74SB14 74SB14-02 4/30/2008 3.0 - 5.0
Volatile Organic Compounds (ug/kg)									
2-Chloro-1,3-butadiene	860 [2]	3,600 [2]	NE	NE	0.53 U	0.55 U	0.56 U	0.59 U	0.58 U
Acetone	610,000 [2]	61,000,000 [2]	NE	NE	160 J	55 J	170 J	120 J	220 J
Carbon disulfide	670,000 [2]	300,000 [2]	NE	NE	0.48 U	0.62 J	0.69 J	0.53 U	0.52 U
Chlorobenzene	31,000 [2]	150,000 [2]	40,000 [5]	NE	0.68 U	0.71 U	0.71 U	0.76 U	0.75 U
Chloroform	300	1,500	1,002 [6]	NE	0.47 U	0.49 U	0.49 U	0.52 U	0.51 U
Chloromethane	1,700	8,400	NE	NE	0.67 U	0.69 U	0.69 U	0.74 U	0.72 U
Ethyl methacrylate	7,000,000 [2]	9,200,000 [2]	NE	NE	2.1 U	2.1 UJ	2.2 U	2.3 U	2.2 U
Ethylbenzene	5,700	29,000	5,003 [6]	NE	0.7 U	0.73 U	0.73 U	0.78 U	0.77 U
Iodomethane	NE	NE	NE	NE	0.94 U	0.97 U	0.98 U	1 U	1.1 J
Isobutyl alcohol	23,000,000 [2]	31,000,000 [2]	NE	NE	65 R	67 R	68 R	72 R	70 R
Methyl methacrylate	4,700,000 [2]	2,000,000 [2]	NE	NE	3.5 UJ	3.6 UJ	3.6 U	3.9 U	3.8 U
LLPAHs (ug/kg)									
1-Methylnaphthalene	22,000	99,000	NE	NE	NA	NA	NA	NA	NA
2-Methylnaphthalene	31,000 [2]	410,000 [2]	NE	NE	NA	NA	NA	NA	NA
Acenaphthylene	340,000 [2]	3,300,000 [2]	NE	NE	NA	NA	NA	NA	NA
Anthracene	1,700,000 [2]	170,000 [2]	NE	NE	NA	NA	NA	NA	NA
Benzo[a]anthracene	150	2,100	NE	NE	NA	NA	NA	NA	NA
Benzo[a]pyrene	15	210	NE	NE	NA	NA	NA	NA	NA
Benzo[b]fluoranthene	150	2,100	NE	NE	NA	NA	NA	NA	NA
Benzo[g,h,i]perylene	1,700	17,000	NE	NE	NA	NA	NA	NA	NA
Benzo[k]fluoranthene	1,500	21,000	NE	NE	NA	NA	NA	NA	NA
Chrysene	15,000	210,000	NE	NE	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	150	210	NE	NE	NA	NA	NA	NA	NA
Fluoranthene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	NA	NA	NA
Fluorene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	NA	NA	NA
Indeno[1,2,3-cd]pyrene	150	2,100	NE	NE	NA	NA	NA	NA	NA

TABLE 5-2

SUMMARY OF DETECTED RESULTS - AIRFIELD - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB12 74SB12-03 4/30/2008 5.0 - 7.0	74SB12 74SB12-05 4/30/2008 9.0 - 11.0	74SB13 74SB13-02 4/30/2008 3.0 - 5.0	74SB13 74SB13-04 4/30/2008 7.0 - 9.0	74SB14 74SB14-02 4/30/2008 3.0 - 5.0
LLPAHs (ug/kg)									
Naphthalene	3,900	20,000	NE	NE	NA	NA	NA	NA	NA
Phenanthrene	NE	NE	NE	NE	NA	NA	NA	NA	NA
Pyrene	170,000 [2]	1,700,000 [2]	NE	NE	NA	NA	NA	NA	NA
PAH Totals (ug/kg):									
Low molecular weight PAHs	NE	NE	29,000 [7]	NE	NA	NA	NA	NA	NA
High molecular weight PAHs	NE	NE	18,000 [7]	NE	NA	NA	NA	NA	NA
Metals (mg/kg)									
Arsenic	0.390	1.60	18 [8]	1.59	***3.9***	**1.4**	***2.1***	***2.7***	***2.2***
Barium	1500 [2]	19,000 [2]	330 [9]	220	63 J	32 J	250 J	36 J	660
Beryllium	16 [2]	200 [2]	21 [10]	0.596	0.23	0.28	0.24	0.19	0.24
Cadmium	7.0 [2]	81 [2]	0.77 [11]	0.54	0.08 J	0.034 UJ	0.13 J	0.042 J	0.26 J
Chromium	280	1,400	26 [12]	114.5	40	23	38	39	47 J
Cobalt	2.3 [2]	30 [2]	13 [13]	26.9	**14**	**13**	***34***	**5.3**	***53*** J
Copper	310 [2]	4,100 [2]	28 [14]	246	230	100	100	140	98
Lead	400 [3]	800 [3]	11 [15]	6.3	5.9 J	2.4 J	4 J	4.9 J	5.1 R
Mercury	2.3 [2]	31 [2]	0.1 [16]	0.108	0.11	0.036	0.065	0.13	0.058
Nickel	160 [2]	2,000 [2]	38 [17]	24.7	8.2	9.1	9	6.2	10
Selenium	39 [2]	510 [2]	0.52 [18]	5.94	0.9	0.49 J	1.4	1.2	0.81
Silver	39 [2]	510 [2]	4.2 [19]	NE	0.048 J	0.042 J	0.1 J	0.055 U	0.11 U
Thallium	0.51 [2]	7 [2]	1 [20]	0.92	0.17 J	0.13 U	0.32 J	0.14 U	**0.71**
Vanadium	55 [2]	720 [2]	7.8 [21]	434	**510**	**270**	**270**	**310**	**250**
Zinc	2300 [2]	31,000 [2]	46.0 [22]	88	41	48	57	31	48
TPH DRO/GRO (mg/kg)									
Diesel Range Organics	25 [4]	NE	NE	NE	2.2 U	1.9 U	4 U	1.9 U	3.5 U
Gasoline Range Organics	25 [4]	NE	NE	NE	0.065 J	0.061 J	0.11 J	0.072 J	0.15 J
Total TPH	25 [4]	NE	NE	NE	0.065 J	0.061 J	0.11 J	0.072 J	0.15 J

TABLE 5-2

SUMMARY OF DETECTED RESULTS - AIRFIELD - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB14 74SB14-03 4/30/2008 5.0 - 7.0	74SB15 74SB15-02 4/30/2008 3.0 - 5.0	74SB15 74SB15-03 4/30/2008 5.0 - 7.0	74SB16 74SB16-02 4/30/2008 3.0 - 5.0	74SB16 74SB16-04 4/30/2008 7.0 - 9.0
Volatile Organic Compounds (ug/kg)									
2-Chloro-1,3-butadiene	860 [2]	3,600 [2]	NE	NE	0.62 U	0.52 U	0.6 U	0.61 U	26 U
Acetone	610,000 [2]	61,000,000 [2]	NE	NE	230 J	77 J	51 J	68 R	920 R
Carbon disulfide	670,000 [2]	300,000 [2]	NE	NE	0.55 U	0.46 U	0.53 U	1 J	23 U
Chlorobenzene	31,000 [2]	150,000 [2]	40,000 [5]	NE	0.79 U	0.66 U	0.76 U	0.78 U	33 U
Chloroform	300	1,500	1,002 [6]	NE	0.54 U	0.46 U	0.52 U	0.53 U	23 U
Chloromethane	1,700	8,400	NE	NE	0.77 U	0.65 U	0.74 U	0.76 U	32 U
Ethyl methacrylate	7,000,000 [2]	9,200,000 [2]	NE	NE	2.4 U	2 U	2.3 U	2.4 U	99 UJ
Ethylbenzene	5,700	29,000	5,003 [6]	NE	0.81 U	0.68 U	0.78 U	0.8 U	34 U
Iodomethane	NE	NE	NE	NE	5.7	0.91 U	1 U	1.1 U	45 UJ
Isobutyl alcohol	23,000,000 [2]	31,000,000 [2]	NE	NE	75 R	63 R	72 R	74 R	3,100 R
Methyl methacrylate	4,700,000 [2]	2,000,000 [2]	NE	NE	4 U	3.4 U	3.9 U	4 U	170 UJ
LLPAHs (ug/kg)									
1-Methylnaphthalene	22,000	99,000	NE	NE	NA	NA	NA	NA	15 U
2-Methylnaphthalene	31,000 [2]	410,000 [2]	NE	NE	NA	NA	NA	NA	21 U
Acenaphthylene	340,000 [2]	3,300,000 [2]	NE	NE	NA	NA	NA	NA	21 U
Anthracene	1,700,000 [2]	170,000 [2]	NE	NE	NA	NA	NA	NA	21 U
Benzo[a]anthracene	150	2,100	NE	NE	NA	NA	NA	NA	21 U
Benzo[a]pyrene	15	210	NE	NE	NA	NA	NA	NA	14 J
Benzo[b]fluoranthene	150	2,100	NE	NE	NA	NA	NA	NA	13 J
Benzo[g,h,i]perylene	1,700	17,000	NE	NE	NA	NA	NA	NA	21 U
Benzo[k]fluoranthene	1,500	21,000	NE	NE	NA	NA	NA	NA	14 J
Chrysene	15,000	210,000	NE	NE	NA	NA	NA	NA	14 J
Dibenz(a,h)anthracene	150	210	NE	NE	NA	NA	NA	NA	12 J
Fluoranthene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	NA	NA	21 U
Fluorene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	NA	NA	83 J
Indeno[1,2,3-cd]pyrene	150	2,100	NE	NE	NA	NA	NA	NA	15 U

TABLE 5-2

SUMMARY OF DETECTED RESULTS - AIRFIELD - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB14 74SB14-03 4/30/2008 5.0 - 7.0	74SB15 74SB15-02 4/30/2008 3.0 - 5.0	74SB15 74SB15-03 4/30/2008 5.0 - 7.0	74SB16 74SB16-02 4/30/2008 3.0 - 5.0	74SB16 74SB16-04 4/30/2008 7.0 - 9.0
LLPAHs (ug/kg)									
Naphthalene	3,900	20,000	NE	NE	NA	NA	NA	NA	7.5 U
Phenanthrene	NE	NE	NE	NE	NA	NA	NA	NA	21 U
Pyrene	170,000 [2]	1,700,000 [2]	NE	NE	NA	NA	NA	NA	21 U
PAH Totals (ug/kg):									
Low molecular weight PAHs	NE	NE	29,000 [7]	NE	NA	NA	NA	NA	196.7
High molecular weight PAHs	NE	NE	18,000 [7]	NE	NA	NA	NA	NA	166
Metals (mg/kg)									
Arsenic	0.390	1.60	18 [8]	1.59	***3.6***	***2.9***	**1.1**	***3.1***	**1.5**
Barium	1500 [2]	19,000 [2]	330 [9]	220	55	85	76	50	70
Beryllium	16 [2]	200 [2]	21 [10]	0.596	0.36	0.36	0.17	0.43	0.16
Cadmium	7.0 [2]	81 [2]	0.77 [11]	0.54	0.089 J	0.16 J	0.034 UJ	0.16 J	0.037 UJ
Chromium	280	1,400	26 [12]	114.5	63 J	90 J	56 J	57 J	52 J
Cobalt	2.3 [2]	30 [2]	13 [13]	26.9	**11** J	**21** J	**3.9** J	***34*** J	1.6 J
Copper	310 [2]	4,100 [2]	28 [14]	246	140	140	73	160	160
Lead	400 [3]	800 [3]	11 [15]	6.3	11 R	6.5 R	3.4 R	4 R	2 R
Mercury	2.3 [2]	31 [2]	0.1 [16]	0.108	0.16	0.097	0.32	0.046	0.067
Nickel	160 [2]	2,000 [2]	38 [17]	24.7	9.7	9.7	5.5	10	3.4
Selenium	39 [2]	510 [2]	0.52 [18]	5.94	1.1	0.93	0.65	1	1.2
Silver	39 [2]	510 [2]	4.2 [19]	NE	0.035 U	0.089 U	0.25	0.071 U	0.047 U
Thallium	0.51 [2]	7 [2]	1 [20]	0.92	0.17 J	0.22 J	0.21 J	**0.54**	0.14 U
Vanadium	55 [2]	720 [2]	7.8 [21]	434	**370**	**390**	**180**	**250**	**220**
Zinc	2300 [2]	31,000 [2]	46.0 [22]	88	46	73	20	39	13
TPH DRO/GRO (mg/kg)									
Diesel Range Organics	25 [4]	NE	NE	NE	2.2 U	2.7 U	1.8 U	3.7 U	**91** J
Gasoline Range Organics	25 [4]	NE	NE	NE	0.089 J	0.066 J	0.066 J	0.26	**130** J
Total TPH	25 [4]	NE	NE	NE	0.089 J	0.066 J	0.066 J	0.26	**221** J

TABLE 5-2

SUMMARY OF DETECTED RESULTS - AIRFIELD - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB16 74SB16-04D 4/30/2008 7.0 - 9.0	74SB22 74SB22-03 5/3/2008 5.0 -7.0	74SB22 74SB22-03D 5/3/2008 5.0 -7.0	74SB22 74SB22-04 5/3/2008 7.0 - 9.0	74SB23 74SB23-02 5/3/2008 3.0 - 5.0	74SB23 74SB23-03 5/3/2008 5.0 -7.0
Volatile Organic Compounds (ug/kg)										
2-Chloro-1,3-butadiene	860 [2]	3,600 [2]	NE	NE	0.64 U	22 U	0.59 U	24 U	0.54 U	23 U
Acetone	610,000 [2]	61,000,000 [2]	NE	NE	39 J	420 R	54 J	440 R	34 J	180 R
Carbon disulfide	670,000 [2]	300,000 [2]	NE	NE	0.97 J	20 U	0.52 U	21 U	0.49 U	21 U
Chlorobenzene	31,000 [2]	150,000 [2]	40,000 [5]	NE	0.83 U	29 U	0.75 U	30 U	0.7 U	30 U
Chloroform	300	1,500	1,002 [6]	NE	0.57 U	20 U	0.51 U	21 U	0.48 U	20 U
Chloromethane	1,700	8,400	NE	NE	0.8 U	28 U	0.73 U	29 U	0.68 U	29 U
Ethyl methacrylate	7,000,000 [2]	9,200,000 [2]	NE	NE	17 J	86 U	2.3 UJ	91 U	2.1 UJ	90 U
Ethylbenzene	5,700	29,000	5,003 [6]	NE	0.85 U	29 U	0.77 U	31 U	0.72 U	31 U
Iodomethane	NE	NE	NE	NE	1.1 U	39 UJ	1 U	41 UJ	0.96 U	41 UJ
Isobutyl alcohol	23,000,000 [2]	31,000,000 [2]	NE	NE	240 J	2,700 R	71 R	2,800 R	66 R	2,800 R
Methyl methacrylate	4,700,000 [2]	2,000,000 [2]	NE	NE	17 J	150 U	3.8 UJ	150 U	3.5 UJ	150 U
LLPAHs (ug/kg)										
1-Methylnaphthalene	22,000	99,000	NE	NE	16 R	16 U	17 R	7,900	37 J	1,100
2-Methylnaphthalene	31,000 [2]	410,000 [2]	NE	NE	22 R	22 U	23 R	8,800	36 J	1,400
Acenaphthylene	340,000 [2]	3,300,000 [2]	NE	NE	22 R	22 U	7.8 R	220	22 U	22 U
Anthracene	1,700,000 [2]	170,000 [2]	NE	NE	22 R	200 J	23 R	150	22 U	70 J
Benzo[a]anthracene	150	2,100	NE	NE	22 R	**630** J	**250** J	**230**	22 U	120
Benzo[a]pyrene	15	210	NE	NE	8.6 R	***390*** J	**160** J	**160**	8.6 U	**71** J
Benzo[b]fluoranthene	150	2,100	NE	NE	9.9 R	**860** J	**290** J	**350**	9.9 U	130
Benzo[g,h,i]perylene	1,700	17,000	NE	NE	22 R	130	78 J	69 J	22 U	29 J
Benzo[k]fluoranthene	1,500	21,000	NE	NE	13 R	13 UJ	170 J	13 U	13 U	13 U
Chrysene	15,000	210,000	NE	NE	8 R	620 J	300 J	240	7.9 U	91
Dibenz(a,h)anthracene	150	210	NE	NE	7.7 R	58 J	34 J	30 J	7.7 U	12 J
Fluoranthene	230,000 [2]	2,200,000 [2]	NE	NE	22 R	1,400 J	480 J	550	22 U	250
Fluorene	230,000 [2]	2,200,000 [2]	NE	NE	60 J	200 J	52 J	230	10 U	79 J
Indeno[1,2,3-cd]pyrene	150	2,100	NE	NE	16 R	130	84 J	62 J	16 U	32 J

TABLE 5-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - AIRFIELD - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB16 74SB16-04D 4/30/2008 7.0 - 9.0	74SB22 74SB22-03 5/3/2008 5.0 -7.0	74SB22 74SB22-03D 5/3/2008 5.0 -7.0	74SB22 74SB22-04 5/3/2008 7.0 - 9.0	74SB23 74SB23-02 5/3/2008 3.0 - 5.0	74SB23 74SB23-03 5/3/2008 5.0 -7.0
LLPAHs (ug/kg)										
Naphthalene	3,900	20,000	NE	NE	7.8 R	7.9 U	8.3 R	8 U	7.8 U	7.7 U
Phenanthrene	NE	NE	NE	NE	22 R	430 J	23 R	460	22 U	230
Pyrene	170,000 [2]	1,700,000 [2]	NE	NE	22 R	1,400 J	680 J	510	22 U	220
PAH Totals (ug/kg):										
Low molecular weight PAHs	NE	NE	29,000 [7]	NE	60	905.4	52	17775.6	164.2	2916.1
High molecular weight PAHs	NE	NE	18,000 [7]	NE	NA	5631	2526	2214	151.1	968
Metals (mg/kg)										
Arsenic	0.390	1.60	18 [8]	1.59	***1.6***	***2***	***3.1***	***3.6***	***2.6***	***2.9***
Barium	1500 [2]	19,000 [2]	330 [9]	220	87	310 J	350	440	170	27
Beryllium	16 [2]	200 [2]	21 [10]	0.596	0.17	0.26 J	0.56 J	0.65	0.37	0.3
Cadmium	7.0 [2]	81 [2]	0.77 [11]	0.54	0.037 UJ	0.039 U	0.096 J	0.051 J	0.092 J	0.036 U
Chromium	280	1,400	26 [12]	114.5	40 J	37 J	82 J	53	42	60
Cobalt	2.3 [2]	30 [2]	13 [13]	26.9	2 J	8.8 R	57 R	***57***	**22**	**10**
Copper	310 [2]	4,100 [2]	28 [14]	246	180	120 J	270 J	300	170	240
Lead	400 [3]	800 [3]	11 [15]	6.3	1.9 R	0.96 R	8.9 R	3.9	6.4	8.1
Mercury	2.3 [2]	31 [2]	0.1 [16]	0.108	0.046	0.068	0.056	0.038	0.064	0.02 J
Nickel	160 [2]	2,000 [2]	38 [17]	24.7	3.1	5.5 J	15 J	24	11	6.9
Selenium	39 [2]	510 [2]	0.52 [18]	5.94	1.1	0.25 J	1.3	0.86	0.83	0.69
Silver	39 [2]	510 [2]	4.2 [19]	NE	0.026 U	0.057 U	0.093 U	0.062 U	0.044 U	0.037 U
Thallium	0.51 [2]	7 [2]	1 [20]	0.92	0.14 U	0.34 J	0.42 J	0.43 J	0.22 J	0.14 J
Vanadium	55 [2]	720 [2]	7.8 [21]	434	**170**	**97** J	**290** J	**190**	**180**	**220**
Zinc	2300 [2]	31,000 [2]	46.0 [22]	88	14	24 J	59 J	60	41	23
TPH DRO/GRO (mg/kg)										
Diesel Range Organics	25 [4]	NE	NE	NE	17 J	**2,100** J	**860** J	**1,500**	**41**	**380**
Gasoline Range Organics	25 [4]	NE	NE	NE	**140** J	**280**	**68**	**140**	0.062 U	**150**
Total TPH	25 [4]	NE	NE	NE	**157** J	**2,380** J	**928** J	**1,640**	**41**	**530**

TABLE 5-2

SUMMARY OF DETECTED RESULTS - AIRFIELD - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB24 74SB24-03 5/3/2008 5.0 -7.0	74SB24 74SB24-05 5/3/2008 9.0 - 11.0	74SB25 74SB25-04 5/3/2008 7.0 - 9.0	74SB25 74SB25-05 5/3/2008 9.0 - 11.0	74SB26 74SB26-02 5/3/2008 3.0 - 5.0	74SB26 74SB26-02D 5/3/2008 3.0 - 5.0
Volatile Organic Compounds (ug/kg)										
2-Chloro-1,3-butadiene	860 [2]	3,600 [2]	NE	NE	0.52 U	1.1 U	0.53 U	0.54 U	0.58 U	0.57 U
Acetone	610,000 [2]	61,000,000 [2]	NE	NE	19 J	14 J	43 J	4.2 R	25 J	25 J
Carbon disulfide	670,000 [2]	300,000 [2]	NE	NE	0.65 J	0.95 U	1.1 J	0.48 U	1.9 J	1.3 J
Chlorobenzene	31,000 [2]	150,000 [2]	40,000 [5]	NE	0.67 U	1.4 U	0.67 U	0.69 U	2 J	0.73 U
Chloroform	300	1,500	1,002 [6]	NE	0.46 U	0.93 U	0.46 U	0.47 U	0.51 U	0.5 U
Chloromethane	1,700	8,400	NE	NE	0.65 U	1.3 U	0.65 U	0.67 U	0.73 U	1.5 J
Ethyl methacrylate	7,000,000 [2]	9,200,000 [2]	NE	NE	2 UJ	4.1 UJ	2 UJ	2.1 UJ	2.2 UJ	2.2 UJ
Ethylbenzene	5,700	29,000	5,003 [6]	NE	0.69 U	1.4 U	0.69 U	0.71 U	0.77 U	0.75 U
Iodomethane	NE	NE	NE	NE	0.91 U	1.9 U	0.92 U	0.95 U	1 U	1 U
Isobutyl alcohol	23,000,000 [2]	31,000,000 [2]	NE	NE	63 R	130 R	64 R	65 R	71 R	69 R
Methyl methacrylate	4,700,000 [2]	2,000,000 [2]	NE	NE	3.4 UJ	6.9 UJ	3.4 UJ	3.5 UJ	3.8 UJ	3.7 UJ
LLPAHs (ug/kg)										
1-Methylnaphthalene	22,000	99,000	NE	NE	1.5 U	1.5 U	1.5 U	2.3 J	NA	NA
2-Methylnaphthalene	31,000 [2]	410,000 [2]	NE	NE	2.2 U	2.1 U	2.2 U	2.3 J	NA	NA
Acenaphthylene	340,000 [2]	3,300,000 [2]	NE	NE	2.2 U	2.1 U	2.2 U	2 U	NA	NA
Anthracene	1,700,000 [2]	170,000 [2]	NE	NE	2.2 U	2.1 U	2.2 U	2 U	NA	NA
Benzo[a]anthracene	150	2,100	NE	NE	2.2 U	2.1 U	2.2 U	2 U	NA	NA
Benzo[a]pyrene	15	210	NE	NE	0.84 U	0.82 U	0.84 U	0.78 UJ	NA	NA
Benzo[b]fluoranthene	150	2,100	NE	NE	0.97 U	0.95 U	0.96 U	0.9 UJ	NA	NA
Benzo[g,h,i]perylene	1,700	17,000	NE	NE	2.2 U	2.1 U	2.2 U	2 UJ	NA	NA
Benzo[k]fluoranthene	1,500	21,000	NE	NE	1.3 U	1.2 U	1.3 U	1.2 UJ	NA	NA
Chrysene	15,000	210,000	NE	NE	0.77 U	0.76 U	0.77 U	0.72 U	NA	NA
Dibenz(a,h)anthracene	150	210	NE	NE	0.75 U	0.74 U	0.75 U	0.7 UJ	NA	NA
Fluoranthene	230,000 [2]	2,200,000 [2]	NE	NE	2.2 U	2.1 U	2.2 U	2 U	NA	NA
Fluorene	230,000 [2]	2,200,000 [2]	NE	NE	0.98 U	0.96 U	0.98 U	0.91 U	NA	NA
Indeno[1,2,3-cd]pyrene	150	2,100	NE	NE	1.5 U	1.5 U	1.5 U	1.4 UJ	NA	NA

TABLE 5-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - AIRFIELD - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB24 74SB24-03 5/3/2008 5.0 -7.0	74SB24 74SB24-05 5/3/2008 9.0 - 11.0	74SB25 74SB25-04 5/3/2008 7.0 - 9.0	74SB25 74SB25-05 5/3/2008 9.0 - 11.0	74SB26 74SB26-02 5/3/2008 3.0 - 5.0	74SB26 74SB26-02D 5/3/2008 3.0 - 5.0
LLPAHs (ug/kg)										
Naphthalene	3,900	20,000	NE	NE	0.76 U	0.75 U	0.76 U	0.71 U	NA	NA
Phenanthrene	NE	NE	NE	NE	2.2 U	2.1 U	2.2 U	2 U	NA	NA
Pyrene	170,000 [2]	1,700,000 [2]	NE	NE	2.2 U	2.1 U	2.2 U	2 U	NA	NA
PAH Totals (ug/kg):										
Low molecular weight PAHs	NE	NE	29,000 [7]	NE	12.76	12.32	12.76	12.89	NA	NA
High molecular weight PAHs	NE	NE	18,000 [7]	NE	14.93	14.37	14.92	13.7	NA	NA
Metals (mg/kg)										
Arsenic	0.390	1.60	18 [8]	1.59	**1.3**	***1.7***	**1.2**	***2.1***	**1.3**	**1.1**
Barium	1500 [2]	19,000 [2]	330 [9]	220	90	180	14	21	76	76
Beryllium	16 [2]	200 [2]	21 [10]	0.596	0.24	0.17	0.11 U	0.17	0.28	0.25
Cadmium	7.0 [2]	81 [2]	0.77 [11]	0.54	0.068 J	0.036 U	0.036 U	0.034 U	0.067 J	0.07 J
Chromium	280	1,400	26 [12]	114.5	16	26	15	45	20	18
Cobalt	2.3 [2]	30 [2]	13 [13]	26.9	**16**	**5.2**	0.86	**2.8**	**14**	**14**
Copper	310 [2]	4,100 [2]	28 [14]	246	65	120	48	110	82	73
Lead	400 [3]	800 [3]	11 [15]	6.3	2.5	3.3	2.3	4.2	2.7	2.5
Mercury	2.3 [2]	31 [2]	0.1 [16]	0.108	0.04	0.11	0.18	0.038	0.032	0.061
Nickel	160 [2]	2,000 [2]	38 [17]	24.7	8.4	4.1	2.8	4.4	8.7	8.4
Selenium	39 [2]	510 [2]	0.52 [18]	5.94	0.16 J	0.74	0.54 J	0.82	0.41 J	0.36 J
Silver	39 [2]	510 [2]	4.2 [19]	NE	0.051 U	0.045 U	0.025 U	0.02 U	0.044 U	0.053 U
Thallium	0.51 [2]	7 [2]	1 [20]	0.92	0.14 U	0.14 U	0.14 U	0.13 U	0.14 U	0.14 U
Vanadium	55 [2]	720 [2]	7.8 [21]	434	**220**	**260**	**120**	**240**	**200**	**180**
Zinc	2300 [2]	31,000 [2]	46.0 [22]	88	46	18	10	20	55	59
TPH DRO/GRO (mg/kg)										
Diesel Range Organics	25 [4]	NE	NE	NE	2.1 J	1.9 J	1.4 J	1.2 J	**550**	**420**
Gasoline Range Organics	25 [4]	NE	NE	NE	0.06 U	0.057 U	0.061 U	0.063 U	**140**	**120**
Total TPH	25 [4]	NE	NE	NE	2.1 J	1.9 J	1.4 J	1.2 J	**690**	**540**

TABLE 5-2

SUMMARY OF DETECTED RESULTS - AIRFIELD - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB26 74SB26-05 5/3/2008 9.0 - 11.0	74SB27 74SB27-03 5/3/2008 5.0 - 7.0	74SB27 74SB27-05 5/3/2008 9.0 - 11.0	74SB28 74SB28-02 5/1/2008 3.0 - 5.0	74SB28 74SB28-04 5/1/2008 7.0 - 9.0	74SB29 74SB29-03 5/1/2008 5.0 - 7.0
Volatile Organic Compounds (ug/kg)										
2-Chloro-1,3-butadiene	860 [2]	3,600 [2]	NE	NE	25 U	27 U	27 U	0.58 UJ	27 UJ	0.59 UJ
Acetone	610,000 [2]	61,000,000 [2]	NE	NE	200 R	210 R	300 R	32 J	490 R	21 J
Carbon disulfide	670,000 [2]	300,000 [2]	NE	NE	23 U	24 U	24 U	0.52 UJ	24 UJ	0.9 J
Chlorobenzene	31,000 [2]	150,000 [2]	40,000 [5]	NE	32 U	35 U	35 U	0.74 UJ	35 UJ	0.75 UJ
Chloroform	300	1,500	1,002 [6]	NE	22 U	24 U	24 U	0.51 UJ	40 J	0.51 UJ
Chloromethane	1,700	8,400	NE	NE	32 U	34 U	34 U	0.72 UJ	34 UJ	0.73 UJ
Ethyl methacrylate	7,000,000 [2]	9,200,000 [2]	NE	NE	98 U	100 U	100 U	2.2 UJ	100 UJ	2.3 UJ
Ethylbenzene	5,700	29,000	5,003 [6]	NE	33 U	36 U	36 U	0.76 UJ	1100 J	0.77 UJ
Iodomethane	NE	NE	NE	NE	44 UJ	48 UJ	48 UJ	1 UJ	47 UJ	1 UJ
Isobutyl alcohol	23,000,000 [2]	31,000,000 [2]	NE	NE	3,100 R	3,300 R	3,300 R	70 R	3,300 R	71 R
Methyl methacrylate	4,700,000 [2]	2,000,000 [2]	NE	NE	160 U	180 U	180 U	3.8 UJ	180 UJ	3.8 UJ
LLPAHs (ug/kg)										
1-Methylnaphthalene	22,000	99,000	NE	NE	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	31,000 [2]	410,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Acenaphthylene	340,000 [2]	3,300,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Anthracene	1,700,000 [2]	170,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[a]anthracene	150	2,100	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[a]pyrene	15	210	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[b]fluoranthene	150	2,100	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[g,h,i]perylene	1,700	17,000	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[k]fluoranthene	1,500	21,000	NE	NE	NA	NA	NA	NA	NA	NA
Chrysene	15,000	210,000	NE	NE	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	150	210	NE	NE	NA	NA	NA	NA	NA	NA
Fluoranthene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Fluorene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Indeno[1,2,3-cd]pyrene	150	2,100	NE	NE	NA	NA	NA	NA	NA	NA

TABLE 5-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - AIRFIELD - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB26 74SB26-05 5/3/2008 9.0 - 11.0	74SB27 74SB27-03 5/3/2008 5.0 - 7.0	74SB27 74SB27-05 5/3/2008 9.0 - 11.0	74SB28 74SB28-02 5/1/2008 3.0 - 5.0	74SB28 74SB28-04 5/1/2008 7.0 - 9.0	74SB29 74SB29-03 5/1/2008 5.0 - 7.0
LLPAHs (ug/kg)										
Naphthalene	3,900	20,000	NE	NE	NA	NA	NA	NA	NA	NA
Phenanthrene	NE	NE	NE	NE	NA	NA	NA	NA	NA	NA
Pyrene	170,000 [2]	1,700,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
PAH Totals (ug/kg):										
Low molecular weight PAHs	NE	NE	29,000 [7]	NE	NA	NA	NA	NA	NA	NA
High molecular weight PAHs	NE	NE	18,000 [7]	NE	NA	NA	NA	NA	NA	NA
Metals (mg/kg)										
Arsenic	0.390	1.60	18 [8]	1.59	***4.5***	***1.7***	**1.6**	***2.1***	**1.6**	**1.3**
Barium	1500 [2]	19,000 [2]	330 [9]	220	33	26	21	47	44	81
Beryllium	16 [2]	200 [2]	21 [10]	0.596	0.33	0.11 U	0.15	0.12	0.21	0.17
Cadmium	7.0 [2]	81 [2]	0.77 [11]	0.54	0.054 J	0.038 U	0.035 U	0.036 UJ	0.037 UJ	0.039 UJ
Chromium	280	1,400	26 [12]	114.5	140 R	40 R	44 R	48 J	110 J	20 J
Cobalt	2.3 [2]	30 [2]	13 [13]	26.9	**8.3**	1.9	0.99	2	**2.7**	1.8
Copper	310 [2]	4,100 [2]	28 [14]	246	260	88	110	97	210	110
Lead	400 [3]	800 [3]	11 [15]	6.3	64	4.5	4.1	4 J	4.8 J	1.9 J
Mercury	2.3 [2]	31 [2]	0.1 [16]	0.108	0.0097 J	0.03	0.042	0.19 J	0.091 J	0.035 J
Nickel	160 [2]	2,000 [2]	38 [17]	24.7	9.3	3	3.3	6.6	8.8	7.3
Selenium	39 [2]	510 [2]	0.52 [18]	5.94	1.6	1	1.1	1.1	1	0.33 J
Silver	39 [2]	510 [2]	4.2 [19]	NE	0.082 U	0.048 U	0.024 U	0.049 J	0.019 UJ	0.02 UJ
Thallium	0.51 [2]	7 [2]	1 [20]	0.92	0.2 J	0.15 U	0.14 U	0.14 U	0.14 U	0.15 U
Vanadium	55 [2]	720 [2]	7.8 [21]	434	**380**	**200**	**180**	**210** J	**250** J	**81** J
Zinc	2300 [2]	31,000 [2]	46.0 [22]	88	48 J	11 J	12 J	23	30	15
TPH DRO/GRO (mg/kg)										
Diesel Range Organics	25 [4]	NE	NE	NE	**420**	**300**	**98**	22 J	**880** J	6 J
Gasoline Range Organics	25 [4]	NE	NE	NE	**140** J	**89** J	**42** J	0.078 UJ	**270** J	0.1 UJ
Total TPH	25 [4]	NE	NE	NE	**560** J	**389** J	**140** J	22 J	**1,150** J	6 J

TABLE 5-2

SUMMARY OF DETECTED RESULTS - AIRFIELD - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB29 74SB29-05 5/1/2008 9.0 - 11.0	74SB30 74SB30-03 5/1/2008 5.0 - 7.0	74SB30 74SB30-04 5/1/2008 7.0 - 9.0	74SB31 74SB31-02 5/1/2008 3.0 - 5.0	74SB31 74SB31-03 5/1/2008 5.0 - 7.0	74SB32 74SB32-02 5/1/2008 3.0 - 5.0
Volatile Organic Compounds (ug/kg)										
2-Chloro-1,3-butadiene	860 [2]	3,600 [2]	NE	NE	0.53 UJ	26 UJ	24 UJ	0.54 UJ	0.72 UJ	0.63 UJ
Acetone	610,000 [2]	61,000,000 [2]	NE	NE	4.1 R	360 R	190 R	65 J	33 J	4.9 R
Carbon disulfide	670,000 [2]	300,000 [2]	NE	NE	0.47 UJ	24 UJ	21 UJ	0.48 UJ	0.65 UJ	0.57 UJ
Chlorobenzene	31,000 [2]	150,000 [2]	40,000 [5]	NE	0.67 UJ	34 UJ	31 UJ	0.69 UJ	0.92 UJ	0.81 UJ
Chloroform	300	1,500	1,002 [6]	NE	0.46 UJ	23 UJ	21 UJ	0.47 UJ	0.63 UJ	0.55 UJ
Chloromethane	1,700	8,400	NE	NE	0.66 UJ	33 UJ	30 UJ	0.67 UJ	0.9 UJ	0.79 UJ
Ethyl methacrylate	7,000,000 [2]	9,200,000 [2]	NE	NE	2 UJ	100 UJ	93 UJ	2.1 UJ	2.8 UJ	2.4 UJ
Ethylbenzene	5,700	29,000	5,003 [6]	NE	0.69 UJ	35 UJ	32 UJ	0.7 UJ	0.95 UJ	0.83 UJ
Iodomethane	NE	NE	NE	NE	0.92 UJ	46 UJ	42 UJ	0.94 UJ	1.3 UJ	1.1 UJ
Isobutyl alcohol	23,000,000 [2]	31,000,000 [2]	NE	NE	64 R	3,200 R	2,900 R	65 R	87 R	76 R
Methyl methacrylate	4,700,000 [2]	2,000,000 [2]	NE	NE	3.4 UJ	170 UJ	160 UJ	3.5 UJ	4.7 UJ	4.1 UJ
LLPAHs (ug/kg)										
1-Methylnaphthalene	22,000	99,000	NE	NE	NA	NA	NA	1.5 UJ	NA	NA
2-Methylnaphthalene	31,000 [2]	410,000 [2]	NE	NE	NA	NA	NA	2.2 UJ	NA	NA
Acenaphthylene	340,000 [2]	3,300,000 [2]	NE	NE	NA	NA	NA	2.2 UJ	NA	NA
Anthracene	1,700,000 [2]	170,000 [2]	NE	NE	NA	NA	NA	2.2 UJ	NA	NA
Benzo[a]anthracene	150	2,100	NE	NE	NA	NA	NA	2.2 UJ	NA	NA
Benzo[a]pyrene	15	210	NE	NE	NA	NA	NA	0.85 UJ	NA	NA
Benzo[b]fluoranthene	150	2,100	NE	NE	NA	NA	NA	0.98 UJ	NA	NA
Benzo[g,h,i]perylene	1,700	17,000	NE	NE	NA	NA	NA	2.2 UJ	NA	NA
Benzo[k]fluoranthene	1,500	21,000	NE	NE	NA	NA	NA	1.3 UJ	NA	NA
Chrysene	15,000	210,000	NE	NE	NA	NA	NA	0.79 UJ	NA	NA
Dibenz(a,h)anthracene	150	210	NE	NE	NA	NA	NA	0.76 UJ	NA	NA
Fluoranthene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	NA	2.2 UJ	NA	NA
Fluorene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	NA	0.99 UJ	NA	NA
Indeno[1,2,3-cd]pyrene	150	2,100	NE	NE	NA	NA	NA	1.5 UJ	NA	NA

TABLE 5-2

SUMMARY OF DETECTED RESULTS - AIRFIELD - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB29 74SB29-05 5/1/2008 9.0 - 11.0	74SB30 74SB30-03 5/1/2008 5.0 - 7.0	74SB30 74SB30-04 5/1/2008 7.0 - 9.0	74SB31 74SB31-02 5/1/2008 3.0 - 5.0	74SB31 74SB31-03 5/1/2008 5.0 - 7.0	74SB32 74SB32-02 5/1/2008 3.0 - 5.0
LLPAHs (ug/kg)										
Naphthalene	3,900	20,000	NE	NE	NA	NA	NA	3.3 J	NA	NA
Phenanthrene	NE	NE	NE	NE	NA	NA	NA	2.2 UJ	NA	NA
Pyrene	170,000 [2]	1,700,000 [2]	NE	NE	NA	NA	NA	2.2 UJ	NA	NA
PAH Totals (ug/kg):										
Low molecular weight PAHs	NE	NE	29,000 [7]	NE	NA	NA	NA	15.33	NA	NA
High molecular weight PAHs	NE	NE	18,000 [7]	NE	NA	NA	NA	14.98	NA	NA
Metals (mg/kg)										
Arsenic	0.390	1.60	18 [8]	1.59	***1.8***	***3***	***3***	**1.3**	**1**	**1**
Barium	1500 [2]	19,000 [2]	330 [9]	220	91	630	730	56	14	23
Beryllium	16 [2]	200 [2]	21 [10]	0.596	0.14	0.99	0.95	0.21	0.26	0.24
Cadmium	7.0 [2]	81 [2]	0.77 [11]	0.54	0.034 UJ	0.043 UJ	0.038 UJ	0.064 J	0.049 UJ	0.038 UJ
Chromium	280	1,400	26 [12]	114.5	14 J	74 J	110 J	26 J	18 J	20 J
Cobalt	2.3 [2]	30 [2]	13 [13]	26.9	1.1	***32***	**16**	***31***	1.8	**2.9**
Copper	310 [2]	4,100 [2]	28 [14]	246	84	**440**	220	72	160	200
Lead	400 [3]	800 [3]	11 [15]	6.3	14 J	5 J	3.4 J	3.4 J	1.2 J	1.8 J
Mercury	2.3 [2]	31 [2]	0.1 [16]	0.108	0.065 J	0.1 J	0.035 J	0.062 J	0.057 J	0.044 J
Nickel	160 [2]	2,000 [2]	38 [17]	24.7	3.7	27	17	20	4.3	6.6
Selenium	39 [2]	510 [2]	0.52 [18]	5.94	0.81	0.47 J	0.27 J	0.15 U	0.37 J	1
Silver	39 [2]	510 [2]	4.2 [19]	NE	0.019 J	0.063 J	0.02 J	0.043 J	0.027 J	0.046 J
Thallium	0.51 [2]	7 [2]	1 [20]	0.92	0.13 U	**1.1**	**1.9**	0.15 U	0.19 U	0.15 U
Vanadium	55 [2]	720 [2]	7.8 [21]	434	**150** J	**200** J	**230** J	**200** J	**270** J	**260** J
Zinc	2300 [2]	31,000 [2]	46.0 [22]	88	13	66	110	78	18	14
TPH DRO/GRO (mg/kg)										
Diesel Range Organics	25 [4]	NE	NE	NE	0.74 UJ	**150** J	**270** J	4.1 J	1 UJ	0.8 UJ
Gasoline Range Organics	25 [4]	NE	NE	NE	0.065 UJ	**170** J	**130** J	0.07 J	0.082 UJ	0.066 UJ
Total TPH	25 [4]	NE	NE	NE	0.805 UJ	**320** J	**400** J	4.17 J	1.082 UJ	0.866 UJ

TABLE 5-2

SUMMARY OF DETECTED RESULTS - AIRFIELD - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB32 74SB32-03 5/1/2008 5.0 - 7.0	74SB32 74SB32-03D 5/1/2008 5.0 - 7.0	74SB33 74SB33-01 5/1/2008 1.0 - 3.0	74SB33 74SB33-02 5/1/2008 3.0 - 5.0	74SB34 74SB34-01 5/1/2008 1.0 - 3.0	74SB34 74SB34-02 5/1/2008 3.0 - 5.0
Volatile Organic Compounds (ug/kg)										
2-Chloro-1,3-butadiene	860 [2]	3,600 [2]	NE	NE	0.62 UJ	0.62 UJ	0.61 UJ	0.66 UJ	0.62 UJ	0.63 UJ
Acetone	610,000 [2]	61,000,000 [2]	NE	NE	28 J	33 J	35 J	14 J	4.8 R	150 J
Carbon disulfide	670,000 [2]	300,000 [2]	NE	NE	0.55 UJ	0.8 J	0.55 UJ	0.59 UJ	0.55 UJ	0.56 UJ
Chlorobenzene	31,000 [2]	150,000 [2]	40,000 [5]	NE	0.79 UJ	0.79 UJ	0.78 UJ	0.84 UJ	0.79 UJ	0.8 UJ
Chloroform	300	1,500	1,002 [6]	NE	0.54 UJ	0.54 UJ	0.54 UJ	0.58 UJ	0.54 UJ	0.55 UJ
Chloromethane	1,700	8,400	NE	NE	0.77 UJ	0.77 UJ	0.76 UJ	0.82 UJ	0.77 UJ	0.78 UJ
Ethyl methacrylate	7,000,000 [2]	9,200,000 [2]	NE	NE	2.4 UJ	2.4 UJ	2.4 UJ	2.5 UJ	2.4 UJ	2.4 UJ
Ethylbenzene	5,700	29,000	5,003 [6]	NE	0.81 UJ	0.81 UJ	0.81 UJ	0.87 UJ	0.81 UJ	0.82 UJ
Iodomethane	NE	NE	NE	NE	1.1 UJ	1.1 UJ	1.1 UJ	1.2 UJ	1.1 UJ	1.1 UJ
Isobutyl alcohol	23,000,000 [2]	31,000,000 [2]	NE	NE	75 R	74 R	74 R	80 R	75 R	76 R
Methyl methacrylate	4,700,000 [2]	2,000,000 [2]	NE	NE	4 UJ	4 UJ	4 UJ	4.3 UJ	4 UJ	4.1 UJ
LLPAHs (ug/kg)										
1-Methylnaphthalene	22,000	99,000	NE	NE	NA	NA	NA	NA	NA	1.5 UJ
2-Methylnaphthalene	31,000 [2]	410,000 [2]	NE	NE	NA	NA	NA	NA	NA	2.2 UJ
Acenaphthylene	340,000 [2]	3,300,000 [2]	NE	NE	NA	NA	NA	NA	NA	2.2 UJ
Anthracene	1,700,000 [2]	170,000 [2]	NE	NE	NA	NA	NA	NA	NA	2.2 UJ
Benzo[a]anthracene	150	2,100	NE	NE	NA	NA	NA	NA	NA	2.2 UJ
Benzo[a]pyrene	15	210	NE	NE	NA	NA	NA	NA	NA	0.85 UJ
Benzo[b]fluoranthene	150	2,100	NE	NE	NA	NA	NA	NA	NA	0.98 UJ
Benzo[g,h,i]perylene	1,700	17,000	NE	NE	NA	NA	NA	NA	NA	2.2 UJ
Benzo[k]fluoranthene	1,500	21,000	NE	NE	NA	NA	NA	NA	NA	1.3 UJ
Chrysene	15,000	210,000	NE	NE	NA	NA	NA	NA	NA	0.79 UJ
Dibenz(a,h)anthracene	150	210	NE	NE	NA	NA	NA	NA	NA	0.76 UJ
Fluoranthene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	NA	NA	NA	2.2 UJ
Fluorene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	NA	NA	NA	0.99 UJ
Indeno[1,2,3-cd]pyrene	150	2,100	NE	NE	NA	NA	NA	NA	NA	1.5 UJ

TABLE 5-2

SUMMARY OF DETECTED RESULTS - AIRFIELD - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB32 74SB32-03 5/1/2008 5.0 - 7.0	74SB32 74SB32-03D 5/1/2008 5.0 - 7.0	74SB33 74SB33-01 5/1/2008 1.0 - 3.0	74SB33 74SB33-02 5/1/2008 3.0 - 5.0	74SB34 74SB34-01 5/1/2008 1.0 - 3.0	74SB34 74SB34-02 5/1/2008 3.0 - 5.0
LLPAHs (ug/kg)										
Naphthalene	3,900	20,000	NE	NE	NA	NA	NA	NA	NA	0.77 UJ
Phenanthrene	NE	NE	NE	NE	NA	NA	NA	NA	NA	2.2 UJ
Pyrene	170,000 [2]	1,700,000 [2]	NE	NE	NA	NA	NA	NA	NA	2.2 UJ
PAH Totals (ug/kg):										
Low molecular weight PAHs	NE	NE	29,000 [7]	NE	NA	NA	NA	NA	NA	12.8
High molecular weight PAHs	NE	NE	18,000 [7]	NE	NA	NA	NA	NA	NA	14.98
Metals (mg/kg)										
Arsenic	0.390	1.60	18 [8]	1.59	**0.92**	**1.6**	**0.67**	**0.94**	**0.93**	**0.94**
Barium	1500 [2]	19,000 [2]	330 [9]	220	21 J	41 J	31	84	13	23
Beryllium	16 [2]	200 [2]	21 [10]	0.596	0.32	0.5	0.068 J	0.15	0.17	0.24
Cadmium	7.0 [2]	81 [2]	0.77 [11]	0.54	0.039 UJ	0.04 UJ	0.039 UJ	0.04 UJ	0.039 UJ	0.036 UJ
Chromium	280	1,400	26 [12]	114.5	4.2 J	6.1 J	7.3 J	22 J	39 J	42 J
Cobalt	2.3 [2]	30 [2]	13 [13]	26.9	1.1 J	1.7 J	**2.6**	1.5	**2.8**	**3.9**
Copper	310 [2]	4,100 [2]	28 [14]	246	240 J	**380** J	54	110	230	240
Lead	400 [3]	800 [3]	11 [15]	6.3	3.2 J	4.5 J	0.5 J	1.3 J	1.4 J	1.1 J
Mercury	2.3 [2]	31 [2]	0.1 [16]	0.108	0.026 J	0.054 J	0.078 J	0.071 J	0.2 J	0.042 J
Nickel	160 [2]	2,000 [2]	38 [17]	24.7	3.4 J	6.7 J	1.9	2.4	7.5	12
Selenium	39 [2]	510 [2]	0.52 [18]	5.94	0.82	1.3	0.2 J	0.34 J	0.85	0.55 J
Silver	39 [2]	510 [2]	4.2 [19]	NE	0.036 J	0.06 J	0.03 J	0.057 J	0.022 J	0.035 J
Thallium	0.51 [2]	7 [2]	1 [20]	0.92	0.15 U	0.16 U	0.15 U	0.16 U	0.15 U	0.14 U
Vanadium	55 [2]	720 [2]	7.8 [21]	434	**230** J	**310** J	**57** J	**110** J	**360** J	**250** J
Zinc	2300 [2]	31,000 [2]	46.0 [22]	88	8.8	18	9.1	10	14	23
TPH DRO/GRO (mg/kg)										
Diesel Range Organics	25 [4]	NE	NE	NE	0.82 UJ	0.82 UJ	2.8 J	0.85 UJ	0.81 UJ	0.78 UJ
Gasoline Range Organics	25 [4]	NE	NE	NE	0.07 J	0.066 UJ	0.072 UJ	0.11 UJ	0.089 UJ	0.081 UJ
Total TPH	25 [4]	NE	NE	NE	0.07 J	0.886 UJ	2.8 J	0.96 UJ	0.899 UJ	0.861 UJ

TABLE 5-2

SUMMARY OF DETECTED RESULTS - AIRFIELD - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB35 74SB35-01 5/2/2008 1.0 - 3.0	74SB35 74SB35-03 5/2/2008 5.0 - 7.0	74SB36 74SB36-02 5/2/2008 3.0 - 5.0	74SB36 74SB36-05 5/2/2008 9.0 - 11.0	74SB37 74SB37-01 5/2/2008 1.0 - 3.0	74SB37 74SB37-02 5/2/2008 3.0 - 5.0
Volatile Organic Compounds (ug/kg)										
2-Chloro-1,3-butadiene	860 [2]	3,600 [2]	NE	NE	0.62 UJ	0.57 UJ	0.58 UJ	0.83 UJ	0.58 UJ	0.65 UJ
Acetone	610,000 [2]	61,000,000 [2]	NE	NE	16 J	14 J	29 J	29 J	82 J	13 J
Carbon disulfide	670,000 [2]	300,000 [2]	NE	NE	0.55 UJ	0.51 UJ	0.52 UJ	0.74 UJ	0.51 UJ	0.58 UJ
Chlorobenzene	31,000 [2]	150,000 [2]	40,000 [5]	NE	0.79 UJ	0.73 UJ	0.74 UJ	1.1 UJ	0.74 UJ	0.83 UJ
Chloroform	300	1,500	1,002 [6]	NE	0.54 UJ	0.5 UJ	0.51 UJ	0.73 UJ	0.5 UJ	0.57 UJ
Chloromethane	1,700	8,400	NE	NE	0.77 UJ	0.71 UJ	0.72 UJ	1 UJ	0.72 UJ	0.8 UJ
Ethyl methacrylate	7,000,000 [2]	9,200,000 [2]	NE	NE	2.4 UJ	2.2 UJ	2.2 UJ	3.2 UJ	2.2 UJ	2.5 UJ
Ethylbenzene	5,700	29,000	5,003 [6]	NE	0.81 UJ	0.75 UJ	0.76 UJ	1.1 UJ	0.76 UJ	0.85 UJ
Iodomethane	NE	NE	NE	NE	1.1 UJ	1 UJ	1 UJ	1.5 UJ	1 UJ	1.1 UJ
Isobutyl alcohol	23,000,000 [2]	31,000,000 [2]	NE	NE	75 R	69 R	70 R	100 R	70 R	78 R
Methyl methacrylate	4,700,000 [2]	2,000,000 [2]	NE	NE	4 UJ	3.7 UJ	3.8 UJ	5.4 UJ	3.7 UJ	4.2 UJ
LLPAHs (ug/kg)										
1-Methylnaphthalene	22,000	99,000	NE	NE	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	31,000 [2]	410,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Acenaphthylene	340,000 [2]	3,300,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Anthracene	1,700,000 [2]	170,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[a]anthracene	150	2,100	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[a]pyrene	15	210	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[b]fluoranthene	150	2,100	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[g,h,i]perylene	1,700	17,000	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[k]fluoranthene	1,500	21,000	NE	NE	NA	NA	NA	NA	NA	NA
Chrysene	15,000	210,000	NE	NE	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	150	210	NE	NE	NA	NA	NA	NA	NA	NA
Fluoranthene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Fluorene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Indeno[1,2,3-cd]pyrene	150	2,100	NE	NE	NA	NA	NA	NA	NA	NA

TABLE 5-2

SUMMARY OF DETECTED RESULTS - AIRFIELD - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB35 74SB35-01 5/2/2008 1.0 - 3.0	74SB35 74SB35-03 5/2/2008 5.0 - 7.0	74SB36 74SB36-02 5/2/2008 3.0 - 5.0	74SB36 74SB36-05 5/2/2008 9.0 - 11.0	74SB37 74SB37-01 5/2/2008 1.0 - 3.0	74SB37 74SB37-02 5/2/2008 3.0 - 5.0
LLPAHs (ug/kg)										
Naphthalene	3,900	20,000	NE	NE	NA	NA	NA	NA	NA	NA
Phenanthrene	NE	NE	NE	NE	NA	NA	NA	NA	NA	NA
Pyrene	170,000 [2]	1,700,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
PAH Totals (ug/kg):										
Low molecular weight PAHs	NE	NE	29,000 [7]	NE	NA	NA	NA	NA	NA	NA
High molecular weight PAHs	NE	NE	18,000 [7]	NE	NA	NA	NA	NA	NA	NA
Metals (mg/kg)										
Arsenic	0.390	1.60	18 [8]	1.59	**1.6**	**0.88**	**1.4**	**1.5**	**0.51** J	**0.5** J
Barium	1500 [2]	19,000 [2]	330 [9]	220	31	83	18	280	11	41 J
Beryllium	16 [2]	200 [2]	21 [10]	0.596	0.14	0.15	0.19	0.99	0.099 U	0.092 U
Cadmium	7.0 [2]	81 [2]	0.77 [11]	0.54	0.039 UJ	0.039 UJ	0.04 U	0.051 J	0.039 U	0.04 U
Chromium	280	1,400	26 [12]	114.5	8.6 J	11 J	61 J	77 J	56	43 R
Cobalt	2.3 [2]	30 [2]	13 [13]	26.9	0.99	1.5	**4.6**	**11**	0.56	0.87 R
Copper	310 [2]	4,100 [2]	28 [14]	246	170	190	160	**320**	42	42 J
Lead	400 [3]	800 [3]	11 [15]	6.3	2.7 J	1.7 J	2.2 J	0.85 J	1.3	1.2 J
Mercury	2.3 [2]	31 [2]	0.1 [16]	0.108	0.082 J	0.24 J	0.12 J	0.013 J	0.14 J	0.064 J
Nickel	160 [2]	2,000 [2]	38 [17]	24.7	4.2	4.2	8.5	55	2.7	4 J
Selenium	39 [2]	510 [2]	0.52 [18]	5.94	0.65	0.54 J	0.89	0.32 J	0.45 J	0.28 J
Silver	39 [2]	510 [2]	4.2 [19]	NE	0.023 J	0.028 J	0.036 J	0.064 J	0.022 U	0.03 U
Thallium	0.51 [2]	7 [2]	1 [20]	0.92	0.15 U	0.15 U	0.16 U	0.22 J	0.15 U	0.15 U
Vanadium	55 [2]	720 [2]	7.8 [21]	434	**310** J	**300** J	**350** J	**290** J	**180**	**150** J
Zinc	2300 [2]	31,000 [2]	46.0 [22]	88	14	15	21 J	53 J	12 J	13 J
TPH DRO/GRO (mg/kg)										
Diesel Range Organics	25 [4]	NE	NE	NE	3.7 J	0.83 UJ	0.81 UJ	0.92 UJ	5.8 J	1.1 J
Gasoline Range Organics	25 [4]	NE	NE	NE	0.066 UJ	0.069 UJ	0.16 UJ	0.079 UJ	0.076 UJ	0.06 UJ
Total TPH	25 [4]	NE	NE	NE	3.7 J	0.899 UJ	0.97 UJ	0.999 UJ	5.8 J	1.1 J

TABLE 5-2

SUMMARY OF DETECTED RESULTS - AIRFIELD - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB37 74SB37-02D 5/2/2008 3.0 - 5.0	74SB38 74SB38-01 5/2/2008 1.0 - 3.0	74SB38 74SB38-02 5/2/2008 3.0 - 5.0	74SB39 74SB39-02 5/2/2008 3.0 - 5.0	74SB39 74SB39-04 5/2/2008 7.0 - 9.0	74SB40 74SB40-02 5/2/2008 3.0 - 5.0
Volatile Organic Compounds (ug/kg)										
2-Chloro-1,3-butadiene	860 [2]	3,600 [2]	NE	NE	0.58 UJ	0.63 UJ	0.67 UJ	0.63 UJ	0.67 UJ	0.57 UJ
Acetone	610,000 [2]	61,000,000 [2]	NE	NE	4.5 R	75 J	17 J	37 J	5.1 R	120 J
Carbon disulfide	670,000 [2]	300,000 [2]	NE	NE	0.52 UJ	0.57 UJ	0.6 UJ	0.56 UJ	0.6 UJ	0.51 UJ
Chlorobenzene	31,000 [2]	150,000 [2]	40,000 [5]	NE	0.74 UJ	0.81 UJ	0.86 UJ	0.81 UJ	0.85 UJ	0.73 UJ
Chloroform	300	1,500	1,002 [6]	NE	0.51 UJ	0.56 UJ	0.59 UJ	0.55 UJ	0.58 UJ	0.5 UJ
Chloromethane	1,700	8,400	NE	NE	0.72 UJ	0.79 UJ	0.83 UJ	0.78 UJ	0.83 UJ	0.71 UJ
Ethyl methacrylate	7,000,000 [2]	9,200,000 [2]	NE	NE	2.2 UJ	2.4 UJ	2.6 UJ	2.4 UJ	2.6 UJ	2.2 UJ
Ethylbenzene	5,700	29,000	5,003 [6]	NE	0.77 UJ	0.83 UJ	0.88 UJ	0.83 UJ	0.88 UJ	0.75 UJ
Iodomethane	NE	NE	NE	NE	1 UJ	1.1 UJ	1.2 UJ	1.1 UJ	1.2 UJ	4.7 J
Isobutyl alcohol	23,000,000 [2]	31,000,000 [2]	NE	NE	70 R	77 R	81 R	76 R	81 R	69 R
Methyl methacrylate	4,700,000 [2]	2,000,000 [2]	NE	NE	3.8 UJ	4.1 UJ	4.4 UJ	4.1 UJ	4.3 UJ	3.7 UJ
LLPAHs (ug/kg)										
1-Methylnaphthalene	22,000	99,000	NE	NE	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	31,000 [2]	410,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Acenaphthylene	340,000 [2]	3,300,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Anthracene	1,700,000 [2]	170,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[a]anthracene	150	2,100	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[a]pyrene	15	210	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[b]fluoranthene	150	2,100	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[g,h,i]perylene	1,700	17,000	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[k]fluoranthene	1,500	21,000	NE	NE	NA	NA	NA	NA	NA	NA
Chrysene	15,000	210,000	NE	NE	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	150	210	NE	NE	NA	NA	NA	NA	NA	NA
Fluoranthene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Fluorene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Indeno[1,2,3-cd]pyrene	150	2,100	NE	NE	NA	NA	NA	NA	NA	NA

TABLE 5-2

SUMMARY OF DETECTED RESULTS - AIRFIELD - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB37 74SB37-02D 5/2/2008 3.0 - 5.0	74SB38 74SB38-01 5/2/2008 1.0 - 3.0	74SB38 74SB38-02 5/2/2008 3.0 - 5.0	74SB39 74SB39-02 5/2/2008 3.0 - 5.0	74SB39 74SB39-04 5/2/2008 7.0 - 9.0	74SB40 74SB40-02 5/2/2008 3.0 - 5.0
LLPAHs (ug/kg)										
Naphthalene	3,900	20,000	NE	NE	NA	NA	NA	NA	NA	NA
Phenanthrene	NE	NE	NE	NE	NA	NA	NA	NA	NA	NA
Pyrene	170,000 [2]	1,700,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
PAH Totals (ug/kg):										
Low molecular weight PAHs	NE	NE	29,000 [7]	NE	NA	NA	NA	NA	NA	NA
High molecular weight PAHs	NE	NE	18,000 [7]	NE	NA	NA	NA	NA	NA	NA
Metals (mg/kg)										
Arsenic	0.390	1.60	18 [8]	1.59	0.21 J	***3***	***2.1***	***2.5***	***79***	**1**
Barium	1500 [2]	19,000 [2]	330 [9]	220	17 J	31	8.8	77	15	23
Beryllium	16 [2]	200 [2]	21 [10]	0.596	0.047 U	0.17	0.21	0.18	0.24	0.14
Cadmium	7.0 [2]	81 [2]	0.77 [11]	0.54	0.038 U	0.039 U	0.038 U	0.038 U	0.062 J	0.04 U
Chromium	280	1,400	26 [12]	114.5	9.3 R	12	8.6	28	6.5	45
Cobalt	2.3 [2]	30 [2]	13 [13]	26.9	0.34 R	**4.3**	1.4	**5.4**	**5.9**	2.2
Copper	310 [2]	4,100 [2]	28 [14]	246	24 J	**440**	250	**480**	**710**	270
Lead	400 [3]	800 [3]	11 [15]	6.3	0.23 J	7.7	1.5	2.2	2.2	0.83
Mercury	2.3 [2]	31 [2]	0.1 [16]	0.108	0.022 J	0.14 J	0.082 J	0.074 J	0.014 J	0.05 J
Nickel	160 [2]	2,000 [2]	38 [17]	24.7	2.3 J	7.3	4	15	11	9.7
Selenium	39 [2]	510 [2]	0.52 [18]	5.94	0.17 J	0.74	0.83	0.86	3.4	0.46 J
Silver	39 [2]	510 [2]	4.2 [19]	NE	0.024 U	0.066 U	0.04 U	0.23 U	0.23 U	0.064 U
Thallium	0.51 [2]	7 [2]	1 [20]	0.92	0.15 U	0.15 U	0.15 U	0.15 U	0.16 U	0.15 U
Vanadium	55 [2]	720 [2]	7.8 [21]	434	42 J	**340**	**260**	**520**	**520**	**260**
Zinc	2300 [2]	31,000 [2]	46.0 [22]	88	4.3 J	34 J	18 J	48 J	41 J	54 J
TPH DRO/GRO (mg/kg)										
Diesel Range Organics	25 [4]	NE	NE	NE	1.4 J	1.2 J	0.79 J	2.2 J	1.3 J	1.2 J
Gasoline Range Organics	25 [4]	NE	NE	NE	0.063 UJ	0.065 UJ	0.064 UJ	0.085 UJ	0.072 UJ	0.066 UJ
Total TPH	25 [4]	NE	NE	NE	1.4 J	1.2 J	0.79 J	2.2 J	1.3 J	1.2 J

TABLE 5-2

SUMMARY OF DETECTED RESULTS - AIRFIELD - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB40 74SB40-04 5/2/2008 7.0 - 9.0	74SB41 74SB41-02 5/2/2008 3.0 - 5.0	74SB41 74SB41-04 5/2/2008 7.0 - 9.0	74SB42 74SB42-03 5/3/2008 5.0 - 7.0	74SB42 74SB42-04 5/3/2008 7.0 - 9.0	74SB43 74SB43-03 5/3/2008 5.0 - 7.0
Volatile Organic Compounds (ug/kg)										
2-Chloro-1,3-butadiene	860 [2]	3,600 [2]	NE	NE	0.72 UJ	0.64 U	0.7 U	0.58 U	0.66 U	0.51 U
Acetone	610,000 [2]	61,000,000 [2]	NE	NE	36 J	5 R	42 J	14 J	5.1 R	21 J
Carbon disulfide	670,000 [2]	300,000 [2]	NE	NE	0.65 UJ	0.58 U	0.62 U	0.52 U	0.59 U	0.46 U
Chlorobenzene	31,000 [2]	150,000 [2]	40,000 [5]	NE	0.93 UJ	0.83 U	0.89 U	0.75 U	0.84 U	0.66 U
Chloroform	300	1,500	1,002 [6]	NE	0.64 UJ	0.57 U	0.61 U	0.51 U	0.58 U	0.45 U
Chloromethane	1,700	8,400	NE	NE	0.9 UJ	0.8 U	0.87 U	0.73 U	0.82 U	0.64 U
Ethyl methacrylate	7,000,000 [2]	9,200,000 [2]	NE	NE	2.8 UJ	2.5 U	2.7 UJ	2.2 UJ	2.5 UJ	2 UJ
Ethylbenzene	5,700	29,000	5,003 [6]	NE	0.95 UJ	0.85 U	0.92 U	0.77 U	0.87 U	0.68 U
Iodomethane	NE	NE	NE	NE	1.3 UJ	1.1 U	1.2 U	1 U	1.2 U	0.9 U
Isobutyl alcohol	23,000,000 [2]	31,000,000 [2]	NE	NE	88 R	78 R	84 R	71 R	80 R	62 R
Methyl methacrylate	4,700,000 [2]	2,000,000 [2]	NE	NE	4.7 UJ	4.2 U	4.5 UJ	3.8 UJ	4.3 UJ	3.3 UJ
LLPAHs (ug/kg)										
1-Methylnaphthalene	22,000	99,000	NE	NE	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	31,000 [2]	410,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Acenaphthylene	340,000 [2]	3,300,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Anthracene	1,700,000 [2]	170,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[a]anthracene	150	2,100	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[a]pyrene	15	210	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[b]fluoranthene	150	2,100	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[g,h,i]perylene	1,700	17,000	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[k]fluoranthene	1,500	21,000	NE	NE	NA	NA	NA	NA	NA	NA
Chrysene	15,000	210,000	NE	NE	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	150	210	NE	NE	NA	NA	NA	NA	NA	NA
Fluoranthene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Fluorene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Indeno[1,2,3-cd]pyrene	150	2,100	NE	NE	NA	NA	NA	NA	NA	NA

TABLE 5-2

SUMMARY OF DETECTED RESULTS - AIRFIELD - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB40 74SB40-04 5/2/2008 7.0 - 9.0	74SB41 74SB41-02 5/2/2008 3.0 - 5.0	74SB41 74SB41-04 5/2/2008 7.0 - 9.0	74SB42 74SB42-03 5/3/2008 5.0 - 7.0	74SB42 74SB42-04 5/3/2008 7.0 - 9.0	74SB43 74SB43-03 5/3/2008 5.0 - 7.0
LLPAHs (ug/kg)										
Naphthalene	3,900	20,000	NE	NE	NA	NA	NA	NA	NA	NA
Phenanthrene	NE	NE	NE	NE	NA	NA	NA	NA	NA	NA
Pyrene	170,000 [2]	1,700,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
PAH Totals (ug/kg):										
Low molecular weight PAHs	NE	NE	29,000 [7]	NE	NA	NA	NA	NA	NA	NA
High molecular weight PAHs	NE	NE	18,000 [7]	NE	NA	NA	NA	NA	NA	NA
Metals (mg/kg)										
Arsenic	0.390	1.60	18 [8]	1.59	***2.3***	**0.52** J	**0.67** J	**0.57** J	**1.3**	**1.4**
Barium	1500 [2]	19,000 [2]	330 [9]	220	35	27	22	10	16	36
Beryllium	16 [2]	200 [2]	21 [10]	0.596	0.26	0.046 U	0.15 U	0.063 U	0.098 U	0.34
Cadmium	7.0 [2]	81 [2]	0.77 [11]	0.54	0.044 U	0.041 U	0.047 U	0.038 U	0.042 U	0.065 J
Chromium	280	1,400	26 [12]	114.5	33	6.7	13	5.7 R	12 R	20 R
Cobalt	2.3 [2]	30 [2]	13 [13]	26.9	**3.2**	1.2	**12**	0.76	**2.4**	**13**
Copper	310 [2]	4,100 [2]	28 [14]	246	**520**	45	150	27	85	120
Lead	400 [3]	800 [3]	11 [15]	6.3	3.4	0.63	0.94	0.81	0.77	2.3
Mercury	2.3 [2]	31 [2]	0.1 [16]	0.108	0.063 J	0.45	0.023 J	0.056	0.063	0.11
Nickel	160 [2]	2,000 [2]	38 [17]	24.7	23	1.4	3.7	1	1.9	9.1
Selenium	39 [2]	510 [2]	0.52 [18]	5.94	1	0.4 J	0.33 J	0.21 J	0.3 J	0.37 J
Silver	39 [2]	510 [2]	4.2 [19]	NE	0.12 U	0.021 U	0.038 U	0.02 U	0.022 U	0.023 U
Thallium	0.51 [2]	7 [2]	1 [20]	0.92	0.17 U	0.16 U	0.18 U	0.15 U	0.16 U	0.15 J
Vanadium	55 [2]	720 [2]	7.8 [21]	434	**360**	**200**	**340**	**110**	**210**	**240**
Zinc	2300 [2]	31,000 [2]	46.0 [22]	88	74 J	9.5	41	6.5 J	12 J	55 J
TPH DRO/GRO (mg/kg)										
Diesel Range Organics	25 [4]	NE	NE	NE	1.6 J	4.6 J	1.7 J	1 J	2.6 J	2.6 J
Gasoline Range Organics	25 [4]	NE	NE	NE	0.08 UJ	0.069 U	0.076 U	0.061 U	0.072 U	0.073 U
Total TPH	25 [4]	NE	NE	NE	1.6 J	4.6 J	1.7 J	1 J	2.6 J	2.6 J

TABLE 5-2

SUMMARY OF DETECTED RESULTS - AIRFIELD - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB43 74SB43-04 5/3/2008 7.0 - 9.0	74SB44 74SB44-04 5/3/2008 7.0 - 9.0	74SB44 74SB44-05 5/3/2008 9.0 - 11.0	74SB48 74SB48-01 5/3/2008 1.0 - 3.0	74SB48 74SB48-01D 5/3/2008 1.0 - 3.0	74SB49 74SB49-04 5/3/2008 7.0 - 9.0
Volatile Organic Compounds (ug/kg)										
2-Chloro-1,3-butadiene	860 [2]	3,600 [2]	NE	NE	0.59 U	0.61 U	0.51 U	0.54 U	0.73 U	0.63 U
Acetone	610,000 [2]	61,000,000 [2]	NE	NE	40 J	28 J	16 J	31 J	84 J	4.8 R
Carbon disulfide	670,000 [2]	300,000 [2]	NE	NE	0.52 U	0.54 U	0.45 U	0.49 U	0.65 U	0.56 U
Chlorobenzene	31,000 [2]	150,000 [2]	40,000 [5]	NE	0.75 U	0.78 U	0.65 U	0.7 U	0.93 U	0.8 U
Chloroform	300	1,500	1,002 [6]	NE	0.51 U	0.53 U	0.45 U	0.48 U	0.64 U	0.55 U
Chloromethane	1,700	8,400	NE	NE	0.73 U	0.75 U	0.63 U	0.68 U	0.91 U	0.78 U
Ethyl methacrylate	7,000,000 [2]	9,200,000 [2]	NE	NE	2.3 UJ	2.3 UJ	2 UJ	2.1 UJ	2.8 UJ	2.4 UJ
Ethylbenzene	5,700	29,000	5,003 [6]	NE	0.77 U	0.8 U	0.67 U	0.72 U	0.96 U	0.82 U
Iodomethane	NE	NE	NE	NE	1 U	1.1 U	0.89 U	0.95 U	1.3 U	1.1 U
Isobutyl alcohol	23,000,000 [2]	31,000,000 [2]	NE	NE	71 R	73 R	61 R	66 R	88 R	76 R
Methyl methacrylate	4,700,000 [2]	2,000,000 [2]	NE	NE	3.8 UJ	3.9 UJ	3.3 UJ	3.5 UJ	4.7 UJ	4.1 UJ
LLPAHs (ug/kg)										
1-Methylnaphthalene	22,000	99,000	NE	NE	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	31,000 [2]	410,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Acenaphthylene	340,000 [2]	3,300,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Anthracene	1,700,000 [2]	170,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[a]anthracene	150	2,100	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[a]pyrene	15	210	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[b]fluoranthene	150	2,100	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[g,h,i]perylene	1,700	17,000	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[k]fluoranthene	1,500	21,000	NE	NE	NA	NA	NA	NA	NA	NA
Chrysene	15,000	210,000	NE	NE	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	150	210	NE	NE	NA	NA	NA	NA	NA	NA
Fluoranthene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Fluorene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Indeno[1,2,3-cd]pyrene	150	2,100	NE	NE	NA	NA	NA	NA	NA	NA

TABLE 5-2

SUMMARY OF DETECTED RESULTS - AIRFIELD - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB43 74SB43-04 5/3/2008 7.0 - 9.0	74SB44 74SB44-04 5/3/2008 7.0 - 9.0	74SB44 74SB44-05 5/3/2008 9.0 - 11.0	74SB48 74SB48-01 5/3/2008 1.0 - 3.0	74SB48 74SB48-01D 5/3/2008 1.0 - 3.0	74SB49 74SB49-04 5/3/2008 7.0 - 9.0
LLPAHs (ug/kg)										
Naphthalene	3,900	20,000	NE	NE	NA	NA	NA	NA	NA	NA
Phenanthrene	NE	NE	NE	NE	NA	NA	NA	NA	NA	NA
Pyrene	170,000 [2]	1,700,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
PAH Totals (ug/kg):										
Low molecular weight PAHs	NE	NE	29,000 [7]	NE	NA	NA	NA	NA	NA	NA
High molecular weight PAHs	NE	NE	18,000 [7]	NE	NA	NA	NA	NA	NA	NA
Metals (mg/kg)										
Arsenic	0.390	1.60	18 [8]	1.59	**1.1**	***1.8***	***3.4***	**0.78**	**1.4**	**1.3**
Barium	1500 [2]	19,000 [2]	330 [9]	220	85	17	43	60	58	7.7
Beryllium	16 [2]	200 [2]	21 [10]	0.596	0.14	0.19	0.26	0.13	0.17	0.11 J
Cadmium	7.0 [2]	81 [2]	0.77 [11]	0.54	0.04 U	0.042 J	0.28	0.15	0.17	0.036 U
Chromium	280	1,400	26 [12]	114.5	19 R	22 R	130 R	13 R	55 R	26 R
Cobalt	2.3 [2]	30 [2]	13 [13]	26.9	2.2	**9.4**	**15**	**22**	**30**	0.91
Copper	310 [2]	4,100 [2]	28 [14]	246	94	84	120	130	130	31
Lead	400 [3]	800 [3]	11 [15]	6.3	1.9	2.5	7.4	0.66	1.5	1.9
Mercury	2.3 [2]	31 [2]	0.1 [16]	0.108	0.14	0.07	0.028	0.0043 U	0.0056 J	0.063
Nickel	160 [2]	2,000 [2]	38 [17]	24.7	2.3	5.7	6	13 J	21 J	2.2
Selenium	39 [2]	510 [2]	0.52 [18]	5.94	0.88	0.46 J	1.2	0.13 U	0.13 U	2.4
Silver	39 [2]	510 [2]	4.2 [19]	NE	0.022 U	0.027 U	0.17 J	0.051 J	0.048 J	0.03 J
Thallium	0.51 [2]	7 [2]	1 [20]	0.92	0.15 U	0.14 U	0.21 J	0.13 U	0.13 U	0.14 U
Vanadium	55 [2]	720 [2]	7.8 [21]	434	**330**	**220**	**590**	**160**	**160**	**220**
Zinc	2300 [2]	31,000 [2]	46.0 [22]	88	18 J	36 J	50 J	66 J	73 J	11 J
TPH DRO/GRO (mg/kg)										
Diesel Range Organics	25 [4]	NE	NE	NE	3 J	1.3 J	1.2 J	1.7 J	2.9 J	2.1 J
Gasoline Range Organics	25 [4]	NE	NE	NE	0.069 U	0.06 U	0.053 U	0.054 U	0.047 U	0.067 U
Total TPH	25 [4]	NE	NE	NE	3 J	1.3 J	1.2 J	1.7 J	2.9 J	2.1 J

TABLE 5-2

SUMMARY OF DETECTED RESULTS - AIRFIELD - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB49 74SB49-05 5/3/2008 7.0 - 9.0	74SB50 74SB50-03 5/3/2008 5.0 - 7.0	74SB50 74SB50-04 5/3/2008 7.0 - 9.0	74SB51 74SB51-03 5/3/2008 5.0 - 7.0	74SB52 74SB52-03 5/3/2008 5.0 - 7.0	74SB52 74SB52-04 5/3/2008 7.0 - 9.0
Volatile Organic Compounds (ug/kg)										
2-Chloro-1,3-butadiene	860 [2]	3,600 [2]	NE	NE	0.59 U	0.68 U	0.57 U	0.58 U	0.66 U	0.61 U
Acetone	610,000 [2]	61,000,000 [2]	NE	NE	22 J	12 J	4.4 R	41 J	17 J	65 J
Carbon disulfide	670,000 [2]	300,000 [2]	NE	NE	0.53 U	0.61 U	0.51 U	2.1 J	0.59 U	0.55 U
Chlorobenzene	31,000 [2]	150,000 [2]	40,000 [5]	NE	0.76 U	0.87 U	0.73 U	0.74 U	0.85 U	0.79 U
Chloroform	300	1,500	1,002 [6]	NE	0.52 U	0.59 U	0.5 U	0.51 U	0.58 U	0.54 U
Chloromethane	1,700	8,400	NE	NE	0.74 U	0.84 U	0.71 U	0.72 U	0.83 U	0.76 U
Ethyl methacrylate	7,000,000 [2]	9,200,000 [2]	NE	NE	2.3 UJ	2.6 UJ	2.2 UJ	2.2 UJ	2.6 UJ	2.4 UJ
Ethylbenzene	5,700	29,000	5,003 [6]	NE	0.78 U	0.89 U	0.75 U	0.76 U	0.87 U	0.81 U
Iodomethane	NE	NE	NE	NE	1 U	1.2 U	1 U	1 U	1.2 U	1.1 U
Isobutyl alcohol	23,000,000 [2]	31,000,000 [2]	NE	NE	72 R	82 R	69 R	70 R	80 R	74 R
Methyl methacrylate	4,700,000 [2]	2,000,000 [2]	NE	NE	3.9 UJ	4.4 UJ	3.7 UJ	3.8 UJ	4.3 UJ	4 UJ
LLPAHs (ug/kg)										
1-Methylnaphthalene	22,000	99,000	NE	NE	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	31,000 [2]	410,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Acenaphthylene	340,000 [2]	3,300,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Anthracene	1,700,000 [2]	170,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[a]anthracene	150	2,100	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[a]pyrene	15	210	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[b]fluoranthene	150	2,100	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[g,h,i]perylene	1,700	17,000	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[k]fluoranthene	1,500	21,000	NE	NE	NA	NA	NA	NA	NA	NA
Chrysene	15,000	210,000	NE	NE	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	150	210	NE	NE	NA	NA	NA	NA	NA	NA
Fluoranthene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Fluorene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Indeno[1,2,3-cd]pyrene	150	2,100	NE	NE	NA	NA	NA	NA	NA	NA

TABLE 5-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - AIRFIELD - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB49 74SB49-05 5/3/2008 7.0 - 9.0	74SB50 74SB50-03 5/3/2008 5.0 - 7.0	74SB50 74SB50-04 5/3/2008 7.0 - 9.0	74SB51 74SB51-03 5/3/2008 5.0 - 7.0	74SB52 74SB52-03 5/3/2008 5.0 - 7.0	74SB52 74SB52-04 5/3/2008 7.0 - 9.0
LLPAHs (ug/kg)										
Naphthalene	3,900	20,000	NE	NE	NA	NA	NA	NA	NA	NA
Phenanthrene	NE	NE	NE	NE	NA	NA	NA	NA	NA	NA
Pyrene	170,000 [2]	1,700,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
PAH Totals (ug/kg):										
Low molecular weight PAHs	NE	NE	29,000 [7]	NE	NA	NA	NA	NA	NA	NA
High molecular weight PAHs	NE	NE	18,000 [7]	NE	NA	NA	NA	NA	NA	NA
Metals (mg/kg)										
Arsenic	0.390	1.60	18 [8]	1.59	**0.47** J	***3.5***	**1.5**	***2.2***	**1.4**	**0.9**
Barium	1500 [2]	19,000 [2]	330 [9]	220	12	11	27	29	21	24
Beryllium	16 [2]	200 [2]	21 [10]	0.596	0.047 J	0.12 J	0.088 J	0.2	0.13	0.098 J
Cadmium	7.0 [2]	81 [2]	0.77 [11]	0.54	0.038 U	0.057 J	0.05 J	0.092 J	0.07 J	0.14
Chromium	280	1,400	26 [12]	114.5	6.4 R	23 R	21 R	84 R	19 R	15 R
Cobalt	2.3 [2]	30 [2]	13 [13]	26.9	0.76	**2.8**	1.9	**8.8**	**5**	**3.1**
Copper	310 [2]	4,100 [2]	28 [14]	246	13	49	47	70	53	46
Lead	400 [3]	800 [3]	11 [15]	6.3	0.5	2.1	1.8	4.9	2.2	1.7
Mercury	2.3 [2]	31 [2]	0.1 [16]	0.108	0.19	0.6	0.16	0.11	0.13	0.087
Nickel	160 [2]	2,000 [2]	38 [17]	24.7	1.5	3.6	2.1	9.9	3.4	2.5
Selenium	39 [2]	510 [2]	0.52 [18]	5.94	0.35 J	5.4	2	1.5	2.6	2.9
Silver	39 [2]	510 [2]	4.2 [19]	NE	0.038 J	0.062 J	0.034 J	0.062 J	0.042 J	0.05 J
Thallium	0.51 [2]	7 [2]	1 [20]	0.92	0.15 U	0.16 U	0.14 U	0.33 J	0.16 U	0.15 U
Vanadium	55 [2]	720 [2]	7.8 [21]	434	**74**	**280**	**220**	**230**	**230**	**200**
Zinc	2300 [2]	31,000 [2]	46.0 [22]	88	9.8 J	33 J	21 J	26 J	35 J	33 J
TPH DRO/GRO (mg/kg)										
Diesel Range Organics	25 [4]	NE	NE	NE	2.6 J	4.5 J	3.8 J	7.9	2.6 J	4.7
Gasoline Range Organics	25 [4]	NE	NE	NE	0.062 U	0.068 U	0.064 U	0.1 U	0.064 U	0.064 U
Total TPH	25 [4]	NE	NE	NE	2.6 J	4.5 J	3.8 J	7.9	2.6 J	4.7

TABLE 5-2

SUMMARY OF DETECTED RESULTS - AIRFIELD - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB53 74SB53-04 5/3/2008 7.0 - 9.0	74SB53 74SB53-05 5/3/2008 9.0 - 11.0	74SB54 74SB54-03 5/3/2008 5.0 - 7.0	74SB54 74SB54-04 5/3/2008 7.0 - 9.0	74SB55 74SB55-02 5/3/2008 3.0 - 5.0	74SB55 74SB55-03 5/3/2008 5.0 - 7.0
Volatile Organic Compounds (ug/kg)										
2-Chloro-1,3-butadiene	860 [2]	3,600 [2]	NE	NE	0.64 U	0.67 U	0.56 U	0.68 U	0.56 U	0.44 U
Acetone	610,000 [2]	61,000,000 [2]	NE	NE	4.9 R	16 J	110 J	290 J	140 J	17 J
Carbon disulfide	670,000 [2]	300,000 [2]	NE	NE	0.57 U	0.6 U	0.5 U	0.61 U	0.5 U	0.39 U
Chlorobenzene	31,000 [2]	150,000 [2]	40,000 [5]	NE	0.81 U	0.86 U	0.71 U	0.87 U	0.71 U	0.56 U
Chloroform	300	1,500	1,002 [6]	NE	0.56 U	0.59 U	0.49 U	0.59 U	0.49 U	0.38 U
Chloromethane	1,700	8,400	NE	NE	0.79 U	0.84 U	0.69 U	0.84 U	0.69 U	0.54 U
Ethyl methacrylate	7,000,000 [2]	9,200,000 [2]	NE	NE	2.5 UJ	2.6 UJ	2.1 UJ	2.6 UJ	2.1 UJ	1.7 UJ
Ethylbenzene	5,700	29,000	5,003 [6]	NE	0.84 U	0.88 U	0.73 U	0.89 U	0.73 U	0.57 U
Iodomethane	NE	NE	NE	NE	1.1 U	1.2 U	1.3 J	1.2 U	3.2 J	0.77 U
Isobutyl alcohol	23,000,000 [2]	31,000,000 [2]	NE	NE	77 R	81 R	67 R	82 R	67 R	53 R
Methyl methacrylate	4,700,000 [2]	2,000,000 [2]	NE	NE	4.1 UJ	4.4 UJ	3.6 UJ	4.4 UJ	3.6 UJ	2.8 UJ
LLPAHs (ug/kg)										
1-Methylnaphthalene	22,000	99,000	NE	NE	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	31,000 [2]	410,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Acenaphthylene	340,000 [2]	3,300,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Anthracene	1,700,000 [2]	170,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[a]anthracene	150	2,100	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[a]pyrene	15	210	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[b]fluoranthene	150	2,100	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[g,h,i]perylene	1,700	17,000	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[k]fluoranthene	1,500	21,000	NE	NE	NA	NA	NA	NA	NA	NA
Chrysene	15,000	210,000	NE	NE	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	150	210	NE	NE	NA	NA	NA	NA	NA	NA
Fluoranthene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Fluorene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Indeno[1,2,3-cd]pyrene	150	2,100	NE	NE	NA	NA	NA	NA	NA	NA

TABLE 5-2

SUMMARY OF DETECTED RESULTS - AIRFIELD - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB53 74SB53-04 5/3/2008 7.0 - 9.0	74SB53 74SB53-05 5/3/2008 9.0 - 11.0	74SB54 74SB54-03 5/3/2008 5.0 - 7.0	74SB54 74SB54-04 5/3/2008 7.0 - 9.0	74SB55 74SB55-02 5/3/2008 3.0 - 5.0	74SB55 74SB55-03 5/3/2008 5.0 - 7.0
LLPAHs (ug/kg)										
Naphthalene	3,900	20,000	NE	NE	NA	NA	NA	NA	NA	NA
Phenanthrene	NE	NE	NE	NE	NA	NA	NA	NA	NA	NA
Pyrene	170,000 [2]	1,700,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
PAH Totals (ug/kg):										
Low molecular weight PAHs	NE	NE	29,000 [7]	NE	NA	NA	NA	NA	NA	NA
High molecular weight PAHs	NE	NE	18,000 [7]	NE	NA	NA	NA	NA	NA	NA
Metals (mg/kg)										
Arsenic	0.390	1.60	18 [8]	1.59	***2.1***	***4.7*** J	***6.2*** J	***7.1*** J	***4*** J	***3.8*** J
Barium	1500 [2]	19,000 [2]	330 [9]	220	11	13	960	530	130	34
Beryllium	16 [2]	200 [2]	21 [10]	0.596	0.047 J	0.096 U	0.32	0.47	0.34	0.29
Cadmium	7.0 [2]	81 [2]	0.77 [11]	0.54	0.037 U	0.081 J	2.9	2.1	1.6	0.53
Chromium	280	1,400	26 [12]	114.5	12 R	16 J	120 J	100 J	67 J	130 J
Cobalt	2.3 [2]	30 [2]	13 [13]	26.9	0.79	1.1	***170***	***78***	**30**	**17**
Copper	310 [2]	4,100 [2]	28 [14]	246	58	160	130	130	110	100
Lead	400 [3]	800 [3]	11 [15]	6.3	2	2.2	42	25	8.4	8.9
Mercury	2.3 [2]	31 [2]	0.1 [16]	0.108	0.0074 J	0.01 J	0.5	0.24	0.15	0.079
Nickel	160 [2]	2,000 [2]	38 [17]	24.7	1.5	1.8	10	8.6	9.2	5.9
Selenium	39 [2]	510 [2]	0.52 [18]	5.94	1.2	1.8 J	1.5 J	1.4 J	2.4 J	2.8 J
Silver	39 [2]	510 [2]	4.2 [19]	NE	0.048 J	0.05 U	0.38	0.14 U	0.13 U	0.38
Thallium	0.51 [2]	7 [2]	1 [20]	0.92	0.14 U	0.14 U	**2**	**1.1**	0.43 J	0.25 J
Vanadium	55 [2]	720 [2]	7.8 [21]	434	**210**	**370**	**570**	**470**	**390**	**360**
Zinc	2300 [2]	31,000 [2]	46.0 [22]	88	31 J	53 J	300 J	320 J	150 J	150 J
TPH DRO/GRO (mg/kg)										
Diesel Range Organics	25 [4]	NE	NE	NE	2.3 J	1.1 J	1.2 J	1.3 J	2.3 J	0.88 J
Gasoline Range Organics	25 [4]	NE	NE	NE	0.064 U	0.071 U	0.082 U	0.069 U	0.06 U	0.06 U
Total TPH	25 [4]	NE	NE	NE	2.3 J	1.1 J	1.2 J	1.3 J	2.3 J	0.88 J

TABLE 5-2

SUMMARY OF DETECTED RESULTS - AIRFIELD - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB56 74SB56-03 5/3/2008 5.0 - 7.0	74SB56 74SB56-04 5/3/2008 7.0 - 9.0	74SB57 74SB57-03 5/3/2008 5.0 - 7.0	74SB57 74SB57-04 5/3/2008 7.0 - 9.0	74SB58 74SB58-03 5/3/2008 5.0 - 7.0	74SB58 74SB58-04 5/3/2008 7.0 - 9.0
Volatile Organic Compounds (ug/kg)										
2-Chloro-1,3-butadiene	860 [2]	3,600 [2]	NE	NE	0.59 U	0.63 U	0.53 U	0.54 U	0.53 U	0.5 U
Acetone	610,000 [2]	61,000,000 [2]	NE	NE	22 J	4.9 R	36 J	23 J	31 J	13 J
Carbon disulfide	670,000 [2]	300,000 [2]	NE	NE	0.53 U	0.56 U	0.58 J	0.5 J	0.47 U	0.45 U
Chlorobenzene	31,000 [2]	150,000 [2]	40,000 [5]	NE	0.76 U	0.81 U	0.68 U	0.7 U	0.68 U	0.65 U
Chloroform	300	1,500	1,002 [6]	NE	0.52 U	0.55 U	0.47 U	0.48 U	0.46 U	0.44 U
Chloromethane	1,700	8,400	NE	NE	0.74 U	0.79 U	0.66 U	0.68 U	0.66 U	0.63 U
Ethyl methacrylate	7,000,000 [2]	9,200,000 [2]	NE	NE	2.3 UJ	2.4 UJ	2 UJ	2.1 UJ	2 UJ	1.9 UJ
Ethylbenzene	5,700	29,000	5,003 [6]	NE	0.78 U	0.83 U	0.7 U	0.72 U	0.7 U	0.66 U
Iodomethane	NE	NE	NE	NE	1 U	1.1 U	0.93 U	0.95 U	0.93 U	0.89 U
Isobutyl alcohol	23,000,000 [2]	31,000,000 [2]	NE	NE	72 R	76 R	64 R	66 R	64 R	61 R
Methyl methacrylate	4,700,000 [2]	2,000,000 [2]	NE	NE	3.8 UJ	4.1 UJ	3.4 UJ	3.5 UJ	3.4 UJ	3.3 UJ
LLPAHs (ug/kg)										
1-Methylnaphthalene	22,000	99,000	NE	NE	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	31,000 [2]	410,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Acenaphthylene	340,000 [2]	3,300,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Anthracene	1,700,000 [2]	170,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[a]anthracene	150	2,100	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[a]pyrene	15	210	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[b]fluoranthene	150	2,100	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[g,h,i]perylene	1,700	17,000	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[k]fluoranthene	1,500	21,000	NE	NE	NA	NA	NA	NA	NA	NA
Chrysene	15,000	210,000	NE	NE	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	150	210	NE	NE	NA	NA	NA	NA	NA	NA
Fluoranthene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Fluorene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Indeno[1,2,3-cd]pyrene	150	2,100	NE	NE	NA	NA	NA	NA	NA	NA

TABLE 5-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - AIRFIELD - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB56 74SB56-03 5/3/2008 5.0 - 7.0	74SB56 74SB56-04 5/3/2008 7.0 - 9.0	74SB57 74SB57-03 5/3/2008 5.0 - 7.0	74SB57 74SB57-04 5/3/2008 7.0 - 9.0	74SB58 74SB58-03 5/3/2008 5.0 - 7.0	74SB58 74SB58-04 5/3/2008 7.0 - 9.0
LLPAHs (ug/kg)										
Naphthalene	3,900	20,000	NE	NE	NA	NA	NA	NA	NA	NA
Phenanthrene	NE	NE	NE	NE	NA	NA	NA	NA	NA	NA
Pyrene	170,000 [2]	1,700,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
PAH Totals (ug/kg):										
Low molecular weight PAHs	NE	NE	29,000 [7]	NE	NA	NA	NA	NA	NA	NA
High molecular weight PAHs	NE	NE	18,000 [7]	NE	NA	NA	NA	NA	NA	NA
Metals (mg/kg)										
Arsenic	0.390	1.60	18 [8]	1.59	***2.3*** J	***3.2*** J	***2.1*** J	***2*** J	***1.9*** J	***1.8*** J
Barium	1500 [2]	19,000 [2]	330 [9]	220	140	18	44	82	69	71
Beryllium	16 [2]	200 [2]	21 [10]	0.596	0.4	0.12	0.3	0.27	0.21	0.32
Cadmium	7.0 [2]	81 [2]	0.77 [11]	0.54	0.65	0.22	0.48	0.19	0.16	0.11 J
Chromium	280	1,400	26 [12]	114.5	23 J	27 J	28 J	21 J	16 J	21 J
Cobalt	2.3 [2]	30 [2]	13 [13]	26.9	**21**	**3.1**	**18**	**18**	**15**	**17**
Copper	310 [2]	4,100 [2]	28 [14]	246	100	86	97	97	53	75
Lead	400 [3]	800 [3]	11 [15]	6.3	4.9	5.7	4.7	4.2	3.1	3.2
Mercury	2.3 [2]	31 [2]	0.1 [16]	0.108	0.071	0.15	0.069	0.053	0.033	0.039
Nickel	160 [2]	2,000 [2]	38 [17]	24.7	9.4	3.6	8.2	7.8	4.9	6.9
Selenium	39 [2]	510 [2]	0.52 [18]	5.94	1.3 J	2.2 J	1.2 J	0.66 J	0.67 J	0.29 J
Silver	39 [2]	510 [2]	4.2 [19]	NE	0.13 U	0.083 U	0.099 U	0.064 U	0.052 U	0.07 U
Thallium	0.51 [2]	7 [2]	1 [20]	0.92	0.2 J	0.15 U	0.14 J	0.15 J	0.14 U	0.14 U
Vanadium	55 [2]	720 [2]	7.8 [21]	434	**270**	**450**	**300**	**210**	**160**	**230**
Zinc	2300 [2]	31,000 [2]	46.0 [22]	88	97 J	92 J	77 J	64 J	41 J	47 J
TPH DRO/GRO (mg/kg)										
Diesel Range Organics	25 [4]	NE	NE	NE	1.4 J	3 J	1.7 J	2.9 J	3.4 J	2.2 J
Gasoline Range Organics	25 [4]	NE	NE	NE	0.2 U	0.085 U	0.051 U	0.062 U	0.058 U	0.056 U
Total TPH	25 [4]	NE	NE	NE	1.4 J	3 J	1.7 J	2.9 J	3.4 J	2.2 J

TABLE 5-2

SUMMARY OF DETECTED RESULTS - AIRFIELD - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB59 74SB59-04 5/3/2008 7.0 - 9.0	74SB59 74SB59-05 5/3/2008 9.0 - 11.0	74SB60 74SB60-04 5/3/2008 7.0 - 9.0	74SB60 74SB60-05 5/3/2008 9.0 - 11.0	74SB61 74SB61-03 5/3/2008 5.0 - 7.0	74SB61 74SB61-04 5/3/2008 7.0 - 9.0
Volatile Organic Compounds (ug/kg)										
2-Chloro-1,3-butadiene	860 [2]	3,600 [2]	NE	NE	0.53 U	0.52 U	0.49 U	0.49 U	0.39 U	0.73 U
Acetone	610,000 [2]	61,000,000 [2]	NE	NE	12 J	21 J	25 J	33 J	16 J	50 J
Carbon disulfide	670,000 [2]	300,000 [2]	NE	NE	0.47 U	0.99 J	0.44 U	0.43 U	0.35 U	0.65 U
Chlorobenzene	31,000 [2]	150,000 [2]	40,000 [5]	NE	0.68 U	0.67 U	0.63 U	0.62 U	0.5 U	0.93 U
Chloroform	300	1,500	1,002 [6]	NE	0.46 U	0.46 U	0.43 U	0.43 U	0.35 U	0.64 U
Chloromethane	1,700	8,400	NE	NE	0.66 U	0.65 U	0.62 U	0.6 U	0.49 U	0.91 U
Ethyl methacrylate	7,000,000 [2]	9,200,000 [2]	NE	NE	2 U	2 U	1.9 U	1.9 U	1.5 U	2.8 U
Ethylbenzene	5,700	29,000	5,003 [6]	NE	0.7 U	0.69 U	0.65 U	0.64 U	0.52 U	0.96 U
Iodomethane	NE	NE	NE	NE	0.93 U	0.92 U	0.87 U	0.85 U	0.69 U	1.3 U
Isobutyl alcohol	23,000,000 [2]	31,000,000 [2]	NE	NE	64 R	63 R	60 R	59 R	48 R	88 R
Methyl methacrylate	4,700,000 [2]	2,000,000 [2]	NE	NE	3.4 U	3.4 U	3.2 U	3.2 U	2.6 U	4.7 U
LLPAHs (ug/kg)										
1-Methylnaphthalene	22,000	99,000	NE	NE	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	31,000 [2]	410,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Acenaphthylene	340,000 [2]	3,300,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Anthracene	1,700,000 [2]	170,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[a]anthracene	150	2,100	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[a]pyrene	15	210	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[b]fluoranthene	150	2,100	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[g,h,i]perylene	1,700	17,000	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[k]fluoranthene	1,500	21,000	NE	NE	NA	NA	NA	NA	NA	NA
Chrysene	15,000	210,000	NE	NE	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	150	210	NE	NE	NA	NA	NA	NA	NA	NA
Fluoranthene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Fluorene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Indeno[1,2,3-cd]pyrene	150	2,100	NE	NE	NA	NA	NA	NA	NA	NA

TABLE 5-2

SUMMARY OF DETECTED RESULTS - AIRFIELD - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB59 74SB59-04 5/3/2008 7.0 - 9.0	74SB59 74SB59-05 5/3/2008 9.0 - 11.0	74SB60 74SB60-04 5/3/2008 7.0 - 9.0	74SB60 74SB60-05 5/3/2008 9.0 - 11.0	74SB61 74SB61-03 5/3/2008 5.0 - 7.0	74SB61 74SB61-04 5/3/2008 7.0 - 9.0
LLPAHs (ug/kg)										
Naphthalene	3,900	20,000	NE	NE	NA	NA	NA	NA	NA	NA
Phenanthrene	NE	NE	NE	NE	NA	NA	NA	NA	NA	NA
Pyrene	170,000 [2]	1,700,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
PAH Totals (ug/kg):										
Low molecular weight PAHs	NE	NE	29,000 [7]	NE	NA	NA	NA	NA	NA	NA
High molecular weight PAHs	NE	NE	18,000 [7]	NE	NA	NA	NA	NA	NA	NA
Metals (mg/kg)										
Arsenic	0.390	1.60	18 [8]	1.59	**1.4** J	**1.4** J	***2*** J	***1.7*** J	***2.1*** J	***2.3*** J
Barium	1500 [2]	19,000 [2]	330 [9]	220	79	100	87	84	100	100
Beryllium	16 [2]	200 [2]	21 [10]	0.596	0.28	0.28	0.25	0.37	0.33	0.39
Cadmium	7.0 [2]	81 [2]	0.77 [11]	0.54	0.18	0.08 J	0.17	0.11 J	0.082 J	0.32
Chromium	280	1,400	26 [12]	114.5	24 J	24 J	18 J	36 J	5.8 J	26 J
Cobalt	2.3 [2]	30 [2]	13 [13]	26.9	**16**	**18**	**18**	**22**	**22**	***35***
Copper	310 [2]	4,100 [2]	28 [14]	246	67	66	79	97	150	89
Lead	400 [3]	800 [3]	11 [15]	6.3	2.8	2.5	4	3.7	0.78	4
Mercury	2.3 [2]	31 [2]	0.1 [16]	0.108	0.036	0.012 J	0.04	0.05	0.025	0.052
Nickel	160 [2]	2,000 [2]	38 [17]	24.7	6.3	6.7	7.1	9.5	8.4	9.8
Selenium	39 [2]	510 [2]	0.52 [18]	5.94	0.54 J	0.22 J	0.91 J	0.76 J	0.23 J	0.78 J
Silver	39 [2]	510 [2]	4.2 [19]	NE	0.066 U	0.035 U	0.05 U	0.064 U	0.045 U	0.066 U
Thallium	0.51 [2]	7 [2]	1 [20]	0.92	0.13 U	0.13 U	0.15 J	0.16 J	0.16 U	0.27 J
Vanadium	55 [2]	720 [2]	7.8 [21]	434	**190**	**180**	**190**	**290**	**270**	**220**
Zinc	2300 [2]	31,000 [2]	46.0 [22]	88	40 J	44 J	49 J	60 J	55 J	57 J
TPH DRO/GRO (mg/kg)										
Diesel Range Organics	25 [4]	NE	NE	NE	3 J	2.5 J	6.4	3.1 J	2.6 J	2.8 J
Gasoline Range Organics	25 [4]	NE	NE	NE	0.065 U	0.064 U	0.06 U	0.046 U	0.04 U	0.036 U
Total TPH	25 [4]	NE	NE	NE	3 J	2.5 J	6.4	3.1 J	2.6 J	2.8 J

TABLE 5-2

SUMMARY OF DETECTED RESULTS - AIRFIELD - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB61 74SB61-04D 5/3/2008 7.0 - 9.0	74SB62 74SB62-03 5/3/2008 5.0 - 7.0	74VP1b 74VP1b-03 5/3/2008 5.0 - 7.0	74VP1b 74VP1b-03D 5/3/2008 5.0 - 7.0	74VP1b 74VP1b-04 5/3/2008 7.0 - 9.0
Volatile Organic Compounds (ug/kg)									
2-Chloro-1,3-butadiene	860 [2]	3,600 [2]	NE	NE	0.48 U	0.6 U	0.54 U	0.51 U	0.52 U
Acetone	610,000 [2]	61,000,000 [2]	NE	NE	65 J	67 J	120 J	140 J	32 J
Carbon disulfide	670,000 [2]	300,000 [2]	NE	NE	0.43 U	0.54 U	0.48 U	0.46 U	0.46 U
Chlorobenzene	31,000 [2]	150,000 [2]	40,000 [5]	NE	0.61 U	0.77 U	0.69 U	0.65 U	0.66 U
Chloroform	300	1,500	1,002 [6]	NE	0.42 U	0.53 U	0.47 U	0.45 U	0.45 U
Chloromethane	1,700	8,400	NE	NE	0.6 U	0.75 U	0.67 U	0.64 U	0.64 U
Ethyl methacrylate	7,000,000 [2]	9,200,000 [2]	NE	NE	1.9 U	2.3 U	2.1 UJ	2 UJ	2 UJ
Ethylbenzene	5,700	29,000	5,003 [6]	NE	0.63 U	0.79 U	0.71 U	0.67 U	0.68 U
Iodomethane	NE	NE	NE	NE	0.84 U	1.1 U	0.94 U	0.89 U	0.91 U
Isobutyl alcohol	23,000,000 [2]	31,000,000 [2]	NE	NE	58 R	73 R	65 R	62 R	62 R
Methyl methacrylate	4,700,000 [2]	2,000,000 [2]	NE	NE	3.1 U	3.9 U	3.5 UJ	3.3 UJ	3.4 UJ
LLPAHs (ug/kg)									
1-Methylnaphthalene	22,000	99,000	NE	NE	NA	NA	NA	NA	NA
2-Methylnaphthalene	31,000 [2]	410,000 [2]	NE	NE	NA	NA	NA	NA	NA
Acenaphthylene	340,000 [2]	3,300,000 [2]	NE	NE	NA	NA	NA	NA	NA
Anthracene	1,700,000 [2]	170,000 [2]	NE	NE	NA	NA	NA	NA	NA
Benzo[a]anthracene	150	2,100	NE	NE	NA	NA	NA	NA	NA
Benzo[a]pyrene	15	210	NE	NE	NA	NA	NA	NA	NA
Benzo[b]fluoranthene	150	2,100	NE	NE	NA	NA	NA	NA	NA
Benzo[g,h,i]perylene	1,700	17,000	NE	NE	NA	NA	NA	NA	NA
Benzo[k]fluoranthene	1,500	21,000	NE	NE	NA	NA	NA	NA	NA
Chrysene	15,000	210,000	NE	NE	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	150	210	NE	NE	NA	NA	NA	NA	NA
Fluoranthene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	NA	NA	NA
Fluorene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	NA	NA	NA
Indeno[1,2,3-cd]pyrene	150	2,100	NE	NE	NA	NA	NA	NA	NA

TABLE 5-2

SUMMARY OF DETECTED RESULTS - AIRFIELD - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB61 74SB61-04D 5/3/2008 7.0 - 9.0	74SB62 74SB62-03 5/3/2008 5.0 - 7.0	74VP1b 74VP1b-03 5/3/2008 5.0 - 7.0	74VP1b 74VP1b-03D 5/3/2008 5.0 - 7.0	74VP1b 74VP1b-04 5/3/2008 7.0 - 9.0
LLPAHs (ug/kg)									
Naphthalene	3,900	20,000	NE	NE	NA	NA	NA	NA	NA
Phenanthrene	NE	NE	NE	NE	NA	NA	NA	NA	NA
Pyrene	170,000 [2]	1,700,000 [2]	NE	NE	NA	NA	NA	NA	NA
PAH Totals (ug/kg):									
Low molecular weight PAHs	NE	NE	29,000 [7]	NE	NA	NA	NA	NA	NA
High molecular weight PAHs	NE	NE	18,000 [7]	NE	NA	NA	NA	NA	NA
Metals (mg/kg)									
Arsenic	0.390	1.60	18 [8]	1.59	***1.9*** J	***3.3*** J	***2.2***	***2.4***	***2.2***
Barium	1500 [2]	19,000 [2]	330 [9]	220	120	110	39 J	25 J	78
Beryllium	16 [2]	200 [2]	21 [10]	0.596	0.33	0.34	0.3	0.35	0.28
Cadmium	7.0 [2]	81 [2]	0.77 [11]	0.54	0.21	0.28	0.077 J	0.17	0.078 J
Chromium	280	1,400	26 [12]	114.5	34 J	20 J	30 J	14 J	31
Cobalt	2.3 [2]	30 [2]	13 [13]	26.9	**25**	***32***	**20**	**26**	**19**
Copper	310 [2]	4,100 [2]	28 [14]	246	93	160	170 J	270 J	130
Lead	400 [3]	800 [3]	11 [15]	6.3	3.9	3.7	3.5	2.7	3.8
Mercury	2.3 [2]	31 [2]	0.1 [16]	0.108	0.044	0.046	0.071	0.052	0.031
Nickel	160 [2]	2,000 [2]	38 [17]	24.7	9.8	6.7	11	10	8.1
Selenium	39 [2]	510 [2]	0.52 [18]	5.94	0.81 J	1.3 J	1	1.5	0.66
Silver	39 [2]	510 [2]	4.2 [19]	NE	0.071 U	0.094 U	0.074 U	0.085 U	0.035 U
Thallium	0.51 [2]	7 [2]	1 [20]	0.92	0.17 J	0.16 U	0.16 J	0.15 U	0.19 J
Vanadium	55 [2]	720 [2]	7.8 [21]	434	**240**	**280**	**380**	**520**	**290**
Zinc	2300 [2]	31,000 [2]	46.0 [22]	88	60 J	56 J	68	95	46
TPH DRO/GRO (mg/kg)									
Diesel Range Organics	25 [4]	NE	NE	NE	3.3 J	2.2 J	3.3 J	3 J	2 J
Gasoline Range Organics	25 [4]	NE	NE	NE	0.037 U	0.065 U	0.069 U	0.053 U	0.055 U
Total TPH	25 [4]	NE	NE	NE	3.3 J	2.2 J	3.3 J	3 J	2 J

TABLE 5-2

SUMMARY OF DETECTED RESULTS - AIRFIELD - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74VP1b 74VP1b-04X 5/3/2008 7.0 - 9.0	74VP2b 74VP2b-01 5/3/2008 1.0 - 3.0	74VP2b 74VP2b-03 5/3/2008 5.0 - 7.0
Volatile Organic Compounds (ug/kg)							
2-Chloro-1,3-butadiene	860 [2]	3,600 [2]	NE	NE	0.57 U	0.54 U	0.46 U
Acetone	610,000 [2]	61,000,000 [2]	NE	NE	33 J	280 J	52 J
Carbon disulfide	670,000 [2]	300,000 [2]	NE	NE	0.51 U	0.49 U	0.41 U
Chlorobenzene	31,000 [2]	150,000 [2]	40,000 [5]	NE	0.73 U	0.7 U	0.59 U
Chloroform	300	1,500	1,002 [6]	NE	0.5 U	0.48 U	0.4 U
Chloromethane	1,700	8,400	NE	NE	0.71 U	0.68 U	0.57 U
Ethyl methacrylate	7,000,000 [2]	9,200,000 [2]	NE	NE	2.2 UJ	2.1 UJ	1.8 UJ
Ethylbenzene	5,700	29,000	5,003 [6]	NE	0.75 U	0.72 U	0.6 U
Iodomethane	NE	NE	NE	NE	1 U	5.1	0.8 U
Isobutyl alcohol	23,000,000 [2]	31,000,000 [2]	NE	NE	69 R	66 R	55 R
Methyl methacrylate	4,700,000 [2]	2,000,000 [2]	NE	NE	3.7 UJ	3.5 UJ	3 UJ
LLPAHs (ug/kg)							
1-Methylnaphthalene	22,000	99,000	NE	NE	NA	NA	NA
2-Methylnaphthalene	31,000 [2]	410,000 [2]	NE	NE	NA	NA	NA
Acenaphthylene	340,000 [2]	3,300,000 [2]	NE	NE	NA	NA	NA
Anthracene	1,700,000 [2]	170,000 [2]	NE	NE	NA	NA	NA
Benzo[a]anthracene	150	2,100	NE	NE	NA	NA	NA
Benzo[a]pyrene	15	210	NE	NE	NA	NA	NA
Benzo[b]fluoranthene	150	2,100	NE	NE	NA	NA	NA
Benzo[g,h,i]perylene	1,700	17,000	NE	NE	NA	NA	NA
Benzo[k]fluoranthene	1,500	21,000	NE	NE	NA	NA	NA
Chrysene	15,000	210,000	NE	NE	NA	NA	NA
Dibenz(a,h)anthracene	150	210	NE	NE	NA	NA	NA
Fluoranthene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	NA
Fluorene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	NA
Indeno[1,2,3-cd]pyrene	150	2,100	NE	NE	NA	NA	NA

TABLE 5-2

SUMMARY OF DETECTED RESULTS - AIRFIELD - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74VP1b 74VP1b-04X 5/3/2008 7.0 - 9.0	74VP2b 74VP2b-01 5/3/2008 1.0 - 3.0	74VP2b 74VP2b-03 5/3/2008 5.0 - 7.0
LLPAHs (ug/kg)							
Naphthalene	3,900	20,000	NE	NE	NA	NA	NA
Phenanthrene	NE	NE	NE	NE	NA	NA	NA
Pyrene	170,000 [2]	1,700,000 [2]	NE	NE	NA	NA	NA
PAH Totals (ug/kg):							
Low molecular weight PAHs	NE	NE	29,000 [7]	NE	NA	NA	NA
High molecular weight PAHs	NE	NE	18,000 [7]	NE	NA	NA	NA
Metals (mg/kg)							
Arsenic	0.390	1.60	18 [8]	1.59	***1.8***	***3.5***	***2.8***
Barium	1500 [2]	19,000 [2]	330 [9]	220	80	28	64
Beryllium	16 [2]	200 [2]	21 [10]	0.596	0.31	0.16	0.21
Cadmium	7.0 [2]	81 [2]	0.77 [11]	0.54	0.15	0.061 J	1.6
Chromium	280	1,400	26 [12]	114.5	22	18	17
Cobalt	2.3 [2]	30 [2]	13 [13]	26.9	**28**	**5.8**	**15**
Copper	310 [2]	4,100 [2]	28 [14]	246	86	43	190
Lead	400 [3]	800 [3]	11 [15]	6.3	3.4	2.8	3.7
Mercury	2.3 [2]	31 [2]	0.1 [16]	0.108	0.052	0.19	0.0043 U
Nickel	160 [2]	2,000 [2]	38 [17]	24.7	8.3	4.9	16
Selenium	39 [2]	510 [2]	0.52 [18]	5.94	1.2	2.5	0.41 J
Silver	39 [2]	510 [2]	4.2 [19]	NE	0.051 U	0.089 U	0.26
Thallium	0.51 [2]	7 [2]	1 [20]	0.92	0.26 J	0.26 J	0.12 U
Vanadium	55 [2]	720 [2]	7.8 [21]	434	**190**	**220**	**100**
Zinc	2300 [2]	31,000 [2]	46.0 [22]	88	60	32	200
TPH DRO/GRO (mg/kg)							
Diesel Range Organics	25 [4]	NE	NE	NE	1 J	7.6	2.2 J
Gasoline Range Organics	25 [4]	NE	NE	NE	0.061 U	0.058 U	0.063 U
Total TPH	25 [4]	NE	NE	NE	1 J	7.6	2.2 J

TABLE 5-2

SUMMARY OF DETECTED RESULTS - AIRFIELD - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Notes/Qualifiers:

J - Estimated, the analyte was positively identified; the quantitation is an estimation
U - Undetected at the Limit of Detection.
UJ - Reported quantitation limit is qualified as estimated
R - Data is rejected and not usable
ft bgs - feet below ground surface
mg/kg - milligram per kilogram
ug/kg - microgram per kilogram
NA - Not Analyzed
NE - Not Established
DRO - Diesel Range Organics
GRO - Gasoline Range Organics
TPH - Total Petroleum Hydrocarbons
LLPAH - Low-level Polynuclear Aromatic Hydrocarbon
NAPR - Naval Activity Puerto Rico
USEPA - United States Environmental Protection Agency

(1) NAPR basewide background surface soil screening value (upper limit of the means concentration [mean plus two standard deviations]) for Subsurface Soil Background Clay Table 3-4 (Baker, 2008)
(2) Noncarcinogenic Regional Screening Criteria based on a target hazard quotient of 0.1 for conservative screening purposes
(3) USEPA Action Level for lead in soils
(4) Screening level for TPH is 25% of PREQB soil criterion, as proposed in the approved Work Plan dated 12/6/07
(5) Toxicological threshold for earthworms [Efroymson et al. 1997a]
(6) The screening value shown is an average of the target and intervention soil standards. The value is based on a default organic carbon content of 0.02 (2 percent), which represents a minimum value (adjustment range is 2 to 30 percent). [MHSPE 2000]
(7) Ecological soil screening level for soil invertebrates [USEPA 2007a]
(8) Ecological soil screening level for plants [USEPA 2005a]
(9) Ecological soil screening level for soil invertebrates [USEPA 2005b]
(10) Ecological soil screening level for mammalian herbivores [USEPA 2005c]
(11) Ecological soil screening level for avian ground insectivores [USEPA 2005d]
(12) Ecological soil screening level for avian ground insectivores [USEPA 2008]
(13) Ecological soil screening level for plants [USEPA 2005e]
(14) Ecological soil screening level for avian ground insectivores [USEPA 2007b]
(15) Ecological soil screening level for avian ground insectivores [USEPA 2005f]
(16) Toxicological threshold for earthworms [Efroymson et al. 1997a]
(17) Ecological soil screening level for plants [USEPA 2007c]
(18) Ecological soil screening level for plants [USEPA 2007d]
(19) Ecological soil screening level for avian ground insectivores [USEPA 2006]
(20) Toxicological threshold for plants [Efroymson et al. 1997b]
(21) Ecological soil screening level for avian ground insectivores [USEPA 2005g]
(22) Ecological soil screening level for avian ground insectivores [USEPA 2007e]

SUMMARY OF DETECTED RESULTS - AIRFIELD - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

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USEPA. 2005d. Ecological Soil Screening Levels for Cadmium (Interim Final). Office of Solid Waste and Emergency Response, Washington, D.C. OSWER Directive 9285.7-62.

USEPA. 2005e. Ecological Soil Screening Levels for Cobalt (Interim Final). Office of Solid Waste and Emergency Response, Washington, D.C. OSWER Directive 9285.7-67

USEPA. 2005f. Ecological Soil Screening Levels for Lead (Interim Final). Office of Solid Waste and Emergency Response, Washington, D.C. OSWER Directive 9285.7-70.

USEPA. 2005g. Ecological Soil Screening Levels for Vanadium (Interim Final). Office of Solid Waste and Emergency Response, Washington, D.C. OSWER Directive 9285.7-75.

TABLE 5-3

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - AIRFIELD - GROUNDWATER
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date	**Regional Tap Water Screening Levels**	*USEPA MCLs*	Selected Ecological Surface Water Screening Values	NAPR Basewide Background [1]	74SB05 74GW05 5/5/2008	74SB09 74GW09 5/6/2008	74SB22 74GW22 5/5/2008	74SB26 [23] 74GW26 5/5/2008	74GW34 74GW34 5/6/2008	74SB57 74GW57 5/6/2008
Volatile Organic Compounds (ug/L)										
4-Methyl-2-pentanone (MIBK)	200 [2]	NE	170 [5][6]	NE	0.6 U	0.60 U	0.60 U	0.89 J	0.60 U	0.60 U
Acetone	2,200 [2]	NE	1,000 [7]	NE	5.0 U	7.7 J	5.0 U	30	9.4 J	5.0 U
Benzene	0.41	5.0	109 [8]	NE	0.32 U	0.32 U	0.32 U	**3.0**	0.32 U	0.32 U
Chloromethane	1.8	NE	2,700 [9]	NE	0.28 U	0.28 U	0.28 U	0.29 J	0.28 U	0.28 U
Ethylbenzene	1.5	700	4 [8]	NE	0.30 U	0.30 U	0.30 U	**2.7**	0.30 U	0.30 U
Tetrachloroethene	0.11	5.0	45 [8]	NE	**2.0**	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U
LLPAHs (ug/L)										
2-Methylnaphthalene	15 [2]	NE	6 [10]	NE	0.022 U	0.022 U	0.097 J	NA	NA	NA
Phenanthrene	NE	NE	8 [11]	NE	0.017 U	0.020 J	0.017 U	NA	NA	NA
Total Metals (ug/L)										
Barium	730 [2]	2,000	16,667 [12]	686	97	230	**950**	**1,300**	56	110
Cadmium	1.8 [2]	5.0	8.85 [13]	16.62	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Chromium	5,500 [2]	NE	50.4 [14]	162.41	5.3	3.5 J	2.1 J	0.68 J	1.9 J	8.1
Cobalt	1.1 [2]	NE	45 [15]	633.21	**6.0**	**4.3**	**2.4**	**12**	**1.6**	**6.4**
Copper	150 [2]	1,300	3.73 [13]	324	26	16	8.5	3.9 U	15	29
Lead	NE	15 [3]	8.52 [13]	26.25	1.7	0.70 U	0.16 U	0.15 U	0.22 U	1.8
Nickel	73 [2]	NE	8.28 [13]	95.7	2.4	2.6	7.5	3.5	9.9	5.3
Selenium	18 [2]	50	71.1 [13]	29.88	0.600 U	0.60 U	0.60 U	0.60 U	2.7	0.60 U
Vanadium	26 [2]	NE	12 [5][6]	484.66	**52**	26	3.2 U	1.6 U	4.0 U	**43**
Zinc	1100 [2]	NE	85.6 [13]	547.53	19 J	16 J	23 J	16 J	12 J	24 J

TABLE 5-3

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - AIRFIELD - GROUNDWATER
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date	**Regional Tap Water Screening Levels**	*USEPA MCLs*	Selected Ecological Surface Water Screening Values	NAPR Basewide Background [1]	74SB05 74GW05 5/5/2008	74SB09 74GW09 5/6/2008	74SB22 74GW22 5/5/2008	74SB26 [23] 74GW26 5/5/2008	74GW34 74GW34 5/6/2008	74SB57 74GW57 5/6/2008
Dissolved Metals (ug/L)										
Arsenic	0.045	10	36 [16]	14.03	**0.61** J	**0.75** J	**0.81** J	**0.64** J	**1.1** J	**0.83** J
Barium	730 [2]	2,000	16,667 [12][17]	260	71	190	**1,000**	**1,700** J	56	91
Beryllium	7.3 [2]	4.0	310 [11][18]	5.4	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U
Chromium	5,500 [2]	NE	50.0 [19]	6.5	0.60 U	0.6 U	0.92 J	0.6 U	1.3 J	0.60 U
Cobalt	1.1	NE	45 [15][17]	580.5	**1.8**	**3.1**	**2.9**	**8.4** J	**1.9**	**4.4**
Copper	150 [2]	1,300	3.1 [20]	29	2.2 U	2.4 U	7.6	1.2 U	13	1.2 U
Nickel	73	NE	8.2 [21]	84.1	0.63 J	1.6	6.7	1.3	9.6	2.4
Selenium	18 [2]	50	71 [21]	23.92	0.60 U	0.6 U	0.6 U	0.81 J	2.8	0.60 U
Vanadium	26 [2]	NE	12 [5][6][17]	20.96	3.2 J	2.2 J	2.8 J	0.8 U	3.7 J	1.2 J
Zinc	1,100 [2]	NE	81 [22]	360.64	6.5 U	10 J	17 J	6.5 U	12 J	7.9 J
TPH DRO and GRO (mg/L)										
Diesel Range Organics	12.5 [4]	NE	NE	NE	0.18	0.62	1.0	**16**	0.38	0.045 J
Gasoline Range Organics	12.5 [4]	NE	NE	NE	0.012 U	0.013 J	0.012 U	0.040 J	0.012 U	0.012 U
Total TPH	12.5 [4]	NE	NE	NE	0.18	0.633 J	1.0	**16.04** J	0.38	0.045 J

TABLE 5-3

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - AIRFIELD - GROUNDWATER
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date	**Regional Tap Water Screening Levels**	*USEPA MCLs*	Selected Ecological Surface Water Screening Values	NAPR Basewide Background [1]	74HYD3D 74GWHYD3D 5/5/2008	74HYD3 74GWHYD3 5/5/2008	74VP1a 74GWVP1a 5/6/2008	74VP1b 74GWVP1b 5/5/2008	74VP2a 74GWVP2a 5/6/2008	74VP2b 74GWVP2b 5/6/2008
Volatile Organic Compounds (ug/L)										
4-Methyl-2-pentanone (MIBK)	200 [2]	NE	170 [5][6]	NE	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U
Acetone	2,200 [2]	NE	1,000 [7]	NE	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	9.5 J
Benzene	0.41	5.0	109 [8]	NE	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U
Chloromethane	1.8	NE	2,700 [9]	NE	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U
Ethylbenzene	1.5	700	4 [8]	NE	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U	0.30 U
Tetrachloroethene	0.11	5.0	45 [8]	NE	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U
LLPAHs (ug/L)										
2-Methylnaphthalene	15 [2]	NE	6 [10]	NE	0.022 U	0.022 U	NA	NA	NA	NA
Phenanthrene	NE	NE	8 [11]	NE	0.017 U	0.017 U	NA	NA	NA	NA
Total Metals (ug/L)										
Barium	730 [2]	2,000	16,667 [12]	686	68	69	9.9	74	16	17
Cadmium	1.8 [2]	5.0	8.85 [13]	16.62	0.12 U	0.12 U	0.12 U	0.12 U	0.26 J	0.13 J
Chromium	5,500 [2]	NE	50.4 [14]	162.41	0.60 U	0.60 U	0.97 J	0.60 U	3.2 J	0.76 J
Cobalt	1.1 [2]	NE	45 [15]	633.21	**3.5**	**3.4**	**1.7**	**2.1**	**2.3**	0.77 J
Copper	150 [2]	1,300	3.73 [13]	324	1.2 U	2.4 U	5.3	5.7	23	6.3
Lead	NE	15 [3]	8.52 [13]	26.25	0.15 U	0.15 U	0.15 U	0.15 U	1.1 J	0.21 U
Nickel	73 [2]	NE	8.28 [13]	95.7	0.47 J	0.61 J	0.72 J	0.79 J	2.8	0.66 J
Selenium	18 [2]	50	71.1 [13]	29.88	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U
Vanadium	26 [2]	NE	12 [5][6]	484.66	1.3 U	1.4 U	5.9	6.2	20	14
Zinc	1100 [2]	NE	85.6 [13]	547.53	6.5 U	6.5 U	7.3 J	6.8 J	35 J	8.3 J

TABLE 5-3

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - AIRFIELD - GROUNDWATER
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date	**Regional Tap Water Screening Levels**	*USEPA MCLs*	Selected Ecological Surface Water Screening Values	NAPR Basewide Background [1]	74HYD3D 74GWHYD3D 5/5/2008	74HYD3 74GWHYD3 5/5/2008	74VP1a 74GWVP1a 5/6/2008	74VP1b 74GWVP1b 5/5/2008	74VP2a 74GWVP2a 5/6/2008	74VP2b 74GWVP2b 5/6/2008
Dissolved Metals (ug/L)										
Arsenic	0.045	10	36 [16]	14.03	**0.9** J	**0.98** J	0.56 U	0.84 U	0.41 U	0.61 U
Barium	730 [2]	2,000	16,667 [12][17]	260	58	55	8.2	64	8.4	15
Beryllium	7.3 [2]	4.0	310 [11][18]	5.4	0.065 U	0.065 U	0.073 J	0.065 U	0.065 U	0.065 U
Chromium	5,500 [2]	NE	50.0 [19]	6.5	0.6 U	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U
Cobalt	1.1	NE	45 [15][17]	580.5	**2.9**	**3.3**	**1.8**	**2.0**	**2.1**	0.96 J
Copper	150 [2]	1,300	3.1 [20]	29	1.2 U	3.0 U	1.2 U	1.2 U	3.5 U	2.9 U
Nickel	73	NE	8.2 [21]	84.1	0.36 J	0.64 J	0.39 J	0.63 J	0.86 J	0.44 J
Selenium	18 [2]	50	71 [21]	23.92	0.6 U	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U
Vanadium	26 [2]	NE	12 [5][6][17]	20.96	0.93 J	1.1 J	1.2 J	2.4 J	8.8	12
Zinc	1,100 [2]	NE	81 [22]	360.64	6.5 U	6.9 J	9.1 J	7.4 J	6.5 U	6.5 U
TPH DRO and GRO (mg/L)										
Diesel Range Organics	12.5 [4]	NE	NE	NE	0.028 U	0.028 U	0.028 U	0.082 J	0.028 U	0.028 U
Gasoline Range Organics	12.5 [4]	NE	NE	NE	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U
Total TPH	12.5 [4]	NE	NE	NE	0.04 U	0.04 U	0.04 U	0.082 J	0.04 U	0.04 U

TABLE 5-3

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - AIRFIELD - GROUNDWATER
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Notes:

U - Not detected
J - Analyte present - Reported value is estimated
mg/L - microgram per liter
ug/L - microgram per liter
NA - Not Analyzed
NE - Not Established

DRO - Diesel Range Organics
GRO - Gasoline Range Organics
TPH - Total Petroleum Hydrocarbons
LLPAH - Low-level Polynuclear Aromatic Hydrocarbon

NAPR - Naval Activity Puerto Rico
USEPA - United States Environmental Protection Agency

(1) NAPR Basewide Groundwater Background - Upper Limit of Means (Mean + 2 standard deviations) Revised Final Summary Report for Environmental Background Concentrations of Inorganic Compounds, Naval Activity Puerto Rico, Ceiba, PR, Baker Environmental (Baker, 2008)
(2) Noncarcinogenic Regional Screening Criteria based on a target hazard quotient of 0.1 for conservative screening purposes
(3) USEPA Action Level for lead in drinking water
(4) Screening level for TPH is 25% of PREQB groundwater criterion, as proposed in the approved Work Plan dated 12/6/07
(5) The chemical lacks a marine/estuarine surface water screening value/literature-based toxicity value. The value shown is a freshwater screening value/toxicity value.
(6) USEPA Region 5 ecological screening level [USEPA 2003]
(7) Minimum acute value (96-hr LC50 for Lumbriculus variegatus [Oligochaete]) with a safety factor of 100 [USEPA 2007]
(8) USEPA Region 4 chronic screening value [USEPA 2001]
(9) Minimum acute value (96-hr LC50 for Menidia beryllina [inland silverside]) with a safety factor of 100 [USEPA 2007]
(10) Minimum acute value (96-hr LC50 for Penaeus aztecus [brown shrimp]) with a safety factor of 100 [USEPA 2007]
(11) Final Chronic Value [USEPA 1996]
(12) Minimum acute value (96-hr NOEC for Cyprinodon variegatus [sheepshead minnow]) with a safety factor of 30 [USEPA 2007]
(13) Total recoverable Criteria Continuous Concentration [USEPA 2009]
(14) Total recoverable Criteria Continuous Concentration for hexavalent chromium [USEPA 2009]
(15) Minimum acute value (96-hr LC50 for Nitocra spinipes [Harpacticoid copepod]) with a safety factor of 100 [USEPA 2007]
(16) Dissolved Criteria Continuous Concentration for trivalent arsenic [USEPA 2009]
(17) The chemical lacks a screening value expressed as a dissolved concentration. The value shown is expressed as a total recoverable concentration.
(18) Minimum acute value (96-hr LC50 for Fundulus heteroclitus [mummichog]) with a safety factor of 100 [USEPA 2007]
(19) Dissolved Criteria Continuous Concentration for hexavalent chromium [USEPA 2009]
(20) Criteria Continuous Concentration based on Final Residaul Value/Puerto Rico Water Quality Standard [USEPA 2009/PREQB 2003]
(21) Dissolved Criteria Continuous Concentration [USEPA 2009]
(22) Dissolved Criteria Continuous Concentration/Puerto Rico Water Quality Standard [USEPA 2009/PREQB 2003]
(23) Dissolved metals and TPH DRO were collected on 7/23/2008 because suffient volume was not achievable on 5/5/2008 to fill the required bottles.

SUMMARY OF DETECTED RESULTS - AIRFIELD - GROUNDWATER
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

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TABLE 6-1

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - SWMU 9 AREA A/B - SURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB71 74SB71-00 5/5/2008 0.0-1.0	74SB81 74SB81-00 5/5/2008 0.0-1.0	74SB91 74SB91-00 5/7/2008 0.0-1.0	74SB101 74SB101-00 5/5/2008 0.0-1.0	74SB111 74SB111-00 5/7/2008 0.0-1.0	74SB121 74SB121-00 5/13/2008 0.0-1.0
Voltile Organic Compounds (ug/kg)										
Acetone	6,100,000 [2]	61,000,000 [2]	NE	NE	430 J	70 J	390 J	73 J	220 J	43 J
Carbon disulfide	67,000 [2]	300,000 [2]	NE	NE	0.63 U	7	0.64 J	0.57 J	0.76 U	0.55 U
Iodomethane	NE	NE	NE	NE	2.2 J	0.92 U	1.1 U	1 UJ	1.5 U	1.1 U
Metals (mg/kg)										
Antimony	3.1 [2]	41 [2]	10.0 [5]	3.17	0.11 UJ	0.22 UJ	0.26 J	0.12 UJ	0.11 J	0.26 UJ
Arsenic	0.390	1.6	18.0 [6]	2.65	**1.3**	***2.3***	***1.8***	***2.9***	**1.5**	***2.8***
Barium	1,500 [2]	19,000 [2]	330 [7]	199	78 J	80 J	110 R	110 J	75	170
Beryllium	16 [2]	200 [2]	21.0 [8]	0.59	0.23	0.23	0.24	0.1 J	0.23	0.21
Cadmium	7.0000 [2]	81 [2]	0.77 [9]	1.02	0.15	0.15	0.19	0.17	0.051 J	0.21
Chromium	280	1,400	26.0 [10]	49.8	20	33 R	19 J	12 R	14	29 J
Cobalt	2.3 [2]	30 [2]	13.0 [11]	46.2	**22**	**25**	**13** J	**8.7**	**19**	**17**
Copper	310 [2]	4,100 [2]	28.0 [12]	168	110 J	110	61	55	53	75
Lead	400 [3]	800 [3]	11.0 [13]	22	3.9	12 J	27	5.1 J	5.9	39
Mercury	2.3 [2]	31 [2]	0.10 [14]	0.109	0.031	0.011 J	0.061	0.0081 J	0.017 J	0.016 J
Nickel	160 [2]	2,000 [2]	38.0 [15]	20.7	10	17	9.3	6.2	7.8	14
Selenium	39 [2]	510 [2]	0.52 [16]	1.48	0.74	0.36 J	0.23 J	0.22 J	0.26 J	0.32 J
Silver	39 [2]	510 [2]	4.2 [17]	NE	0.04 J	0.07 UJ	0.098 J	0.046 UJ	0.022 J	0.074 J
Vanadium	55 [2]	720 [2]	7.8 [18]	259	**210**	**160**	**98**	**78**	**120**	**130**
Zinc	2,300 [2]	31,000 [2]	46.0 [19]	115	76 J	69 J	87	35 J	47	85 J
TPH DRO and GRO (mg/kg)										
Diesel Range Organics	25 [4]	NE	NE	NE	12	11	**48**	4.5	4 J	**33**
Gasoline Range Organics	25 [4]	NE	NE	NE	1 J	0.82 J	0.31 J	0.092 UJ	0.084 U	0.07 U
Total TPH	25 [4]	NE	NE	NE	13 J	11.82 J	**48.31** J	4.5	4 J	**33**

TABLE 6-1

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - SWMU 9 AREA A/B - SURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Notes/Qualifiers:

J - Estimated: The analyte was positively identified; the quantitation is an estimation
U - Undetected at the Limit of Detection.
UJ - Reported quantitation limit is qualified as estimated
ft bgs - feet below ground surface
ug/kg - microgram per kilogram
mg/kg - milligram per kilogram
NE - Not Established

DRO - Diesel Range Organics
GRO - Gasoline Range Organics
TPH - Total Petroleum Hydrocarbons
LLPAH - Low-level Polynuclear Aromatic Hydrocarbon

NAPR - Naval Activity Puerto Rico
USEPA - United States Environmental Protection Agency

(1) NAPR basewide background surface soil screening value (upper limit of the means concentration [mean plus two standard deviations]) (Baker, 2008)
(2) Noncarcinogenic Regional Screening Levels based on a target hazard quotient of 0.1 for conservative screening purposes
(3) USEPA Action Level for lead in soils
(4) Screening level for TPH is 25% of PREQB soil criterion, as proposed in the approved Work Plan dated 12/6/07
(5) Ecological soil screening level for mammalian herbivores [USEPA 2005a]
(6) Ecological soil screening level for plants [USEPA 2005b]
(7) Ecological soil screening level for soil invertebrates [USEPA 2005c]
(8) Ecological soil screening level for mammalian herbivores [USEPA 2005d]
(9) Ecological soil screening level for avian ground insectivores [USEPA 2005e]
(10) Ecological soil screening level for avian ground insectivores [USEPA 2008]
(11) Ecological soil screening level for plants [USEPA 2005f]
(12) Ecological soil screening level for avian ground insectivores [USEPA 2007a]
(13) Ecological soil screening level for avian ground insectivores [USEPA 2005g]
(14) Toxicological threshold for earthworms [Efroymson et al. 1997a]
(15) Ecological soil screening level for plants [USEPA 2007b]
(16) Ecological soil screening level for plants [USEPA 2007c]
(17) Ecological soil screening level for avian ground insectivores [USEPA 2006]
(18) Ecological soil screening level for avian ground insectivores [USEPA 2005h]
(19) Ecological soil screening level for avian ground insectivores [USEPA 2007d]

SUMMARY OF DETECTED RESULTS - SWMU 9 AREA A/B - SURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

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USEPA. 2007b. Ecological Soil Screening Levels for Nickel (Interim Final). Office of Solid Waste and Emergency Response, Washington, D.C. OSWER Directive 9285.7-76.

USEPA. 2007c. Ecological Soil Screening Levels for Selenium (Interim Final). Office of Solid Waste and Emergency Response, Washington, D.C. OSWER Directive 9285.7-72.

USEPA. 2007d. Ecological Soil Screening Levels for Zinc (Interim Final). Office of Solid Waste and Emergency Response, Washington, D.C. OSWER Directive 9285.7-72.

USEPA. 2006. Ecological Soil Screening Levels for Silver (Interim Final). Office of Solid Waste and Emergency Response, Washington, D.C. OSWEER Directive 9285.7-77.

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USEPA. 2005b. Ecological Soil Screening Levels for Arsenic (Interim Final). Office of Solid Waste and Emergency Response, Washington, D.C.

USEPA. 2005c. Ecological Soil Screening Levels for Barium (Interim Final). Office of Solid Waste and Emergency Response, Washington, D.C. OSWER Directive 9285.7-63.

USEPA. 2005d. Ecological Soil Screening Levels for Beryllium (Interim Final). Office of Solid Waste and Emergency Response, Washington, D.C. OSWER Directive 9285.7-63.

USEPA. 2005e. Ecological Soil Screening Levels for Cadmium (Interim Final). Office of Solid Waste and Emergency Response, Washington, D.C. OSWER Directive 9285.7-62.

USEPA. 2005f. Ecological Soil Screening Levels for Cobalt (Interim Final). Office of Solid Waste and Emergency Response, Washington, D.C. OSWER Directive 9285.7-67

USEPA. 2005g. Ecological Soil Screening Levels for Lead (Interim Final). Office of Solid Waste and Emergency Response, Washington, D.C. OSWER Directive 9285.7-70.

USEPA. 2005h. Ecological Soil Screening Levels for Vanadium (Interim Final). Office of Solid Waste and Emergency Response, Washington, D.C. OSWER Directive 9285.7-75.

TABLE 6-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - SWMU 9 AREA A/B - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB63 74SB63-03 5/4/2008 5.0-7.0	74SB63 74SB63-04 5/4/2008 7.0-9.0	74SB64 74SB64-03 5/4/2008 5.0-7.0	74SB64 74SB64-04 5/4/2008 7.0-9.0	74SB65 74SB65-03 5/4/2008 5.0-7.0	74SB65 74SB65-04 5/4/2008 7.0-9.0
Volatile Organic Compounds (ug/kg)										
2-Butanone (MEK)	2,800,000 [2]	19,000,000 [2]	NE	NE	2.7 U	2.8 U	2.3 U	2.6 U	2.3 U	2.7 U
2-Hexanone	NE	NE	NE	NE	2.1 U	2.2 U	1.8 U	2 U	1.8 U	2.1 U
4-Methyl-2-pentanone (MIBK)	530,000 [2]	5,200,000 [2]	NE	NE	2.9 U	3 U	2.5 U	2.8 U	2.5 U	2.9 U
Acetone	6,100,000 [2]	61,000,000 [2]	NE	NE	10 J	4.5 R	3.8 R	8.5 J	7.6 J	4.4 R
Acrolein	16 [2]	68 [2]	NE	NE	19 U	20 U	16 U	19 U	16 U	19 U
Acrylonitrile	240	1,200	1,000,000 [6]	NE	23 U	24 U	20 U	22 U	20 U	23 U
Bromoform	6,100	22,000	NE	NE	1.1 U	1.1 U	0.94 U	1.1 U	0.94 U	1.1 U
Carbon disulfide	67,000 [2]	300,000 [2]	NE	NE	0.51 U	0.52 U	0.44 U	0.5 U	0.44 U	0.51 U
Chloroform	300	1,500	1,002 [7]	NE	0.5 U	0.51 U	0.43 U	0.49 U	0.43 U	0.5 U
Chloromethane	1,700	8,400	NE	NE	0.71 U	0.73 U	0.61 U	0.69 U	0.61 U	0.71 U
Ethyl methacrylate	700,000 [2]	9,200,000 [2]	NE	NE	2.2 U	2.3 U	1.9 U	2.1 U	1.9 U	2.2 U
Ethylbenzene	5,700	29,000	5,003 [7]	NE	0.75 U	0.77 U	0.64 U	0.73 U	0.64 U	0.75 U
Iodomethane	NE	NE	NE	NE	0.99 U	1 U	1.5 J	0.98 U	0.86 U	1 U
Isobutyl alcohol	2,300,000 [2]	31,000,000 [2]	NE	NE	69 R	71 R	59 R	67 R	59 R	69 R
Methylene Chloride	11,000	54,000	1,004 [7]	NE	0.99 U	1 U	0.86 U	0.98 U	0.86 U	1 U
Tetrachloroethene	570	2,700	400 [7]	NE	0.73 U	0.75 U	0.63 U	0.71 U	0.63 U	0.73 U
trans-1,3-Dichloropropene	NE	NE	100 [8]	NE	0.86 U	0.89 U	0.75 U	0.85 U	0.75 U	0.87 U
Vinyl acetate	99,000 [2]	420,000 [2]	NE	NE	1.5 U	1.5 U	1.3 U	1.5 U	1.3 U	1.5 U
LLPAHs (ug/kg)										
Benzo[b]fluoranthene	150	2,100	NE	NE	NA	NA	NA	NA	NA	NA
Chrysene	15,000	210,000	NE	NE	NA	NA	NA	NA	NA	NA
Fluoranthene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Fluorene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Phenanthrene	170,000 [2][3]	1,700,000 [2][3]	NE	NE	NA	NA	NA	NA	NA	NA
Pyrene	170,000 [2]	1,700,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
PAH Totals (ug/kg):										
Low molecular weight PAHs	NE	NE	29,000 [9]	NE	NA	NA	NA	NA	NA	NA
High molecular weight PAHs	NE	NE	18,000 [9]	NE	NA	NA	NA	NA	NA	NA

TABLE 6-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - SWMU 9 AREA A/B - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB63 74SB63-03 5/4/2008 5.0-7.0	74SB63 74SB63-04 5/4/2008 7.0-9.0	74SB64 74SB64-03 5/4/2008 5.0-7.0	74SB64 74SB64-04 5/4/2008 7.0-9.0	74SB65 74SB65-03 5/4/2008 5.0-7.0	74SB65 74SB65-04 5/4/2008 7.0-9.0
Metals (mg/kg)										
Antimony	3.1 [2]	41 [2]	10 [10]	NE	0.091 UJ	0.091 UJ	0.081 UJ	0.088 UJ	0.098 J	0.12 J
Arsenic	0.39	1.60	18 [11]	1.59	**0.55** J	**0.59** J	**0.69**	**0.4** J	**0.42** J	**0.45** J
Barium	1,500 [2]	19,000 [2]	330 [12]	220	45 J	140 J	54 J	21 J	22 J	13 J
Beryllium	16 [2]	200 [2]	21 [13]	0.596	0.13	0.1 J	0.18	0.095 J	0.18	0.18
Cadmium	7.0 [2]	81 [2]	0.77 [14]	0.54	0.12 J	0.19	0.089 J	0.047 J	0.67	0.62
Chromium	280	1,400	26 [15]	114.5	5.3	3.6	18	0.56 J	2.5	1.4
Cobalt	2.3 [2]	30 [2]	13 [16]	26.9	**17**	**27**	**19**	**9.1**	**7.4**	**7.1**
Copper	310 [2]	4,100 [2]	28 [17]	246	180 J	**530** J	91 J	80 J	23 J	17 J
Lead	400 [4]	800 [4]	11 [18]	6.3	0.48	0.72	1.7	0.38	1.2	0.99
Mercury	2.3 [2]	31 [2]	0.1 [19]	0.108	0.0049 R	0.054 R	0.0043 R	0.0069 R	0.0043 R	0.0054 R
Nickel	160 [2]	2,000 [2]	38 [20]	24.7	12	7.2	6.9	1.8	1.9	1.7
Selenium	39 [2]	510 [2]	0.52 [21]	5.94	0.15 U	0.15 U	0.13 U	0.14 U	0.12 U	0.14 U
Silver	39 [2]	510 [2]	4.2 [22]	NE	0.062 J	0.02 J	0.022 J	0.019 U	0.016 U	0.019 U
Thallium	0.51 [2]	7 [2]	1.0 [23]	0.92	0.15 U	0.15 U	0.13 U	0.14 U	0.12 U	0.14 U
Tin	4,700 [2]	61,000 [2]	50 [23]	4	4.9 U	4.9 U	4.3 U	4.7 U	4 U	4.7 U
Vanadium	55.00 [2]	720.00 [2]	7.8 [24]	434.00	**140**	**100**	**170**	**78**	49	54
Zinc	2,300 [2]	31,000 [2]	46.0 [25]	88.00	39	75	61	33	63	63
TPH DRO and GRO (mg/kg)										
Diesel Range Organics	25 [5]	NE	NE	NE	2.2 J	1.6 J	2 J	1.7 J	1.1 J	1.4 J
Gasoline Range Organics	25 [5]	NE	NE	NE	0.064 U	0.061 U	0.054 U	0.057 U	0.054 U	0.065 U
Total TPH	25 [5]	NE	NE	NE	2.2 J	1.6 J	2 J	1.7 J	1.1 J	1.4 J

TABLE 6-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - SWMU 9 AREA A/B - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB66 74SB66-03 5/4/2008 5.0-7.0	74SB66 74SB66-04 5/4/2008 7.0-9.0	74SB66 74SB66-04D 5/4/2008 7.0-9.0	74SB67 74SB67-03 5/4/2008 5.0-7.0	74SB67 74SB67-04 5/4/2008 7.0-9.0	74SB68 74SB68-03 5/4/2008 5.0-7.0
Volatile Organic Compounds (ug/kg)										
2-Butanone (MEK)	2,800,000 [2]	19,000,000 [2]	NE	NE	2.7 U	2.8 U	3.2 U	3.1 U	3.1 U	2.8 U
2-Hexanone	NE	NE	NE	NE	2.1 U	2.2 U	2.5 U	2.4 U	2.4 U	2.1 U
4-Methyl-2-pentanone (MIBK)	530,000 [2]	5,200,000 [2]	NE	NE	2.9 U	3 U	3.5 U	3.3 U	3.4 U	3 U
Acetone	6,100,000 [2]	61,000,000 [2]	NE	NE	4.4 R	20 J	5.3 R	5 R	5.1 R	14 J
Acrolein	16 [2]	68 [2]	NE	NE	19 U	20 U	23 U	22 U	22 U	19 U
Acrylonitrile	240	1,200	1,000,000 [6]	NE	23 U	24 U	27 U	26 U	27 U	24 U
Bromoform	6,100	22,000	NE	NE	1.1 U	1.1 U	1.3 U	1.3 U	1.3 U	1.1 U
Carbon disulfide	67,000 [2]	300,000 [2]	NE	NE	0.5 U	0.56 J	0.61 U	0.58 U	0.59 U	0.52 U
Chloroform	300	1,500	1,002 [7]	NE	0.49 U	0.52 U	0.6 U	0.57 U	0.58 U	0.51 U
Chloromethane	1,700	8,400	NE	NE	0.7 U	0.74 U	0.85 U	0.81 U	0.82 U	0.73 U
Ethyl methacrylate	700,000 [2]	9,200,000 [2]	NE	NE	2.2 U	2.3 U	2.6 U	2.5 U	2.6 U	2.2 U
Ethylbenzene	5,700	29,000	5,003 [7]	NE	0.74 U	0.78 U	0.9 U	0.86 U	0.87 U	0.77 U
Iodomethane	NE	NE	NE	NE	0.99 U	1 U	1.2 U	1.1 U	1.2 U	1 U
Isobutyl alcohol	2,300,000 [2]	31,000,000 [2]	NE	NE	68 R	71 R	82 R	79 R	80 R	71 R
Methylene Chloride	11,000	54,000	1,004 [7]	NE	0.99 U	1 U	1.2 U	1.1 U	1.2 U	1 U
Tetrachloroethene	570	2,700	400 [7]	NE	0.72 U	0.76 U	0.87 U	0.83 U	0.85 U	0.75 U
trans-1,3-Dichloropropene	NE	NE	100 [8]	NE	0.86 U	0.9 U	1 U	0.99 U	1 U	0.89 U
Vinyl acetate	99,000 [2]	420,000 [2]	NE	NE	1.5 U	1.6 U	1.8 U	1.7 U	1.7 U	1.5 U
LLPAHs (ug/kg)										
Benzo[b]fluoranthene	150	2,100	NE	NE	NA	NA	NA	NA	NA	NA
Chrysene	15,000	210,000	NE	NE	NA	NA	NA	NA	NA	NA
Fluoranthene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Fluorene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Phenanthrene	170,000 [2][3]	1,700,000 [2][3]	NE	NE	NA	NA	NA	NA	NA	NA
Pyrene	170,000 [2]	1,700,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
PAH Totals (ug/kg):										
Low molecular weight PAHs	NE	NE	29,000 [9]	NE	NA	NA	NA	NA	NA	NA
High molecular weight PAHs	NE	NE	18,000 [9]	NE	NA	NA	NA	NA	NA	NA

TABLE 6-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - SWMU 9 AREA A/B - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB66 74SB66-03 5/4/2008 5.0-7.0	74SB66 74SB66-04 5/4/2008 7.0-9.0	74SB66 74SB66-04D 5/4/2008 7.0-9.0	74SB67 74SB67-03 5/4/2008 5.0-7.0	74SB67 74SB67-04 5/4/2008 7.0-9.0	74SB68 74SB68-03 5/4/2008 5.0-7.0
Metals (mg/kg)										
Antimony	3.1 [2]	41 [2]	10 [10]	NE	0.085 UJ	0.092 UJ	0.092 UJ	0.095 UJ	0.1 UJ	0.097 UJ
Arsenic	0.39	1.60	18 [11]	1.59	0.28 J	**0.46** J	0.37 J	**0.71**	0.27 J	**0.55** J
Barium	1,500 [2]	19,000 [2]	330 [12]	220	46 J	84 J	110 J	200 J	19 J	140 J
Beryllium	16 [2]	200 [2]	21 [13]	0.596	0.12	0.14	0.15	0.23	0.24	0.41
Cadmium	7.0 [2]	81 [2]	0.77 [14]	0.54	0.035 U	0.077 J	0.059 J	0.052 J	0.042 U	0.04 U
Chromium	280	1,400	26 [15]	114.5	0.74 J	4.3	1.4	3.5	4.7	9.5
Cobalt	2.3 [2]	30 [2]	13 [16]	26.9	**22**	**18** J	**29** J	**28**	**6.3**	**23**
Copper	310 [2]	4,100 [2]	28 [17]	246	78 J	60 J	100 J	120 J	33 J	140 J
Lead	400 [4]	800 [4]	11 [18]	6.3	0.4	0.71	0.58	1.5	0.3 U	1.3
Mercury	2.3 [2]	31 [2]	0.1 [19]	0.108	0.021 R	0.018 R	0.17 R	0.005 R	0.013 R	0.01 R
Nickel	160 [2]	2,000 [2]	38 [20]	24.7	3.5	2.9	4	7.6	3.7	6.7
Selenium	39 [2]	510 [2]	0.52 [21]	5.94	0.14 U	0.15 U	0.15 U	0.15 U	0.16 U	0.15 U
Silver	39 [2]	510 [2]	4.2 [22]	NE	0.02 J	0.073 J	0.064 J	0.038 J	0.021 U	0.034 J
Thallium	0.51 [2]	7 [2]	1.0 [23]	0.92	0.14 U	0.15 U	0.15 U	0.15 U	0.16 U	0.15 U
Tin	4,700 [2]	61,000 [2]	50 [23]	4	4.5 U	4.9 U	4.9 U	5.1 U	5.4 U	5.1 U
Vanadium	55.00 [2]	720.00 [2]	7.8 [24]	434.00	**100**	**210**	**180**	**150**	**130**	**140**
Zinc	2,300 [2]	31,000 [2]	46.0 [25]	88.00	43	58	67	70	30	62
TPH DRO and GRO (mg/kg)										
Diesel Range Organics	25 [5]	NE	NE	NE	2 J	1.2 J	2.4 J	0.97 J	0.96 J	1.8 J
Gasoline Range Organics	25 [5]	NE	NE	NE	0.059 U	0.066 U	0.066 U	0.065 U	0.07 U	0.069 U
Total TPH	25 [5]	NE	NE	NE	2 J	1.2 J	2.4 J	0.97 J	0.96 J	1.8 J

TABLE 6-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - SWMU 9 AREA A/B - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB68 74SB68-04 5/4/2008 7.0-9.0	74SB69 74SB69-03 5/4/2008 5.0-7.0	74SB69 74SB69-04 5/4/2008 7.0-9.0	74SB70 74SB70-03 5/4/2008 5.0-7.0	74SB70 74SB70-04 5/4/2008 7.0-9.0	74SB71 74SB71-03 5/5/2008 5.0-7.0
Volatile Organic Compounds (ug/kg)										
2-Butanone (MEK)	2,800,000 [2]	19,000,000 [2]	NE	NE	3.5 U	3 U	3.1 U	3 U	8.6 U	15 U
2-Hexanone	NE	NE	NE	NE	2.8 U	2.3 U	2.4 U	2.3 U	2.2 U	2.4 U
4-Methyl-2-pentanone (MIBK)	530,000 [2]	5,200,000 [2]	NE	NE	3.8 U	3.2 U	3.4 U	3.2 U	3 U	3.3 U
Acetone	6,100,000 [2]	61,000,000 [2]	NE	NE	5.8 R	32 J	5.1 R	82 J	130 J	240 J
Acrolein	16 [2]	68 [2]	NE	NE	25 U	21 R	22 U	21 R	20 U	21 R
Acrylonitrile	240	1,200	1,000,000 [6]	NE	30 U	25 U	27 U	26 U	24 U	26 UJ
Bromoform	6,100	22,000	NE	NE	1.4 U	1.2 U	1.3 U	1.2 U	1.1 U	1.2 U
Carbon disulfide	67,000 [2]	300,000 [2]	NE	NE	0.67 U	0.56 U	0.59 U	0.57 U	0.53 U	0.57 U
Chloroform	300	1,500	1,002 [7]	NE	0.66 U	0.55 U	0.58 U	0.56 U	0.52 U	0.56 U
Chloromethane	1,700	8,400	NE	NE	0.93 U	0.78 U	0.82 U	0.79 U	0.74 U	0.8 U
Ethyl methacrylate	700,000 [2]	9,200,000 [2]	NE	NE	2.9 U	2.4 U	2.5 U	2.5 U	2.3 U	2.5 U
Ethylbenzene	5,700	29,000	5,003 [7]	NE	0.98 U	0.83 U	0.87 U	0.84 U	0.78 U	0.84 U
Iodomethane	NE	NE	NE	NE	1.3 U	1.1 U	1.2 U	1.1 U	3.5 J	2.4 J
Isobutyl alcohol	2,300,000 [2]	31,000,000 [2]	NE	NE	90 R	76 R	80 R	77 R	72 R	78 R
Methylene Chloride	11,000	54,000	1,004 [7]	NE	1.3 U	1.1 U	1.2 U	1.1 U	1 U	1.1 U
Tetrachloroethene	570	2,700	400 [7]	NE	0.96 U	0.8 U	0.84 U	0.81 U	0.76 U	0.82 U
trans-1,3-Dichloropropene	NE	NE	100 [8]	NE	1.1 U	0.96 U	1 U	0.97 U	0.9 U	0.98 U
Vinyl acetate	99,000 [2]	420,000 [2]	NE	NE	2 U	1.7 U	1.7 U	1.7 U	1.6 U	1.7 U
LLPAHs (ug/kg)										
Benzo[b]fluoranthene	150	2,100	NE	NE	NA	NA	NA	NA	NA	NA
Chrysene	15,000	210,000	NE	NE	NA	NA	NA	NA	NA	NA
Fluoranthene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Fluorene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Phenanthrene	170,000 [2][3]	1,700,000 [2][3]	NE	NE	NA	NA	NA	NA	NA	NA
Pyrene	170,000 [2]	1,700,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
PAH Totals (ug/kg):										
Low molecular weight PAHs	NE	NE	29,000 [9]	NE	NA	NA	NA	NA	NA	NA
High molecular weight PAHs	NE	NE	18,000 [9]	NE	NA	NA	NA	NA	NA	NA

TABLE 6-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - SWMU 9 AREA A/B - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB68 74SB68-04 5/4/2008 7.0-9.0	74SB69 74SB69-03 5/4/2008 5.0-7.0	74SB69 74SB69-04 5/4/2008 7.0-9.0	74SB70 74SB70-03 5/4/2008 5.0-7.0	74SB70 74SB70-04 5/4/2008 7.0-9.0	74SB71 74SB71-03 5/5/2008 5.0-7.0
Metals (mg/kg)										
Antimony	3.1 [2]	41 [2]	10 [10]	NE	0.1 UJ	0.1 UJ	0.098 UJ	0.11 J	0.094 J	0.11 UJ
Arsenic	0.39	1.60	18 [11]	1.59	**0.66** J	**1.5**	***1.8***	***1.8***	***2.2***	***2.3***
Barium	1,500 [2]	19,000 [2]	330 [12]	220	460 J	75 J	34 J	24 J	89 J	88 J
Beryllium	16 [2]	200 [2]	21 [13]	0.596	0.64	0.29	0.19	0.22	0.35	0.27
Cadmium	7.0 [2]	81 [2]	0.77 [14]	0.54	0.043 U	0.041 U	0.04 U	0.38	0.36	0.12 U
Chromium	280	1,400	26 [15]	114.5	4.3	15	14	23	26	25
Cobalt	2.3 [2]	30 [2]	13 [16]	26.9	***230***	**14**	**6.6**	**21**	***61***	**18**
Copper	310 [2]	4,100 [2]	28 [17]	246	160 J	60 J	64 J	89 J	71 J	100 J
Lead	400 [4]	800 [4]	11 [18]	6.3	1.4	9.9	6.9	7.3	14	4
Mercury	2.3 [2]	31 [2]	0.1 [19]	0.108	0.0059 R	0.051 R	0.053 R	0.069 R	0.11 R	0.078
Nickel	160 [2]	2,000 [2]	38 [20]	24.7	7.2	5	4.5	5.4	9.3	7.9
Selenium	39 [2]	510 [2]	0.52 [21]	5.94	0.17 U	2.8	1.9	1.7	1.5	2.1
Silver	39 [2]	510 [2]	4.2 [22]	NE	0.044 J	0.058 J	0.037 J	0.15 J	0.1 J	0.032 J
Thallium	0.51 [2]	7 [2]	1.0 [23]	0.92	0.17 U	0.16 U	0.16 U	0.15 U	0.15 J	0.16 U
Tin	4,700 [2]	61,000 [2]	50 [23]	4	5.5 U	5.3 U	5.2 U	5.1 U	4.9 U	5.3 U
Vanadium	55.00 [2]	720.00 [2]	7.8 [24]	434.00	**160**	**260**	**270**	**320**	**340**	**430**
Zinc	2,300 [2]	31,000 [2]	46.0 [25]	88.00	45	42	38	41	56	60 J
TPH DRO and GRO (mg/kg)										
Diesel Range Organics	25 [5]	NE	NE	NE	1.6 J	2.3 J	1.8 J	2.1 J	2 J	1.5 J
Gasoline Range Organics	25 [5]	NE	NE	NE	0.075 U	0.069 U	0.068 U	0.063 U	0.062 U	0.068 U
Total TPH	25 [5]	NE	NE	NE	1.6 J	2.3 J	1.8 J	2.1 J	2 J	1.5 J

TABLE 6-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - SWMU 9 AREA A/B - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB71 74SB71-04 5/5/2008 7.0-9.0	74SB71 74SB71-04D 5/5/2008 7.0-9.0	74SB72 74SB72-03 5/5/2008 5.0-7.0	74SB72 74SB72-04 5/5/2008 7.0-9.0	74SB73 74SB73-03 5/5/2008 5.0-7.0	74SB73 74SB73-04 5/5/2008 7.0-9.0
Volatile Organic Compounds (ug/kg)										
2-Butanone (MEK)	2,800,000 [2]	19,000,000 [2]	NE	NE	7.5 U	5.5 U	5.5 U	3.1 U	2.6 U	2.6 U
2-Hexanone	NE	NE	NE	NE	2.8 U	2.2 U	2.3 U	2.4 U	2 U	2 U
4-Methyl-2-pentanone (MIBK)	530,000 [2]	5,200,000 [2]	NE	NE	3.8 U	3.1 U	3.2 U	3.3 U	2.8 U	2.8 U
Acetone	6,100,000 [2]	61,000,000 [2]	NE	NE	110 R	62 R	50 R	27 R	11 R	4.2 R
Acrolein	16 [2]	68 [2]	NE	NE	25 R	20 R	21 R	22 R	18 R	18 R
Acrylonitrile	240	1,200	1,000,000 [6]	NE	30 UJ	25 UJ	25 UJ	27 UJ	22 UJ	22 UJ
Bromoform	6,100	22,000	NE	NE	1.5 U	1.2 U	1.2 U	1.3 U	1.1 U	1 U
Carbon disulfide	67,000 [2]	300,000 [2]	NE	NE	0.67 U	0.54 U	0.56 U	0.59 U	0.5 U	0.49 U
Chloroform	300	1,500	1,002 [7]	NE	0.66 U	0.53 U	0.54 U	0.58 U	0.49 U	0.48 U
Chloromethane	1,700	8,400	NE	NE	0.94 U	0.76 U	0.77 U	0.82 U	0.69 U	0.68 U
Ethyl methacrylate	700,000 [2]	9,200,000 [2]	NE	NE	2.9 U	2.3 U	2.4 U	2.5 U	2.1 U	2.1 U
Ethylbenzene	5,700	29,000	5,003 [7]	NE	0.99 U	0.8 U	0.82 U	0.87 U	0.73 U	0.71 U
Iodomethane	NE	NE	NE	NE	1.3 U	1.1 U	2.4 J	1.2 U	0.97 U	0.95 U
Isobutyl alcohol	2,300,000 [2]	31,000,000 [2]	NE	NE	91 R	74 R	75 R	80 R	67 R	66 R
Methylene Chloride	11,000	54,000	1,004 [7]	NE	1.3 U	1.1 U	1.1 U	1.2 U	0.97 U	0.95 U
Tetrachloroethene	570	2,700	400 [7]	NE	0.96 U	0.78 U	0.8 U	0.84 U	0.71 U	0.69 U
trans-1,3-Dichloropropene	NE	NE	100 [8]	NE	1.1 U	0.93 U	0.95 U	1 U	0.84 U	0.83 U
Vinyl acetate	99,000 [2]	420,000 [2]	NE	NE	2 U	1.6 U	1.6 U	1.7 U	1.5 U	1.4 U
LLPAHs (ug/kg)										
Benzo[b]fluoranthene	150	2,100	NE	NE	NA	NA	NA	NA	NA	NA
Chrysene	15,000	210,000	NE	NE	NA	NA	NA	NA	NA	NA
Fluoranthene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Fluorene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Phenanthrene	170,000 [2][3]	1,700,000 [2][3]	NE	NE	NA	NA	NA	NA	NA	NA
Pyrene	170,000 [2]	1,700,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
PAH Totals (ug/kg):										
Low molecular weight PAHs	NE	NE	29,000 [9]	NE	NA	NA	NA	NA	NA	NA
High molecular weight PAHs	NE	NE	18,000 [9]	NE	NA	NA	NA	NA	NA	NA

TABLE 6-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - SWMU 9 AREA A/B - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB71 74SB71-04 5/5/2008 7.0-9.0	74SB71 74SB71-04D 5/5/2008 7.0-9.0	74SB72 74SB72-03 5/5/2008 5.0-7.0	74SB72 74SB72-04 5/5/2008 7.0-9.0	74SB73 74SB73-03 5/5/2008 5.0-7.0	74SB73 74SB73-04 5/5/2008 7.0-9.0
Metals (mg/kg)										
Antimony	3.1 [2]	41 [2]	10 [10]	NE	0.1 UJ	0.095 UJ	0.094 UJ	0.095 UJ	0.084 UJ	0.091 UJ
Arsenic	0.39	1.60	18 [11]	1.59	***1.8***	**1.3**	***1.7***	**1.3**	**0.66**	**1**
Barium	1,500 [2]	19,000 [2]	330 [12]	220	300 J	210 J	120 J	81 J	35 J	99 J
Beryllium	16 [2]	200 [2]	21 [13]	0.596	0.3	0.26	0.88	0.73	0.13	0.17
Cadmium	7.0 [2]	81 [2]	0.77 [14]	0.54	0.09 U	0.049 U	0.099 J	0.064 J	0.11 J	0.57
Chromium	280	1,400	26 [15]	114.5	21	22	6.1	7	19	40
Cobalt	2.3 [2]	30 [2]	13 [16]	26.9	**14**	**12**	***220***	***60***	**17**	***36***
Copper	310 [2]	4,100 [2]	28 [17]	246	99 J	92 J	79 J	47 J	55 J	86 J
Lead	400 [4]	800 [4]	11 [18]	6.3	3.3	2.6	1.1	0.87	0.7	0.73
Mercury	2.3 [2]	31 [2]	0.1 [19]	0.108	0.034	0.0073 J	0.0085 J	0.016 J	0.0047 U	0.0063 J
Nickel	160 [2]	2,000 [2]	38 [20]	24.7	9.7	9.3	12	9.2	14	22
Selenium	39 [2]	510 [2]	0.52 [21]	5.94	0.94	0.57 J	0.32 J	0.25 J	0.13 U	0.14 J
Silver	39 [2]	510 [2]	4.2 [22]	NE	0.05 J	0.056 J	0.021 J	0.027 J	0.024 J	0.029 J
Thallium	0.51 [2]	7 [2]	1.0 [23]	0.92	0.17 U	0.15 U	0.15 U	0.15 U	0.13 U	0.14 U
Tin	4,700 [2]	61,000 [2]	50 [23]	4	5.5 U	5.1 U	5 U	5.1 U	4.5 U	4.8 U
Vanadium	55.00 [2]	720.00 [2]	7.8 [24]	434.00	**330**	**280**	**410**	**310**	**130**	**150**
Zinc	2,300 [2]	31,000 [2]	46.0 [25]	88.00	60 J	59 J	46 J	41 J	51 J	86 J
TPH DRO and GRO (mg/kg)										
Diesel Range Organics	25 [5]	NE	NE	NE	1.4 J	1.2 J	1.2 J	1.6 J	1.2 J	1.5 J
Gasoline Range Organics	25 [5]	NE	NE	NE	0.073 U	0.068 U	0.065 U	0.067 U	0.061 U	0.056 U
Total TPH	25 [5]	NE	NE	NE	1.4 J	1.2 J	1.2 J	1.6 J	1.2 J	1.5 J

TABLE 6-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - SWMU 9 AREA A/B - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB74 74SB74-03 5/5/2008 5.0-7.0	74SB74 74SB74-04 5/5/2008 7.0-9.0	74SB75 74SB75-03 5/5/2008 5.0-7.0	74SB75 74SB75-04 5/5/2008 7.0-9.0	74SB76 74SB76-03 5/5/2008 5.0-7.0	74SB76 74SB76-03D 5/5/2008 5.0-7.0
Volatile Organic Compounds (ug/kg)										
2-Butanone (MEK)	2,800,000 [2]	19,000,000 [2]	NE	NE	2.7 U	2.7 U	2.4 U	2.3 U	2.4 U	2.6 U
2-Hexanone	NE	NE	NE	NE	2.1 U	2.1 U	1.9 U	1.8 U	1.9 U	2 U
4-Methyl-2-pentanone (MIBK)	530,000 [2]	5,200,000 [2]	NE	NE	2.9 U	2.9 U	2.6 U	2.4 U	2.6 U	2.8 U
Acetone	6,100,000 [2]	61,000,000 [2]	NE	NE	6.4 R	5.2 R	3.9 R	3.7 R	4 R	4.2 R
Acrolein	16 [2]	68 [2]	NE	NE	19 R	19 R	17 R	16 R	17 R	18 R
Acrylonitrile	240	1,200	1,000,000 [6]	NE	23 UJ	23 UJ	21 UJ	19 UJ	21 UJ	22 UJ
Bromoform	6,100	22,000	NE	NE	1.1 U	1.1 U	0.99 U	0.92 U	0.99 U	1 U
Carbon disulfide	67,000 [2]	300,000 [2]	NE	NE	0.5 U	0.51 U	0.46 U	0.43 U	0.46 U	0.49 U
Chloroform	300	1,500	1,002 [7]	NE	0.49 U	0.5 U	0.45 U	0.42 U	0.45 U	0.48 U
Chloromethane	1,700	8,400	NE	NE	0.7 U	0.71 U	0.64 U	0.59 U	0.64 U	0.68 U
Ethyl methacrylate	700,000 [2]	9,200,000 [2]	NE	NE	2.2 U	2.2 U	2 U	1.8 U	2 U	2.1 U
Ethylbenzene	5,700	29,000	5,003 [7]	NE	0.74 U	0.75 U	0.67 U	0.63 U	0.68 U	0.71 U
Iodomethane	NE	NE	NE	NE	0.98 U	1 U	0.9 U	0.83 U	0.9 U	0.95 U
Isobutyl alcohol	2,300,000 [2]	31,000,000 [2]	NE	NE	68 R	69 R	62 R	58 R	62 R	66 R
Methylene Chloride	11,000	54,000	1,004 [7]	NE	0.98 U	1 U	0.9 U	0.83 U	0.9 U	0.95 U
Tetrachloroethene	570	2,700	400 [7]	NE	0.72 U	0.73 U	0.65 U	0.61 U	0.66 U	0.69 U
trans-1,3-Dichloropropene	NE	NE	100 [8]	NE	0.86 U	0.87 U	0.78 U	0.73 U	0.79 U	0.83 U
Vinyl acetate	99,000 [2]	420,000 [2]	NE	NE	1.5 U	1.5 U	1.3 U	1.3 U	1.4 U	1.4 U
LLPAHs (ug/kg)										
Benzo[b]fluoranthene	150	2,100	NE	NE	NA	NA	NA	NA	NA	NA
Chrysene	15,000	210,000	NE	NE	NA	NA	NA	NA	NA	NA
Fluoranthene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Fluorene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Phenanthrene	170,000 [2][3]	1,700,000 [2][3]	NE	NE	NA	NA	NA	NA	NA	NA
Pyrene	170,000 [2]	1,700,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
PAH Totals (ug/kg):										
Low molecular weight PAHs	NE	NE	29,000 [9]	NE	NA	NA	NA	NA	NA	NA
High molecular weight PAHs	NE	NE	18,000 [9]	NE	NA	NA	NA	NA	NA	NA

TABLE 6-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - SWMU 9 AREA A/B - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB74 74SB74-03 5/5/2008 5.0-7.0	74SB74 74SB74-04 5/5/2008 7.0-9.0	74SB75 74SB75-03 5/5/2008 5.0-7.0	74SB75 74SB75-04 5/5/2008 7.0-9.0	74SB76 74SB76-03 5/5/2008 5.0-7.0	74SB76 74SB76-03D 5/5/2008 5.0-7.0
Metals (mg/kg)										
Antimony	3.1 [2]	41 [2]	10 [10]	NE	0.081 UJ	0.086 UJ	0.078 UJ	0.073 UJ	0.079 UJ	0.086 UJ
Arsenic	0.39	1.60	18 [11]	1.59	***2.8***	***7.4***	**1.1**	**1.1**	**0.9**	**1.4**
Barium	1,500 [2]	19,000 [2]	330 [12]	220	79 J	46 J	30 J	24 J	40 J	73 J
Beryllium	16 [2]	200 [2]	21 [13]	0.596	0.14	0.17	0.12 J	0.1	0.1 J	0.16
Cadmium	7.0 [2]	81 [2]	0.77 [14]	0.54	0.54	0.37	0.18	0.19	0.055 J	0.15
Chromium	280	1,400	26 [15]	114.5	7.8	2.1	3.8	3.4	2.2	2.9
Cobalt	2.3 [2]	30 [2]	13 [16]	26.9	***34***	***140***	**22**	**19**	**17** J	***38*** J
Copper	310 [2]	4,100 [2]	28 [17]	246	110 J	**1000** J	53 J	26 J	3.3 J	6 J
Lead	400 [4]	800 [4]	11 [18]	6.3	0.91	1.8	0.41	0.31	0.28 UJ	0.47 J
Mercury	2.3 [2]	31 [2]	0.1 [19]	0.108	0.0079 J	0.005 J	0.0045 U	0.0037 U	0.0055 J	0.0052 J
Nickel	160 [2]	2,000 [2]	38 [20]	24.7	5.6	8.4	7.5	5.2	4	5.7
Selenium	39 [2]	510 [2]	0.52 [21]	5.94	0.37 J	1.9	0.13 U	0.12 U	0.13 U	0.14 U
Silver	39 [2]	510 [2]	4.2 [22]	NE	0.02 J	0.034 J	0.054 J	0.047 J	0.13 J	0.062 J
Thallium	0.51 [2]	7 [2]	1.0 [23]	0.92	0.13 U	0.14 U	0.13 U	0.12 U	0.13 U	0.14 U
Tin	4,700 [2]	61,000 [2]	50 [23]	4	4.3 U	4.6 U	4.2 U	3.9 U	4.2 U	4.6 U
Vanadium	55.00 [2]	720.00 [2]	7.8 [24]	434.00	**170**	**310**	**220**	**190**	**190**	**240**
Zinc	2,300 [2]	31,000 [2]	46.0 [25]	88.00	110 J	48 J	42 J	67 J	34 J	77 J
TPH DRO and GRO (mg/kg)										
Diesel Range Organics	25 [5]	NE	NE	NE	0.92 J	1.3 J	1.4 J	1.2 J	0.9 J	0.96 J
Gasoline Range Organics	25 [5]	NE	NE	NE	0.053 U	0.062 U	0.055 U	0.049 U	0.053 U	0.055 U
Total TPH	25 [5]	NE	NE	NE	0.92 J	1.3 J	1.4 J	1.2 J	0.9 J	0.96 J

TABLE 6-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - SWMU 9 AREA A/B - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB76 74SB76-04 5/5/2008 7.0-9.0	74SB77 74SB77-03 5/5/2008 5.0-7.0	74SB77 74SB77-04 5/5/2008 7.0-9.0	74SB79 74SB79-03 5/5/2008 5.0-7.0	74SB79 74SB79-04 5/5/2008 7.0-9.0	74SB80 74SB80-03 5/5/2008 5.0-7.0
Volatile Organic Compounds (ug/kg)										
2-Butanone (MEK)	2,800,000 [2]	19,000,000 [2]	NE	NE	3.1 U	2.7 U	3 U	2.8 U	2.6 U	3.2 U
2-Hexanone	NE	NE	NE	NE	1.7 U	2.1 U	2.3 U	2.2 U	2 U	1.4 U
4-Methyl-2-pentanone (MIBK)	530,000 [2]	5,200,000 [2]	NE	NE	2.4 U	2.9 U	3.2 U	3 U	2.8 U	1.9 U
Acetone	6,100,000 [2]	61,000,000 [2]	NE	NE	16 R	4.4 R	4.8 R	31 J	21 J	20 J
Acrolein	16 [2]	68 [2]	NE	NE	16 R	19 R	21 R	20 R	18 R	13 R
Acrylonitrile	240	1,200	1,000,000 [6]	NE	19 UJ	23 UJ	25 UJ	24 UJ	22 UJ	15 UJ
Bromoform	6,100	22,000	NE	NE	0.91 U	1.1 U	1.2 U	1.1 U	1.1 U	0.74 U
Carbon disulfide	67,000 [2]	300,000 [2]	NE	NE	0.42 U	0.51 U	0.56 U	1.5 J	0.49 U	0.34 U
Chloroform	300	1,500	1,002 [7]	NE	0.41 U	0.5 U	0.55 U	0.52 U	0.48 U	0.34 U
Chloromethane	1,700	8,400	NE	NE	0.59 U	0.71 U	0.78 U	0.74 U	0.68 U	0.48 U
Ethyl methacrylate	700,000 [2]	9,200,000 [2]	NE	NE	1.8 U	2.2 U	2.4 U	2.3 U	2.1 U	1.5 U
Ethylbenzene	5,700	29,000	5,003 [7]	NE	0.62 U	0.75 U	0.82 U	0.78 U	0.72 U	0.5 U
Iodomethane	NE	NE	NE	NE	0.83 U	1 U	1.1 U	1.4 J	0.96 U	1.1 J
Isobutyl alcohol	2,300,000 [2]	31,000,000 [2]	NE	NE	57 R	69 R	76 R	72 R	66 R	46 R
Methylene Chloride	11,000	54,000	1,004 [7]	NE	0.83 U	1 U	1.1 U	1 U	0.96 U	0.67 U
Tetrachloroethene	570	2,700	400 [7]	NE	0.6 U	0.73 U	0.8 U	0.76 U	0.7 U	0.49 U
trans-1,3-Dichloropropene	NE	NE	100 [8]	NE	0.72 U	0.87 U	0.95 U	0.91 U	0.84 U	0.58 U
Vinyl acetate	99,000 [2]	420,000 [2]	NE	NE	1.2 U	1.5 U	1.6 U	1.6 U	1.4 U	1 U
LLPAHs (ug/kg)										
Benzo[b]fluoranthene	150	2,100	NE	NE	NA	NA	NA	NA	NA	NA
Chrysene	15,000	210,000	NE	NE	NA	NA	NA	NA	NA	NA
Fluoranthene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Fluorene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Phenanthrene	170,000 [2][3]	1,700,000 [2][3]	NE	NE	NA	NA	NA	NA	NA	NA
Pyrene	170,000 [2]	1,700,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
PAH Totals (ug/kg):										
Low molecular weight PAHs	NE	NE	29,000 [9]	NE	NA	NA	NA	NA	NA	NA
High molecular weight PAHs	NE	NE	18,000 [9]	NE	NA	NA	NA	NA	NA	NA

TABLE 6-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - SWMU 9 AREA A/B - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB76 74SB76-04 5/5/2008 7.0-9.0	74SB77 74SB77-03 5/5/2008 5.0-7.0	74SB77 74SB77-04 5/5/2008 7.0-9.0	74SB79 74SB79-03 5/5/2008 5.0-7.0	74SB79 74SB79-04 5/5/2008 7.0-9.0	74SB80 74SB80-03 5/5/2008 5.0-7.0
Metals (mg/kg)										
Antimony	3.1 [2]	41 [2]	10 [10]	NE	0.077 UJ	0.092 UJ	0.1 UJ	0.095 UJ	0.087 UJ	0.086 UJ
Arsenic	0.39	1.60	18 [11]	1.59	**0.82**	***3.2***	**0.9**	***1.8***	***2.3***	**0.96**
Barium	1,500 [2]	19,000 [2]	330 [12]	220	31 J	170 J	28 J	130 J	510 J	110 J
Beryllium	16 [2]	200 [2]	21 [13]	0.596	0.11 J	0.65	0.5	0.46	0.55	0.15
Cadmium	7.0 [2]	81 [2]	0.77 [14]	0.54	0.043 J	0.18	0.44	0.15	0.29	0.059 J
Chromium	280	1,400	26 [15]	114.5	2.4	7.1	10	6.4	5.7	6.3
Cobalt	2.3 [2]	30 [2]	13 [16]	26.9	**13**	***35***	**16**	***51***	**30**	**18**
Copper	310 [2]	4,100 [2]	28 [17]	246	4.4 J	230 J	150 J	220 J	200 J	75 J
Lead	400 [4]	800 [4]	11 [18]	6.3	0.28 U	1.2	0.34 U	3.9	4	0.73
Mercury	2.3 [2]	31 [2]	0.1 [19]	0.108	0.0049 J	0.0049 U	0.071	0.043	0.029	0.0045 J
Nickel	160 [2]	2,000 [2]	38 [20]	24.7	4	7.2	9.9	5.9	7.3	5.1
Selenium	39 [2]	510 [2]	0.52 [21]	5.94	0.12 U	0.26 J	0.16 J	1.1	1.1	0.14 U
Silver	39 [2]	510 [2]	4.2 [22]	NE	0.12 J	0.064 J	0.13 J	0.034 J	0.054 J	0.021 J
Thallium	0.51 [2]	7 [2]	1.0 [23]	0.92	0.12 U	0.15 U	0.16 U	0.15 U	0.14 U	0.14 U
Tin	4,700 [2]	61,000 [2]	50 [23]	4	4.1 U	4.9 U	5.5 U	5 U	4.7 U	4.6 U
Vanadium	55.00 [2]	720.00 [2]	7.8 [24]	434.00	**190**	**310**	**100**	**270**	**260**	**170**
Zinc	2,300 [2]	31,000 [2]	46.0 [25]	88.00	36 J	120 J	40 J	91 J	110 J	45 J
TPH DRO and GRO (mg/kg)										
Diesel Range Organics	25 [5]	NE	NE	NE	2 J	3.2 J	2.8 J	5.7	1.7 J	1 J
Gasoline Range Organics	25 [5]	NE	NE	NE	0.054 U	0.066 U	0.067 U	0.064 U	0.065 U	0.055 U
Total TPH	25 [5]	NE	NE	NE	2 J	3.2 J	2.8 J	5.7	1.7 J	1 J

TABLE 6-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - SWMU 9 AREA A/B - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB80 74SB80-04 5/5/2008 7.0-9.0	74SB81 74SB81-03 5/5/2008 5.0-7.0	74SB81 74SB81-04 5/5/2008 7.0-9.0	74SB81 74SB81-04D 5/5/2008 7.0-9.0	74SB82 74SB82-03 5/6/2008 5.0-7.0	74SB82 74SB82-04 5/6/2008 7.0-9.0
Volatile Organic Compounds (ug/kg)										
2-Butanone (MEK)	2,800,000 [2]	19,000,000 [2]	NE	NE	4.7 U	2.6 U	3.1 U	2.2 U	2.9 U	3.4 U
2-Hexanone	NE	NE	NE	NE	1.8 U	2 U	2.4 U	1.7 U	2.2 U	2.6 U
4-Methyl-2-pentanone (MIBK)	530,000 [2]	5,200,000 [2]	NE	NE	2.6 U	2.8 U	3.3 U	2.4 U	3.1 U	3.6 U
Acetone	6,100,000 [2]	61,000,000 [2]	NE	NE	36 J	44 J	28 J	13 J	21 J	24 J
Acrolein	16 [2]	68 [2]	NE	NE	17 R	18 R	22 R	16 R	20 R	24 R
Acrylonitrile	240	1,200	1,000,000 [6]	NE	20 UJ	22 UJ	26 UJ	19 UJ	25 U	29 U
Bromoform	6,100	22,000	NE	NE	0.97 U	1.1 U	1.3 U	0.9 U	1.2 U	1.4 U
Carbon disulfide	67,000 [2]	300,000 [2]	NE	NE	0.57 J	0.49 U	0.58 U	0.42 U	0.55 UJ	0.64 UJ
Chloroform	300	1,500	1,002 [7]	NE	0.44 U	0.48 U	0.57 U	0.41 U	0.54 U	0.63 U
Chloromethane	1,700	8,400	NE	NE	0.63 U	0.68 U	0.81 U	0.58 U	0.76 U	0.89 U
Ethyl methacrylate	700,000 [2]	9,200,000 [2]	NE	NE	1.9 U	2.1 U	2.5 U	1.8 U	2.4 U	2.8 U
Ethylbenzene	5,700	29,000	5,003 [7]	NE	0.66 U	0.72 U	0.86 U	0.61 U	0.8 U	0.94 U
Iodomethane	NE	NE	NE	NE	0.88 U	0.96 U	1.1 U	0.82 U	1.1 UJ	1.3 UJ
Isobutyl alcohol	2,300,000 [2]	31,000,000 [2]	NE	NE	61 R	66 R	79 R	56 R	74 R	86 R
Methylene Chloride	11,000	54,000	1,004 [7]	NE	0.88 U	0.96 U	1.1 U	0.82 U	1.1 U	1.3 U
Tetrachloroethene	570	2,700	400 [7]	NE	0.64 U	0.7 U	0.83 U	0.6 U	0.78 U	0.91 U
trans-1,3-Dichloropropene	NE	NE	100 [8]	NE	0.77 U	0.83 U	0.99 U	0.71 U	0.93 U	1.1 U
Vinyl acetate	99,000 [2]	420,000 [2]	NE	NE	1.3 U	1.4 U	1.7 U	1.2 U	1.6 U	1.9 U
LLPAHs (ug/kg)										
Benzo[b]fluoranthene	150	2,100	NE	NE	NA	NA	NA	NA	NA	NA
Chrysene	15,000	210,000	NE	NE	NA	NA	NA	NA	NA	NA
Fluoranthene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Fluorene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Phenanthrene	170,000 [2][3]	1,700,000 [2][3]	NE	NE	NA	NA	NA	NA	NA	NA
Pyrene	170,000 [2]	1,700,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
PAH Totals (ug/kg):										
Low molecular weight PAHs	NE	NE	29,000 [9]	NE	NA	NA	NA	NA	NA	NA
High molecular weight PAHs	NE	NE	18,000 [9]	NE	NA	NA	NA	NA	NA	NA

TABLE 6-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - SWMU 9 AREA A/B - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB80 74SB80-04 5/5/2008 7.0-9.0	74SB81 74SB81-03 5/5/2008 5.0-7.0	74SB81 74SB81-04 5/5/2008 7.0-9.0	74SB81 74SB81-04D 5/5/2008 7.0-9.0	74SB82 74SB82-03 5/6/2008 5.0-7.0	74SB82 74SB82-04 5/6/2008 7.0-9.0
Metals (mg/kg)										
Antimony	3.1 [2]	41 [2]	10 [10]	NE	0.15 UJ	0.11 UJ	0.1 UJ	0.1 UJ	0.074 UJ	0.089 UJ
Arsenic	0.39	1.60	18 [11]	1.59	***2.1***	***2.4***	***3.5***	**1.6**	***4.6***	**0.93**
Barium	1,500 [2]	19,000 [2]	330 [12]	220	110 J	130 J	72 J	59 J	19	89
Beryllium	16 [2]	200 [2]	21 [13]	0.596	0.3	0.24	0.2	0.18	0.051 J	0.23
Cadmium	7.0 [2]	81 [2]	0.77 [14]	0.54	0.42	0.094 J	0.2	0.089 J	0.031 U	0.039 J
Chromium	280	1,400	26 [15]	114.5	7 R	18 R	13 R	15 R	7.3	12 J
Cobalt	2.3 [2]	30 [2]	13 [16]	26.9	***47***	**29**	**24**	**21**	**3.8**	**18** J
Copper	310 [2]	4,100 [2]	28 [17]	246	98	100	110	82	18 J	110 J
Lead	400 [4]	800 [4]	11 [18]	6.3	3.5 J	5.1 J	4.6 J	5.2 J	1.6	0.77
Mercury	2.3 [2]	31 [2]	0.1 [19]	0.108	0.069	0.0092 J	0.02 J	0.0045 U	0.004 U	0.0085 J
Nickel	160 [2]	2,000 [2]	38 [20]	24.7	4.7	12	7.9	8	2.2	8.5 J
Selenium	39 [2]	510 [2]	0.52 [21]	5.94	0.92	0.31 J	0.67 J	0.45 J	0.12 U	0.42 J
Silver	39 [2]	510 [2]	4.2 [22]	NE	0.11 UJ	0.051 UJ	0.086 UJ	0.063 UJ	0.016 UJ	0.05 J
Thallium	0.51 [2]	7 [2]	1.0 [23]	0.92	0.14 U	0.13 U	0.17 U	0.13 U	0.12 U	0.14 U
Tin	4,700 [2]	61,000 [2]	50 [23]	4	4.6 U	4.5 U	5.5 U	4.4 U	4 U	4.8 U
Vanadium	55.00 [2]	720.00 [2]	7.8 [24]	434.00	**210**	**190**	**200**	**180**	27	**230**
Zinc	2,300 [2]	31,000 [2]	46.0 [25]	88.00	49 J	74 J	74 J	58 J	13 J	37 J
TPH DRO and GRO (mg/kg)										
Diesel Range Organics	25 [5]	NE	NE	NE	2.8 J	11	**530** J	**52** J	3.4 J	4.8
Gasoline Range Organics	25 [5]	NE	NE	NE	0.061 U	0.068 J	0.17 J	0.058 U	0.21 J	0.066 U
Total TPH	25 [5]	NE	NE	NE	2.8 J	11.068 J	**530.17** J	**52** J	3.61 J	4.8

TABLE 6-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - SWMU 9 AREA A/B - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB82 74SB82-04D 5/6/2008 7.0-9.0	74SB83 74SB83-02 5/6/2008 3.0-5.0	74SB84 74SB84-03 5/6/2008 5.0-7.0	74SB85 74SB85-03 5/6/2008 5.0-7.0	74SB85 74SB85-04 5/6/2008 7.0-9.0	74SB86 74SB86-03 5/6/2008 5.0-7.0
Volatile Organic Compounds (ug/kg)										
2-Butanone (MEK)	2,800,000 [2]	19,000,000 [2]	NE	NE	3.5 U	3 U	2.7 U	2.7 U	2.3 U	2.2 U
2-Hexanone	NE	NE	NE	NE	2.7 U	2.3 U	2.1 U	2.1 U	1.8 U	1.7 U
4-Methyl-2-pentanone (MIBK)	530,000 [2]	5,200,000 [2]	NE	NE	3.8 U	3.2 U	2.8 U	2.9 U	2.5 U	2.4 U
Acetone	6,100,000 [2]	61,000,000 [2]	NE	NE	14 J	13 J	12 J	30 J	21 J	6.3 J
Acrolein	16 [2]	68 [2]	NE	NE	25 R	21 R	19 R	19 R	16 R	16 R
Acrylonitrile	240	1,200	1,000,000 [6]	NE	30 U	25 U	23 U	23 U	20 U	19 U
Bromoform	6,100	22,000	NE	NE	1.4 U	1.2 U	1.1 U	1.1 U	0.94 U	0.91 U
Carbon disulfide	67,000 [2]	300,000 [2]	NE	NE	0.66 UJ	0.56 UJ	0.5 U	0.52 U	1.1 J	0.42 U
Chloroform	300	1,500	1,002 [7]	NE	0.65 U	0.55 U	0.49 U	0.51 U	0.43 U	0.41 U
Chloromethane	1,700	8,400	NE	NE	0.92 U	0.79 U	0.7 U	0.72 U	0.6 U	0.59 U
Ethyl methacrylate	700,000 [2]	9,200,000 [2]	NE	NE	2.9 U	2.4 U	2.2 U	2.2 U	1.9 U	1.8 U
Ethylbenzene	5,700	29,000	5,003 [7]	NE	0.97 U	0.83 U	0.74 U	0.76 U	0.64 U	0.62 U
Iodomethane	NE	NE	NE	NE	1.3 UJ	1.1 UJ	0.98 U	1 U	0.85 U	0.83 U
Isobutyl alcohol	2,300,000 [2]	31,000,000 [2]	NE	NE	89 R	76 R	68 R	70 R	59 R	57 R
Methylene Chloride	11,000	54,000	1,004 [7]	NE	1.3 U	1.1 U	0.98 U	1 U	0.85 U	0.83 U
Tetrachloroethene	570	2,700	400 [7]	NE	0.95 U	0.81 U	0.72 U	0.74 U	0.62 U	0.61 U
trans-1,3-Dichloropropene	NE	NE	100 [8]	NE	1.1 U	0.96 U	0.85 U	0.88 U	0.74 U	0.72 U
Vinyl acetate	99,000 [2]	420,000 [2]	NE	NE	1.9 U	1.7 U	1.5 U	1.5 U	1.3 U	1.2 U
LLPAHs (ug/kg)										
Benzo[b]fluoranthene	150	2,100	NE	NE	NA	NA	NA	NA	NA	NA
Chrysene	15,000	210,000	NE	NE	NA	NA	NA	NA	NA	NA
Fluoranthene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Fluorene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Phenanthrene	170,000 [2][3]	1,700,000 [2][3]	NE	NE	NA	NA	NA	NA	NA	NA
Pyrene	170,000 [2]	1,700,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
PAH Totals (ug/kg):										
Low molecular weight PAHs	NE	NE	29,000 [9]	NE	NA	NA	NA	NA	NA	NA
High molecular weight PAHs	NE	NE	18,000 [9]	NE	NA	NA	NA	NA	NA	NA

TABLE 6-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - SWMU 9 AREA A/B - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB82 74SB82-04D 5/6/2008 7.0-9.0	74SB83 74SB83-02 5/6/2008 3.0-5.0	74SB84 74SB84-03 5/6/2008 5.0-7.0	74SB85 74SB85-03 5/6/2008 5.0-7.0	74SB85 74SB85-04 5/6/2008 7.0-9.0	74SB86 74SB86-03 5/6/2008 5.0-7.0
Metals (mg/kg)										
Antimony	3.1 [2]	41 [2]	10 [10]	NE	0.088 UJ	0.084 UJ	0.13 J	0.1 UJ	0.08 UJ	0.089 UJ
Arsenic	0.39	1.60	18 [11]	1.59	**1.1**	**0.72**	**1.6**	***3.2***	0.47 U	**0.84**
Barium	1,500 [2]	19,000 [2]	330 [12]	220	100	63	55 R	87 R	87 R	150 R
Beryllium	16 [2]	200 [2]	21 [13]	0.596	0.22	0.2	0.23	0.39	0.17	0.16
Cadmium	7.0 [2]	81 [2]	0.77 [14]	0.54	0.08 J	0.055 J	0.12	0.048 J	0.033 U	0.099 J
Chromium	280	1,400	26 [15]	114.5	29 J	30	18 J	6.2 J	19 J	26 R
Cobalt	2.3 [2]	30 [2]	13 [16]	26.9	**29** J	***33***	**21** J	***110*** J	**15** J	**20** J
Copper	310 [2]	4,100 [2]	28 [17]	246	150 J	120 J	86 J	100	100	74
Lead	400 [4]	800 [4]	11 [18]	6.3	1.4	1.6	5.8	2.3	1	62 R
Mercury	2.3 [2]	31 [2]	0.1 [19]	0.108	0.0075 J	0.0044 U	0.014 J	0.048	0.0042 J	0.0095 J
Nickel	160 [2]	2,000 [2]	38 [20]	24.7	19 J	22	11	7	11	8.4 J
Selenium	39 [2]	510 [2]	0.52 [21]	5.94	0.16 J	0.13 U	0.18 J	1.5	0.19 J	0.14 U
Silver	39 [2]	510 [2]	4.2 [22]	NE	0.041 J	0.04 J	0.034 J	0.021 U	0.065 J	0.026 J
Thallium	0.51 [2]	7 [2]	1.0 [23]	0.92	0.14 U	0.13 U	0.15 U	0.16 U	0.13 U	0.14 U
Tin	4,700 [2]	61,000 [2]	50 [23]	4	4.7 U	4.5 U	4.8 U	5.3 U	4.3 U	4.8 U
Vanadium	55.00 [2]	720.00 [2]	7.8 [24]	434.00	**200**	**220**	**140**	**270**	**140**	**130**
Zinc	2,300 [2]	31,000 [2]	46.0 [25]	88.00	71 J	72 J	67	54	45	53 J
TPH DRO and GRO (mg/kg)										
Diesel Range Organics	25 [5]	NE	NE	NE	7.9	5.7	3 J	2.6 J	12	3.5 J
Gasoline Range Organics	25 [5]	NE	NE	NE	0.083 U	0.066 U	0.064 U	0.066 U	0.059 U	0.051 U
Total TPH	25 [5]	NE	NE	NE	7.9	5.7	3 J	2.6 J	12	3.5 J

TABLE 6-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - SWMU 9 AREA A/B - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB86 74SB86-03D 5/6/2008 5.0-7.0	74SB86 74SB86-04 5/6/2008 7.0-9.0	74SB87 74SB87-03 5/7/2008 5.0-7.0	74SB87 74SB87-04 5/7/2008 7.0-9.0	74SB88 74SB88-03 5/7/2008 5.0-7.0	74SB89 74SB89-03 5/7/2008 5.0-7.0
Volatile Organic Compounds (ug/kg)										
2-Butanone (MEK)	2,800,000 [2]	19,000,000 [2]	NE	NE	2.4 U	2.4 U	2.5 U	2.7 U	2.8 U	2.6 U
2-Hexanone	NE	NE	NE	NE	1.9 U	1.9 U	1.9 U	2.1 U	2.1 U	2 U
4-Methyl-2-pentanone (MIBK)	530,000 [2]	5,200,000 [2]	NE	NE	2.6 U	2.6 U	2.6 U	2.9 U	3 U	2.8 U
Acetone	6,100,000 [2]	61,000,000 [2]	NE	NE	22 J	3.9 R	24 J	23 J	14 J	29 J
Acrolein	16 [2]	68 [2]	NE	NE	17 R	17 R	17 R	19 R	19 R	18 U
Acrylonitrile	240	1,200	1,000,000 [6]	NE	20 U	20 U	21 U	23 U	23 U	22 U
Bromoform	6,100	22,000	NE	NE	0.97 U	0.98 U	1 U	1.1 U	1.1 U	1.1 U
Carbon disulfide	67,000 [2]	300,000 [2]	NE	NE	0.45 U	0.45 U	0.46 U	1.8 J	0.52 U	0.49 U
Chloroform	300	1,500	1,002 [7]	NE	0.44 U	0.44 U	0.46 U	0.5 U	0.51 U	0.48 U
Chloromethane	1,700	8,400	NE	NE	0.63 U	0.63 U	0.65 U	0.72 U	0.72 U	0.68 U
Ethyl methacrylate	700,000 [2]	9,200,000 [2]	NE	NE	1.9 U	2 U	2 U	2.2 U	2.2 U	2.1 U
Ethylbenzene	5,700	29,000	5,003 [7]	NE	0.66 U	0.67 U	0.68 U	0.76 U	0.77 U	0.72 U
Iodomethane	NE	NE	NE	NE	0.88 U	0.89 U	0.91 U	1 U	1 U	0.96 U
Isobutyl alcohol	2,300,000 [2]	31,000,000 [2]	NE	NE	61 R	290 J	63 R	70 R	70 R	66 R
Methylene Chloride	11,000	54,000	1,004 [7]	NE	0.88 U	0.89 U	0.91 U	1 U	1 U	0.96 U
Tetrachloroethene	570	2,700	400 [7]	NE	0.65 U	0.65 U	0.67 U	0.74 U	0.75 U	0.7 U
trans-1,3-Dichloropropene	NE	NE	100 [8]	NE	0.77 U	0.77 U	0.79 U	0.88 U	0.89 U	0.83 U
Vinyl acetate	99,000 [2]	420,000 [2]	NE	NE	1.3 U	1.3 U	1.4 U	1.5 U	1.5 U	1.4 U
LLPAHs (ug/kg)										
Benzo[b]fluoranthene	150	2,100	NE	NE	NA	8.6 U	NA	NA	NA	NA
Chrysene	15,000	210,000	NE	NE	NA	6.9 U	NA	NA	NA	NA
Fluoranthene	230,000 [2]	2,200,000 [2]	NE	NE	NA	19 U	NA	NA	NA	NA
Fluorene	230,000 [2]	2,200,000 [2]	NE	NE	NA	8.7 U	NA	NA	NA	NA
Phenanthrene	170,000 [2][3]	1,700,000 [2][3]	NE	NE	NA	19 U	NA	NA	NA	NA
Pyrene	170,000 [2]	1,700,000 [2]	NE	NE	NA	19 U	NA	NA	NA	NA
PAH Totals (ug/kg):										
Low molecular weight PAHs	NE	NE	29,000 [9]	NE	NA	111.9	NA	NA	NA	NA
High molecular weight PAHs	NE	NE	18,000 [9]	NE	NA	130.5	NA	NA	NA	NA

TABLE 6-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - SWMU 9 AREA A/B - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB86 74SB86-03D 5/6/2008 5.0-7.0	74SB86 74SB86-04 5/6/2008 7.0-9.0	74SB87 74SB87-03 5/7/2008 5.0-7.0	74SB87 74SB87-04 5/7/2008 7.0-9.0	74SB88 74SB88-03 5/7/2008 5.0-7.0	74SB89 74SB89-03 5/7/2008 5.0-7.0
Metals (mg/kg)										
Antimony	3.1 [2]	41 [2]	10 [10]	NE	0.076 UJ	0.079 UJ	0.075 UJ	0.15 J	0.1 J	0.078 UJ
Arsenic	0.39	1.60	18 [11]	1.59	**0.63**	**0.63**	**1.2**	**1.6**	0.5 U	**0.74**
Barium	1,500 [2]	19,000 [2]	330 [12]	220	28 R	45 R	150 R	140	69 R	76 R
Beryllium	16 [2]	200 [2]	21 [13]	0.596	0.1	0.21	0.29	0.26	0.19	0.19
Cadmium	7.0 [2]	81 [2]	0.77 [14]	0.54	0.085 J	0.048 J	0.19	0.048 J	0.16	0.054 J
Chromium	280	1,400	26 [15]	114.5	3.2 R	19 J	21 J	29	4.8 J	35 J
Cobalt	2.3 [2]	30 [2]	13 [16]	26.9	**13** J	**21** J	**26** J	**19**	**25** J	**26** J
Copper	310 [2]	4,100 [2]	28 [17]	246	54	110	110	120	100	120
Lead	400 [4]	800 [4]	11 [18]	6.3	1 R	0.83	2.2	1.3	1.5	1.9
Mercury	2.3 [2]	31 [2]	0.1 [19]	0.108	0.0043 U	0.004 U	0.0085 J	0.011 J	0.0074 J	0.0037 U
Nickel	160 [2]	2,000 [2]	38 [20]	24.7	3.2 J	15	16	15	4.7	22
Selenium	39 [2]	510 [2]	0.52 [21]	5.94	0.12 U	0.13 J	0.35 J	0.34 J	0.13 U	0.13 U
Silver	39 [2]	510 [2]	4.2 [22]	NE	0.016 U	0.11 J	0.033 J	0.019 J	0.017 U	0.037 J
Thallium	0.51 [2]	7 [2]	1.0 [23]	0.92	0.12 U	0.13 U	0.12 U	0.14 U	0.13 U	0.13 U
Tin	4,700 [2]	61,000 [2]	50 [23]	4	4.1 U	4.2 U	4 U	4.6 U	4.4 U	4.2 U
Vanadium	55.00 [2]	720.00 [2]	7.8 [24]	434.00	**100**	**110**	**170**	**160**	**100**	**150**
Zinc	2,300 [2]	31,000 [2]	46.0 [25]	88.00	35 J	49	82	52	48	49
TPH DRO and GRO (mg/kg)										
Diesel Range Organics	25 [5]	NE	NE	NE	5.8	**740**	4.3	7.2	1.2 J	1.5 J
Gasoline Range Organics	25 [5]	NE	NE	NE	0.051 U	0.053 J	0.051 U	1.1	0.057 U	0.052 U
Total TPH	25 [5]	NE	NE	NE	5.8	**740.053** J	4.3	8.3	1.2 J	1.5 J

TABLE 6-2

SUMMARY OF DETECTED RESULTS - SWMU 9 AREA A/B - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB90 74SB90-02 5/7/2008 3.0-5.0	74SB91 74SB91-03 5/7/2008 5.0-7.0	74SB91 74SB91-03D 5/7/2008 5.0-7.0	74SB92 74SB92-03 5/7/2008 5.0-7.0	74SB92 74SB92-04 5/7/2008 7.0-9.0	74SB93 74SB93-03 5/7/2008 5.0-7.0
Volatile Organic Compounds (ug/kg)										
2-Butanone (MEK)	2,800,000 [2]	19,000,000 [2]	NE	NE	4.8 U	2.5 U	2.9 U	3 U	3.2 U	2.5 U
2-Hexanone	NE	NE	NE	NE	2.4 U	2 U	2.3 U	2.4 U	2.5 U	1.9 U
4-Methyl-2-pentanone (MIBK)	530,000 [2]	5,200,000 [2]	NE	NE	3.3 U	2.7 U	3.1 U	3.3 U	3.4 U	2.7 U
Acetone	6,100,000 [2]	61,000,000 [2]	NE	NE	50 J	17 J	4.7 R	24 J	21 J	4.1 R
Acrolein	16 [2]	68 [2]	NE	NE	22 R	18 U	20 U	21 U	22 U	18 U
Acrylonitrile	240	1,200	1,000,000 [6]	NE	26 U	22 U	25 U	26 U	27 U	21 U
Bromoform	6,100	22,000	NE	NE	1.3 U	1 U	1.2 U	1.2 U	1.3 U	1 U
Carbon disulfide	67,000 [2]	300,000 [2]	NE	NE	4.6 J	0.48 U	0.55 U	1.2 J	0.6 U	0.47 U
Chloroform	300	1,500	1,002 [7]	NE	0.58 U	0.47 U	0.54 U	0.56 U	0.59 U	0.46 U
Chloromethane	1,700	8,400	NE	NE	0.82 U	0.67 U	0.76 U	0.8 U	0.84 U	0.65 U
Ethyl methacrylate	700,000 [2]	9,200,000 [2]	NE	NE	2.5 U	2.1 U	2.4 U	2.5 U	2.6 U	2 U
Ethylbenzene	5,700	29,000	5,003 [7]	NE	0.86 U	0.7 U	0.8 U	0.85 U	0.89 U	0.69 U
Iodomethane	NE	NE	NE	NE	1.2 U	0.94 U	1.1 U	1.1 U	1.2 U	0.92 U
Isobutyl alcohol	2,300,000 [2]	31,000,000 [2]	NE	NE	79 R	65 R	74 R	78 R	81 R	64 R
Methylene Chloride	11,000	54,000	1,004 [7]	NE	1.2 U	0.94 U	1.1 U	1.1 U	1.2 U	0.92 U
Tetrachloroethene	570	2,700	400 [7]	NE	0.84 U	0.69 U	0.78 U	0.82 U	0.86 U	0.67 U
trans-1,3-Dichloropropene	NE	NE	100 [8]	NE	1 U	0.82 U	0.93 U	0.98 U	1 U	0.8 U
Vinyl acetate	99,000 [2]	420,000 [2]	NE	NE	1.7 U	1.4 U	1.6 U	1.7 U	1.8 U	1.4 U
LLPAHs (ug/kg)										
Benzo[b]fluoranthene	150	2,100	NE	NE	NA	NA	NA	NA	NA	NA
Chrysene	15,000	210,000	NE	NE	NA	NA	NA	NA	NA	NA
Fluoranthene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Fluorene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Phenanthrene	170,000 [2][3]	1,700,000 [2][3]	NE	NE	NA	NA	NA	NA	NA	NA
Pyrene	170,000 [2]	1,700,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
PAH Totals (ug/kg):										
Low molecular weight PAHs	NE	NE	29,000 [9]	NE	NA	NA	NA	NA	NA	NA
High molecular weight PAHs	NE	NE	18,000 [9]	NE	NA	NA	NA	NA	NA	NA

TABLE 6-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - SWMU 9 AREA A/B - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB90 74SB90-02 5/7/2008 3.0-5.0	74SB91 74SB91-03 5/7/2008 5.0-7.0	74SB91 74SB91-03D 5/7/2008 5.0-7.0	74SB92 74SB92-03 5/7/2008 5.0-7.0	74SB92 74SB92-04 5/7/2008 7.0-9.0	74SB93 74SB93-03 5/7/2008 5.0-7.0
Metals (mg/kg)										
Antimony	3.1 [2]	41 [2]	10 [10]	NE	0.082 UJ	0.084 UJ	0.14 J	0.087 UJ	0.097 UJ	0.079 UJ
Arsenic	0.39	1.60	18 [11]	1.59	**1.5**	**0.89**	**0.93**	**1.2**	***2.9***	0.42 U
Barium	1,500 [2]	19,000 [2]	330 [12]	220	100 R	42 R	51 R	100 R	16 R	40 R
Beryllium	16 [2]	200 [2]	21 [13]	0.596	0.36	0.21	0.22	0.35	1.3	0.088 J
Cadmium	7.0 [2]	81 [2]	0.77 [14]	0.54	0.07 J	0.1 J	0.17	0.036 U	0.04 U	0.062 J
Chromium	280	1,400	26 [15]	114.5	37 J	6.6 J	19 J	5.4 J	1.5 J	2.1 J
Cobalt	2.3 [2]	30 [2]	13 [16]	26.9	***31*** J	**21** J	**24** J	**20** J	***39*** J	**13** J
Copper	310 [2]	4,100 [2]	28 [17]	246	110	100	94	96	210	24 J
Lead	400 [4]	800 [4]	11 [18]	6.3	2.4	0.96 R	15 R	1.4	1.7	0.38
Mercury	2.3 [2]	31 [2]	0.1 [19]	0.108	0.049	0.0052 J	0.011 J	0.039	0.0048 U	0.0042 U
Nickel	160 [2]	2,000 [2]	38 [20]	24.7	16	6.9 J	11 J	6.1	6.1	3.2
Selenium	39 [2]	510 [2]	0.52 [21]	5.94	1.5	0.13 U	0.19 J	0.61	0.15 U	0.13 U
Silver	39 [2]	510 [2]	4.2 [22]	NE	0.021 J	0.018 U	0.037 J	0.019 U	0.021 U	0.017 J
Thallium	0.51 [2]	7 [2]	1.0 [23]	0.92	0.13 U	0.13 U	0.13 U	0.14 U	0.15 U	0.13 U
Tin	4,700 [2]	61,000 [2]	50 [23]	4	4.4 U	4.5 U	4.2 U	4.6 U	5.2 U	4.2 U
Vanadium	55.00 [2]	720.00 [2]	7.8 [24]	434.00	**240**	**140**	**160**	**210**	**250**	**120**
Zinc	2,300 [2]	31,000 [2]	46.0 [25]	88.00	53	75	71	64	89	29
TPH DRO and GRO (mg/kg)										
Diesel Range Organics	25 [5]	NE	NE	NE	2.1 J	2.7 J	6.9	2.3 J	1.1 J	0.76 J
Gasoline Range Organics	25 [5]	NE	NE	NE	0.067 U	0.054 U	0.088 U	0.068 U	0.072 U	0.068 U
Total TPH	25 [5]	NE	NE	NE	2.1 J	2.7 J	6.9	2.3 J	1.1 J	0.76 J

TABLE 6-2

SUMMARY OF DETECTED RESULTS - SWMU 9 AREA A/B - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB93 74SB93-04 5/7/2008 7.0-9.0	74SB94 74SB94-03 5/7/2008 5.0-7.0	74SB94 74SB94-04 5/7/2008 7.0-9.0	74SB95 74SB95-03 5/13/2008 5.0-7.0	74SB95 74SB95-04 5/13/2008 7.0-9.0	74SB96 74SB96-03 5/13/2008 5.0-7.0
Volatile Organic Compounds (ug/kg)										
2-Butanone (MEK)	2,800,000 [2]	19,000,000 [2]	NE	NE	2.7 U	2.6 U	2.8 U	2.8 U	2.6 U	3.1 U
2-Hexanone	NE	NE	NE	NE	2.1 U	2 U	2.1 U	2.1 U	2 U	2.4 U
4-Methyl-2-pentanone (MIBK)	530,000 [2]	5,200,000 [2]	NE	NE	2.9 U	2.8 U	3 U	3 U	2.8 U	3.4 U
Acetone	6,100,000 [2]	61,000,000 [2]	NE	NE	4.4 R	4.3 R	4.5 R	7 R	7 J	15 J
Acrolein	16 [2]	68 [2]	NE	NE	19 U	18 U	19 U	19 U	18 R	22 R
Acrylonitrile	240	1,200	1,000,000 [6]	NE	23 U	22 U	23 U	23 U	22 U	27 U
Bromoform	6,100	22,000	NE	NE	1.1 U	1.1 U	1.1 U	1.1 U	1 U	1.3 U
Carbon disulfide	67,000 [2]	300,000 [2]	NE	NE	0.51 U	0.49 U	0.52 U	0.52 U	0.49 U	0.59 U
Chloroform	300	1,500	1,002 [7]	NE	0.5 U	0.48 U	0.51 U	0.51 U	0.48 U	0.58 U
Chloromethane	1,700	8,400	NE	NE	0.71 U	0.69 U	0.72 U	0.72 U	0.68 U	0.82 U
Ethyl methacrylate	700,000 [2]	9,200,000 [2]	NE	NE	2.2 U	2.1 U	2.2 U	2.2 U	2.1 U	2.5 U
Ethylbenzene	5,700	29,000	5,003 [7]	NE	0.75 U	0.73 U	0.76 U	0.77 U	0.71 U	0.87 U
Iodomethane	NE	NE	NE	NE	1 U	0.97 U	1 U	1 U	0.95 U	1.2 U
Isobutyl alcohol	2,300,000 [2]	31,000,000 [2]	NE	NE	69 R	67 R	70 R	70 R	66 R	80 R
Methylene Chloride	11,000	54,000	1,004 [7]	NE	1 U	0.97 U	1 U	1 U	0.95 U	1.2 U
Tetrachloroethene	570	2,700	400 [7]	NE	0.73 U	0.71 U	0.74 U	0.74 U	0.69 U	0.84 U
trans-1,3-Dichloropropene	NE	NE	100 [8]	NE	0.87 U	0.84 U	0.89 U	0.89 U	0.83 U	1 U
Vinyl acetate	99,000 [2]	420,000 [2]	NE	NE	1.5 U	1.5 U	1.5 U	1.5 U	1.4 U	1.7 U
LLPAHs (ug/kg)										
Benzo[b]fluoranthene	150	2,100	NE	NE	NA	NA	NA	NA	NA	NA
Chrysene	15,000	210,000	NE	NE	NA	NA	NA	NA	NA	NA
Fluoranthene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Fluorene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Phenanthrene	170,000 [2][3]	1,700,000 [2][3]	NE	NE	NA	NA	NA	NA	NA	NA
Pyrene	170,000 [2]	1,700,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
PAH Totals (ug/kg):										
Low molecular weight PAHs	NE	NE	29,000 [9]	NE	NA	NA	NA	NA	NA	NA
High molecular weight PAHs	NE	NE	18,000 [9]	NE	NA	NA	NA	NA	NA	NA

TABLE 6-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - SWMU 9 AREA A/B - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB93 74SB93-04 5/7/2008 7.0-9.0	74SB94 74SB94-03 5/7/2008 5.0-7.0	74SB94 74SB94-04 5/7/2008 7.0-9.0	74SB95 74SB95-03 5/13/2008 5.0-7.0	74SB95 74SB95-04 5/13/2008 7.0-9.0	74SB96 74SB96-03 5/13/2008 5.0-7.0
Metals (mg/kg)										
Antimony	3.1 [2]	41 [2]	10 [10]	NE	0.082 U	0.078 U	0.086 U	0.085 UJ	0.084 UJ	0.092 UJ
Arsenic	0.39	1.60	18 [11]	1.59	0.51 U	0.32 U	0.42 U	0.41 U	0.37 U	**1.2**
Barium	1,500 [2]	19,000 [2]	330 [12]	220	19	62	15	49	48	510 R
Beryllium	16 [2]	200 [2]	21 [13]	0.596	0.13	0.16	0.16	0.18	0.13	0.48
Cadmium	7.0 [2]	81 [2]	0.77 [14]	0.54	0.084 J	0.09 J	0.052 J	0.065 J	0.052 J	0.038 U
Chromium	280	1,400	26 [15]	114.5	2.4	1.8	2	3.3 J	3.6 J	5.2 J
Cobalt	2.3 [2]	30 [2]	13 [16]	26.9	**23**	**26**	**23**	**30**	**24**	**12**
Copper	310 [2]	4,100 [2]	28 [17]	246	73	74	110	43	84	180
Lead	400 [4]	800 [4]	11 [18]	6.3	0.51	0.74	0.7	0.47	0.82	1.7
Mercury	2.3 [2]	31 [2]	0.1 [19]	0.108	0.0046 U	0.0044 U	0.0047 U	0.0077 J	0.0061 J	0.0053 U
Nickel	160 [2]	2,000 [2]	38 [20]	24.7	5	5	4.2	6.2	5.2	14
Selenium	39 [2]	510 [2]	0.52 [21]	5.94	0.13 U	0.12 U	0.14 U	0.14 U	0.13 U	0.15 U
Silver	39 [2]	510 [2]	4.2 [22]	NE	0.021 J	0.017 U	0.018 U	0.018 J	0.018 J	0.024 J
Thallium	0.51 [2]	7 [2]	1.0 [23]	0.92	0.13 U	0.12 U	0.14 U	0.14 U	0.13 U	0.15 U
Tin	4,700 [2]	61,000 [2]	50 [23]	4	4.4 U	4.2 U	4.6 U	4.5 U	4.5 U	4.9 U
Vanadium	55.00 [2]	720.00 [2]	7.8 [24]	434.00	**260**	**190**	**140**	**220**	**250**	**230**
Zinc	2,300 [2]	31,000 [2]	46.0 [25]	88.00	79	83	100	90 J	92 J	160 J
TPH DRO and GRO (mg/kg)										
Diesel Range Organics	25 [5]	NE	NE	NE	0.69 U	1.7 J	1.4 J	2.6 J	2 J	2.6 J
Gasoline Range Organics	25 [5]	NE	NE	NE	0.061 U	0.061 U	0.062 U	0.065 U	0.062 U	0.071 U
Total TPH	25 [5]	NE	NE	NE	0.751 U	1.7 J	1.4 J	2.6 J	2 J	2.6 J

TABLE 6-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - SWMU 9 AREA A/B - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB96 74SB96-03D 5/13/2008 5.0-7.0	74SB96 74SB96-05 5/13/2008 9.0-11.0	74SB97 74SB97-03 5/5/2008 5.0-7.0	74SB97 74SB97-04 5/5/2008 7.0-9.0	74SB98 74SB98-03 5/5/2008 5.0-7.0	74SB98 74SB98-04 5/5/2008 7.0-9.0
Volatile Organic Compounds (ug/kg)										
2-Butanone (MEK)	2,800,000 [2]	19,000,000 [2]	NE	NE	3.1 U	3.5 U	2.8 U	9.9 U	5.5 U	2.9 U
2-Hexanone	NE	NE	NE	NE	2.4 U	2.7 U	2.2 U	7 J	2.9 J	2.2 U
4-Methyl-2-pentanone (MIBK)	530,000 [2]	5,200,000 [2]	NE	NE	3.3 U	3.8 U	3 U	3.8 J	2.9 U	3.1 U
Acetone	6,100,000 [2]	61,000,000 [2]	NE	NE	5 R	16 J	11 J	24 J	4.4 UJ	13 J
Acrolein	16 [2]	68 [2]	NE	NE	22 R	25 R	20 R	19 R	19 R	20 R
Acrylonitrile	240	1,200	1,000,000 [6]	NE	26 U	30 U	24 UJ	23 U	23 U	24 U
Bromoform	6,100	22,000	NE	NE	1.3 U	1.4 U	1.1 U	1.1 U	1.1 U	1.2 U
Carbon disulfide	67,000 [2]	300,000 [2]	NE	NE	0.58 U	0.67 U	0.52 U	0.51 U	0.52 U	0.54 U
Chloroform	300	1,500	1,002 [7]	NE	0.57 U	0.65 U	0.51 U	0.5 U	0.51 U	0.53 U
Chloromethane	1,700	8,400	NE	NE	0.81 U	0.93 U	0.73 U	0.71 U	0.72 U	0.75 U
Ethyl methacrylate	700,000 [2]	9,200,000 [2]	NE	NE	2.5 U	2.9 U	2.3 U	2.2 U	2.2 U	2.3 U
Ethylbenzene	5,700	29,000	5,003 [7]	NE	0.86 U	0.98 U	0.77 U	0.75 U	0.76 U	0.79 U
Iodomethane	NE	NE	NE	NE	1.1 U	1.3 U	1 U	1 UJ	1 UJ	1.1 UJ
Isobutyl alcohol	2,300,000 [2]	31,000,000 [2]	NE	NE	79 R	90 R	71 R	69 R	70 R	73 R
Methylene Chloride	11,000	54,000	1,004 [7]	NE	1.1 U	1.3 U	1 U	1 U	1 U	1.1 U
Tetrachloroethene	570	2,700	400 [7]	NE	0.84 U	0.96 U	0.75 U	0.73 U	0.74 U	0.77 U
trans-1,3-Dichloropropene	NE	NE	100 [8]	NE	1 U	1.1 U	0.89 U	0.87 U	0.88 U	0.92 U
Vinyl acetate	99,000 [2]	420,000 [2]	NE	NE	1.7 U	2 U	1.5 U	1.5 U	1.5 U	1.6 U
LLPAHs (ug/kg)										
Benzo[b]fluoranthene	150	2,100	NE	NE	NA	NA	NA	NA	NA	NA
Chrysene	15,000	210,000	NE	NE	NA	NA	NA	NA	NA	NA
Fluoranthene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Fluorene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Phenanthrene	170,000 [2][3]	1,700,000 [2][3]	NE	NE	NA	NA	NA	NA	NA	NA
Pyrene	170,000 [2]	1,700,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
PAH Totals (ug/kg):										
Low molecular weight PAHs	NE	NE	29,000 [9]	NE	NA	NA	NA	NA	NA	NA
High molecular weight PAHs	NE	NE	18,000 [9]	NE	NA	NA	NA	NA	NA	NA

TABLE 6-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - SWMU 9 AREA A/B - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB96 74SB96-03D 5/13/2008 5.0-7.0	74SB96 74SB96-05 5/13/2008 9.0-11.0	74SB97 74SB97-03 5/5/2008 5.0-7.0	74SB97 74SB97-04 5/5/2008 7.0-9.0	74SB98 74SB98-03 5/5/2008 5.0-7.0	74SB98 74SB98-04 5/5/2008 7.0-9.0
Metals (mg/kg)										
Antimony	3.1 [2]	41 [2]	10 [10]	NE	0.098 UJ	0.095 UJ	0.087 UJ	0.092 UJ	0.087 UJ	0.096 UJ
Arsenic	0.39	1.60	18 [11]	1.59	**1.5**	**1.2**	**0.79**	**1.3**	***2***	**0.66**
Barium	1,500 [2]	19,000 [2]	330 [12]	220	96 R	120	21 J	17 J	82 J	9.1 J
Beryllium	16 [2]	200 [2]	21 [13]	0.596	0.5	0.61	0.11 J	0.17	0.17	0.16
Cadmium	7.0 [2]	81 [2]	0.77 [14]	0.54	0.04 U	0.039 U	0.036 U	0.038 U	0.04 J	0.039 U
Chromium	280	1,400	26 [15]	114.5	5.2 J	7.3 J	14 R	29 R	29 R	8.9 R
Cobalt	2.3 [2]	30 [2]	13 [16]	26.9	**10**	**16**	**4.2**	**8.8**	**7**	**5.2**
Copper	310 [2]	4,100 [2]	28 [17]	246	180	160	45	85	73	72
Lead	400 [4]	800 [4]	11 [18]	6.3	2.4	1.7	1.3 J	2.1 J	1.9 J	0.68 J
Mercury	2.3 [2]	31 [2]	0.1 [19]	0.108	0.0053 U	0.0056 U	0.0051 U	0.0049 U	0.077	0.0044 U
Nickel	160 [2]	2,000 [2]	38 [20]	24.7	10	9.4	4.4	10	6.7	4.3
Selenium	39 [2]	510 [2]	0.52 [21]	5.94	0.22 J	0.15 U	0.24 J	0.41 J	1.4	0.22 J
Silver	39 [2]	510 [2]	4.2 [22]	NE	0.037 J	0.025 J	0.025 UJ	0.02 UJ	0.033 UJ	0.037 UJ
Thallium	0.51 [2]	7 [2]	1.0 [23]	0.92	0.16 U	0.15 U	0.14 U	0.15 U	0.14 U	0.15 U
Tin	4,700 [2]	61,000 [2]	50 [23]	4	5.2 U	5 U	4.7 U	4.9 U	4.7 U	5.1 U
Vanadium	55.00 [2]	720.00 [2]	7.8 [24]	434.00	**250**	**200**	**120**	**190**	**310**	**110**
Zinc	2,300 [2]	31,000 [2]	46.0 [25]	88.00	130 J	140 J	61 J	190 J	39 J	50 J
TPH DRO and GRO (mg/kg)										
Diesel Range Organics	25 [5]	NE	NE	NE	3.3 J	2.2 J	1.7 J	1 J	0.77 U	1.4 J
Gasoline Range Organics	25 [5]	NE	NE	NE	0.07 U	0.077 U	0.065 U	0.064 U	0.058 U	0.063 U
Total TPH	25 [5]	NE	NE	NE	3.3 J	2.2 J	1.7 J	1 J	0.828 U	1.4 J

TABLE 6-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - SWMU 9 AREA A/B - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB99 74SB99-03 5/5/2008 5.0-7.0	74SB99 74SB99-04 5/5/2008 7.0-9.0	74SB100 74SB100-03 5/5/2008 5.0-7.0	74SB100 74SB100-04 5/5/2008 7.0-9.0	74SB101 74SB101-03 5/5/2008 5.0-7.0	74SB101 74SB101-03D 5/5/2008 5.0-7.0
Volatile Organic Compounds (ug/kg)										
2-Butanone (MEK)	2,800,000 [2]	19,000,000 [2]	NE	NE	3.4 U	2.5 U	28 U	11 U	3.5 U	3.1 U
2-Hexanone	NE	NE	NE	NE	2.7 U	2 U	2.1 U	2.1 U	2 U	2.4 U
4-Methyl-2-pentanone (MIBK)	530,000 [2]	5,200,000 [2]	NE	NE	3.7 U	2.7 U	2.9 U	2.9 U	2.7 U	3.3 U
Acetone	6,100,000 [2]	61,000,000 [2]	NE	NE	63 J	34 J	400 J	160 J	39 J	24 J
Acrolein	16 [2]	68 [2]	NE	NE	24 R	18 R	19 R	19 R	18 R	22 R
Acrylonitrile	240	1,200	1,000,000 [6]	NE	29 U	22 U	23 U	23 U	22 U	26 U
Bromoform	6,100	22,000	NE	NE	1.4 U	1 U	1.1 U	1.1 U	1 U	1.3 U
Carbon disulfide	67,000 [2]	300,000 [2]	NE	NE	2.2 J	1 J	1.3 J	0.5 U	0.63 J	0.58 U
Chloroform	300	1,500	1,002 [7]	NE	0.64 U	0.47 U	0.51 J	0.49 U	0.47 U	0.57 U
Chloromethane	1,700	8,400	NE	NE	0.9 U	0.67 U	1.5 J	0.7 U	0.95 J	0.81 U
Ethyl methacrylate	700,000 [2]	9,200,000 [2]	NE	NE	2.8 U	2.1 U	2.2 U	2.2 U	2.1 U	2.5 U
Ethylbenzene	5,700	29,000	5,003 [7]	NE	0.95 U	0.71 U	0.76 U	0.74 U	0.71 U	0.86 U
Iodomethane	NE	NE	NE	NE	1.3 UJ	0.94 UJ	12 J	1 J	0.94 UJ	1.1 UJ
Isobutyl alcohol	2,300,000 [2]	31,000,000 [2]	NE	NE	88 R	65 R	70 R	68 R	65 R	79 R
Methylene Chloride	11,000	54,000	1,004 [7]	NE	1.3 U	0.94 U	1 U	0.99 U	0.94 U	1.1 U
Tetrachloroethene	570	2,700	400 [7]	NE	0.93 U	0.69 U	0.74 U	0.72 U	0.69 U	0.83 U
trans-1,3-Dichloropropene	NE	NE	100 [8]	NE	1.1 U	0.82 U	0.88 U	0.86 U	0.82 U	0.99 U
Vinyl acetate	99,000 [2]	420,000 [2]	NE	NE	1.9 U	1.4 U	1.5 U	1.5 U	1.4 U	1.7 U
LLPAHs (ug/kg)										
Benzo[b]fluoranthene	150	2,100	NE	NE	NA	NA	NA	NA	NA	NA
Chrysene	15,000	210,000	NE	NE	NA	NA	NA	NA	NA	NA
Fluoranthene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Fluorene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Phenanthrene	170,000 [2][3]	1,700,000 [2][3]	NE	NE	NA	NA	NA	NA	NA	NA
Pyrene	170,000 [2]	1,700,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
PAH Totals (ug/kg):										
Low molecular weight PAHs	NE	NE	29,000 [9]	NE	NA	NA	NA	NA	NA	NA
High molecular weight PAHs	NE	NE	18,000 [9]	NE	NA	NA	NA	NA	NA	NA

TABLE 6-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - SWMU 9 AREA A/B - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB99 74SB99-03 5/5/2008 5.0-7.0	74SB99 74SB99-04 5/5/2008 7.0-9.0	74SB100 74SB100-03 5/5/2008 5.0-7.0	74SB100 74SB100-04 5/5/2008 7.0-9.0	74SB101 74SB101-03 5/5/2008 5.0-7.0	74SB101 74SB101-03D 5/5/2008 5.0-7.0
Metals (mg/kg)										
Antimony	3.1 [2]	41 [2]	10 [10]	NE	0.093 UJ	0.095 UJ	0.084 UJ	0.089 UJ	0.089 UJ	0.09 UJ
Arsenic	0.39	1.60	18 [11]	1.59	***2***	**0.87**	***3.3***	***3.9***	***2.9***	***3.6***
Barium	1,500 [2]	19,000 [2]	330 [12]	220	33 J	12 J	150 J	26 J	23 J	14 J
Beryllium	16 [2]	200 [2]	21 [13]	0.596	0.16	0.12 J	0.31	0.32	0.12	0.15
Cadmium	7.0 [2]	81 [2]	0.77 [14]	0.54	0.046 J	0.039 U	0.33	0.048 J	0.037 U	0.057 J
Chromium	280	1,400	26 [15]	114.5	13 R	6 R	16 R	36 R	15 R	26 R
Cobalt	2.3 [2]	30 [2]	13 [16]	26.9	**5.2**	**3.2**	***61***	**9.2**	**2.9**	**3.3**
Copper	310 [2]	4,100 [2]	28 [17]	246	62	77	56	110	57	82
Lead	400 [4]	800 [4]	11 [18]	6.3	2.1 J	0.77 J	4.9 J	4.4 J	2.8 J	5.3 J
Mercury	2.3 [2]	31 [2]	0.1 [19]	0.108	0.048	0.0048 U	0.079	0.15	0.081	0.027
Nickel	160 [2]	2,000 [2]	38 [20]	24.7	4.2	2.8	9.7	6.3	3.8	3.8
Selenium	39 [2]	510 [2]	0.52 [21]	5.94	2.6	0.5 J	2	2.2	2.8 J	5.2 J
Silver	39 [2]	510 [2]	4.2 [22]	NE	0.035 UJ	0.02 UJ	0.088 UJ	0.035 UJ	0.061 UJ	0.055 UJ
Thallium	0.51 [2]	7 [2]	1.0 [23]	0.92	0.15 U	0.15 U	0.13 U	0.14 U	0.14 U	0.14 U
Tin	4,700 [2]	61,000 [2]	50 [23]	4	5 U	5.1 U	4.5 U	4.8 U	4.8 U	4.8 U
Vanadium	55.00 [2]	720.00 [2]	7.8 [24]	434.00	**250**	**150**	**210**	**470**	**410**	**410**
Zinc	2,300 [2]	31,000 [2]	46.0 [25]	88.00	31 J	24 J	91 J	78 J	21 J	23 J
TPH DRO and GRO (mg/kg)										
Diesel Range Organics	25 [5]	NE	NE	NE	1.5 J	2.3 J	1.8 J	1.8 J	1.5 J	0.95 J
Gasoline Range Organics	25 [5]	NE	NE	NE	0.063 U	0.064 U	0.059 J	0.066 U	0.057 U	0.069 U
Total TPH	25 [5]	NE	NE	NE	1.5 J	2.3 J	1.859 J	1.8 J	1.5 J	0.95 J

TABLE 6-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - SWMU 9 AREA A/B - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB101 74SB101-04 5/5/2008 7.0-9.0	74SB102 74SB102-04 5/5/2008 7.0-9.0	74SB102 74SB102-05 5/5/2008 9.0-11.0	74SB103 74SB103-03 5/5/2008 5.0-7.0	74SB103 74SB103-04 5/5/2008 7.0-9.0	74SB104 74SB104-03 5/5/2008 5.0-7.0
Volatile Organic Compounds (ug/kg)										
2-Butanone (MEK)	2,800,000 [2]	19,000,000 [2]	NE	NE	3.3 U	2.5 U	2.7 U	3 U	2.9 U	3 U
2-Hexanone	NE	NE	NE	NE	2.6 U	1.9 U	2.1 U	2.3 U	2.2 U	2.3 U
4-Methyl-2-pentanone (MIBK)	530,000 [2]	5,200,000 [2]	NE	NE	3.6 U	2.7 U	2.9 U	3.2 U	3.1 U	3.2 U
Acetone	6,100,000 [2]	61,000,000 [2]	NE	NE	15 J	16 J	7 UJ	19 UJ	11 UJ	29 UJ
Acrolein	16 [2]	68 [2]	NE	NE	24 R	17 R	19 U	21 U	20 U	21 U
Acrylonitrile	240	1,200	1,000,000 [6]	NE	28 U	21 U	23 U	26 U	24 U	25 U
Bromoform	6,100	22,000	NE	NE	1.4 U	1 U	1.1 U	1.2 U	1.2 U	1.2 U
Carbon disulfide	67,000 [2]	300,000 [2]	NE	NE	0.63 U	0.47 U	0.5 U	0.57 U	0.54 U	6.5 J
Chloroform	300	1,500	1,002 [7]	NE	0.62 U	0.46 U	0.49 U	0.56 U	0.53 U	0.55 U
Chloromethane	1,700	8,400	NE	NE	0.88 U	0.65 U	0.7 U	0.79 U	0.76 U	0.78 U
Ethyl methacrylate	700,000 [2]	9,200,000 [2]	NE	NE	2.7 U	2 U	2.2 U	2.5 U	2.3 U	2.4 U
Ethylbenzene	5,700	29,000	5,003 [7]	NE	0.93 U	0.69 U	0.74 U	0.84 U	0.8 U	0.83 U
Iodomethane	NE	NE	NE	NE	1.2 UJ	0.91 U	0.99 UJ	1.1 UJ	1.1 UJ	1.1 UJ
Isobutyl alcohol	2,300,000 [2]	31,000,000 [2]	NE	NE	85 R	63 R	68 R	77 R	73 R	76 R
Methylene Chloride	11,000	54,000	1,004 [7]	NE	1.2 U	0.91 U	0.99 U	1.1 U	1.1 U	1.1 U
Tetrachloroethene	570	2,700	400 [7]	NE	0.9 U	0.67 U	0.72 U	0.82 U	0.78 U	0.81 U
trans-1,3-Dichloropropene	NE	NE	100 [8]	NE	1.1 U	0.8 U	0.86 U	0.97 U	0.93 U	0.96 U
Vinyl acetate	99,000 [2]	420,000 [2]	NE	NE	1.9 U	1.4 U	1.5 U	1.7 U	1.6 U	1.7 U
LLPAHs (ug/kg)										
Benzo[b]fluoranthene	150	2,100	NE	NE	NA	NA	NA	NA	NA	NA
Chrysene	15,000	210,000	NE	NE	NA	NA	NA	NA	NA	NA
Fluoranthene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Fluorene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Phenanthrene	170,000 [2][3]	1,700,000 [2][3]	NE	NE	NA	NA	NA	NA	NA	NA
Pyrene	170,000 [2]	1,700,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
PAH Totals (ug/kg):										
Low molecular weight PAHs	NE	NE	29,000 [9]	NE	NA	NA	NA	NA	NA	NA
High molecular weight PAHs	NE	NE	18,000 [9]	NE	NA	NA	NA	NA	NA	NA

TABLE 6-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - SWMU 9 AREA A/B - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB101 74SB101-04 5/5/2008 7.0-9.0	74SB102 74SB102-04 5/5/2008 7.0-9.0	74SB102 74SB102-05 5/5/2008 9.0-11.0	74SB103 74SB103-03 5/5/2008 5.0-7.0	74SB103 74SB103-04 5/5/2008 7.0-9.0	74SB104 74SB104-03 5/5/2008 5.0-7.0
Metals (mg/kg)										
Antimony	3.1 [2]	41 [2]	10 [10]	NE	0.082 UJ	0.083 UJ	0.087 UJ	0.088 UJ	0.09 UJ	0.24 UJ
Arsenic	0.39	1.60	18 [11]	1.59	***2.6***	***2.7***	***2***	***4.2***	**0.59** J	***3.2***
Barium	1,500 [2]	19,000 [2]	330 [12]	220	20 J	35 J	32 J	47 J	47	89
Beryllium	16 [2]	200 [2]	21 [13]	0.596	0.082 U	0.13	0.096 U	0.2	0.075 J	0.28
Cadmium	7.0 [2]	81 [2]	0.77 [14]	0.54	0.034 U	0.034 U	0.036 U	0.05 J	0.037 U	0.7
Chromium	280	1,400	26 [15]	114.5	31 R	24 R	18 R	25 R	4.8	31
Cobalt	2.3 [2]	30 [2]	13 [16]	26.9	**2.7**	**5.2**	**4.1**	**14**	1.6	**17**
Copper	310 [2]	4,100 [2]	28 [17]	246	54	58	43	82	22 J	170 J
Lead	400 [4]	800 [4]	11 [18]	6.3	3.5 J	5 J	7.3 J	3.4 J	2.2	2.6
Mercury	2.3 [2]	31 [2]	0.1 [19]	0.108	0.0048 U	0.19	0.0044 U	0.19	0.035	0.0039 U
Nickel	160 [2]	2,000 [2]	38 [20]	24.7	2.4	4.2	3.1	8	3.3	15
Selenium	39 [2]	510 [2]	0.52 [21]	5.94	2.4	6.9	1.4	3.5	0.96	0.36 J
Silver	39 [2]	510 [2]	4.2 [22]	NE	0.034 UJ	0.054 UJ	0.039 UJ	0.047 UJ	0.037 J	0.11 J
Thallium	0.51 [2]	7 [2]	1.0 [23]	0.92	0.13 U	0.13 U	0.14 U	0.14 U	0.14 U	0.12 U
Tin	4,700 [2]	61,000 [2]	50 [23]	4	4.4 U	4.4 U	4.7 U	4.7 U	4.8 U	4.1 U
Vanadium	55.00 [2]	720.00 [2]	7.8 [24]	434.00	**360**	**300**	**300**	**360**	40	**140**
Zinc	2,300 [2]	31,000 [2]	46.0 [25]	88.00	13 J	24 J	14 J	45 J	9.7 J	170 J
TPH DRO and GRO (mg/kg)										
Diesel Range Organics	25 [5]	NE	NE	NE	2 J	1.8 J	3 J	5.6	4.1 J	5
Gasoline Range Organics	25 [5]	NE	NE	NE	0.061 U	0.062 U	0.06 U	0.064 J	0.066 U	0.15 J
Total TPH	25 [5]	NE	NE	NE	2 J	1.8 J	3 J	5.664 J	4.1 J	5.15 J

TABLE 6-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - SWMU 9 AREA A/B - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB104 74SB104-04 5/5/2008 7.0-9.0	74SB105 74SB105-03 5/5/2008 5.0-7.0	74SB105 74SB105-04 5/5/2008 7.0-9.0	74SB106 74SB106-01 5/5/2008 1.0-3.0	74SB106 74SB106-04 5/5/2008 7.0-9.0	74SB107 74SB107-03 5/6/2008 5.0-7.0
Volatile Organic Compounds (ug/kg)										
2-Butanone (MEK)	2,800,000 [2]	19,000,000 [2]	NE	NE	2.5 U	7.1 U	2.7 U	7.8 U	2.9 U	3.2 U
2-Hexanone	NE	NE	NE	NE	1.9 U	2.2 U	2.1 U	2 U	2.2 U	2.5 U
4-Methyl-2-pentanone (MIBK)	530,000 [2]	5,200,000 [2]	NE	NE	2.7 U	3 U	2.9 U	2.7 U	3.1 U	3.5 U
Acetone	6,100,000 [2]	61,000,000 [2]	NE	NE	12 UJ	110 J	43 UJ	85 UJ	51 UJ	41 J
Acrolein	16 [2]	68 [2]	NE	NE	18 U	20 U	19 U	18 U	20 U	23 R
Acrylonitrile	240	1,200	1,000,000 [6]	NE	21 U	24 U	23 U	21 U	25 U	28 U
Bromoform	6,100	22,000	NE	NE	1 U	3.2 J	1.1 U	1 U	1.2 U	1.3 U
Carbon disulfide	67,000 [2]	300,000 [2]	NE	NE	0.47 U	0.53 U	0.5 U	1.7 J	0.54 U	0.61 UJ
Chloroform	300	1,500	1,002 [7]	NE	0.46 U	0.52 U	0.49 U	0.47 U	0.53 U	0.6 U
Chloromethane	1,700	8,400	NE	NE	0.65 U	1.8 J	0.7 U	0.66 U	0.76 U	0.85 U
Ethyl methacrylate	700,000 [2]	9,200,000 [2]	NE	NE	2 U	2.3 U	2.2 U	2 U	2.3 U	2.6 U
Ethylbenzene	5,700	29,000	5,003 [7]	NE	0.69 U	0.77 U	0.74 U	0.7 U	0.8 U	0.9 U
Iodomethane	NE	NE	NE	NE	0.92 UJ	6 J	0.99 UJ	0.93 UJ	1.1 UJ	1.2 UJ
Isobutyl alcohol	2,300,000 [2]	31,000,000 [2]	NE	NE	64 R	71 R	68 R	64 R	74 R	83 R
Methylene Chloride	11,000	54,000	1,004 [7]	NE	0.92 U	1 U	0.99 U	0.93 U	1.1 U	1.2 U
Tetrachloroethene	570	2,700	400 [7]	NE	0.67 U	0.75 U	0.72 U	0.68 U	0.78 U	0.88 U
trans-1,3-Dichloropropene	NE	NE	100 [8]	NE	0.8 U	0.9 U	0.86 U	1.4 J	0.93 U	1 U
Vinyl acetate	99,000 [2]	420,000 [2]	NE	NE	1.4 U	1.5 U	1.5 U	1.4 U	1.6 U	1.8 U
LLPAHs (ug/kg)										
Benzo[b]fluoranthene	150	2,100	NE	NE	NA	NA	NA	NA	NA	NA
Chrysene	15,000	210,000	NE	NE	NA	NA	NA	NA	NA	NA
Fluoranthene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Fluorene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Phenanthrene	170,000 [2][3]	1,700,000 [2][3]	NE	NE	NA	NA	NA	NA	NA	NA
Pyrene	170,000 [2]	1,700,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
PAH Totals (ug/kg):										
Low molecular weight PAHs	NE	NE	29,000 [9]	NE	NA	NA	NA	NA	NA	NA
High molecular weight PAHs	NE	NE	18,000 [9]	NE	NA	NA	NA	NA	NA	NA

TABLE 6-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - SWMU 9 AREA A/B - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB104 74SB104-04 5/5/2008 7.0-9.0	74SB105 74SB105-03 5/5/2008 5.0-7.0	74SB105 74SB105-04 5/5/2008 7.0-9.0	74SB106 74SB106-01 5/5/2008 1.0-3.0	74SB106 74SB106-04 5/5/2008 7.0-9.0	74SB107 74SB107-03 5/6/2008 5.0-7.0
Metals (mg/kg)										
Antimony	3.1 [2]	41 [2]	10 [10]	NE	0.087 UJ	0.087 UJ	0.087 UJ	0.2 UJ	0.17 UJ	0.087 UJ
Arsenic	0.39	1.60	18 [11]	1.59	**1.4**	***4.4***	***1.9***	***2.7***	***6.5***	***2.7***
Barium	1,500 [2]	19,000 [2]	330 [12]	220	16	240	61	61	47	19
Beryllium	16 [2]	200 [2]	21 [13]	0.596	0.1 J	0.27	0.08 J	0.23	0.23	0.12
Cadmium	7.0 [2]	81 [2]	0.77 [14]	0.54	0.036 U	0.21	0.094 J	1.1	0.35	0.036 U
Chromium	280	1,400	26 [15]	114.5	8.3	14	5.7	21	34	15
Cobalt	2.3 [2]	30 [2]	13 [16]	26.9	2.2	***620***	**8.3**	**12**	***49***	**4.4** J
Copper	310 [2]	4,100 [2]	28 [17]	246	48 J	68 J	45 J	170 J	100 J	49 J
Lead	400 [4]	800 [4]	11 [18]	6.3	2	3.2	1.6	2.7	4.8	1.7
Mercury	2.3 [2]	31 [2]	0.1 [19]	0.108	0.0042 U	0.008 J	0.025	0.0037 U	0.024	0.053
Nickel	160 [2]	2,000 [2]	38 [20]	24.7	1.8	7.6	3	14	13	4
Selenium	39 [2]	510 [2]	0.52 [21]	5.94	0.95	2.1	0.97	0.5 J	2.3	4.3
Silver	39 [2]	510 [2]	4.2 [22]	NE	0.019 UJ	0.032 J	0.02 J	0.14 J	0.11 J	0.054 J
Thallium	0.51 [2]	7 [2]	1.0 [23]	0.92	0.14 U	0.23 J	0.14 U	0.12 U	0.13 U	0.14 U
Tin	4,700 [2]	61,000 [2]	50 [23]	4	4.7 U	4.6 U	4.6 U	4.2 U	4.3 U	4.6 U
Vanadium	55.00 [2]	720.00 [2]	7.8 [24]	434.00	**150**	**190**	**130**	**100**	**320**	**270**
Zinc	2,300 [2]	31,000 [2]	46.0 [25]	88.00	19 J	53 J	23 J	220 J	76 J	24 J
TPH DRO and GRO (mg/kg)										
Diesel Range Organics	25 [5]	NE	NE	NE	2.6 J	2.8 J	2.6 J	3.2 J	3 J	3.1 J
Gasoline Range Organics	25 [5]	NE	NE	NE	0.067 U	0.065 U	0.074 J	0.06 U	0.056 U	0.073 U
Total TPH	25 [5]	NE	NE	NE	2.6 J	2.8 J	2.674 J	3.2 J	3 J	3.1 J

TABLE 6-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - SWMU 9 AREA A/B - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB107 74SB107-03D 5/6/2008 5.0-7.0	74SB107 74SB107-05 5/6/2008 9.0-11.0	74SB108 74SB108-03 5/6/2008 5.0-7.0	74SB108 74SB108-04 5/6/2008 7.0-9.0	74SB109 74SB109-04 5/6/2008 7.0-9.0	74SB109 74SB109-05 5/6/2008 9.0-11.0
Volatile Organic Compounds (ug/kg)										
2-Butanone (MEK)	2,800,000 [2]	19,000,000 [2]	NE	NE	4 U	2.8 U	3.3 U	4.1 UJ	2.9 U	3100 U
2-Hexanone	NE	NE	NE	NE	2.5 U	2.2 U	2.5 U	2.7 UJ	2.2 U	2400 U
4-Methyl-2-pentanone (MIBK)	530,000 [2]	5,200,000 [2]	NE	NE	3.5 U	3 U	3.5 U	3.7 UJ	3.1 U	3300 U
Acetone	6,100,000 [2]	61,000,000 [2]	NE	NE	77 J	31 J	38 J	35 J	4.7 R	5100 R
Acrolein	16 [2]	68 [2]	NE	NE	23 R	19 R	23 R	24 R	20 R	22000 R
Acrylonitrile	240	1,200	1,000,000 [6]	NE	28 U	24 U	28 U	29 UJ	25 U	26000 U
Bromoform	6,100	22,000	NE	NE	1.3 U	1.1 U	1.3 U	1.4 UJ	1.2 U	1300 U
Carbon disulfide	67,000 [2]	300,000 [2]	NE	NE	0.61 UJ	0.52 UJ	9.1 J	4.3 J	0.54 U	590 U
Chloroform	300	1,500	1,002 [7]	NE	0.6 U	0.51 U	0.6 U	0.63 UJ	0.53 U	570 U
Chloromethane	1,700	8,400	NE	NE	0.85 U	0.73 U	0.86 U	0.9 UJ	0.76 U	810 U
Ethyl methacrylate	700,000 [2]	9,200,000 [2]	NE	NE	2.6 U	2.3 U	2.7 U	2.8 UJ	7.3	2500 U
Ethylbenzene	5,700	29,000	5,003 [7]	NE	0.9 U	0.77 U	0.91 U	0.95 UJ	0.8 U	860 U
Iodomethane	NE	NE	NE	NE	1.2 UJ	1 UJ	1.2 UJ	1.3 UJ	1.1 U	1100 U
Isobutyl alcohol	2,300,000 [2]	31,000,000 [2]	NE	NE	83 R	71 R	83 R	87 R	450 J	79000 R
Methylene Chloride	11,000	54,000	1,004 [7]	NE	1.2 U	1 U	1.2 U	1.3 UJ	2.8 J	1100 U
Tetrachloroethene	570	2,700	400 [7]	NE	0.87 U	0.75 U	0.88 U	0.92 UJ	0.78 U	840 U
trans-1,3-Dichloropropene	NE	NE	100 [8]	NE	1 U	0.89 U	1.1 U	1.1 UJ	0.93 U	1000 U
Vinyl acetate	99,000 [2]	420,000 [2]	NE	NE	1.8 U	1.5 U	1.8 U	1.9 UJ	1.6 U	1700 U
LLPAHs (ug/kg)										
Benzo[b]fluoranthene	150	2,100	NE	NE	NA	NA	NA	NA	NA	NA
Chrysene	15,000	210,000	NE	NE	NA	NA	NA	NA	NA	NA
Fluoranthene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Fluorene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Phenanthrene	170,000 [2][3]	1,700,000 [2][3]	NE	NE	NA	NA	NA	NA	NA	NA
Pyrene	170,000 [2]	1,700,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
PAH Totals (ug/kg):										
Low molecular weight PAHs	NE	NE	29,000 [9]	NE	NA	NA	NA	NA	NA	NA
High molecular weight PAHs	NE	NE	18,000 [9]	NE	NA	NA	NA	NA	NA	NA

TABLE 6-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - SWMU 9 AREA A/B - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB107 74SB107-03D 5/6/2008 5.0-7.0	74SB107 74SB107-05 5/6/2008 9.0-11.0	74SB108 74SB108-03 5/6/2008 5.0-7.0	74SB108 74SB108-04 5/6/2008 7.0-9.0	74SB109 74SB109-04 5/6/2008 7.0-9.0	74SB109 74SB109-05 5/6/2008 9.0-11.0
Metals (mg/kg)										
Antimony	3.1 [2]	41 [2]	10 [10]	NE	0.087 UJ	0.092 UJ	0.091 UJ	0.09 UJ	0.094 UJ	0.092 UJ
Arsenic	0.39	1.60	18 [11]	1.59	***2.6***	**0.75**	***2.3***	***2***	**1**	***1.8***
Barium	1,500 [2]	19,000 [2]	330 [12]	220	18	30	17	17	70 R	26 R
Beryllium	16 [2]	200 [2]	21 [13]	0.596	0.13	0.065 J	0.15	0.16	0.2	0.33
Cadmium	7.0 [2]	81 [2]	0.77 [14]	0.54	0.037 J	0.038 U	0.043 J	0.037 U	0.039 U	0.038 U
Chromium	280	1,400	26 [15]	114.5	15	5.1	24	16	6.1 J	10 J
Cobalt	2.3 [2]	30 [2]	13 [16]	26.9	**6.6** J	1.8	**3.3**	**3.8**	**8.8** J	**8.3** J
Copper	310 [2]	4,100 [2]	28 [17]	246	53 J	22 J	57 J	65 J	81	110
Lead	400 [4]	800 [4]	11 [18]	6.3	1.7	0.47	12	10	6.3	5.3
Mercury	2.3 [2]	31 [2]	0.1 [19]	0.108	0.022 J	0.0047 U	0.048	0.0047 U	0.008 J	0.0049 J
Nickel	160 [2]	2,000 [2]	38 [20]	24.7	4.1	1.6	4.3	3	3.2	4
Selenium	39 [2]	510 [2]	0.52 [21]	5.94	3.8	0.34 J	3.3	2.7	1.9	0.67
Silver	39 [2]	510 [2]	4.2 [22]	NE	0.044 J	0.02 UJ	0.05 J	0.019 UJ	0.03 J	0.048 J
Thallium	0.51 [2]	7 [2]	1.0 [23]	0.92	0.14 U	0.15 U	0.15 U	0.14 U	0.15 U	0.15 U
Tin	4,700 [2]	61,000 [2]	50 [23]	4	4.7 U	4.9 U	4.9 U	4.8 U	5 U	4.9 U
Vanadium	55.00 [2]	720.00 [2]	7.8 [24]	434.00	**280**	**63**	**240**	**300**	**130**	**260**
Zinc	2,300 [2]	31,000 [2]	46.0 [25]	88.00	26 J	12 J	24 J	20 J	28	43
TPH DRO and GRO (mg/kg)										
Diesel Range Organics	25 [5]	NE	NE	NE	3 J	2.7 J	6.8	9.9	4.9	2.2 J
Gasoline Range Organics	25 [5]	NE	NE	NE	0.067 U	0.066 U	2.2	**150** J	0.27	**3600**
Total TPH	25 [5]	NE	NE	NE	3 J	2.7 J	9.0	**159.9** J	5.17	**3602.2** J

TABLE 6-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - SWMU 9 AREA A/B - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB110 74SB110-04 5/6/2008 7.0-9.0	74SB110 74SB110-05 5/6/2008 9.0-11.0	74SB111 74SB111-03 5/7/2008 5.0-7.0	74SB111 74SB111-03D 5/7/2008 5.0-7.0	74SB111 74SB111-05 5/7/2008 9.0-11.0	74SB112 74SB112-04 5/7/2008 7.0-9.0
Volatile Organic Compounds (ug/kg)										
2-Butanone (MEK)	2,800,000 [2]	19,000,000 [2]	NE	NE	2.6 U	2.7 U	11 U	2.9 U	13 J	2.9 U
2-Hexanone	NE	NE	NE	NE	2 U	2.1 U	2.3 U	2.3 U	2.6 U	2.2 U
4-Methyl-2-pentanone (MIBK)	530,000 [2]	5,200,000 [2]	NE	NE	2.8 U	2.8 U	3.2 U	3.1 U	3.6 U	3.1 U
Acetone	6,100,000 [2]	61,000,000 [2]	NE	NE	15 J	7.1 J	140 J	40 J	73 J	12 U
Acrolein	16 [2]	68 [2]	NE	NE	18 U	19 R	21 U	20 U	23 U	20 R
Acrylonitrile	240	1,200	1,000,000 [6]	NE	22 U	23 U	25 U	25 U	28 U	25 U
Bromoform	6,100	22,000	NE	NE	1.1 U	1.1 U	1.2 U	1.2 U	1.4 U	1.2 U
Carbon disulfide	67,000 [2]	300,000 [2]	NE	NE	0.49 U	0.5 U	0.56 U	0.55 U	2.3 J	0.55 U
Chloroform	300	1,500	1,002 [7]	NE	0.48 U	0.49 U	0.55 U	0.54 U	0.62 U	0.54 U
Chloromethane	1,700	8,400	NE	NE	0.69 U	0.7 U	0.78 U	0.76 U	0.87 U	0.76 U
Ethyl methacrylate	700,000 [2]	9,200,000 [2]	NE	NE	2.1 U	2.2 U	2.4 U	2.4 U	2.7 U	2.4 U
Ethylbenzene	5,700	29,000	5,003 [7]	NE	0.72 U	0.74 U	0.82 U	0.8 U	0.92 U	0.8 U
Iodomethane	NE	NE	NE	NE	0.97 U	0.98 U	1.1 U	1.1 U	1.2 U	1.1 U
Isobutyl alcohol	2,300,000 [2]	31,000,000 [2]	NE	NE	67 R	68 R	76 R	74 R	85 R	74 R
Methylene Chloride	11,000	54,000	1,004 [7]	NE	0.97 U	0.98 U	1.1 U	1.1 U	1.2 U	1.1 U
Tetrachloroethene	570	2,700	400 [7]	NE	0.7 U	0.72 U	0.8 U	0.78 U	0.9 U	0.78 U
trans-1,3-Dichloropropene	NE	NE	100 [8]	NE	0.84 U	0.85 U	0.95 U	0.93 U	1.1 U	0.93 U
Vinyl acetate	99,000 [2]	420,000 [2]	NE	NE	1.4 U	1.5 U	1.6 U	1.6 U	1.8 U	1.6 U
LLPAHs (ug/kg)										
Benzo[b]fluoranthene	150	2,100	NE	NE	NA	NA	NA	NA	0.99 U	NA
Chrysene	15,000	210,000	NE	NE	NA	NA	NA	NA	0.79 U	NA
Fluoranthene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	NA	NA	2.2 U	NA
Fluorene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	NA	NA	1 U	NA
Phenanthrene	170,000 [2][3]	1,700,000 [2][3]	NE	NE	NA	NA	NA	NA	2.2 U	NA
Pyrene	170,000 [2]	1,700,000 [2]	NE	NE	NA	NA	NA	NA	2.2 U	NA
PAH Totals (ug/kg):										
Low molecular weight PAHs	NE	NE	29,000 [9]	NE	NA	NA	NA	NA	12.92	NA
High molecular weight PAHs	NE	NE	18,000 [9]	NE	NA	NA	NA	NA	15.11	NA

TABLE 6-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - SWMU 9 AREA A/B - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB110 74SB110-04 5/6/2008 7.0-9.0	74SB110 74SB110-05 5/6/2008 9.0-11.0	74SB111 74SB111-03 5/7/2008 5.0-7.0	74SB111 74SB111-03D 5/7/2008 5.0-7.0	74SB111 74SB111-05 5/7/2008 9.0-11.0	74SB112 74SB112-04 5/7/2008 7.0-9.0
Metals (mg/kg)										
Antimony	3.1 [2]	41 [2]	10 [10]	NE	0.093 J	0.086 UJ	0.088 U	0.084 U	0.091 U	0.083 U
Arsenic	0.39	1.60	18 [11]	1.59	**1.2**	**1.2**	**1.3**	**1.5**	**1.6**	**0.85**
Barium	1,500 [2]	19,000 [2]	330 [12]	220	60 R	54 R	120	87	120	40
Beryllium	16 [2]	200 [2]	21 [13]	0.596	0.47	0.23	0.44	0.33	0.32	0.2
Cadmium	7.0 [2]	81 [2]	0.77 [14]	0.54	0.075 J	0.047 J	0.073 J	0.099 J	0.081 J	0.12
Chromium	280	1,400	26 [15]	114.5	11 J	9.4 J	9.1	9.2	8.7	17
Cobalt	2.3 [2]	30 [2]	13 [16]	26.9	***36*** J	**26** J	***37***	***36***	***32***	***35***
Copper	310 [2]	4,100 [2]	28 [17]	246	89	41 J	92	130	110	130
Lead	400 [4]	800 [4]	11 [18]	6.3	2.6	1.4	1.2	0.87	24	0.62
Mercury	2.3 [2]	31 [2]	0.1 [19]	0.108	0.0066 J	0.0058 J	0.017 J	0.018 J	0.014 J	0.0065 J
Nickel	160 [2]	2,000 [2]	38 [20]	24.7	7.1	5	7.4	7.5	8	15
Selenium	39 [2]	510 [2]	0.52 [21]	5.94	0.13 U	0.14 U	0.22 J	0.31 J	0.22 J	0.13 U
Silver	39 [2]	510 [2]	4.2 [22]	NE	0.017 U	0.038 J	0.022 J	0.026 J	0.024 J	0.031 J
Thallium	0.51 [2]	7 [2]	1.0 [23]	0.92	0.13 U	0.14 U	0.14 U	0.13 U	0.14 U	0.13 U
Tin	4,700 [2]	61,000 [2]	50 [23]	4	4.2 U	4.6 U	4.7 U	4.5 U	4.8 U	4.4 U
Vanadium	55.00 [2]	720.00 [2]	7.8 [24]	434.00	**230**	**220**	**180**	**200**	**160**	**200**
Zinc	2,300 [2]	31,000 [2]	46.0 [25]	88.00	110	100	88	76	76	65
TPH DRO and GRO (mg/kg)										
Diesel Range Organics	25 [5]	NE	NE	NE	0.69 U	0.75 U	2.6 J	1.7 J	1.8 J	1.9 J
Gasoline Range Organics	25 [5]	NE	NE	NE	0.048 U	0.19 J	0.075 U	0.064 U	0.55	0.06 U
Total TPH	25 [5]	NE	NE	NE	0.738 U	0.19 J	2.6 J	1.7 J	2.35 J	1.9 J

TABLE 6-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - SWMU 9 AREA A/B - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB112 74SB112-05 5/7/2008 9.0-11.0	74SB113 74SB113-04 5/7/2008 7.0-9.0	74SB113 74SB113-05 5/7/2008 9.0-11.0	74SB114 74SB114-04 5/13/2008 7.0-9.0	74SB114 74SB114-05 5/13/2008 9.0-11.0	74SB115 74SB115-03 5/13/2008 5.0-7.0
Volatile Organic Compounds (ug/kg)										
2-Butanone (MEK)	2,800,000 [2]	19,000,000 [2]	NE	NE	2.6 U	2.7 U	3.6 UJ	10 UJ	3.7 UJ	2.9 UJ
2-Hexanone	NE	NE	NE	NE	2 U	2.1 U	2.8 UJ	5.7 J	2.9 UJ	2.3 UJ
4-Methyl-2-pentanone (MIBK)	530,000 [2]	5,200,000 [2]	NE	NE	2.8 U	2.9 U	3.9 UJ	3.5 UJ	4 UJ	3.2 UJ
Acetone	6,100,000 [2]	61,000,000 [2]	NE	NE	17 J	27 U	5.9 R	43 J	30 J	21 J
Acrolein	16 [2]	68 [2]	NE	NE	18 R	**31** J	25 R	23 UJ	26 UJ	21 UJ
Acrylonitrile	240	1,200	1,000,000 [6]	NE	22 U	23 U	31 UJ	27 U	31 U	25 U
Bromoform	6,100	22,000	NE	NE	1.1 U	1.1 U	1.5 UJ	1.3 U	1.5 U	1.2 U
Carbon disulfide	67,000 [2]	300,000 [2]	NE	NE	0.53 J	2.6 J	3.7 J	0.61 U	1.8 J	0.55 U
Chloroform	300	1,500	1,002 [7]	NE	0.48 U	0.5 U	0.67 UJ	0.6 U	0.68 U	0.54 U
Chloromethane	1,700	8,400	NE	NE	0.68 U	0.71 U	0.95 UJ	0.85 U	0.97 U	0.77 U
Ethyl methacrylate	700,000 [2]	9,200,000 [2]	NE	NE	2.1 U	2.2 U	2.9 UJ	2.6 U	3 U	2.4 U
Ethylbenzene	5,700	29,000	5,003 [7]	NE	0.72 U	0.75 U	14 J	0.9 U	1 U	0.82 U
Iodomethane	NE	NE	NE	NE	0.96 U	1 U	1.3 UJ	1.2 UJ	1.4 UJ	1.1 UJ
Isobutyl alcohol	2,300,000 [2]	31,000,000 [2]	NE	NE	66 R	69 R	92 R	82 R	94 R	75 R
Methylene Chloride	11,000	54,000	1,004 [7]	NE	0.96 U	1 U	1.3 UJ	1.2 U	1.4 U	1.1 U
Tetrachloroethene	570	2,700	400 [7]	NE	0.7 U	0.73 U	0.97 UJ	0.87 U	1 U	1.1 J
trans-1,3-Dichloropropene	NE	NE	100 [8]	NE	0.83 U	0.87 U	1.2 UJ	1 U	1.2 U	0.95 U
Vinyl acetate	99,000 [2]	420,000 [2]	NE	NE	1.4 U	1.5 U	2 UJ	1.8 U	2 U	1.6 U
LLPAHs (ug/kg)										
Benzo[b]fluoranthene	150	2,100	NE	NE	NA	0.94 J	1.1 U	NA	1.2 U	NA
Chrysene	15,000	210,000	NE	NE	NA	0.75 U	0.86 J	NA	1.7 J	NA
Fluoranthene	230,000 [2]	2,200,000 [2]	NE	NE	NA	2.1 U	8.8 J	NA	2.6 U	NA
Fluorene	230,000 [2]	2,200,000 [2]	NE	NE	NA	0.95 U	1.1 U	NA	1.2 U	NA
Phenanthrene	170,000 [2][3]	1,700,000 [2][3]	NE	NE	NA	2.1 U	2.4 U	NA	2.6 U	NA
Pyrene	170,000 [2]	1,700,000 [2]	NE	NE	NA	2.1 U	8.3 J	NA	8 J	NA
PAH Totals (ug/kg):										
Low molecular weight PAHs	NE	NE	29,000 [9]	NE	NA	12.29	14.02	NA	15.18	NA
High molecular weight PAHs	NE	NE	18,000 [9]	NE	NA	14.33	28.69	NA	23.9	NA

TABLE 6-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - SWMU 9 AREA A/B - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB112 74SB112-05 5/7/2008 9.0-11.0	74SB113 74SB113-04 5/7/2008 7.0-9.0	74SB113 74SB113-05 5/7/2008 9.0-11.0	74SB114 74SB114-04 5/13/2008 7.0-9.0	74SB114 74SB114-05 5/13/2008 9.0-11.0	74SB115 74SB115-03 5/13/2008 5.0-7.0
Metals (mg/kg)										
Antimony	3.1 [2]	41 [2]	10 [10]	NE	0.082 U	0.083 U	0.097 U	0.11 UJ	0.12 UJ	0.13 UJ
Arsenic	0.39	1.60	18 [11]	1.59	**0.96**	**0.59**	**0.82**	***2.2***	***3***	***3.4***
Barium	1,500 [2]	19,000 [2]	330 [12]	220	25	130	97	210	270	13
Beryllium	16 [2]	200 [2]	21 [13]	0.596	0.22	0.19	0.19	0.56	0.7	0.3
Cadmium	7.0 [2]	81 [2]	0.77 [14]	0.54	0.13	0.035 J	0.11 J	0.085 J	0.09 J	0.037 U
Chromium	280	1,400	26 [15]	114.5	12	6.7	9	20	18	24
Cobalt	2.3 [2]	30 [2]	13 [16]	26.9	**24**	**20**	***49***	***32***	***45***	**11**
Copper	310 [2]	4,100 [2]	28 [17]	246	130	110	130	67	91	98
Lead	400 [4]	800 [4]	11 [18]	6.3	0.55	4.1	7.3	8.9	8.6	4.8
Mercury	2.3 [2]	31 [2]	0.1 [19]	0.108	0.007 J	0.0063 J	0.01 J	0.017 J	0.0059 U	0.043
Nickel	160 [2]	2,000 [2]	38 [20]	24.7	13	8.5	16	12	15	6.3
Selenium	39 [2]	510 [2]	0.52 [21]	5.94	0.13 U	0.13 U	0.16 U	0.61 J	0.37 J	2.8
Silver	39 [2]	510 [2]	4.2 [22]	NE	0.025 J	0.018 U	0.024 J	0.024 J	0.027 J	0.019 U
Thallium	0.51 [2]	7 [2]	1.0 [23]	0.92	0.13 U	0.13 U	0.16 U	0.15 U	0.17 U	0.14 U
Tin	4,700 [2]	61,000 [2]	50 [23]	4	4.4 U	4.4 U	5.2 U	5.1 U	5.6 U	4.8 U
Vanadium	55.00 [2]	720.00 [2]	7.8 [24]	434.00	**200**	**200**	**230**	**190**	**250**	**350**
Zinc	2,300 [2]	31,000 [2]	46.0 [25]	88.00	93	94	82	210 J	280 J	46 J
TPH DRO and GRO (mg/kg)										
Diesel Range Organics	25 [5]	NE	NE	NE	2.8 J	4.7	5.1	2.8 J	3.3 J	2.8 J
Gasoline Range Organics	25 [5]	NE	NE	NE	0.059 J	**140**	4.8 J	0.072 U	**40**	0.059 U
Total TPH	25 [5]	NE	NE	NE	2.859 J	**144.7**	9.9 J	2.8 J	**43.3** J	2.8 J

TABLE 6-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - SWMU 9 AREA A/B - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB115 74SB115-05 5/13/2008 9.0-11.0	74SB116 74SB116-04 5/13/2008 7.0-9.0	74SB116 74SB116-05 5/13/2008 9.0-11.0	74SB116 74SB116-05D 5/13/2008 9.0-11.0	74SB117 74SB117-03 5/13/2008 5.0-7.0	74SB117 74SB117-04 5/13/2008 7.0-9.0
Volatile Organic Compounds (ug/kg)										
2-Butanone (MEK)	2,800,000 [2]	19,000,000 [2]	NE	NE	3.5 UJ	3.4 UJ	3.7 UJ	3.8 UJ	3 UJ	2.9 UJ
2-Hexanone	NE	NE	NE	NE	2.7 UJ	2.7 UJ	2.9 UJ	2.9 UJ	2.3 UJ	2.3 UJ
4-Methyl-2-pentanone (MIBK)	530,000 [2]	5,200,000 [2]	NE	NE	3.7 UJ	3.7 UJ	4 UJ	4 UJ	3.2 UJ	3.1 UJ
Acetone	6,100,000 [2]	61,000,000 [2]	NE	NE	17 J	52 J	60 J	46 J	22 J	4.8 R
Acrolein	16 [2]	68 [2]	NE	NE	24 UJ	24 UJ	26 UJ	26 UJ	21 UJ	21 UJ
Acrylonitrile	240	1,200	1,000,000 [6]	NE	29 U	29 U	32 U	32 U	26 U	25 U
Bromoform	6,100	22,000	NE	NE	1.4 U	1.4 U	1.5 U	1.5 U	1.2 U	1.2 U
Carbon disulfide	67,000 [2]	300,000 [2]	NE	NE	0.65 U	0.65 U	0.7 U	0.71 U	0.57 U	0.55 U
Chloroform	300	1,500	1,002 [7]	NE	0.64 U	0.64 U	0.69 U	0.7 U	0.56 U	0.54 U
Chloromethane	1,700	8,400	NE	NE	0.91 U	0.9 U	0.98 U	0.99 U	0.79 U	0.77 U
Ethyl methacrylate	700,000 [2]	9,200,000 [2]	NE	NE	2.8 U	2.8 U	3 U	3.1 U	2.4 U	2.4 U
Ethylbenzene	5,700	29,000	5,003 [7]	NE	0.96 U	0.96 U	1 U	1 U	0.83 U	0.81 U
Iodomethane	NE	NE	NE	NE	1.3 UJ	1.3 UJ	1.4 UJ	1.4 UJ	1.1 UJ	1.1 UJ
Isobutyl alcohol	2,300,000 [2]	31,000,000 [2]	NE	NE	88 R	88 R	95 R	96 R	77 R	75 R
Methylene Chloride	11,000	54,000	1,004 [7]	NE	1.3 U	1.3 U	1.4 U	1.4 U	1.1 U	1.1 U
Tetrachloroethene	570	2,700	400 [7]	NE	0.94 U	0.93 U	1 U	1 U	0.81 U	0.79 U
trans-1,3-Dichloropropene	NE	NE	100 [8]	NE	1.1 U	1.1 U	1.2 U	1.2 U	0.97 U	0.94 U
Vinyl acetate	99,000 [2]	420,000 [2]	NE	NE	1.9 U	1.9 U	2.1 U	2.1 U	1.7 U	1.6 U
LLPAHs (ug/kg)										
Benzo[b]fluoranthene	150	2,100	NE	NE	NA	NA	NA	NA	NA	NA
Chrysene	15,000	210,000	NE	NE	NA	NA	NA	NA	NA	NA
Fluoranthene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Fluorene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Phenanthrene	170,000 [2][3]	1,700,000 [2][3]	NE	NE	NA	NA	NA	NA	NA	NA
Pyrene	170,000 [2]	1,700,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
PAH Totals (ug/kg):										
Low molecular weight PAHs	NE	NE	29,000 [9]	NE	NA	NA	NA	NA	NA	NA
High molecular weight PAHs	NE	NE	18,000 [9]	NE	NA	NA	NA	NA	NA	NA

TABLE 6-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - SWMU 9 AREA A/B - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB115 74SB115-05 5/13/2008 9.0-11.0	74SB116 74SB116-04 5/13/2008 7.0-9.0	74SB116 74SB116-05 5/13/2008 9.0-11.0	74SB116 74SB116-05D 5/13/2008 9.0-11.0	74SB117 74SB117-03 5/13/2008 5.0-7.0	74SB117 74SB117-04 5/13/2008 7.0-9.0
Metals (mg/kg)										
Antimony	3.1 [2]	41 [2]	10 [10]	NE	0.095 UJ	0.11 UJ	0.099 UJ	0.11 UJ	0.092 UJ	0.18 UJ
Arsenic	0.39	1.60	18 [11]	1.59	**0.96**	***2.7***	***2.4***	**1.3**	**0.65**	***1.7***
Barium	1,500 [2]	19,000 [2]	330 [12]	220	11	460	320	250	28	43
Beryllium	16 [2]	200 [2]	21 [13]	0.596	0.39	0.62	0.58	0.51	0.13	0.32
Cadmium	7.0 [2]	81 [2]	0.77 [14]	0.54	0.039 U	0.047 J	0.041 U	0.045 U	0.038 U	0.037 U
Chromium	280	1,400	26 [15]	114.5	9.8	8.3	8.6	8.3	7.2	16
Cobalt	2.3 [2]	30 [2]	13 [16]	26.9	**19**	***40***	**30** J	**18** J	**4.6**	**4.7**
Copper	310 [2]	4,100 [2]	28 [17]	246	110	83	81	71	45	97
Lead	400 [4]	800 [4]	11 [18]	6.3	3	1.9	1.8	2.5	1.3	2
Mercury	2.3 [2]	31 [2]	0.1 [19]	0.108	0.0049 U	0.045	0.023 J	0.031	0.0098 J	0.054
Nickel	160 [2]	2,000 [2]	38 [20]	24.7	19	9.4	8.5	8.7	3.2	5.1
Selenium	39 [2]	510 [2]	0.52 [21]	5.94	0.66	1.5	1.1	1	0.27 J	0.56 J
Silver	39 [2]	510 [2]	4.2 [22]	NE	0.026 J	0.025 J	0.021 U	0.036 J	0.046 J	0.021 J
Thallium	0.51 [2]	7 [2]	1.0 [23]	0.92	0.15 U	0.16 U	0.16 U	0.17 U	0.15 U	0.14 U
Tin	4,700 [2]	61,000 [2]	50 [23]	4	5.1 U	5.5 U	5.3 U	5.8 U	4.9 U	4.8 U
Vanadium	55.00 [2]	720.00 [2]	7.8 [24]	434.00	**210**	**260**	**260**	**200**	**120**	**270**
Zinc	2,300 [2]	31,000 [2]	46.0 [25]	88.00	89 J	170 J	150 J	130 J	34 J	54 J
TPH DRO and GRO (mg/kg)										
Diesel Range Organics	25 [5]	NE	NE	NE	3.4 J	2.9 J	2.7 J	2.2 J	1.5 J	2.4 J
Gasoline Range Organics	25 [5]	NE	NE	NE	0.078 U	0.079 U	0.091 U	0.087 U	0.07 U	0.073 U
Total TPH	25 [5]	NE	NE	NE	3.4 J	2.9 J	2.7 J	2.2 J	1.5 J	2.4 J

TABLE 6-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - SWMU 9 AREA A/B - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB118 74SB118-03 5/13/2008 5.0-7.0	74SB118 74SB118-05 5/13/2008 9.0-11.0	74SB119 74SB119-04 5/13/2008 7.0-9.0	74SB119 74SB119-05 5/13/2008 9.0-11.0	74SB120 74SB120-04 5/14/2008 7.0-9.0	74SB120 74SB120-05 5/14/2008 9.0-11.0
Volatile Organic Compounds (ug/kg)										
2-Butanone (MEK)	2,800,000 [2]	19,000,000 [2]	NE	NE	3.1 UJ	3.7 UJ	2.6 UJ	3.1 UJ	2.6 UJ	3.3 UJ
2-Hexanone	NE	NE	NE	NE	2.4 UJ	2.9 UJ	2.1 UJ	2.4 UJ	2 UJ	2.6 UJ
4-Methyl-2-pentanone (MIBK)	530,000 [2]	5,200,000 [2]	NE	NE	3.3 UJ	4 UJ	2.8 UJ	3.4 UJ	2.8 UJ	3.6 UJ
Acetone	6,100,000 [2]	61,000,000 [2]	NE	NE	24 J	30 J	15 J	5.1 R	4.3 R	15 J
Acrolein	16 [2]	68 [2]	NE	NE	22 UJ	26 UJ	19 UJ	22 UJ	18 UJ	23 UJ
Acrylonitrile	240	1,200	1,000,000 [6]	NE	26 U	32 U	23 U	27 U	22 U	28 U
Bromoform	6,100	22,000	NE	NE	1.2 U	1.5 U	1.1 U	1.3 U	1.1 U	1.3 U
Carbon disulfide	67,000 [2]	300,000 [2]	NE	NE	0.58 U	0.7 U	0.5 U	0.59 U	0.49 U	0.62 U
Chloroform	300	1,500	1,002 [7]	NE	0.57 U	0.69 U	0.49 U	0.58 U	0.48 U	0.61 U
Chloromethane	1,700	8,400	NE	NE	0.8 U	0.98 U	0.7 U	0.82 U	0.69 U	0.87 U
Ethyl methacrylate	700,000 [2]	9,200,000 [2]	NE	NE	2.5 U	3 U	2.2 U	2.5 U	2.1 U	2.7 U
Ethylbenzene	5,700	29,000	5,003 [7]	NE	0.85 U	1 U	0.74 U	0.87 U	0.72 U	0.92 U
Iodomethane	NE	NE	NE	NE	1.1 UJ	1.4 J	0.98 UJ	1.2 UJ	0.97 UJ	1.2 UJ
Isobutyl alcohol	2,300,000 [2]	31,000,000 [2]	NE	NE	78 R	95 R	68 R	80 R	67 R	85 R
Methylene Chloride	11,000	54,000	1,004 [7]	NE	1.1 U	1.4 U	0.98 U	1.2 U	0.97 U	1.2 U
Tetrachloroethene	570	2,700	400 [7]	NE	0.83 U	1 U	0.72 U	0.85 U	0.71 U	0.89 U
trans-1,3-Dichloropropene	NE	NE	100 [8]	NE	0.98 U	1.2 U	0.85 U	1 U	0.84 U	1.1 U
Vinyl acetate	99,000 [2]	420,000 [2]	NE	NE	1.7 U	2.1 U	1.5 U	1.7 U	1.4 U	1.8 U
LLPAHs (ug/kg)										
Benzo[b]fluoranthene	150	2,100	NE	NE	NA	NA	NA	NA	NA	NA
Chrysene	15,000	210,000	NE	NE	NA	NA	NA	NA	NA	NA
Fluoranthene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Fluorene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Phenanthrene	170,000 [2][3]	1,700,000 [2][3]	NE	NE	NA	NA	NA	NA	NA	NA
Pyrene	170,000 [2]	1,700,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
PAH Totals (ug/kg):										
Low molecular weight PAHs	NE	NE	29,000 [9]	NE	NA	NA	NA	NA	NA	NA
High molecular weight PAHs	NE	NE	18,000 [9]	NE	NA	NA	NA	NA	NA	NA

TABLE 6-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - SWMU 9 AREA A/B - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB118 74SB118-03 5/13/2008 5.0-7.0	74SB118 74SB118-05 5/13/2008 9.0-11.0	74SB119 74SB119-04 5/13/2008 7.0-9.0	74SB119 74SB119-05 5/13/2008 9.0-11.0	74SB120 74SB120-04 5/14/2008 7.0-9.0	74SB120 74SB120-05 5/14/2008 9.0-11.0
Metals (mg/kg)										
Antimony	3.1 [2]	41 [2]	10 [10]	NE	0.1 UJ	0.1 UJ	0.11 UJ	0.089 UJ	0.076 UJ	0.12 UJ
Arsenic	0.39	1.60	18 [11]	1.59	***1.9***	**1.3**	**1.6**	**1.1**	***2***	**0.77**
Barium	1,500 [2]	19,000 [2]	330 [12]	220	160	310	88	76	52	35
Beryllium	16 [2]	200 [2]	21 [13]	0.596	0.2	0.43	0.27	0.32	0.24	0.14
Cadmium	7.0 [2]	81 [2]	0.77 [14]	0.54	0.038 U	0.081 J	0.3	0.076 J	0.11	0.088 J
Chromium	280	1,400	26 [15]	114.5	24	9.4	16	7.7	8.2	4.6
Cobalt	2.3 [2]	30 [2]	13 [16]	26.9	**12**	**27**	**14**	***37***	**25**	**23**
Copper	310 [2]	4,100 [2]	28 [17]	246	150	67	200	26	**400**	**340**
Lead	400 [4]	800 [4]	11 [18]	6.3	2.6	13	1.6	0.48	1.1	0.57
Mercury	2.3 [2]	31 [2]	0.1 [19]	0.108	0.032	0.0056 U	0.013 J	0.011 J	0.006 J	0.006 J
Nickel	160 [2]	2,000 [2]	38 [20]	24.7	7.6	10	9.1	7.4	8.3	6
Selenium	39 [2]	510 [2]	0.52 [21]	5.94	0.65	0.17 U	0.22 J	0.34 J	0.23 J	0.16 U
Silver	39 [2]	510 [2]	4.2 [22]	NE	0.027 J	0.045 J	0.052 J	0.097 J	0.11 J	0.12 J
Thallium	0.51 [2]	7 [2]	1.0 [23]	0.92	0.15 U	0.17 U	0.13 U	0.14 U	0.12 U	0.16 U
Tin	4,700 [2]	61,000 [2]	50 [23]	4	4.9 U	5.6 U	4.5 U	4.8 U	4.1 U	5.2 U
Vanadium	55.00 [2]	720.00 [2]	7.8 [24]	434.00	**290**	**220**	**150**	**210**	**230**	**170**
Zinc	2,300 [2]	31,000 [2]	46.0 [25]	88.00	49 J	79 J	100 J	84 J	78 J	68 J
TPH DRO and GRO (mg/kg)										
Diesel Range Organics	25 [5]	NE	NE	NE	2.3 J	4.7 J	3.9 J	2.8 J	3.1 J	2.7 J
Gasoline Range Organics	25 [5]	NE	NE	NE	0.071 U	0.081 U	0.058 U	0.066 U	0.068 U	0.083 U
Total TPH	25 [5]	NE	NE	NE	2.3 J	4.7 J	3.9 J	2.8 J	3.1 J	2.7 J

TABLE 6-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - SWMU 9 AREA A/B - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB121 74SB121-05 5/13/2008 9.0-11.0	74SB121 74SB121-05D 5/13/2008 9.0-11.0	74SB122 74SB122-03 5/13/2008 5.0-7.0	74SB122 74SB122-04 5/13/2008 7.0-9.0	74SB123 74SB123-03 5/13/2008 5.0-7.0	74SB123 74SB123-05 5/13/2008 9.0-11.0
Volatile Organic Compounds (ug/kg)										
2-Butanone (MEK)	2,800,000 [2]	19,000,000 [2]	NE	NE	3 U	3.4 U	3.2 U	3.1 U	3.6 U	3.1 U
2-Hexanone	NE	NE	NE	NE	2.3 U	2.7 U	2.5 U	2.4 U	2.8 U	2.4 U
4-Methyl-2-pentanone (MIBK)	530,000 [2]	5,200,000 [2]	NE	NE	3.2 U	3.7 U	3.4 U	3.4 U	3.9 U	3.4 U
Acetone	6,100,000 [2]	61,000,000 [2]	NE	NE	26 J	26 J	23 J	19 J	22 J	9.7 J
Acrolein	16 [2]	68 [2]	NE	NE	21 R	24 R	22 R	22 R	25 R	22 U
Acrylonitrile	240	1,200	1,000,000 [6]	NE	26 U	29 U	27 U	27 U	31 U	27 U
Bromoform	6,100	22,000	NE	NE	1.2 U	1.4 U	1.3 U	1.3 U	1.5 U	1.3 U
Carbon disulfide	67,000 [2]	300,000 [2]	NE	NE	0.57 U	0.64 U	0.6 U	0.59 U	1.6 J	0.59 U
Chloroform	300	1,500	1,002 [7]	NE	0.56 U	0.63 U	0.59 U	0.58 U	0.67 U	0.58 U
Chloromethane	1,700	8,400	NE	NE	0.79 U	0.9 U	0.84 U	0.83 U	0.95 U	0.83 U
Ethyl methacrylate	700,000 [2]	9,200,000 [2]	NE	NE	2.5 U	2.8 U	2.6 U	2.6 U	3 U	2.6 U
Ethylbenzene	5,700	29,000	5,003 [7]	NE	0.84 U	0.95 U	0.88 U	0.87 U	1 U	0.87 U
Iodomethane	NE	NE	NE	NE	1.1 U	1.3 U	1.2 U	1.2 U	1.3 U	1.2 U
Isobutyl alcohol	2,300,000 [2]	31,000,000 [2]	NE	NE	77 R	87 R	81 R	80 R	93 R	80 U
Methylene Chloride	11,000	54,000	1,004 [7]	NE	1.1 U	1.3 U	1.2 U	1.2 U	1.3 U	1.2 U
Tetrachloroethene	570	2,700	400 [7]	NE	0.82 U	0.92 U	0.86 U	0.85 U	0.98 U	0.85 U
trans-1,3-Dichloropropene	NE	NE	100 [8]	NE	0.97 U	1.1 U	1 U	1 U	1.2 U	1 U
Vinyl acetate	99,000 [2]	420,000 [2]	NE	NE	1.7 U	1.9 U	1.8 U	1.7 U	2 U	1.7 U
LLPAHs (ug/kg)										
Benzo[b]fluoranthene	150	2,100	NE	NE	NA	NA	NA	NA	NA	NA
Chrysene	15,000	210,000	NE	NE	NA	NA	NA	NA	NA	NA
Fluoranthene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Fluorene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Phenanthrene	170,000 [2][3]	1,700,000 [2][3]	NE	NE	NA	NA	NA	NA	NA	NA
Pyrene	170,000 [2]	1,700,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
PAH Totals (ug/kg):										
Low molecular weight PAHs	NE	NE	29,000 [9]	NE	NA	NA	NA	NA	NA	NA
High molecular weight PAHs	NE	NE	18,000 [9]	NE	NA	NA	NA	NA	NA	NA

TABLE 6-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - SWMU 9 AREA A/B - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB121 74SB121-05 5/13/2008 9.0-11.0	74SB121 74SB121-05D 5/13/2008 9.0-11.0	74SB122 74SB122-03 5/13/2008 5.0-7.0	74SB122 74SB122-04 5/13/2008 7.0-9.0	74SB123 74SB123-03 5/13/2008 5.0-7.0	74SB123 74SB123-05 5/13/2008 9.0-11.0
Metals (mg/kg)										
Antimony	3.1 [2]	41 [2]	10 [10]	NE	0.089 UJ	0.085 UJ	0.093 U	0.14 UJ	0.096 UJ	0.098 J
Arsenic	0.39	1.60	18 [11]	1.59	**0.93**	**0.93**	**0.52** J	***1.7***	***1.9***	***2.5***
Barium	1,500 [2]	19,000 [2]	330 [12]	220	250 R	43 R	530 J	25 J	27 J	43 J
Beryllium	16 [2]	200 [2]	21 [13]	0.596	0.27	0.24	0.21	0.39	0.19	0.38
Cadmium	7.0 [2]	81 [2]	0.77 [14]	0.54	0.066 J	0.039 J	0.038 U	0.13	0.04 U	0.04 U
Chromium	280	1,400	26 [15]	114.5	14 J	15 J	52	32	40	6.6
Cobalt	2.3 [2]	30 [2]	13 [16]	26.9	**18**	**16**	**12** J	**14** J	**6** J	**9.4** J
Copper	310 [2]	4,100 [2]	28 [17]	246	210	190	97	64	61	**370**
Lead	400 [4]	800 [4]	11 [18]	6.3	4.5 J	2.6 J	2.5	10	7.6	3.8
Mercury	2.3 [2]	31 [2]	0.1 [19]	0.108	0.0046 U	0.0048 U	0.005 U	0.0044 U	0.029	0.0055 U
Nickel	160 [2]	2,000 [2]	38 [20]	24.7	18	17	25 J	30 J	8.2 J	7.3 J
Selenium	39 [2]	510 [2]	0.52 [21]	5.94	0.14 U	0.14 U	0.17 J	0.15 J	2.5	0.37 J
Silver	39 [2]	510 [2]	4.2 [22]	NE	0.019 U	0.018 U	0.022 J	0.023 J	0.023 J	0.022 J
Thallium	0.51 [2]	7 [2]	1.0 [23]	0.92	0.14 U	0.14 U	0.15 U	0.15 U	0.15 U	0.16 J
Tin	4,700 [2]	61,000 [2]	50 [23]	4	4.8 U	4.5 U	5 U	5 U	5.1 U	5.2 J
Vanadium	55.00 [2]	720.00 [2]	7.8 [24]	434.00	**190**	**180**	**120**	**260**	**260**	**150**
Zinc	2,300 [2]	31,000 [2]	46.0 [25]	88.00	140 J	130 J	170 J	170 J	19 J	88 J
TPH DRO and GRO (mg/kg)										
Diesel Range Organics	25 [5]	NE	NE	NE	6.7	4.3	0.81 U	0.77 U	0.86 U	0.84 U
Gasoline Range Organics	25 [5]	NE	NE	NE	0.064 U	0.069 U	0.074 U	0.074 U	0.072 U	0.082 U
Total TPH	25 [5]	NE	NE	NE	6.7	4.3	0.884 U	0.844 U	0.932 U	0.922 U

TABLE 6-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - SWMU 9 AREA A/B - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB124 74SB124-02 5/13/2008 3.0-5.0	74SB124 74SB124-05 5/13/2008 9.0-11.0	74VP2a/9 74VP2a/9-08 5/14/2008 15.0-17.0	74VP2a/9 74VP2a/9-10 5/14/2008 21.0-23.0	74VP1Aa/9 74VP1Aa/9-03 5/7/2008 5.0-7.0	74VP1Aa/9 74VP1Aa/9-04 5/7/2008 7.0-9.0
Volatile Organic Compounds (ug/kg)										
2-Butanone (MEK)	2,800,000 [2]	19,000,000 [2]	NE	NE	7.4 U	2.7 U	3.4 UJ	3.1 U	2.4 U	2.2 U
2-Hexanone	NE	NE	NE	NE	3.1 U	2.1 U	2.6 UJ	2.4 U	1.9 U	1.7 U
4-Methyl-2-pentanone (MIBK)	530,000 [2]	5,200,000 [2]	NE	NE	4.3 U	2.9 U	3.6 UJ	3.3 U	2.6 U	2.4 U
Acetone	6,100,000 [2]	61,000,000 [2]	NE	NE	61 J	8 J	150 J	31 U	10 J	16 J
Acrolein	16 [2]	68 [2]	NE	NE	28 R	19 R	24 R	22 R	17 R	15 R
Acrylonitrile	240	1,200	1,000,000 [6]	NE	34 U	23 U	29 UJ	26 U	21 U	19 U
Bromoform	6,100	22,000	NE	NE	1.6 U	1.1 U	1.4 UJ	1.2 U	0.99 U	0.89 U
Carbon disulfide	67,000 [2]	300,000 [2]	NE	NE	2.5 J	0.52 J	0.64 UJ	0.58 U	0.46 U	1.6 J
Chloroform	300	1,500	1,002 [7]	NE	0.75 U	0.5 U	0.62 UJ	0.57 U	0.45 U	0.41 U
Chloromethane	1,700	8,400	NE	NE	1.1 U	0.72 U	0.89 UJ	0.81 U	0.64 U	0.58 U
Ethyl methacrylate	700,000 [2]	9,200,000 [2]	NE	NE	3.3 U	2.2 U	2.7 UJ	2.5 U	2 U	1.8 U
Ethylbenzene	5,700	29,000	5,003 [7]	NE	1.1 U	0.76 U	0.94 UJ	0.85 U	0.68 U	0.61 U
Iodomethane	NE	NE	NE	NE	1.5 U	1 U	1.2 UJ	1.1 UJ	0.9 U	0.81 U
Isobutyl alcohol	2,300,000 [2]	31,000,000 [2]	NE	NE	100 R	70 R	86 R	78 R	62 R	56 R
Methylene Chloride	11,000	54,000	1,004 [7]	NE	1.5 U	1 U	1.2 UJ	1.1 U	0.9 U	0.81 U
Tetrachloroethene	570	2,700	400 [7]	NE	1.1 U	0.74 U	0.91 UJ	0.83 U	0.66 U	0.59 U
trans-1,3-Dichloropropene	NE	NE	100 [8]	NE	1.3 U	0.88 U	1.1 UJ	0.99 U	0.78 U	0.71 U
Vinyl acetate	99,000 [2]	420,000 [2]	NE	NE	2.2 U	1.5 U	1.9 UJ	1.7 U	1.4 U	1.9 J
LLPAHs (ug/kg)										
Benzo[b]fluoranthene	150	2,100	NE	NE	NA	NA	0.96 U	0.95 U	NA	NA
Chrysene	15,000	210,000	NE	NE	NA	NA	0.77 U	0.76 U	NA	NA
Fluoranthene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	5.1 J	2.1 U	NA	NA
Fluorene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	6.3 J	0.96 U	NA	NA
Phenanthrene	170,000 [2][3]	1,700,000 [2][3]	NE	NE	NA	NA	2.1 U	2.1 U	NA	NA
Pyrene	170,000 [2]	1,700,000 [2]	NE	NE	NA	NA	5.5 J	2.1 U	NA	NA
PAH Totals (ug/kg):										
Low molecular weight PAHs	NE	NE	29,000 [9]	NE	NA	NA	17.67	12.32	NA	NA
High molecular weight PAHs	NE	NE	18,000 [9]	NE	NA	NA	20.9	14.37	NA	NA

TABLE 6-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - SWMU 9 AREA A/B - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB124 74SB124-02 5/13/2008 3.0-5.0	74SB124 74SB124-05 5/13/2008 9.0-11.0	74VP2a/9 74VP2a/9-08 5/14/2008 15.0-17.0	74VP2a/9 74VP2a/9-10 5/14/2008 21.0-23.0	74VP1Aa/9 74VP1Aa/9-03 5/7/2008 5.0-7.0	74VP1Aa/9 74VP1Aa/9-04 5/7/2008 7.0-9.0
Metals (mg/kg)										
Antimony	3.1 [2]	41 [2]	10 [10]	NE	0.22 UJ	0.086 UJ	0.089 UJ	0.089 UJ	0.075 U	0.074 U
Arsenic	0.39	1.60	18 [11]	1.59	**1.6**	**0.92**	***1.7***	***1.7***	**0.92**	**0.98**
Barium	1,500 [2]	19,000 [2]	330 [12]	220	140 J	85 J	75	54	33	20
Beryllium	16 [2]	200 [2]	21 [13]	0.596	0.43	0.36	0.28	0.24	0.22	0.18
Cadmium	7.0 [2]	81 [2]	0.77 [14]	0.54	0.084 J	0.036 U	0.12 J	0.21	0.054 J	0.039 J
Chromium	280	1,400	26 [15]	114.5	66	10	4.1	5.6	4.2	3.6
Cobalt	2.3 [2]	30 [2]	13 [16]	26.9	***39*** J	**17** J	**14**	**27**	**20**	**26**
Copper	310 [2]	4,100 [2]	28 [17]	246	87	300	74	240	190	150
Lead	400 [4]	800 [4]	11 [18]	6.3	8.5	3.3	7.5	1.5	0.81	0.62
Mercury	2.3 [2]	31 [2]	0.1 [19]	0.108	0.058	0.004 U	0.0049 U	0.0048 U	0.0072 J	0.0048 J
Nickel	160 [2]	2,000 [2]	38 [20]	24.7	36 J	12 J	5.9	7.6	6.1	4.4
Selenium	39 [2]	510 [2]	0.52 [21]	5.94	0.7 J	0.14 U	0.14 U	0.14 U	0.12 J	0.15 J
Silver	39 [2]	510 [2]	4.2 [22]	NE	0.04 J	0.026 J	0.026 J	0.03 J	0.016 U	0.016 U
Thallium	0.51 [2]	7 [2]	1.0 [23]	0.92	0.18 U	0.14 U	0.14 U	0.14 U	0.12 U	0.12 U
Tin	4,700 [2]	61,000 [2]	50 [23]	4	6 U	4.6 U	4.8 U	4.8 U	4 U	4 U
Vanadium	55.00 [2]	720.00 [2]	7.8 [24]	434.00	**250**	**140**	**210**	**230**	**150**	**140**
Zinc	2,300 [2]	31,000 [2]	46.0 [25]	88.00	57 J	72 J	70 J	87 J	73	66
TPH DRO and GRO (mg/kg)										
Diesel Range Organics	25 [5]	NE	NE	NE	4.5 J	3.7 J	9.4	**28**	1.6 J	1.8 J
Gasoline Range Organics	25 [5]	NE	NE	NE	0.084 U	0.067 U	**120**	0.3 J	0.05 U	0.045 U
Total TPH	25 [5]	NE	NE	NE	4.5 J	3.7 J	**129.4**	**28.3** J	1.6 J	1.8 J

TABLE 6-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - SWMU 9 AREA A/B - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74VP1Cb/9 74VP1Cb/9-02 5/7/2008 3.0-5.0	74VP1Cb/9 74VP1Cb/9-04 5/7/2008 7.0-9.0	74VP1Ba/9 74VP1Ba/9-05D 5/13/2008 9.0-11.0	74VP1Ba/9 74VP1Ba/9-05 5/13/2008 9.0-11.0	74VP1Ba/9 74VP1Ba/9-09 5/13/2008 17.0-19.0
Volatile Organic Compounds (ug/kg)									
2-Butanone (MEK)	2,800,000 [2]	19,000,000 [2]	NE	NE	2.5 U	4.4 U	7.2 U	5.7 U	680 U
2-Hexanone	NE	NE	NE	NE	1.9 U	1.9 U	2.2 U	2.5 U	530 U
4-Methyl-2-pentanone (MIBK)	530,000 [2]	5,200,000 [2]	NE	NE	2.7 U	2.6 U	3 U	3.4 U	730 U
Acetone	6,100,000 [2]	61,000,000 [2]	NE	NE	32 J	43 J	66 J	40 J	1100 U
Acrolein	16 [2]	68 [2]	NE	NE	18 R	17 R	20 R	22 R	4800 R
Acrylonitrile	240	1,200	1,000,000 [6]	NE	21 U	21 U	24 U	27 U	5800 U
Bromoform	6,100	22,000	NE	NE	1 U	1 U	1.1 U	1.3 U	280 U
Carbon disulfide	67,000 [2]	300,000 [2]	NE	NE	0.55 J	0.46 U	0.61 J	0.75 J	130 U
Chloroform	300	1,500	1,002 [7]	NE	0.46 U	0.45 U	0.51 U	0.59 U	130 U
Chloromethane	1,700	8,400	NE	NE	0.66 U	0.65 U	0.73 U	0.83 U	180 U
Ethyl methacrylate	700,000 [2]	9,200,000 [2]	NE	NE	2 U	2 U	2.3 U	2.6 U	560 U
Ethylbenzene	5,700	29,000	5,003 [7]	NE	0.69 U	0.68 U	0.77 U	0.88 U	190 U
Iodomethane	NE	NE	NE	NE	0.92 U	0.91 U	1 U	1.2 U	250 UJ
Isobutyl alcohol	2,300,000 [2]	31,000,000 [2]	NE	NE	64 R	63 R	71 R	81 R	17000 R
Methylene Chloride	11,000	54,000	1,004 [7]	NE	0.92 U	0.91 U	1 U	1.2 U	250 U
Tetrachloroethene	570	2,700	400 [7]	NE	0.67 U	0.66 U	0.75 U	0.85 U	180 U
trans-1,3-Dichloropropene	NE	NE	100 [8]	NE	0.8 U	0.79 U	0.9 U	1 U	220 U
Vinyl acetate	99,000 [2]	420,000 [2]	NE	NE	1.4 U	1.4 U	1.5 U	1.8 U	380 U
LLPAHs (ug/kg)									
Benzo[b]fluoranthene	150	2,100	NE	NE	NA	NA	0.88 U	0.88 U	1.3 J
Chrysene	15,000	210,000	NE	NE	NA	NA	0.71 U	0.71 U	2.6 J
Fluoranthene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	2 U	2 U	6.5 J
Fluorene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	0.89 U	0.89 U	0.95 U
Phenanthrene	170,000 [2][3]	1,700,000 [2][3]	NE	NE	NA	NA	2 U	2 U	2.1 U
Pyrene	170,000 [2]	1,700,000 [2]	NE	NE	NA	NA	2 U	2 U	5.9 J
PAH Totals (ug/kg):									
Low molecular weight PAHs	NE	NE	29,000 [9]	NE	NA	NA	11.65	11.65	12.29
High molecular weight PAHs	NE	NE	18,000 [9]	NE	NA	NA	13.63	13.63	24.74

TABLE 6-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - SWMU 9 AREA A/B - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74VP1Cb/9 74VP1Cb/9-02 5/7/2008 3.0-5.0	74VP1Cb/9 74VP1Cb/9-04 5/7/2008 7.0-9.0	74VP1Ba/9 74VP1Ba/9-05D 5/13/2008 9.0-11.0	74VP1Ba/9 74VP1Ba/9-05 5/13/2008 9.0-11.0	74VP1Ba/9 74VP1Ba/9-09 5/13/2008 17.0-19.0
Metals (mg/kg)									
Antimony	3.1 [2]	41 [2]	10 [10]	NE	0.085 U	0.088 U	0.087 UJ	0.1 UJ	0.09 UJ
Arsenic	0.39	1.60	18 [11]	1.59	**1.1**	**0.67**	**0.81**	**0.87**	0.36 U
Barium	1,500 [2]	19,000 [2]	330 [12]	220	99	100	110	97	88
Beryllium	16 [2]	200 [2]	21 [13]	0.596	0.41	0.25	0.25	0.24	0.19
Cadmium	7.0 [2]	81 [2]	0.77 [14]	0.54	0.082 J	0.062 J	0.075 J	0.057 J	0.037 U
Chromium	280	1,400	26 [15]	114.5	17	9.1	6.7 J	6.9 J	7.2 J
Cobalt	2.3 [2]	30 [2]	13 [16]	26.9	**27**	**27**	**30**	**28**	**20**
Copper	310 [2]	4,100 [2]	28 [17]	246	81	81	**320**	**370**	14
Lead	400 [4]	800 [4]	11 [18]	6.3	6.5	7.2	2.9	2	2.7
Mercury	2.3 [2]	31 [2]	0.1 [19]	0.108	0.019 J	0.013 J	0.012 J	0.0083 J	0.16
Nickel	160 [2]	2,000 [2]	38 [20]	24.7	8.4	6.7	7.1	6.9	6.4
Selenium	39 [2]	510 [2]	0.52 [21]	5.94	0.18 J	0.14 U	0.14 U	0.13 U	0.14 U
Silver	39 [2]	510 [2]	4.2 [22]	NE	0.021 J	0.019 J	0.029 J	0.044 J	0.022 J
Thallium	0.51 [2]	7 [2]	1.0 [23]	0.92	0.14 U	0.14 U	0.14 U	0.13 U	0.14 U
Tin	4,700 [2]	61,000 [2]	50 [23]	4	4.5 U	4.7 U	4.5 U	4.3 U	4.8 U
Vanadium	55.00 [2]	720.00 [2]	7.8 [24]	434.00	**170**	**160**	**200**	**210**	**170**
Zinc	2,300 [2]	31,000 [2]	46.0 [25]	88.00	83	83	160 J	150 J	140 J
TPH DRO and GRO (mg/kg)									
Diesel Range Organics	25 [5]	NE	NE	NE	2.6 J	2.6 J	2.3 J	2.3 J	2.5 J
Gasoline Range Organics	25 [5]	NE	NE	NE	0.054 U	0.057 U	0.16 J	0.09 J	**3900**
Total TPH	25 [5]	NE	NE	NE	2.6 J	2.6 J	2.46 J	2.39 J	**3902.5** J

TABLE 6-2

SUMMARY OF DETECTED RESULTS - SWMU 9 AREA A/B - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74VP3b/9 74VP3b/9-05 5/13/2008 9.0-11.0	74VP3b/9 74VP3b/9-07 5/13/2008 13.0-15.0	74VP3b 74VP3b-03 5/5/2008 5.0-7.0	74VP3b 74VP3b-04 5/5/2008 7.0-9.0	74VP11a 74VP11a-03 5/6/2008 5.0-7.0	74VP11a 74VP11a-04 5/6/2008 7.0-9.0
Volatile Organic Compounds (ug/kg)										
2-Butanone (MEK)	2,800,000 [2]	19,000,000 [2]	NE	NE	750 U	130 U	1200 U	600 U	2.5 U	2.7 U
2-Hexanone	NE	NE	NE	NE	590 U	100 U	900 U	470 U	1.9 U	2.1 U
4-Methyl-2-pentanone (MIBK)	530,000 [2]	5,200,000 [2]	NE	NE	810 U	140 U	1200 U	650 U	2.7 U	3 U
Acetone	6,100,000 [2]	61,000,000 [2]	NE	NE	2500 U	530 J	1900 R	2500 J	30 J	28 UJ
Acrolein	16 [2]	68 [2]	NE	NE	5300 R	930 U	8200 U	4200 R	18 R	19 U
Acrylonitrile	240	1,200	1,000,000 [6]	NE	6400 U	1100 U	9900 U	5100 U	21 U	23 U
Bromoform	6,100	22,000	NE	NE	310 U	54 U	470 U	240 U	1 U	1.1 U
Carbon disulfide	67,000 [2]	300,000 [2]	NE	NE	140 U	25 U	220 U	110 U	0.47 U	0.52 U
Chloroform	300	1,500	1,002 [7]	NE	140 U	25 U	220 U	110 U	0.46 U	0.51 U
Chloromethane	1,700	8,400	NE	NE	200 U	35 U	310 U	160 U	0.66 U	0.72 U
Ethyl methacrylate	700,000 [2]	9,200,000 [2]	NE	NE	610 U	110 U	950 U	490 U	2 U	2.2 U
Ethylbenzene	5,700	29,000	5,003 [7]	NE	210 U	37 U	320 U	170 U	0.69 U	0.76 U
Iodomethane	NE	NE	NE	NE	280 UJ	49 U	430 U	220 U	0.92 U	1 UJ
Isobutyl alcohol	2,300,000 [2]	31,000,000 [2]	NE	NE	19000 R	3400 R	#### R	15000 R	64 R	70 R
Methylene Chloride	11,000	54,000	1,004 [7]	NE	280 U	49 U	430 U	220 U	0.92 U	1 U
Tetrachloroethene	570	2,700	400 [7]	NE	200 U	36 U	310 U	160 U	0.67 U	0.74 U
trans-1,3-Dichloropropene	NE	NE	100 [8]	NE	240 U	43 U	370 U	190 U	0.8 U	0.89 U
Vinyl acetate	99,000 [2]	420,000 [2]	NE	NE	420 U	74 U	650 U	330 U	1.4 U	1.5 U
LLPAHs (ug/kg)										
Benzo[b]fluoranthene	150	2,100	NE	NE	0.99 U	1 U	0.87 J	0.83 U	NA	NA
Chrysene	15,000	210,000	NE	NE	0.85 J	1.1 J	0.67 U	0.67 U	NA	NA
Fluoranthene	230,000 [2]	2,200,000 [2]	NE	NE	2.2 U	2.6 J	2.5 J	1.9 U	NA	NA
Fluorene	230,000 [2]	2,200,000 [2]	NE	NE	1 U	1.1 U	0.84 U	0.84 U	NA	NA
Phenanthrene	170,000 [2][3]	1,700,000 [2][3]	NE	NE	2.2 U	2.3 U	13	2.8 J	NA	NA
Pyrene	170,000 [2]	1,700,000 [2]	NE	NE	2.2 U	2.3 U	2.2 U	2.3 U	NA	NA
PAH Totals (ug/kg):										
Low molecular weight PAHs	NE	NE	29,000 [9]	NE	12.94	13.5	22.1	11.92	NA	NA
High molecular weight PAHs	NE	NE	18,000 [9]	NE	15.17	16.32	13.8	13.27	NA	NA

TABLE 6-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - SWMU 9 AREA A/B - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74VP3b/9 74VP3b/9-05 5/13/2008 9.0-11.0	74VP3b/9 74VP3b/9-07 5/13/2008 13.0-15.0	74VP3b 74VP3b-03 5/5/2008 5.0-7.0	74VP3b 74VP3b-04 5/5/2008 7.0-9.0	74VP11a 74VP11a-03 5/6/2008 5.0-7.0	74VP11a 74VP11a-04 5/6/2008 7.0-9.0
Metals (mg/kg)										
Antimony	3.1 [2]	41 [2]	10 [10]	NE	0.092 UJ	0.097 UJ	0.09 UJ	0.086 UJ	0.089 UJ	0.091 UJ
Arsenic	0.39	1.60	18 [11]	1.59	**1**	0.39 U	**0.71**	**0.42** J	***1.8***	**1.5**
Barium	1,500 [2]	19,000 [2]	330 [12]	220	27	20	43	42	17	23
Beryllium	16 [2]	200 [2]	21 [13]	0.596	0.16	0.12 J	0.11	0.081 J	0.3	0.23
Cadmium	7.0 [2]	81 [2]	0.77 [14]	0.54	0.038 U	0.04 U	0.04 J	0.037 J	0.12	0.062 J
Chromium	280	1,400	26 [15]	114.5	75 J	12 UJ	2.4	1.6	25	21
Cobalt	2.3 [2]	30 [2]	13 [16]	26.9	**3**	**4.2**	**11**	**12**	**7.1**	**4.3**
Copper	310 [2]	4,100 [2]	28 [17]	246	59	50	27 J	18 J	170 J	160 J
Lead	400 [4]	800 [4]	11 [18]	6.3	4.6	2.5	0.47	0.33	3	3
Mercury	2.3 [2]	31 [2]	0.1 [19]	0.108	0.005 U	0.0052 U	0 U	0.0044 U	0.02 J	0.015 J
Nickel	160 [2]	2,000 [2]	38 [20]	24.7	4.3	3.9	1.7	2.1	7.2	6.8
Selenium	39 [2]	510 [2]	0.52 [21]	5.94	1	0.16 U	0.12 U	0.12 U	1	0.5 J
Silver	39 [2]	510 [2]	4.2 [22]	NE	0.02 J	0.021 U	0.02 J	0.027 J	0.032 J	0.027 J
Thallium	0.51 [2]	7 [2]	1.0 [23]	0.92	0.15 U	0.16 U	0.12 U	0.12 U	0.14 U	0.15 U
Tin	4,700 [2]	61,000 [2]	50 [23]	4	4.9 U	5.2 U	4.2 U	4 U	4.7 U	4.9 U
Vanadium	55.00 [2]	720.00 [2]	7.8 [24]	434.00	**190**	**60**	**150**	**180**	**320**	**280**
Zinc	2,300 [2]	31,000 [2]	46.0 [25]	88.00	28 J	36 J	36 J	42 J	45 J	55 J
TPH DRO and GRO (mg/kg)										
Diesel Range Organics	25 [5]	NE	NE	NE	2.4 J	2.9 J	**340**	**150**	1.6 J	1.7 J
Gasoline Range Organics	25 [5]	NE	NE	NE	**510**	**450** J	19 J	**49** J	0.065 J	0.061 U
Total TPH	25 [5]	NE	NE	NE	**512.4** J	**452.9** J	**359** J	**199** J	1.665 J	1.7 J

TABLE 6-2

SUMMARY OF DETECTED RESULTS - SWMU 9 AREA A/B - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Notes/Qualifiers:

J - Estimated, the analyte was positively identified; the quantitation is an estimation
U - Undetected at the Limit of Detection.
UJ - Reported quantitation limit is qualified as estimated
R - Data is rejected and not usable
NE - Not Established
NA - Not Analyzed
ft bgs - feet below ground surface

mg/kg - milligram per kilogram
ug/kg - microgram per kilogram

DRO - Diesel Range Organics
GRO - Gasoline Range Organics
TPH - Total Petroleum Hydrocarbons
LLPAH - Low-level Polynuclear Aromatic Hydrocarbon

NAPR - Naval Activity Puerto Rico
USEPA - United States Environmental Protection Agency

(1) NAPR basewide background surface soil screening value (upper limit of the means concentration [mean plus two standard deviations]) for Subsurface Soil Background Clay Table 3-4 (Baker, 2008)
(2) Noncarcinogenic Regional Screening Levels based on a target hazard quotient of 0.1 for conservative screening purposes
(3) Pyrene used as a surrogate for screening purposes.
(4) USEPA Action Level for lead in soils
(5) Screening level for TPH is 25% of PREQB soil criterion, as proposed in the approved Work Plan dated 12/6/07
(6) Toxicological threshold for soil microorganisms and microbial processes [Efroymson et al. 1997a]
(7) The screening value shown is an average of the target and intervention soil standards. The value is based on a default organic carbon content of 0.02 (2 percent), which represents a minimum value (adjustment range is 2 to 30 percent). [MHSPE 2000]
(8) Canadian soil quality guideline based on agricultural land uses [CCME 2007]
(9) Ecological soil screening level for soil invertebrates [USEPA 2007a]
(10) Ecological soil screening level for mammalian herbivores [USEPA 2005a]
(11) Ecological soil screening level for plants [USEPA 2005b]
(12) Ecological soil screening level for soil invertebrates [USEPA 2005c]
(13) Ecological soil screening level for mammalian herbivores [USEPA 2005d]
(14) Ecological soil screening level for avian ground insectivores [USEPA 2005e]
(15) Ecological soil screening level for avian ground insectivores [USEPA 2008]
(16) Ecological soil screening level for plants [USEPA 2005f]
(17) Ecological soil screening level for avian ground insectivores [USEPA 2007b]
(18) Ecological soil screening level for avian ground insectivores [USEPA 2005g]
(19) Toxicological threshold for earthworms [Efroymson et al. 1997a]
(20) Ecological soil screening level for plants [USEPA 2007c]
(21) Ecological soil screening level for plants [USEPA 2007d]
(22) Ecological soil screening level for avian ground insectivores [USEPA 2006]
(23) Toxicological threshold for plants [Efroymson et al. 1997b]
(24) Ecological soil screening level for avian ground insectivores [USEPA 2005h]
(25) Ecological soil screening level for avian ground insectivores [USEPA 2007e]

SUMMARY OF DETECTED RESULTS - SWMU 9 AREA A/B - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

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USEPA. 2007c. Ecological Soil Screening Levels for Nickel (Interim Final). Office of Solid Waste and Emergency Response, Washington, D.C. OSWER Directive 9285.7-76.

USEPA. 2007d. Ecological Soil Screening Levels for Selenium (Interim Final). Office of Solid Waste and Emergency Response, Washington, D.C. OSWER Directive 9285.7-72.

USEPA. 2007e. Ecological Soil Screening Levels for Zinc (Interim Final). Office of Solid Waste and Emergency Response, Washington, D.C. OSWER Directive 9285.7-72.

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USEPA. 2005a. Ecological Soil Screening Levels for Antimony (Interim Final). Office of Solid Waste and Emergency Response, Washington, D.C. OSWER Directive 9285.7-61.

USEPA. 2005b. Ecological Soil Screening Levels for Arsenic (Interim Final). Office of Solid Waste and Emergency Response, Washington, D.C.

USEPA. 2005c. Ecological Soil Screening Levels for Barium (Interim Final). Office of Solid Waste and Emergency Response, Washington, D.C. OSWER Directive 9285.7-63.

USEPA. 2005d. Ecological Soil Screening Levels for Beryllium (Interim Final). Office of Solid Waste and Emergency Response, Washington, D.C. OSWER Directive 9285.7-63.

USEPA. 2005e. Ecological Soil Screening Levels for Cadmium (Interim Final). Office of Solid Waste and Emergency Response, Washington, D.C. OSWER Directive 9285.7-62.

USEPA. 2005f. Ecological Soil Screening Levels for Cobalt (Interim Final). Office of Solid Waste and Emergency Response, Washington, D.C. OSWER Directive 9285.7-67

USEPA. 2005g. Ecological Soil Screening Levels for Lead (Interim Final). Office of Solid Waste and Emergency Response, Washington, D.C. OSWER Directive 9285.7-70.

USEPA. 2005h. Ecological Soil Screening Levels for Vanadium (Interim Final). Office of Solid Waste and Emergency Response, Washington, D.C. OSWER Directive 9285.7-75.

TABLE 6-3

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - SWMU 9 AREA A/B - GROUNDWATER
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date	**Regional Tap Water Screening Levels**	*USEPA MCLs*	Selected Ecological Surface Water Screening Values	NAPR Basewide Background [1]	74VP1Ca/9 74GWVP1Ca/9 5/14/2008	74VP1Cb/9 74GWVP1Cb/9 5/14/2008	74VP1Cb/9 74GWVP1Cb/9D 5/14/2008	74VP3a 74GWVP3a 5/14/2008	74VP3b 74GWVP3b 5/14/2008
Volatile Organic Compounds (ug/L)									
2-Butanone (MEK)	710 [2]	NE	13,333 [5]	NE	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U
2-Hexanone	NE	NE	99 [6][7]	NE	0.68 U	9.9 J	0.68 U	0.68 U	0.68 U
4-Methyl-2-pentanone (MIBK)	200 [2]	NE	170 [6][7]	NE	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U
Acetone	2,200 [2]	NE	1,000 [8]	NE	44 U	11 J	36 U	19 J	13 J
Benzene	0.41	5.0	109 [9]	NE	0.32 U	***8.1***	***12***	0.32 U	0.32 U
Carbon disulfide	100 [2]	NE	15 [7][10]	NE	0.17 U	0.44 U	0.54 J	0.17 U	0.17 U
Chloroform	0.19	NE	815 [9]	NE	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U
Chloromethane	1.8	NE	2,700 [11]	NE	0.28 U	0.52 J	0.28 U	0.28 U	1.5
Ethylbenzene	1.5	700	4.3 [9]	NE	0.3 U	0.3 U	0.73 J	0.3 U	0.3 U
Toluene	230 [2]	NE	37 [9]	NE	0.31 U	0.31 U	0.31 U	0.31 U	0.31 U
Vinyl chloride	0.02	2.0	930 [6][7]	NE	0.2 U	**0.26** J	0.2 U	0.2 U	0.2 U
Xylenes, Total	20 [2]	10,000	27 [4][7]	NE	0.87 U	0.87 U	1.3 J	0.87 U	0.87 U
LLPAHs (ug/L)									
1-Methylnaphthalene	2.3	NE	NE	NE	0.049 U	0.049 U	0.048 U	0.048 U	1.1 J
2-Methylnaphthalene	15 [2]	NE	6 [13]	NE	0.022 U	0.023 U	0.022 U	0.022 U	0.76 J
Acenaphthene	220 [2]	NE	9.7 [9]	NE	0.019 U	0.02 U	0.019 U	0.019 U	0.93 J
Acenaphthylene	NE	NE	6 [14]	NE	0.049 U	0.049 U	0.048 U	0.048 U	0.84 J
Anthracene	1,100 [2]	NE	5.35 [15]	NE	0.021 U	0.022 U	0.021 U	0.021 U	1.1 J
Benzo[a]anthracene	0.03	NE	0.025 [6][7]	NE	0.025 U	0.025 U	0.025 U	0.025 U	**0.95** J
Benzo[a]pyrene	0.003	0.20	10 [16]	NE	0.024 U	0.025 U	0.024 U	0.024 U	***1*** J
Benzo[b]fluoranthene	0.029	NE	6 [17]	NE	0.036 U	0.036 U	0.035 U	0.036 U	**0.89** J
Benzo[g,h,i]perylene	110 [2]	NE	6 [17]	NE	0.023 U	0.024 U	0.023 U	0.023 U	1.2 J
Benzo[k]fluoranthene	0.290	NE	6 [17]	NE	0.019 U	0.02 U	0.019 U	0.019 U	**1** J
Chrysene	2.90	NE	10 [16]	NE	0.027 U	0.027 U	0.027 U	0.027 U	1.2 J

TABLE 6-3

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - SWMU 9 AREA A/B - GROUNDWATER
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date	**Regional Tap Water Screening Levels**	*USEPA MCLs*	Selected Ecological Surface Water Screening Values	NAPR Basewide Background [1]	74VP1Ca/9 74GWVP1Ca/9 5/14/2008	74VP1Cb/9 74GWVP1Cb/9 5/14/2008	74VP1Cb/9 74GWVP1Cb/9D 5/14/2008	74VP3a 74GWVP3a 5/14/2008	74VP3b 74GWVP3b 5/14/2008
LLPAHs (ug/L)									
Dibenz(a,h)anthracene	0.003	NE	6 [17]	NE	0.023 U	0.024 U	0.023 U	0.023 U	**1.3** J
Fluoranthene	150 [2]	NE	11 [18]	NE	0.049 U	0.049 U	0.048 U	0.048 U	1.2 J
Fluorene	150 [2]	NE	10 [19]	NE	0.018 U	0.12 J	0.16 J	0.018 U	0.92 J
Indeno[1,2,3-cd]pyrene	0.03	NE	6 [17]	NE	0.022 U	0.023 U	0.022 U	0.022 U	**1.1** J
Naphthalene	0.14	NE	23.5 [9]	NE	0.049 U	0.049 U	0.048 U	0.048 U	0.49 UJ
Phenanthrene	NE	NE	8.3 [18]	NE	0.017 U	0.018 U	0.017 U	0.017 U	1.2 J
Pyrene	110 [2]	NE	0.248 [15]	NE	0.026 U	0.026 U	0.026 U	0.026 U	1.3 J
Total Metals (ug/L)									
Antimony	2 [2]	6.0	500 [20]	12.24	0.69 U	1.1 U	1.2 U	0.67 U	0.83 U
Arsenic	0.045	10	36 [21]	18.89	1.8 U	***12***	***11***	0.86 U	0.93 U
Barium	730 [2]	2,000	16,667 [22]	686	13	66	70	23 J	27
Beryllium	7.3 [2]	4.0	310 [23]	2.21	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U
Cadmium	1.8 [2]	5.0	8.85 [24]	16.62	0.15 J	0.12 U	0.12 J	0.31 J	0.22 J
Chromium	5,500 [2]	NE	50.4 [25]	162.41	0.62 J	0.6 U	0.6 U	0.6 U	1 J
Cobalt	1 [2]	NE	45 [26]	633.21	0.77	**2.4** J	**2.7**	1 J	0.14 J
Copper	150 [2]	1,300	3.73 [24]	324	2.2 U	1.8 U	2 U	6.4	1.8 U
Lead	NE	15 [3]	8.52 [24]	26.25	***36***	***81***	***84***	0.82 U	0.15 U
Nickel	73 [2]	NE	8.28 [24]	95.7	0.84 J	1.3	1.3	0.75 J	0.92 J
Selenium	18 [2]	50	71.1 [24]	29.88	0.68 J	0.6 U	0.6 U	0.6 U	0.6 U
Silver	18 [2]	NE	0.23 [9]	18.31	0.09 U	0.09 U	0.09 U	0.09 U	0.09 U
Tin	2,200 [2]	NE	180 [6][7]	9.35	0.93 J	1.3 J	0.92 J	0.93 J	0.9 U
Vanadium	26 [2]	NE	12 [6][7]	484.66	23	9.3	10 J	**34**	**28**
Zinc	1,100 [2]	NE	85.6 [24]	547.53	6.5 U	6.5 J	9.5 J	12 J	6.5 U

TABLE 6-3

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - SWMU 9 AREA A/B - GROUNDWATER
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date	**Regional Tap Water Screening Levels**	*USEPA MCLs*	Selected Ecological Surface Water Screening Values	NAPR Basewide Background [1]	74VP1Ca/9 74GWVP1Ca/9 5/14/2008	74VP1Cb/9 74GWVP1Cb/9 5/14/2008	74VP1Cb/9 74GWVP1Cb/9D 5/14/2008	74VP3a 74GWVP3a 5/14/2008	74VP3b 74GWVP3b 5/14/2008
Dissolved Metals (ug/L)									
Antimony	2 [2]	6.0	500 [20][27]	11.19	0.4 U	0.99 U	0.88 U	0.59 U	0.73 U
Arsenic	0.045	10	36 [28]	14.03	**1.5** J	***12***	**9.7**	**0.7** J	**0.93** J
Barium	730 [2]	2,000	16667 [22][27]	260	15	73	64	32 J	29
Beryllium	7.3 [2]	4.0	310 [23][27]	5.4	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U
Cadmium	1.8 [2]	5.0	8.8 [29]	36.42	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Chromium	5,500 [2]	NE	50.0 [30]	6.5	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U
Cobalt	1.1	NE	45 [26][27]	580.5	0.95	**3.1** J	**2.5**	**1.5** J	0.61
Copper	150 [2]	1,300	3.1 [31]	29	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U
Lead	NE	15 [3]	8.1 [31]	1.3	***32*** J	***78*** J	***81*** J	0.15 UJ	0.15 UJ
Nickel	73	NE	8.2 [29]	84.1	1.6	1.5	1.2	1.1	0.73 J
Selenium	18 [2]	50	71 [29]	23.92	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U
Silver	18 [2]	NE	0.23 [31]	3.67	0.09 UJ	0.09 UJ	0.09 UJ	0.09 UJ	0.09 UJ
Tin	2,200 [2]	NE	180 [6][7][27]	NE	1.1 J	0.9 U	0.9 U	0.9 U	0.9 U
Vanadium	26 [2]	NE	12 [6][7][27]	20.96	22	9.3	13 J	21	**28**
Zinc	1,100 [2]	NE	81 [32]	360.64	6.5 U	6.5 U	6.5 U	6.5 U	6.5 U
TPH DRO and GRO (mg/L)									
Diesel Range Organics	12.5 [4]	NE	NE	NE	1.5	2	2.4	0.38	1.4
Gasoline Range Organics	12.5 [4]	NE	NE	NE	1.1 J	0.58 J	0.86 J	0.012 U	0.012 U
Total TPH	12.5 [4]	NE	NE	NE	2.6 J	2.58 J	3.26 J	0.38	1.4

TABLE 6-3

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - SWMU 9 AREA A/B - GROUNDWATER
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date	**Regional Tap Water Screening Levels**	*USEPA MCLs*	Selected Ecological Surface Water Screening Values	NAPR Basewide Background [1]	74VP11a 74GWVP11a 5/15/2008	74VP11b 74GWVP11b 5/15/2008	74VP1Aa/9 74GWVP1Aa/9 5/16/2008	74VP1Ab/9 74GWVP1Ab/9 5/18/2008	74VP1Ba/9 74GWVP1Ba/9 5/19/2008
Volatile Organic Compounds (ug/L)									
2-Butanone (MEK)	710 [2]	NE	13,333 [5]	NE	0.6 U	1.4 U	82 U	0.6 U	0.6 U
2-Hexanone	NE	NE	99 [6][7]	NE	0.68 U	0.68 U	14 U	0.68 U	0.68 U
4-Methyl-2-pentanone (MIBK)	200 [2]	NE	170 [6][7]	NE	0.6 U	0.6 U	**210**	0.6 U	0.6 U
Acetone	2,200 [2]	NE	1,000 [8]	NE	38	25	190 J	9.2 J	17 J
Benzene	0.41	5.0	109 [9]	NE	0.32 U	0.32 U	***2,500***	0.32 U	0.32 U
Carbon disulfide	100 [2]	NE	15 [7][10]	NE	0.77 U	0.33 J	7.6 U	0.17 U	0.63 J
Chloroform	0.19	NE	815 [9]	NE	0.29 U	0.29 U	5.8 U	0.29 U	0.29 U
Chloromethane	1.8	NE	2,700 [11]	NE	0.28 U	0.28 U	5.6 U	0.28 U	0.28 U
Ethylbenzene	1.5	700	4.3 [9]	NE	**2.7**	0.3 U	**460**	0.3 U	0.3 U
Toluene	230 [2]	NE	37 [9]	NE	0.31 U	0.88 U	**3,800**	0.31 U	0.31 U
Vinyl chloride	0.02	2.0	930 [6][7]	NE	0.2 U	0.2 U	4 U	0.2 U	0.2 U
Xylenes, Total	20 [2]	10,000	27 [4][7]	NE	**23**	0.87 U	**3,100**	0.87 U	0.87 U
LLPAHs (ug/L)									
1-Methylnaphthalene	2.3	NE	NE	NE	**3.7** J	0.36	**18** J	0.049 U	NA
2-Methylnaphthalene	15 [2]	NE	6 [13]	NE	1.5 J	0.11 J	**31** J	0.11 J	NA
Acenaphthene	220 [2]	NE	9.7 [9]	NE	0.19 U	0.019 U	0.19 UJ	0.019 U	NA
Acenaphthylene	NE	NE	6 [14]	NE	0.47 U	0.047 U	0.47 UJ	0.049 U	NA
Anthracene	1,100 [2]	NE	5.35 [15]	NE	0.21 U	0.021 U	0.21 UJ	0.021 U	NA
Benzo[a]anthracene	0.03	NE	0.025 [6][7]	NE	0.25 U	0.025 U	0.25 UJ	0.025 U	NA
Benzo[a]pyrene	0.003	0.20	10 [16]	NE	0.24 U	0.024 U	0.24 UJ	0.024 U	NA
Benzo[b]fluoranthene	0.029	NE	6 [17]	NE	0.35 U	0.035 U	0.35 UJ	0.036 U	NA
Benzo[g,h,i]perylene	110 [2]	NE	6 [17]	NE	0.23 U	0.023 U	0.23 UJ	0.023 U	NA
Benzo[k]fluoranthene	0.290	NE	6 [17]	NE	0.19 U	0.019 U	0.19 UJ	0.019 U	NA
Chrysene	2.90	NE	10 [16]	NE	0.26 U	0.026 U	0.26 UJ	0.027 U	NA

TABLE 6-3

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - SWMU 9 AREA A/B - GROUNDWATER
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date	**Regional Tap Water Screening Levels**	*USEPA MCLs*	Selected Ecological Surface Water Screening Values	NAPR Basewide Background [1]	74VP11a 74GWVP11a 5/15/2008	74VP11b 74GWVP11b 5/15/2008	74VP1Aa/9 74GWVP1Aa/9 5/16/2008	74VP1Ab/9 74GWVP1Ab/9 5/18/2008	74VP1Ba/9 74GWVP1Ba/9 5/19/2008
LLPAHs (ug/L)									
Dibenz(a,h)anthracene	0.003	NE	6 [17]	NE	0.23 U	0.023 U	0.23 UJ	0.023 U	NA
Fluoranthene	150 [2]	NE	11 [18]	NE	0.47 U	0.047 U	0.47 UJ	0.049 U	NA
Fluorene	150 [2]	NE	10 [19]	NE	0.18 U	0.018 U	0.18 UJ	0.018 U	NA
Indeno[1,2,3-cd]pyrene	0.03	NE	6 [17]	NE	0.22 U	0.022 U	0.22 UJ	0.022 U	NA
Naphthalene	0.14	NE	23.5 [9]	NE	**4.1** J	**0.92**	**120** J	0.049 U	NA
Phenanthrene	NE	NE	8.3 [18]	NE	0.17 U	0.017 U	0.17 UJ	0.017 U	NA
Pyrene	110 [2]	NE	0.248 [15]	NE	0.25 U	0.025 U	0.25 UJ	0.026 U	NA
Total Metals (ug/L)									
Antimony	2 [2]	6.0	500 [20]	12.24	0.54 U	0.56 U	0.7 U	0.36 U	**2.7**
Arsenic	0.045	10	36 [21]	18.89	0.78 U	2 U	1.2 U	1.3 U	**5.3**
Barium	730 [2]	2,000	16,667 [22]	686	110	350	55	41	31
Beryllium	7.3 [2]	4.0	310 [23]	2.21	0.065 U	0.73	0.065 U	0.065 U	0.065 U
Cadmium	1.8 [2]	5.0	8.85 [24]	16.62	0.62	***13***	0.17 J	0.12 U	0.23 J
Chromium	5,500 [2]	NE	50.4 [25]	162.41	1 J	0.6 U	0.73 J	2.5 J	2.3 J
Cobalt	1 [2]	NE	45 [26]	633.21	3.9 U	**670**	**3.3** J	**2**	**3.8** J
Copper	150 [2]	1,300	3.73 [24]	324	3.9 U	29	3.8 U	2.8 U	4.1 U
Lead	NE	15 [3]	8.52 [24]	26.25	0.15 U	0.15 U	***16***	3	4.6
Nickel	73 [2]	NE	8.28 [24]	95.7	8.4	**160**	1.5	1.9	7.5
Selenium	18 [2]	50	71.1 [24]	29.88	0.6 U	0.6 U	0.6 U	0.6 U	0.83 J
Silver	18 [2]	NE	0.23 [9]	18.31	0.09 J	0.21 J	0.09 U	0.09 U	0.09 U
Tin	2,200 [2]	NE	180 [6][7]	9.35	1.8 J	1.1 J	2 J	4.7 J	1.8 J
Vanadium	26 [2]	NE	12 [6][7]	484.66	4 U	2.6 U	15	15	8.5
Zinc	1,100 [2]	NE	85.6 [24]	547.53	35	530	48	39 J	48 J

TABLE 6-3

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - SWMU 9 AREA A/B - GROUNDWATER
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date	**Regional Tap Water Screening Levels**	*USEPA MCLs*	Selected Ecological Surface Water Screening Values	NAPR Basewide Background [1]	74VP11a 74GWVP11a 5/15/2008	74VP11b 74GWVP11b 5/15/2008	74VP1Aa/9 74GWVP1Aa/9 5/16/2008	74VP1Ab/9 74GWVP1Ab/9 5/18/2008	74VP1Ba/9 74GWVP1Ba/9 5/19/2008
Dissolved Metals (ug/L)									
Antimony	2 [2]	6.0	500 [20][27]	11.19	0.36 U	0.36 U	0.46 U	0.42 U	**2.7**
Arsenic	0.045	10	36 [28]	14.03	**1** J	**3.8**	**1.5** J	1.2 U	**4.5**
Barium	730 [2]	2,000	16667 [22][27]	260	110	340	49	36	22
Beryllium	7.3 [2]	4.0	310 [23][27]	5.4	0.065 U	0.63	0.065 U	0.065 U	0.065 U
Cadmium	1.8 [2]	5.0	8.8 [29]	36.42	0.57	***11***	0.12 U	0.12 U	0.12 U
Chromium	5,500 [2]	NE	50.0 [30]	6.5	0.61 J	0.6 U	0.6 U	2.8 J	1.2 J
Cobalt	1.1	NE	45 [26][27]	580.5	**64**	**680**	**4.1** J	**2.2**	**4.8** J
Copper	150 [2]	1,300	3.1 [31]	29	1.7 U	27	1.3 U	1.2 U	1.2 U
Lead	NE	15 [3]	8.1 [31]	1.3	0.15 UJ	0.15 UJ	***17*** J	2.6	2.8
Nickel	73	NE	8.2 [29]	84.1	8.6	**150**	1.7	1.9	8.4
Selenium	18 [2]	50	71 [29]	23.92	0.6 U	0.6 U	0.6 U	0.6 U	0.65 J
Silver	18 [2]	NE	0.23 [31]	3.67	0.09 UJ	0.13 J	0.09 UJ	0.09 UJ	0.09 UJ
Tin	2,200 [2]	NE	180 [6][7][27]	NE	1.3 J	0.9 U	1.3 J	4 J	0.9 U
Vanadium	26 [2]	NE	12 [6][7][27]	20.96	3.3 U	1.4 U	8.7	8.8	2.7 U
Zinc	1,100 [2]	NE	81 [32]	360.64	29	490	46	31	9.5 J
TPH DRO and GRO (mg/L)									
Diesel Range Organics	12.5 [4]	NE	NE	NE	NA	1.2	5.7	0.99	1.7
Gasoline Range Organics	12.5 [4]	NE	NE	NE	0.24	0.014 J	**44**	0.15	0.16
Total TPH	12.5 [4]	NE	NE	NE	0.24	1.214 J	**49.7**	1.14	1.86 J

TABLE 6-3

SUMMARY OF DETECTED RESULTS - SWMU 9 AREA A/B - GROUNDWATER
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date	**Regional Tap Water Screening Levels**	*USEPA MCLs*	Selected Ecological Surface Water Screening Values	NAPR Basewide Background [1]	74VP1Bb/9 74GWVP1Bb/9 5/16/2008	74SB74 74GW74 5/15/2008	74SB84 74GW84 5/17/2008	74VP3a/9 74GWVP3a/9 5/17/2008	74VP3b/9 74GWVP3b/9 5/17/2008
Volatile Organic Compounds (ug/L)									
2-Butanone (MEK)	710 [2]	NE	13,333 [5]	NE	130	0.6 U	3.1 U	12 U	0.6 U
2-Hexanone	NE	NE	99 [6][7]	NE	0.68 U	0.68 U	0.68 U	0.68 U	0.68 U
4-Methyl-2-pentanone (MIBK)	200 [2]	NE	170 [6][7]	NE	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U
Acetone	2,200 [2]	NE	1,000 [8]	NE	1000	5 U	30	58	12 J
Benzene	0.41	5.0	109 [9]	NE	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U
Carbon disulfide	100 [2]	NE	15 [7][10]	NE	0.17 U	0.43 J	0.63 U	0.42 U	0.67 U
Chloroform	0.19	NE	815 [9]	NE	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U
Chloromethane	1.8	NE	2,700 [11]	NE	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U
Ethylbenzene	1.5	700	4.3 [9]	NE	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Toluene	230 [2]	NE	37 [9]	NE	0.31 U	0.51 U	0.31 U	0.31 U	0.31 U
Vinyl chloride	0.02	2.0	930 [6][7]	NE	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Xylenes, Total	20 [2]	10,000	27 [4][7]	NE	0.87 U	0.87 U	0.87 U	0.87 U	0.87 U
LLPAHs (ug/L)									
1-Methylnaphthalene	2.3	NE	NE	NE	0.047 U	NA	NA	0.047 U	0.047 U
2-Methylnaphthalene	15 [2]	NE	6 [13]	NE	0.022 U	NA	NA	0.022 U	0.022 U
Acenaphthene	220 [2]	NE	9.7 [9]	NE	0.019 U	NA	NA	0.019 U	0.019 U
Acenaphthylene	NE	NE	6 [14]	NE	0.047 U	NA	NA	0.047 U	0.047 U
Anthracene	1,100 [2]	NE	5.35 [15]	NE	0.021 U	NA	NA	0.021 U	0.021 U
Benzo[a]anthracene	0.03	NE	0.025 [6][7]	NE	0.025 U	NA	NA	0.025 U	0.025 U
Benzo[a]pyrene	0.003	0.20	10 [16]	NE	0.024 U	NA	NA	0.024 U	0.024 U
Benzo[b]fluoranthene	0.029	NE	6 [17]	NE	0.035 U	NA	NA	0.035 U	0.035 U
Benzo[g,h,i]perylene	110 [2]	NE	6 [17]	NE	0.023 U	NA	NA	0.023 U	0.023 U
Benzo[k]fluoranthene	0.290	NE	6 [17]	NE	0.019 U	NA	NA	0.019 U	0.019 U
Chrysene	2.90	NE	10 [16]	NE	0.026 U	NA	NA	0.026 U	0.026 U

TABLE 6-3

SUMMARY OF DETECTED RESULTS - SWMU 9 AREA A/B - GROUNDWATER
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID / Sample ID / Date	**Regional Tap Water Screening Levels**	*USEPA MCLs*	Selected Ecological Surface Water Screening Values	NAPR Basewide Background [1]	74VP1Bb/9 74GWVP1Bb/9 5/16/2008	74SB74 74GW74 5/15/2008	74SB84 74GW84 5/17/2008	74VP3a/9 74GWVP3a/9 5/17/2008	74VP3b/9 74GWVP3b/9 5/17/2008
LLPAHs (ug/L)									
Dibenz(a,h)anthracene	0.003	NE	6 [17]	NE	0.023 U	NA	NA	0.023 U	0.023 U
Fluoranthene	150 [2]	NE	11 [18]	NE	0.047 U	NA	NA	0.047 U	0.047 U
Fluorene	150 [2]	NE	10 [19]	NE	0.018 U	NA	NA	0.018 U	0.018 U
Indeno[1,2,3-cd]pyrene	0.03	NE	6 [17]	NE	0.022 U	NA	NA	0.022 U	0.022 U
Naphthalene	0.14	NE	23.5 [9]	NE	0.047 U	NA	NA	0.047 U	0.047 U
Phenanthrene	NE	NE	8.3 [18]	NE	0.017 U	NA	NA	0.042 J	0.017 U
Pyrene	110 [2]	NE	0.248 [15]	NE	0.025 U	NA	NA	0.025 U	0.025 U
Total Metals (ug/L)									
Antimony	2 [2]	6.0	500 [20]	12.24	0.36 U	**3.8**	3.6 U	0.75 U	1.1 U
Arsenic	0.045	10	36 [21]	18.89	**0.79** J	**2.6**	**4.7** J	**0.86** J	**1.4** J
Barium	730 [2]	2,000	16,667 [22]	686	14	5.9 J	160 J	71	63
Beryllium	7.3 [2]	4.0	310 [23]	2.21	0.065 U	0.065 U	0.65 U	0.065 U	0.065 U
Cadmium	1.8 [2]	5.0	8.85 [24]	16.62	0.12 U	0.12 U	1.2 U	0.39 J	0.12 U
Chromium	5,500 [2]	NE	50.4 [25]	162.41	3.2 J	0.6 U	6 U	0.6 U	0.6 U
Cobalt	1 [2]	NE	45 [26]	633.21	0.39 R	1 R	**21**	**8.9**	**4**
Copper	150 [2]	1,300	3.73 [24]	324	2.2 U	5.6	**300**	1.2 U	1.2 U
Lead	NE	15 [3]	8.52 [24]	26.25	12	0.15 U	1.5 U	0.89 U	0.97 U
Nickel	73 [2]	NE	8.28 [24]	95.7	2.3	2.6	13	10	4.1 J
Selenium	18 [2]	50	71.1 [24]	29.88	0.6 U	1.2 J	6 U	0.76 J	1.6 J
Silver	18 [2]	NE	0.23 [9]	18.31	0.09 UJ	0.09 U	0.9 UJ	0.09 UJ	0.09 UJ
Tin	2,200 [2]	NE	180 [6][7]	9.35	1.8 J	0.9 U	9 U	0.9 U	0.9 U
Vanadium	26 [2]	NE	12 [6][7]	484.66	8.6	**100**	8 U	5.3	14
Zinc	1,100 [2]	NE	85.6 [24]	547.53	11 J	9.1 J	75 J	64	25

TABLE 6-3

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - SWMU 9 AREA A/B - GROUNDWATER
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date	**Regional Tap Water Screening Levels**	*USEPA MCLs*	Selected Ecological Surface Water Screening Values	NAPR Basewide Background [1]	74VP1Bb/9 74GWVP1Bb/9 5/16/2008	74SB74 74GW74 5/15/2008	74SB84 74GW84 5/17/2008	74VP3a/9 74GWVP3a/9 5/17/2008	74VP3b/9 74GWVP3b/9 5/17/2008
Dissolved Metals (ug/L)									
Antimony	2 [2]	6.0	500 [20][27]	11.19	0.77 U	2.4 U	1.2 U	0.36 U	1.8 U
Arsenic	0.045	10	36 [28]	14.03	0.71 U	**2.7**	1.5 U	1.5 U	1.6 U
Barium	730 [2]	2,000	16667 [22][27]	260	11	5.8	200 J	100	58
Beryllium	7.3 [2]	4.0	310 [23][27]	5.4	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U
Cadmium	1.8 [2]	5.0	8.8 [29]	36.42	0.12 U	0.12 U	0.32 J	0.12 U	0.12 U
Chromium	5,500 [2]	NE	50.0 [30]	6.5	0.6 U	0.6 U	1.6 J	1.5 J	0.6 U
Cobalt	1.1	NE	45 [26][27]	580.5	1 R	1.9 R	**25**	**91**	**4.1**
Copper	150 [2]	1,300	3.1 [31]	29	1.2 U	5.4	3.3 U	1.2 U	1.2 U
Lead	NE	15 [3]	8.1 [31]	1.3	15 J	0.15 UJ	0.24 UJ	0.31 U	1 UJ
Nickel	73	NE	8.2 [29]	84.1	0.86 J	2.3	15	15	5.5 J
Selenium	18 [2]	50	71 [29]	23.92	0.6 U	1.1 J	1.3 J	0.6 U	1.8 J
Silver	18 [2]	NE	0.23 [31]	3.67	0.09 U	0.09 UJ	0.14 J	0.09 UJ	0.09 U
Tin	2,200 [2]	NE	180 [6][7][27]	NE	1.2 J	0.9 U	1.1 J	1.5 J	0.91 J
Vanadium	26 [2]	NE	12 [6][7][27]	20.96	8.9	**120**	7.2	1.1 U	15
Zinc	1,100 [2]	NE	81 [32]	360.64	6.5 U	6.5 U	37	20	29
TPH DRO and GRO (mg/L)									
Diesel Range Organics	12.5 [4]	NE	NE	NE	1.6	0.17	2.6	1.8	2.8
Gasoline Range Organics	12.5 [4]	NE	NE	NE	0.26 J	0.012 U	0.012 U	0.22	0.12
Total TPH	12.5 [4]	NE	NE	NE	1.86 J	0.17	2.6	2.02	2.92

TABLE 6-3

SUMMARY OF DETECTED RESULTS - SWMU 9 AREA A/B - GROUNDWATER
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date	**Regional Tap Water Screening Levels**	*USEPA MCLs*	Selected Ecological Surface Water Screening Values	NAPR Basewide Background [1]	74VP2a/9 74GWVP2a/9 5/19/2008	74VP2b/9 74GWVP2b/9 5/18/2008	9MW02S 74GW9MW02S 5/20/2008	9MW02S 74GW9MW02SD 5/20/2008
Volatile Organic Compounds (ug/L)								
2-Butanone (MEK)	710 [2]	NE	13,333 [5]	NE	0.6 U	0.6 U	0.6 U	0.6 U
2-Hexanone	NE	NE	99 [6][7]	NE	0.68 U	0.68 U	0.68 U	0.68 U
4-Methyl-2-pentanone (MIBK)	200 [2]	NE	170 [6][7]	NE	0.6 U	0.6 U	0.6 U	0.6 U
Acetone	2,200 [2]	NE	1,000 [8]	NE	10 J	17 J	5 U	5 U
Benzene	0.41	5.0	109 [9]	NE	0.35 J	0.32 U	0.32 U	0.32 U
Carbon disulfide	100 [2]	NE	15 [7][10]	NE	0.97 UJ	0.17 U	0.17 U	0.17 U
Chloroform	0.19	NE	815 [9]	NE	**0.67** J	0.29 U	0.29 U	0.29 U
Chloromethane	1.8	NE	2,700 [11]	NE	0.28 UJ	0.28 U	0.28 U	0.28 U
Ethylbenzene	1.5	700	4.3 [9]	NE	0.99 J	0.93 J	0.3 U	0.3 U
Toluene	230 [2]	NE	37 [9]	NE	0.31 U	0.31 U	0.31 U	0.31 U
Vinyl chloride	0.02	2.0	930 [6][7]	NE	0.2 U	0.2 U	0.2 U	0.2 U
Xylenes, Total	20 [2]	10,000	27 [4][7]	NE	0.87 U	0.87 U	0.87 U	0.87 U
LLPAHs (ug/L)								
1-Methylnaphthalene	2.3	NE	NE	NE	0.36	0.049 U	0.049 U	0.049 U
2-Methylnaphthalene	15 [2]	NE	6 [13]	NE	0.41	0.022 U	0.022 U	0.022 U
Acenaphthene	220 [2]	NE	9.7 [9]	NE	0.11 J	0.14 J	0.019 U	0.019 U
Acenaphthylene	NE	NE	6 [14]	NE	0.047 U	0.049 U	0.049 U	0.049 U
Anthracene	1,100 [2]	NE	5.35 [15]	NE	0.021 U	0.021 U	0.021 U	0.021 U
Benzo[a]anthracene	0.03	NE	0.025 [6][7]	NE	0.025 U	0.025 U	0.025 U	0.025 U
Benzo[a]pyrene	0.003	0.20	10 [16]	NE	0.024 U	0.024 U	0.024 U	0.024 U
Benzo[b]fluoranthene	0.029	NE	6 [17]	NE	0.035 U	0.036 U	0.036 U	0.036 U
Benzo[g,h,i]perylene	110 [2]	NE	6 [17]	NE	0.023 U	0.023 U	0.023 U	0.023 U
Benzo[k]fluoranthene	0.290	NE	6 [17]	NE	0.019 U	0.019 U	0.019 U	0.019 U
Chrysene	2.90	NE	10 [16]	NE	0.026 U	0.027 U	0.027 U	0.027 U

TABLE 6-3

SUMMARY OF DETECTED RESULTS - SWMU 9 AREA A/B - GROUNDWATER
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID / Sample ID / Date	**Regional Tap Water Screening Levels**	*USEPA MCLs*	Selected Ecological Surface Water Screening Values	NAPR Basewide Background [1]	74VP2a/9 74GWVP2a/9 5/19/2008	74VP2b/9 74GWVP2b/9 5/18/2008	9MW02S 74GW9MW02S 5/20/2008	9MW02S 74GW9MW02SD 5/20/2008
LLPAHs (ug/L)								
Dibenz(a,h)anthracene	0.003	NE	6 [17]	NE	0.023 U	0.023 U	0.023 U	0.023 U
Fluoranthene	150 [2]	NE	11 [18]	NE	0.047 U	0.049 U	0.049 U	0.049 U
Fluorene	150 [2]	NE	10 [19]	NE	0.62	0.69	0.018 U	0.018 U
Indeno[1,2,3-cd]pyrene	0.03	NE	6 [17]	NE	0.022 U	0.022 U	0.022 U	0.022 U
Naphthalene	0.14	NE	23.5 [9]	NE	0.047 U	0.049 U	0.049 U	0.049 U
Phenanthrene	NE	NE	8.3 [18]	NE	0.017 U	0.054 J	0.017 U	0.017 U
Pyrene	110 [2]	NE	0.248 [15]	NE	0.027 J	0.026 U	0.026 U	0.026 U
Total Metals (ug/L)								
Antimony	2 [2]	6.0	500 [20]	12.24	0.36 U	0.36 U	3.6 U	3.6 U
Arsenic	0.045	10	36 [21]	18.89	**2.1** J	***130***	***57***	***59***
Barium	730 [2]	2,000	16,667 [22]	686	9.3	12	160	160
Beryllium	7.3 [2]	4.0	310 [23]	2.21	0.065 U	0.065 U	0.65 U	0.65 U
Cadmium	1.8 [2]	5.0	8.85 [24]	16.62	0.12 U	0.18 J	***23***	***23***
Chromium	5,500 [2]	NE	50.4 [25]	162.41	0.8 U	0.6 U	6 U	6 U
Cobalt	1 [2]	NE	45 [26]	633.21	**6.6**	**9.4**	**480**	**480**
Copper	150 [2]	1,300	3.73 [24]	324	17	64	150	150
Lead	NE	15 [3]	8.52 [24]	26.25	8.2	1.8	4.5 U	4.3 U
Nickel	73 [2]	NE	8.28 [24]	95.7	0.99 J	1.5	**110**	**110**
Selenium	18 [2]	50	71.1 [24]	29.88	0.6 U	0.6 U	6 U	6 U
Silver	18 [2]	NE	0.23 [9]	18.31	0.09 U	0.09 UJ	2.3 J	2.4 J
Tin	2,200 [2]	NE	180 [6][7]	9.35	0.9 U	0.9 U	9 U	9 U
Vanadium	26 [2]	NE	12 [6][7]	484.66	13	**33**	8 U	8 U
Zinc	1,100 [2]	NE	85.6 [24]	547.53	6.7 J	12 J	380	380

TABLE 6-3

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - SWMU 9 AREA A/B - GROUNDWATER
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date	**Regional Tap Water Screening Levels**	*USEPA MCLs*	Selected Ecological Surface Water Screening Values	NAPR Basewide Background [1]	74VP2a/9 74GWVP2a/9 5/19/2008	74VP2b/9 74GWVP2b/9 5/18/2008	9MW02S 74GW9MW02S 5/20/2008	9MW02S 74GW9MW02SD 5/20/2008
Dissolved Metals (ug/L)								
Antimony	2 [2]	6.0	500 [20][27]	11.19	0.59 U	0.77 U	0.36 U	3.6 R
Arsenic	0.045	10	36 [28]	14.03	2.2 U	***120***	**6** J	62 R
Barium	730 [2]	2,000	16667 [22][27]	260	8.7 R	4.5 J	15 R	150 R
Beryllium	7.3 [2]	4.0	310 [23][27]	5.4	0.065 U	0.065 U	0.07 U	0.79 R
Cadmium	1.8 [2]	5.0	8.8 [29]	36.42	0.12 U	0.12 U	***21***	20 R
Chromium	5,500 [2]	NE	50.0 [30]	6.5	1.2 U	0.6 U	0.83 U	9 R
Cobalt	1.1	NE	45 [26][27]	580.5	**3.6**	**3.7**	**410**	440 R
Copper	150 [2]	1,300	3.1 [31]	29	1.8 U	3.2 U	13 J	140 R
Lead	NE	15 [3]	8.1 [31]	1.3	3.9	0.67 UJ	0.45 U	4.9 R
Nickel	73	NE	8.2 [29]	84.1	0.87 J	0.68 J	9.1 J	93 R
Selenium	18 [2]	50	71 [29]	23.92	0.6 U	0.6 U	0.64 J	6.7 R
Silver	18 [2]	NE	0.23 [31]	3.67	0.09 UJ	0.09 U	0.2 UJ	2.1 R
Tin	2,200 [2]	NE	180 [6][7][27]	NE	1 U	0.9 U	0.9 U	9 R
Vanadium	26 [2]	NE	12 [6][7][27]	20.96	3.4 U	6.2	0.8 U	8 R
Zinc	1,100 [2]	NE	81 [32]	360.64	6.5 R	6.5 U	43 R	440 R
TPH DRO and GRO (mg/L)								
Diesel Range Organics	12.5 [4]	NE	NE	NE	1	0.88	0.091 U	0.084 U
Gasoline Range Organics	12.5 [4]	NE	NE	NE	1.6	0.4 J	0.0069 U	0.0069 U
Total TPH	12.5 [4]	NE	NE	NE	2.6	1.28 J	0.0979 U	0.0909 U

TABLE 6-3

SUMMARY OF DETECTED RESULTS - SWMU 9 AREA A/B - GROUNDWATER
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Notes/Qualifiers:

U - Not detected
J - Analyte present - Reported value is estimated
UJ - Reported quantitation limit is qualified as estimated
R - Rejected
NE - Not Established
NA - Not Analyzed
mg/l - milligram per liter
ug/l - microgram per liter
DRO - Diesel Range Organics
GRO - Gasoline Range Organics
TPH - Total Petroleum Hydrocarbons
LLPAH - Low-level Polynuclear Aromatic Hydrocarbon
NAPR - Naval Activity Puerto Rico
USEPA - United States Environmental Protection Agency

(1) NAPR Basewide Groundwater Background - Upper Limit of Means (Mean + 2 standard deviations) Revised Final Summary Report for Environmental Background Concentrations of Inorganic Compounds, Naval Activity Puerto Rico, Ceiba, PR, Baker Environmental (Baker, 2008)
(2) Noncarcinogenic Regional Screening Levels based on a target hazard quotient of 0.1 for conservative screening purposes
(3) USEPA Action Level for lead in drinking water
(4) Screening level for TPH is 25% of PREQB groundwater criterion, as proposed in the approved Work Plan dated 12/6/07
(5) Minimum acute value (96-hour NOEC for Cyprinodon variegatus [sheepshead minnow]) with a safety factor of 30 [USEPA 2007]
(6) The chemical lacks a marine/estuarine surface water screening value/literature-based toxicity value. The value shown is a freshwater screening value/toxicity value.
(7) USEPA Region 5 ecological screening level [USEPA 2003]
(8) Minimum acute value (96-hr LC50 for Lumbriculus variegatus [Oligochaete]) with a safety factor of 100 [USEPA 2007]
(9) USEPA Region 4 chronic screening value [USEPA 2001]
(10) The safety factors applied to acute endpoints (i.e., LC_{50}, EC_{50}, NOEC, and LOEL values) and chronic endpoints (i.e., LOELs) are those recommended by Wentsel et al. (1996).
(11) Minimum acute value (96-hr LC50 for Menidia beryllina [inland silverside]) with a safety factor of 100 [USEPA 2007]
(12) The value shown is for o-xylene.
(13) Minimum acute value (96-hr LC50 for Penaeus aztecus [brown shrimp]) with a safety factor of 100 [USEPA 2007]
(14) Acute LOEL for chemical class with a safety factor of 50 (value for low molecular weight PAHs) [Buchman 2008]
(15) Minimum acute value (48-hr LC50 for Americamysis bahia [opossum shrimp]) with a safety factor of 100 [USEPA 2007]
(16) Acute value (LC50) with a safety factor of 100 [USEPA 2004]
(17) Acute LOEL for chemical class with a safety factor of 50 (value for high molecular weight PAHs) [Buchman 2008]
(18) Final Chronic Value [USEPA 1996]
(19) Minimum acute value (96-hr LC50 for Nereis arenaceodentata [polychaete]) with a safety factor of 100 [USEPA 2007]
(20) Proposed Criteria Continuous Concentration [Buchman 2008]
(21) Total recoverable Criteria Continuous Concentration for trivalent arsenic [USEPA 2009]
(22) Minimum acute value (96-hr NOEC for Cyprinodon variegatus [sheepshead minnow]) with a safety factor of 30 [USEPA 2007]

TABLE 6-3

SUMMARY OF DETECTED RESULTS - SWMU 9 AREA A/B - GROUNDWATER
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Notes/Qualifiers:

(23) Minimum acute value (96-hr LC50 for Fundulus heteroclitus [mummichog]) with a safety factor of 100 [USEPA 2007]
(24) Total recoverable Criteria Continuous Concentration [USEPA 2009]
(25) Total recoverable Criteria Continuous Concentration for hexavalent chromium [USEPA 2009]
(26) Minimum acute value (96-hr LC50 for Nitocra spinipes [Harpacticoid copepod]) with a safety factor of 100 [USEPA 200a]
(27) The chemical lacks a screening value expressed as a dissolved concentration. The value shown is expressed as a total recoverable concentration.
(28) Dissolved Criteria Continuous Concentration for trivalent arsenic [USEPA 2009]
(29) Dissolved Criteria Continuous Concentration [USEPA 2009]
(30) Dissolved Criteria Continuous Concentration for hexavalent chromium [USEPA 2009]
(31) Criteria Continuous Concentration based on Final Residaul Value/Puerto Rico Water Quality Standard [USEPA 2009/PREQB 2003]
(32) Dissolved Criteria Continuous Concentration/Puerto Rico Water Quality Standard [USEPA 2009/PREQB 2003]

SUMMARY OF DETECTED RESULTS - SWMU 9 AREA A/B - GROUNDWATER
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

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TABLE 7-1

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - JP-5 HILL AND DFM AREA - SURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID / Sample ID / Date / Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB131 74SB131-00 5/15/2008 0.0-1.0	74SB141 74SB141-00 5/14/2008 0.0-1.0	74SB151 74SB151-00 5/15/2008 0.0-1.0	74SB201 74SB201-00 5/18/2008 0.0-1.0	74SB211 74SB211-00 5/19/2008 0.0-1.0	74SB271 74SB271-00 5/28/2008 0.0-1.0	74SB281 74SB281-00 5/28/2008 0.0-1.0
Voltile Organic Compounds (ug/kg)											
Acetone	6,100,000 [2]	61,000,000 [2]	NE	NE	5.1 U	39 U	150	280	98 J	56 UJ	60 UJ
Carbon disulfide	67,000 [2]	300,000 [2]	NE	NE	0.59 U	0.53 U	0.8 U	0.69 U	0.49 U	0.61 J	0.54 U
Iodomethane	NE	NE	NE	NE	1.2 U	1 UJ	1.6 UJ	4 J	1.3 J	2.9 J	1.1 U
Metals (mg/kg)											
Antimony	3.1 [2]	41 [2]	10.0 [5]	3.17	0.32 UJ	0.087 UJ	0.43 UJ	0.17 J	0.15 J	0.079 UJ	0.077 UJ
Arsenic	0.390	1.60	18.0 [6]	2.65	***2***	**0.95**	***2.5***	***2.8***	**1.2**	**1.2**	**0.88**
Barium	1,500 [2]	19,000 [2]	330 [7]	199	47 J	180 J	54 J	180	78	100 J	65
Beryllium	16 [2]	200 [2]	21.0 [8]	0.59	0.27	0.41	0.3	0.35	0.22	0.33	0.19
Cadmium	7.0000 [2]	81 [2]	0.770 [9]	1.02	0.075 J	0.093 J	0.13	0.16	0.035 U	0.15	0.13
Chromium	280	1,400	26.0 [10]	49.8	30	28	28 J	29	25	65 J	40
Cobalt	2.3 [2]	30 [2]	13.0 [11]	46.2	**22** J	***46*** J	**30** J	**27** J	**22**	***38***	**26**
Copper	310 [2]	4,100 [2]	28.0 [12]	168	100	43	88	88	130 J	120	94
Lead	400 [3]	800 [3]	11.0 [13]	22	3.4	10	12 J	4.1	2	5.9	8.1
Mercury	2.3 [2]	31 [2]	0.10 [14]	0.109	0.0043 U	0.0043 U	0.016 J	0.048	0.0097 J	0.0045 U	0.005 J
Nickel	160 [2]	2,000 [2]	38.0 [15]	20.7	24	15 J	11	14	16	38	30
Selenium	39 [2]	510 [2]	0.520 [16]	1.48	0.13 U	0.13 U	1.2	1.3	0.19 J	0.17 J	0.24 U
Silver	39 [2]	510 [2]	4.20 [17]	NE	0.028 J	0.099 J	0.16 J	0.053 J	0.04 J	0.045 J	0.027 J
Vanadium	55 [2]	720 [2]	7.80 [18]	259	**160**	**150**	**220**	**190**	**190**	**180**	**140**
Zinc	2,300 [2]	31,000 [2]	46.0 [19]	115	82 J	87 J	72 J	67 J	43 J	73 J	97 J
TPH DRO and GRO (mg/kg)											
Diesel Range Organics	25 [4]	NE	NE	NE	3.6 J	0.68 U	**27**	4.6	4.9	1.5	3.8
Gasoline Range Organics	25 [4]	NE	NE	NE	0.064 U	0.071 U	0.083 U	0.26 J	0.57	0.063 U	0.1 J
Total TPH	25 [4]	NE	NE	NE	3.6 J	0.751 U	**27**	4.86	5.47	1.5	3.9

TABLE 7-1

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - JP-5 HILL AND DFM AREA - SURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Notes/Qualifiers:

J - Estimated: The analyte was positively identified; the quantitation is an estimation
U - Undetected at the Limit of Detection.
UJ - Reported quantitation limit is qualified as estimated
ft bgs - feet below ground surface
ug/kg - microgram per kilogram
mg/kg - milligram per kilogram
NE - Not Established

DRO - Diesel Range Organics
GRO - Gasoline Range Organics
TPH - Total Petroleum Hydrocarbons

NAPR - Naval Activity Puerto Rico
USEPA - United States Environmental Protection Agency

(1) NAPR basewide background surface soil screening value (upper limit of the means concentration [mean plus two standard deviations]) (Baker, 2008)
(2) Noncarcinogenic Regional Screening Levels based on a target hazard quotient of 0.1 for conservative screening purposes
(3) USEPA Action Level for lead in soils
(4) Screening level for TPH is 25% of PREQB soil criterion, as proposed in the approved Work Plan dated 12/6/07
(5) Ecological soil screening level for mammalian herbivores [USEPA 2005a]
(6) Ecological soil screening level for plants [USEPA 2005b]
(7) Ecological soil screening level for soil invertebrates [USEPA 2005c]
(8) Ecological soil screening level for mammalian herbivores [USEPA 2005d]
(9) Ecological soil screening level for avian ground insectivores [USEPA 2005e]
(10) Ecological soil screening level for avian ground insectivores [USEPA 2008]
(11) Ecological soil screening level for plants [USEPA 2005f]
(12) Ecological soil screening level for avian ground insectivores [USEPA 2007a]
(13) Ecological soil screening level for avian ground insectivores [USEPA 2005g]
(14) Toxicological threshold for earthworms [Efroymson et al. 1997]
(15) Ecological soil screening level for plants [USEPA 2007b]
(16) Ecological soil screening level for plants [USEPA 2007c]
(17) Ecological soil screening level for avian ground insectivores [USEPA 2006]
(18) Ecological soil screening level for avian ground insectivores [USEPA 2005h]
(19) Ecological soil screening level for avian ground insectivores [USEPA 2007d]

TABLE 7-1

SUMMARY OF DETECTED RESULTS - JP-5 HILL AND DFM AREA - SURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

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USEPA. 2005e. Ecological Soil Screening Levels for Cadmium (Interim Final). Office of Solid Waste and Emergency Response, Washington, D.C. OSWER Directive 9285.7-62.

USEPA. 2005f. Ecological Soil Screening Levels for Cobalt (Interim Final). Office of Solid Waste and Emergency Response, Washington, D.C. OSWER Directive 9285.7-67

USEPA. 2005g. Ecological Soil Screening Levels for Lead (Interim Final). Office of Solid Waste and Emergency Response, Washington, D.C. OSWER Directive 9285.7-70.

USEPA. 2005h. Ecological Soil Screening Levels for Vanadium (Interim Final). Office of Solid Waste and Emergency Response, Washington, D.C. OSWER Directive 9285.7-75.

TABLE 7-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - JP-5 HILL AND DFM AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB125 74SB125-03 5/13/2008 5.0-7.0	74SB125 74SB125-05 5/13/2008 9.0-11.0	74SB126 74SB126-02 5/14/2008 3.0-5.0	74SB126 74SB126-05D 5/14/2008 9.0-11.0	74SB126 74SB126-05 5/14/2008 9.0-11.0	74SB127 74SB127-03 5/14/2008 5.0-7.0
Volatile Organic Compounds (ug/kg)										
2-Butanone (MEK)	2,800,000 [2]	19,000,000 [2]	NE	NE	3 U	3.5 U	3.1 U	2.5 U	2.7 U	2.5 U
2-Chloro-1,3-butadiene	860 [2]	3,600 [2]	NE	NE	0.64 U	0.74 U	0.57 U	0.54 U	0.57 U	0.53 U
Acetone	6,100,000 [2]	61,000,000 [2]	NE	NE	15 J	9.2 J	19 U	7.8 U	12 U	7.7 U
Benzene	1,100.0 [2]	5,600.0 [2]	101 [6]	NE	0.89 U	1 U	0.79 U	0.75 U	0.79 U	0.73 U
Carbon disulfide	670,000 [2]	300,000 [2]	NE	NE	0.57 U	0.66 U	0.51 U	0.48 U	0.51 U	0.47 U
Chloroform	300	1,500	1,002 [6]	NE	0.56 U	0.65 U	0.5 U	0.47 U	0.5 U	0.46 U
Chloromethane	1,700	8,400	NE	NE	0.8 U	0.92 U	0.71 U	0.67 U	0.71 U	0.66 U
Ethyl methacrylate	700,000 [2]	9,200,000 [2]	NE	NE	2.5 U	2.8 U	2.2 U	2.1 U	2.1 U	2.2 U
Ethylbenzene	5,700	29,000	5,003 [6]	NE	0.84 U	0.97 U	0.75 U	0.71 U	0.75 U	0.7 U
Iodomethane	NE	NE	NE	NE	1.1 UJ	1.3 U	1 U	0.94 U	1 U	0.93 U
Isobutyl alcohol	23,000,000 [2]	31,000,000 [2]	NE	NE	78 R	89 R	70 J	65 R	69 R	64 R
Methacrylonitrile	320 [2]	1,800 [2]	NE	NE	27 U	31 U	24 U	23 U	24 U	22 U
Methylene Chloride	11,000	54,000	1,004 [6]	NE	1.1 U	1.3 U	1 U	0.94 U	1 U	0.93 U
Tetrachloroethene	570	2,700	400 [6]	NE	0.82 U	0.95 U	0.73 U	0.69 U	0.73 U	0.68 U
Toluene	500000 [2]	4600000 [2]	13,001 [6]	NE	0.89 U	1 U	0.79 U	0.75 U	0.79 U	0.73 U
trans-1,2-Dichloroethene	NE	NE	100 [7]	NE	1.1 U	1.3 U	0.97 U	0.92 U	0.97 U	0.9 U
Vinyl acetate	99000 [2]	420000 [2]	NE	NE	1.7 U	1.9 U	1.5 U	1.4 U	1.5 U	1.4 U
Xylenes, Total	60000 [2]	260000 [2]	2,501 [6]	NE	2.6 U	3 U	2.3 U	2.2 U	2.3 U	2.1 U

TABLE 7-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - JP-5 HILL AND DFM AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB125 74SB125-03 5/13/2008 5.0-7.0	74SB125 74SB125-05 5/13/2008 9.0-11.0	74SB126 74SB126-02 5/14/2008 3.0-5.0	74SB126 74SB126-05D 5/14/2008 9.0-11.0	74SB126 74SB126-05 5/14/2008 9.0-11.0	74SB127 74SB127-03 5/14/2008 5.0-7.0
LLPAHs (ug/kg)										
1-Methylnaphthalene	22,000	99,000	NE	NE	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	31,000 [2]	410,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Acenaphthene	340,000 [2]	3,300,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Acenaphthylene	340,000 [2]	3,300,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Anthracene	1,700,000 [2]	17,000,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[a]anthracene	150	2,100	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[a]pyrene	15.0	210	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[b]fluoranthene	150	2,100	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[g,h,i]perylene	1,700	17,000	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[k]fluoranthene	1,500	21,000	NE	NE	NA	NA	NA	NA	NA	NA
Chrysene	15,000	210,000	NE	NE	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	15.0	210	NE	NE	NA	NA	NA	NA	NA	NA
Fluoranthene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Fluorene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Indeno[1,2,3-cd]pyrene	150	2,100	NE	NE	NA	NA	NA	NA	NA	NA
Naphthalene	3,900	20,000	NE	NE	NA	NA	NA	NA	NA	NA
Phenanthrene	170,000.0 [2][3]	1,700,000 [2][3]	NE	NE	NA	NA	NA	NA	NA	NA
Pyrene	170,000 [2]	1,700,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
PAH Totals (ug/kg):										
Low molecular weight PAI	NE	NE	29,000 [8]	NE	NA	NA	NA	NA	NA	NA
High molecular weight PA	NE	NE	18,000 [8]	NE	NA	NA	NA	NA	NA	NA

TABLE 7-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - JP-5 HILL AND DFM AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB125 74SB125-03 5/13/2008 5.0-7.0	74SB125 74SB125-05 5/13/2008 9.0-11.0	74SB126 74SB126-02 5/14/2008 3.0-5.0	74SB126 74SB126-05D 5/14/2008 9.0-11.0	74SB126 74SB126-05 5/14/2008 9.0-11.0	74SB127 74SB127-03 5/14/2008 5.0-7.0
Metals (mg/kg)										
Antimony	3.10 [2]	41.0 [2]	10.0 [9]	3.17	0.11 UJ	0.1 UJ	0.21 UJ	0.76 J	0.46 UJ	0.087 UJ
Arsenic	0.390	1.60	18.0 [10]	1.59	**0.95**	**0.74**	***6.5***	***17***	***13***	**0.76**
Barium	1500 [2]	19,000 [2]	330 [11]	220	23	27	92	36 J	21 J	44
Beryllium	16.0 [2]	200 [2]	21.0 [12]	0.596	0.24	0.64	0.5	0.32	0.2	0.21
Cadmium	7.00 [2]	81.0 [2]	0.770 [13]	0.54	0.037 U	0.039 U	0.23	0.48	0.36	0.041 J
Chromium	280	1,400	26.0 [14]	114.5	18	20	5	2.2	4.7	0.74 J
Cobalt	2.30 [2]	30.0 [2]	13.0 [15]	26.9	**23** J	**22** J	**19**	**13** J	**5.7** J	**15**
Copper	310 [2]	4,100 [2]	28.0 [16]	246	140	140	160	260	190	10
Lead	400 [4]	800 [4]	11.0 [17]	6.3	1.7	1.9	260	***830***	**640**	1.2
Mercury	2.30 [2]	31.0 [2]	0.100 [18]	0.108	0.0051 UJ	0.0051 UJ	0.0053 J	0.0086 J	0.0077 J	0.0055 J
Nickel	160 [2]	2,000 [2]	38.0 [19]	24.7	17	14	7.7	11 J	7.5 J	1.9
Selenium	39.0 [2]	510 [2]	0.520 [20]	5.94	0.4 J	0.15 U	0.42 J	0.48 J	0.43 J	0.14 U
Silver	39.0 [2]	510 [2]	4.20 [21]	NE	0.03 J	0.085 J	0.034 J	0.088 J	0.41	0.062 J
Thallium	0.510 [2]	6.60 [2]	1.00 [22]	0.92	0.14 U	0.15 U	0.13 U	0.12 U	0.13 U	0.14 U
Vanadium	55.0 [2]	720 [2]	7.80 [23]	434	**240**	**180**	**210**	**360**	**360**	**100**
Zinc	2300 [2]	31,000 [2]	46.0 [24]	88	51	50	330 J	700 J	390 J	51 J
TPH DRO and GRO (mg/kg)										
Diesel Range Organics	25 [5]	NE	NE	NE	0.77 U	0.86 U	3.6 J	3.4 J	4	2.8 J
Gasoline Range Organics	25 [5]	NE	NE	NE	0.07 U	0.091 U	0.061 U	0.058 U	0.067 U	0.068 U
Total TPH	25 [5]	NE	NE	NE	0.84 U	0.951 U	3.6 J	3.4 J	4	2.8 J

TABLE 7-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - JP-5 HILL AND DFM AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB127 74SB127-04 5/14/2008 7.0-9.0	74SB128 74SB128-03 5/14/2008 5.0-7.0	74SB128 74SB128-05 5/14/2008 9.0-11.0	74SB129 74SB129-02 5/14/2008 3.0-5.0	74SB129 74SB129-03 5/14/2008 5.0-7.0	74SB130 74SB130-03 5/14/2008 5.0-7.0
Volatile Organic Compounds (ug/kg)										
2-Butanone (MEK)	2,800,000 [2]	19,000,000 [2]	NE	NE	2.8 U	3 U	2.9 U	8.4 J	2.8 U	2.8 J
2-Chloro-1,3-butadiene	860 [2]	3,600 [2]	NE	NE	0.59 U	0.62 U	0.62 U	1.4 U	0.59 U	0.57 U
Acetone	6,100,000 [2]	61,000,000 [2]	NE	NE	6.7 U	11 U	9.8 U	44 U	12 U	24 U
Benzene	1,100.0 [2]	5,600.0 [2]	101 [6]	NE	0.82 U	0.87 U	0.86 U	2 U	0.81 U	0.79 U
Carbon disulfide	670,000 [2]	300,000 [2]	NE	NE	0.53 U	0.56 U	0.55 U	1.3 U	0.53 U	1.2 J
Chloroform	300	1,500	1,002 [6]	NE	0.52 U	0.55 U	0.54 U	1.2 U	0.51 U	0.5 U
Chloromethane	1,700	8,400	NE	NE	0.74 U	0.78 U	0.77 U	1.8 U	0.73 U	0.71 U
Ethyl methacrylate	700,000 [2]	9,200,000 [2]	NE	NE	2 U	2.3 U	2.4 U	2.4 U	5.5 U	2.3 U
Ethylbenzene	5,700	29,000	5,003 [6]	NE	0.78 U	0.82 U	0.81 U	1.9 U	0.77 U	0.75 U
Iodomethane	NE	NE	NE	NE	1 U	1.1 U	1.1 U	2.5 UJ	1 U	1 U
Isobutyl alcohol	23,000,000 [2]	31,000,000 [2]	NE	NE	72 R	76 R	75 R	170 R	71 R	69 R
Methacrylonitrile	320 [2]	1,800 [2]	NE	NE	25 U	26 U	26 U	60 U	25 U	24 U
Methylene Chloride	11,000	54,000	1,004 [6]	NE	1 U	1.1 U	1.1 U	2.5 U	1 U	1 U
Tetrachloroethene	570	2,700	400 [6]	NE	0.76 U	0.8 U	0.79 U	1.8 U	0.75 U	0.73 U
Toluene	500000 [2]	4600000 [2]	13,001 [6]	NE	0.82 U	0.87 U	0.86 U	2 U	0.81 U	0.79 U
trans-1,2-Dichloroethene	NE	NE	100 [7]	NE	1 U	1.1 U	1.1 U	2.4 U	1 U	0.98 U
Vinyl acetate	99000 [2]	420000 [2]	NE	NE	1.6 U	1.6 U	1.6 U	3.7 U	1.5 U	1.5 U
Xylenes, Total	60000 [2]	260000 [2]	2,501 [6]	NE	2.4 U	2.5 U	2.5 U	5.7 U	2.4 U	2.3 U

TABLE 7-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - JP-5 HILL AND DFM AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB127 74SB127-04 5/14/2008 7.0-9.0	74SB128 74SB128-03 5/14/2008 5.0-7.0	74SB128 74SB128-05 5/14/2008 9.0-11.0	74SB129 74SB129-02 5/14/2008 3.0-5.0	74SB129 74SB129-03 5/14/2008 5.0-7.0	74SB130 74SB130-03 5/14/2008 5.0-7.0
LLPAHs (ug/kg)										
1-Methylnaphthalene	22,000	99,000	NE	NE	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	31,000 [2]	410,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Acenaphthene	340,000 [2]	3,300,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Acenaphthylene	340,000 [2]	3,300,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Anthracene	1,700,000 [2]	17,000,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[a]anthracene	150	2,100	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[a]pyrene	15.0	210	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[b]fluoranthene	150	2,100	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[g,h,i]perylene	1,700	17,000	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[k]fluoranthene	1,500	21,000	NE	NE	NA	NA	NA	NA	NA	NA
Chrysene	15,000	210,000	NE	NE	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	15.0	210	NE	NE	NA	NA	NA	NA	NA	NA
Fluoranthene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Fluorene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Indeno[1,2,3-cd]pyrene	150	2,100	NE	NE	NA	NA	NA	NA	NA	NA
Naphthalene	3,900	20,000	NE	NE	NA	NA	NA	NA	NA	NA
Phenanthrene	170,000.0 [2][3]	1,700,000 [2][3]	NE	NE	NA	NA	NA	NA	NA	NA
Pyrene	170,000 [2]	1,700,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
PAH Totals (ug/kg):										
Low molecular weight PAI	NE	NE	29,000 [8]	NE	NA	NA	NA	NA	NA	NA
High molecular weight PA	NE	NE	18,000 [8]	NE	NA	NA	NA	NA	NA	NA

TABLE 7-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - JP-5 HILL AND DFM AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB127 74SB127-04 5/14/2008 7.0-9.0	74SB128 74SB128-03 5/14/2008 5.0-7.0	74SB128 74SB128-05 5/14/2008 9.0-11.0	74SB129 74SB129-02 5/14/2008 3.0-5.0	74SB129 74SB129-03 5/14/2008 5.0-7.0	74SB130 74SB130-03 5/14/2008 5.0-7.0
Metals (mg/kg)										
Antimony	3.10 [2]	41.0 [2]	10.0 [9]	3.17	0.1 UJ	0.099 UJ	0.11 UJ	0.077 UJ	0.076 UJ	0.089 UJ
Arsenic	0.390	1.60	18.0 [10]	1.59	0.57 U	0.6 U	**0.69**	**1.5**	**0.62**	**0.77**
Barium	1500 [2]	19,000 [2]	330 [11]	220	59	95	58	19	56	150
Beryllium	16.0 [2]	200 [2]	21.0 [12]	0.596	0.14	0.18	0.22	0.052 J	0.22	0.56
Cadmium	7.00 [2]	81.0 [2]	0.770 [13]	0.54	0.058 J	0.038 U	0.046 J	0.035 J	0.031 U	0.052 J
Chromium	280	1,400	26.0 [14]	114.5	5.1	16	36	2.8	9.3	16
Cobalt	2.30 [2]	30.0 [2]	13.0 [15]	26.9	**20**	***31***	***38***	**4**	**30**	***86***
Copper	310 [2]	4,100 [2]	28.0 [16]	246	0.74 U	120	**370**	26	140	82
Lead	400 [4]	800 [4]	11.0 [17]	6.3	2	1.2	3.8	1	0.6	2.7
Mercury	2.30 [2]	31.0 [2]	0.100 [18]	0.108	0.0046 U	0.0063 J	0.0046 U	0.0085 J	0.0043 U	0.024
Nickel	160 [2]	2,000 [2]	38.0 [19]	24.7	5.4	9.5	17	1.6	14	16
Selenium	39.0 [2]	510 [2]	0.520 [20]	5.94	0.14 U	0.15 U	0.14 U	0.12 U	0.12 U	0.41 J
Silver	39.0 [2]	510 [2]	4.20 [21]	NE	0.02 J	0.11 J	0.096 J	0.017 U	0.03 J	0.034 J
Thallium	0.510 [2]	6.60 [2]	1.00 [22]	0.92	0.15 J	0.15 U	0.14 U	0.12 U	0.12 U	0.14 U
Vanadium	55.0 [2]	720 [2]	7.80 [23]	434	**130**	**170**	**170**	34	**200**	**220**
Zinc	2300 [2]	31,000 [2]	46.0 [24]	88	57 J	59 J	86 J	10 J	50 J	92 J
TPH DRO and GRO (mg/kg)										
Diesel Range Organics	25 [5]	NE	NE	NE	2 J	1.9 J	1.1 J	1.5 J	1.2 J	1.1 J
Gasoline Range Organics	25 [5]	NE	NE	NE	0.064 U	0.069 U	0.071 U	0.078 U	0.065 U	0.073 U
Total TPH	25 [5]	NE	NE	NE	2 J	1.9 J	1.1 J	1.5 J	1.2 J	1.1 J

TABLE 7-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - JP-5 HILL AND DFM AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB130 74SB130-05 5/14/2008 9.0-11.0	74SB131 74SB131-03D 5/15/2008 5.0-7.0	74SB131 74SB131-03 5/15/2008 5.0-7.0	74SB131 74SB131-05 5/15/2008 9.0-11.0	74SB132 74SB132-04 5/15/2008 7.0-9.0	74SB132 74SB132-05 5/15/2008 9.0-11.0
Volatile Organic Compounds (ug/kg)										
2-Butanone (MEK)	2,800,000 [2]	19,000,000 [2]	NE	NE	2.7 U	2.7 U	2.8 U	5.7 U	3.2 U	3.2 U
2-Chloro-1,3-butadiene	860 [2]	3,600 [2]	NE	NE	0.57 U	0.58 U	0.6 U	0.65 U	0.68 U	0.67 U
Acetone	6,100,000 [2]	61,000,000 [2]	NE	NE	5.1 U	5.7 J	5.8 U	38 U	8 J	16 J
Benzene	1,100.0 [2]	5,600.0 [2]	101 [6]	NE	0.79 U	0.8 U	0.83 U	0.91 U	0.94 U	0.92 U
Carbon disulfide	670,000 [2]	300,000 [2]	NE	NE	0.51 U	0.52 U	0.54 U	0.58 U	0.6 U	0.6 U
Chloroform	300	1,500	1,002 [6]	NE	0.5 U	0.51 U	0.53 U	0.57 U	0.59 U	0.58 U
Chloromethane	1,700	8,400	NE	NE	0.71 U	0.72 U	0.75 U	0.81 U	0.84 U	0.83 U
Ethyl methacrylate	700,000 [2]	9,200,000 [2]	NE	NE	2.2 U	2.2 U	2.3 U	2.5 U	2.6 U	2.6 U
Ethylbenzene	5,700	29,000	5,003 [6]	NE	0.75 U	0.76 U	0.79 U	0.86 U	0.89 U	0.88 U
Iodomethane	NE	NE	NE	NE	0.99 U	1 U	1.1 U	1.1 U	1.2 U	1.2 U
Isobutyl alcohol	23,000,000 [2]	31,000,000 [2]	NE	NE	69 R	70 R	73 R	79 R	82 U	81 U
Methacrylonitrile	320 [2]	1,800 [2]	NE	NE	24 U	24 U	25 U	28 U	28 U	28 U
Methylene Chloride	11,000	54,000	1,004 [6]	NE	0.99 U	1 U	1.1 U	1.1 U	1.2 U	1.2 U
Tetrachloroethene	570	2,700	400 [6]	NE	0.73 U	0.74 U	0.77 U	0.84 U	0.87 U	0.85 U
Toluene	500000 [2]	4600000 [2]	13,001 [6]	NE	0.79 U	0.8 U	0.83 U	0.91 U	0.94 U	0.92 U
trans-1,2-Dichloroethene	NE	NE	100 [7]	NE	0.96 U	0.98 U	1 U	1.1 U	1.2 U	1.1 U
Vinyl acetate	99000 [2]	420000 [2]	NE	NE	1.5 U	1.5 U	1.6 U	1.7 U	1.8 U	1.8 U
Xylenes, Total	60000 [2]	260000 [2]	2,501 [6]	NE	2.3 U	2.3 U	2.4 U	2.6 U	2.7 U	2.7 U

TABLE 7-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - JP-5 HILL AND DFM AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB130 74SB130-05 5/14/2008 9.0-11.0	74SB131 74SB131-03D 5/15/2008 5.0-7.0	74SB131 74SB131-03 5/15/2008 5.0-7.0	74SB131 74SB131-05 5/15/2008 9.0-11.0	74SB132 74SB132-04 5/15/2008 7.0-9.0	74SB132 74SB132-05 5/15/2008 9.0-11.0
LLPAHs (ug/kg)										
1-Methylnaphthalene	22,000	99,000	NE	NE	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	31,000 [2]	410,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Acenaphthene	340,000 [2]	3,300,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Acenaphthylene	340,000 [2]	3,300,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Anthracene	1,700,000 [2]	17,000,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[a]anthracene	150	2,100	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[a]pyrene	15.0	210	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[b]fluoranthene	150	2,100	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[g,h,i]perylene	1,700	17,000	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[k]fluoranthene	1,500	21,000	NE	NE	NA	NA	NA	NA	NA	NA
Chrysene	15,000	210,000	NE	NE	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	15.0	210	NE	NE	NA	NA	NA	NA	NA	NA
Fluoranthene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Fluorene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Indeno[1,2,3-cd]pyrene	150	2,100	NE	NE	NA	NA	NA	NA	NA	NA
Naphthalene	3,900	20,000	NE	NE	NA	NA	NA	NA	NA	NA
Phenanthrene	170,000.0 [2][3]	1,700,000 [2][3]	NE	NE	NA	NA	NA	NA	NA	NA
Pyrene	170,000 [2]	1,700,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
PAH Totals (ug/kg):										
Low molecular weight PAI	NE	NE	29,000 [8]	NE	NA	NA	NA	NA	NA	NA
High molecular weight PA	NE	NE	18,000 [8]	NE	NA	NA	NA	NA	NA	NA

TABLE 7-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - JP-5 HILL AND DFM AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB130 74SB130-05 5/14/2008 9.0-11.0	74SB131 74SB131-03D 5/15/2008 5.0-7.0	74SB131 74SB131-03 5/15/2008 5.0-7.0	74SB131 74SB131-05 5/15/2008 9.0-11.0	74SB132 74SB132-04 5/15/2008 7.0-9.0	74SB132 74SB132-05 5/15/2008 9.0-11.0
Metals (mg/kg)										
Antimony	3.10 [2]	41.0 [2]	10.0 [9]	3.17	0.076 UJ	0.31 UJ	0.37 UJ	0.28 UJ	0.29 UJ	0.28 UJ
Arsenic	0.390	1.60	18.0 [10]	1.59	**0.82**	**1.1**	**0.82**	**0.87**	**0.83**	**0.68**
Barium	1500 [2]	19,000 [2]	330 [11]	220	45	39 J	14 J	14 J	34 J	45 J
Beryllium	16.0 [2]	200 [2]	21.0 [12]	0.596	0.19	0.26	0.27	0.27	0.42	0.33
Cadmium	7.00 [2]	81.0 [2]	0.770 [13]	0.54	0.076 J	0.055 J	0.037 U	0.055 J	0.037 J	0.051 J
Chromium	280	1,400	26.0 [14]	114.5	12	4.1	5.3	6.1	3.8	2.4
Cobalt	2.30 [2]	30.0 [2]	13.0 [15]	26.9	**22**	**15** J	**13** J	**13** J	**16** J	**17** J
Copper	310 [2]	4,100 [2]	28.0 [16]	246	68	60	52	46	15	4.1
Lead	400 [4]	800 [4]	11.0 [17]	6.3	5.6	0.95	0.52	0.71	0.91	1.3
Mercury	2.30 [2]	31.0 [2]	0.100 [18]	0.108	0.0044 U	0.0044 U	0.0045 U	0.0048 U	0.0047 U	0.0045 U
Nickel	160 [2]	2,000 [2]	38.0 [19]	24.7	12	11	13	12	24	26
Selenium	39.0 [2]	510 [2]	0.520 [20]	5.94	0.12 U	0.13 U	0.14 U	0.13 U	0.13 U	0.13 U
Silver	39.0 [2]	510 [2]	4.20 [21]	NE	0.025 J	0.028 J	0.062 J	0.034 J	0.046 J	0.051 J
Thallium	0.510 [2]	6.60 [2]	1.00 [22]	0.92	0.12 U	0.13 U	0.14 U	0.13 U	0.13 U	0.13 U
Vanadium	55.0 [2]	720 [2]	7.80 [23]	434	**180**	**110** J	**160** J	**140**	**98**	**68**
Zinc	2300 [2]	31,000 [2]	46.0 [24]	88	74 J	94 J	92 J	100 J	86 J	63 J
TPH DRO and GRO (mg/kg)										
Diesel Range Organics	25 [5]	NE	NE	NE	0.87 J	1.2 J	1.5 J	0.81 J	0.75 J	0.89 J
Gasoline Range Organics	25 [5]	NE	NE	NE	0.06 U	0.065 U	0.067 U	0.07 U	0.065 U	0.14 U
Total TPH	25 [5]	NE	NE	NE	0.87 J	1.2 J	1.5 J	0.81 J	0.75 J	0.89 J

TABLE 7-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - JP-5 HILL AND DFM AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB133 74SB133-04 5/15/2008 7.0-9.0	74SB133 74SB133-05 5/15/2008 9.0-11.0	74SB134 74SB134-04 5/15/2008 7.0-9.0	74SB134 74SB134-05 5/15/2008 9.0-11.0	74SB135 74SB135-03 5/15/2008 5.0-7.0	74SB135 74SB135-05 5/15/2008 9.0-11.0
Volatile Organic Compounds (ug/kg)										
2-Butanone (MEK)	2,800,000 [2]	19,000,000 [2]	NE	NE	3.5 U	3.2 U	3 U	3.1 U	2.8 U	2.6 U
2-Chloro-1,3-butadiene	860 [2]	3,600 [2]	NE	NE	0.74 U	0.67 U	0.64 U	0.65 U	0.59 U	0.55 U
Acetone	6,100,000 [2]	61,000,000 [2]	NE	NE	16 U	21 J	6 J	13 J	12 U	5.4 J
Benzene	1,100.0 [2]	5,600.0 [2]	101 [6]	NE	1 U	0.92 U	0.89 U	0.9 U	0.82 U	0.76 U
Carbon disulfide	670,000 [2]	300,000 [2]	NE	NE	0.67 U	0.6 U	0.57 U	0.58 U	0.53 U	0.49 U
Chloroform	300	1,500	1,002 [6]	NE	0.65 U	0.58 U	0.56 U	0.57 U	0.52 U	0.48 U
Chloromethane	1,700	8,400	NE	NE	0.93 U	0.83 U	0.8 U	0.81 U	0.74 U	0.68 U
Ethyl methacrylate	700,000 [2]	9,200,000 [2]	NE	NE	2.9 U	2.6 U	2.5 U	2.5 U	2.3 U	2.1 U
Ethylbenzene	5,700	29,000	5,003 [6]	NE	0.98 U	0.88 U	0.84 U	0.85 U	0.78 U	0.72 U
Iodomethane	NE	NE	NE	NE	1.3 U	1.2 U	1.1 U	1.1 U	1 U	0.96 U
Isobutyl alcohol	23,000,000 [2]	31,000,000 [2]	NE	NE	90 R	81 U	77 U	79 U	71 R	66 UJ
Methacrylonitrile	320 [2]	1,800 [2]	NE	NE	31 U	28 U	27 U	27 U	25 U	23 UJ
Methylene Chloride	11,000	54,000	1,004 [6]	NE	1.3 U	1.2 U	1.1 U	1.1 U	1 U	0.96 U
Tetrachloroethene	570	2,700	400 [6]	NE	0.95 U	0.85 U	0.82 U	0.83 U	0.76 U	0.7 U
Toluene	500000 [2]	4600000 [2]	13,001 [6]	NE	1 U	0.92 U	0.89 U	0.9 U	0.82 U	0.76 U
trans-1,2-Dichloroethene	NE	NE	100 [7]	NE	1.3 U	1.1 U	1.1 U	1.1 U	1 U	0.93 U
Vinyl acetate	99000 [2]	420000 [2]	NE	NE	2 U	1.8 U	1.7 U	1.7 U	1.6 U	1.4 UJ
Xylenes, Total	60000 [2]	260000 [2]	2,501 [6]	NE	3 U	2.7 U	2.6 U	2.6 U	2.4 U	2.2 U

TABLE 7-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - JP-5 HILL AND DFM AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB133 74SB133-04 5/15/2008 7.0-9.0	74SB133 74SB133-05 5/15/2008 9.0-11.0	74SB134 74SB134-04 5/15/2008 7.0-9.0	74SB134 74SB134-05 5/15/2008 9.0-11.0	74SB135 74SB135-03 5/15/2008 5.0-7.0	74SB135 74SB135-05 5/15/2008 9.0-11.0
LLPAHs (ug/kg)										
1-Methylnaphthalene	22,000	99,000	NE	NE	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	31,000 [2]	410,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Acenaphthene	340,000 [2]	3,300,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Acenaphthylene	340,000 [2]	3,300,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Anthracene	1,700,000 [2]	17,000,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[a]anthracene	150	2,100	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[a]pyrene	15.0	210	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[b]fluoranthene	150	2,100	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[g,h,i]perylene	1,700	17,000	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[k]fluoranthene	1,500	21,000	NE	NE	NA	NA	NA	NA	NA	NA
Chrysene	15,000	210,000	NE	NE	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	15.0	210	NE	NE	NA	NA	NA	NA	NA	NA
Fluoranthene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Fluorene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Indeno[1,2,3-cd]pyrene	150	2,100	NE	NE	NA	NA	NA	NA	NA	NA
Naphthalene	3,900	20,000	NE	NE	NA	NA	NA	NA	NA	NA
Phenanthrene	170,000.0 [2][3]	1,700,000 [2][3]	NE	NE	NA	NA	NA	NA	NA	NA
Pyrene	170,000 [2]	1,700,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
PAH Totals (ug/kg):										
Low molecular weight PAI	NE	NE	29,000 [8]	NE	NA	NA	NA	NA	NA	NA
High molecular weight PA	NE	NE	18,000 [8]	NE	NA	NA	NA	NA	NA	NA

TABLE 7-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - JP-5 HILL AND DFM AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB133	74SB133	74SB134	74SB134	74SB135	74SB135
Sample ID					74SB133-04	74SB133-05	74SB134-04	74SB134-05	74SB135-03	74SB135-05
Date					5/15/2008	5/15/2008	5/15/2008	5/15/2008	5/15/2008	5/15/2008
Depth Range (ft bgs)					7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0	5.0-7.0	9.0-11.0
Metals (mg/kg)										
Antimony	3.10 [2]	41.0 [2]	10.0 [9]	3.17	0.3 UJ	0.28 UJ	0.26 UJ	0.26 UJ	0.24 UJ	0.35 UJ
Arsenic	0.390	1.60	18.0 [10]	1.59	**1.2**	**0.98**	**0.79**	**1.3**	**0.7**	**0.88**
Barium	1500 [2]	19,000 [2]	330 [11]	220	57 J	32 J	20 J	37 J	48 J	50 J
Beryllium	16.0 [2]	200 [2]	21.0 [12]	0.596	0.3	0.24	0.28	0.32	0.21	0.27
Cadmium	7.00 [2]	81.0 [2]	0.770 [13]	0.54	0.24	0.19	0.08 J	0.16	0.12	0.21
Chromium	280	1,400	26.0 [14]	114.5	64	26	45	40	60	61
Cobalt	2.30 [2]	30.0 [2]	13.0 [15]	26.9	***35*** J	**20** J	**30** J	***36*** J	**21** J	***32*** J
Copper	310 [2]	4,100 [2]	28.0 [16]	246	83	59	87	94	90	100
Lead	400 [4]	800 [4]	11.0 [17]	6.3	1.4	1.2	1.1	0.96	1.5	5.6
Mercury	2.30 [2]	31.0 [2]	0.100 [18]	0.108	0.0045 U	0.0044 U	0.0039 U	0.0044 U	0.0045 U	0.0042 U
Nickel	160 [2]	2,000 [2]	38.0 [19]	24.7	31	22	27	39	26	44
Selenium	39.0 [2]	510 [2]	0.520 [20]	5.94	0.14 U	0.13 U	0.13 U	0.13 U	0.14 U	0.13 U
Silver	39.0 [2]	510 [2]	4.20 [21]	NE	0.053 J	0.057 J	0.033 J	0.053 J	0.035 J	0.029 J
Thallium	0.510 [2]	6.60 [2]	1.00 [22]	0.92	0.14 U	0.13 U	0.13 U	0.13 U	0.14 U	0.13 U
Vanadium	55.0 [2]	720 [2]	7.80 [23]	434	**140**	**95**	**200**	**210**	**120**	**250**
Zinc	2300 [2]	31,000 [2]	46.0 [24]	88	93 J	61 J	73 J	91 J	62 J	94 J
TPH DRO and GRO (mg/kg)										
Diesel Range Organics	25 [5]	NE	NE	NE	22	0.85 J	1.2 J	2 J	1.1 J	1 J
Gasoline Range Organics	25 [5]	NE	NE	NE	0.12 U	0.07 U	0.083 U	0.072 U	0.082 U	0.065 U
Total TPH	25 [5]	NE	NE	NE	22	0.85 J	1.2 J	2 J	1.1 J	1 J

TABLE 7-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - JP-5 HILL AND DFM AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB136 74SB136-03D 5/15/2008 5.0-7.0	74SB136 74SB136-03 5/15/2008 5.0-7.0	74SB136 74SB136-05 5/15/2008 9.0-11.0	74SB137 74SB137-03 5/15/2008 5.0-7.0	74SB137 74SB137-04 5/15/2008 7.0-9.0	74SB138 74SB138-03 5/15/2008 5.0-7.0
Volatile Organic Compounds (ug/kg)										
2-Butanone (MEK)	2,800,000 [2]	19,000,000 [2]	NE	NE	12 U	18 U	9.9 U	8.9 U	3.2 U	4.5 U
2-Chloro-1,3-butadiene	860 [2]	3,600 [2]	NE	NE	0.71 U	0.66 U	0.57 U	0.67 U	0.68 U	0.58 U
Acetone	6,100,000 [2]	61,000,000 [2]	NE	NE	200	230	82	68	38 J	28 J
Benzene	1,100.0 [2]	5,600.0 [2]	101 [6]	NE	0.99 U	0.92 U	0.78 U	0.93 U	0.94 U	0.81 U
Carbon disulfide	670,000 [2]	300,000 [2]	NE	NE	0.64 U	0.59 U	0.51 U	12	0.89 J	5.3
Chloroform	300	1,500	1,002 [6]	NE	0.62 U	0.58 U	0.5 U	0.59 U	0.59 U	0.51 U
Chloromethane	1,700	8,400	NE	NE	0.89 U	1 J	0.7 U	0.84 U	0.84 U	0.73 U
Ethyl methacrylate	700,000 [2]	9,200,000 [2]	NE	NE	2.7 U	2.5 U	2.2 U	2.6 U	2.6 U	2.3 U
Ethylbenzene	5,700	29,000	5,003 [6]	NE	0.94 U	0.87 U	0.74 U	0.88 U	0.89 U	0.77 U
Iodomethane	NE	NE	NE	NE	1.2 U	3.4 J	3.3 J	1.2 U	1.2 U	1 U
Isobutyl alcohol	23,000,000 [2]	31,000,000 [2]	NE	NE	86 UJ	80 UJ	68 UJ	81 UJ	82 R	71 UJ
Methacrylonitrile	320 [2]	1,800 [2]	NE	NE	30 UJ	28 UJ	24 UJ	28 UJ	100 J	25 UJ
Methylene Chloride	11,000	54,000	1,004 [6]	NE	1.2 U	1.2 U	0.99 U	1.2 U	1.2 U	1 U
Tetrachloroethene	570	2,700	400 [6]	NE	0.91 U	0.85 U	0.72 U	0.86 U	0.87 U	0.75 U
Toluene	500000 [2]	4600000 [2]	13,001 [6]	NE	0.99 U	0.92 U	0.78 U	0.93 U	0.94 U	0.81 U
trans-1,2-Dichloroethene	NE	NE	100 [7]	NE	1.2 U	1.1 U	0.96 U	1.1 U	1.2 U	1 U
Vinyl acetate	99000 [2]	420000 [2]	NE	NE	1.9 UJ	1.7 UJ	1.5 UJ	1.8 UJ	1.8 U	1.5 UJ
Xylenes, Total	60000 [2]	260000 [2]	2,501 [6]	NE	2.9 U	2.7 U	2.3 U	2.7 U	2.7 U	2.4 U

TABLE 7-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - JP-5 HILL AND DFM AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB136 74SB136-03D 5/15/2008 5.0-7.0	74SB136 74SB136-03 5/15/2008 5.0-7.0	74SB136 74SB136-05 5/15/2008 9.0-11.0	74SB137 74SB137-03 5/15/2008 5.0-7.0	74SB137 74SB137-04 5/15/2008 7.0-9.0	74SB138 74SB138-03 5/15/2008 5.0-7.0
LLPAHs (ug/kg)										
1-Methylnaphthalene	22,000	99,000	NE	NE	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	31,000 [2]	410,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Acenaphthene	340,000 [2]	3,300,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Acenaphthylene	340,000 [2]	3,300,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Anthracene	1,700,000 [2]	17,000,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[a]anthracene	150	2,100	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[a]pyrene	15.0	210	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[b]fluoranthene	150	2,100	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[g,h,i]perylene	1,700	17,000	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[k]fluoranthene	1,500	21,000	NE	NE	NA	NA	NA	NA	NA	NA
Chrysene	15,000	210,000	NE	NE	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	15.0	210	NE	NE	NA	NA	NA	NA	NA	NA
Fluoranthene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Fluorene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Indeno[1,2,3-cd]pyrene	150	2,100	NE	NE	NA	NA	NA	NA	NA	NA
Naphthalene	3,900	20,000	NE	NE	NA	NA	NA	NA	NA	NA
Phenanthrene	170,000.0 [2][3]	1,700,000 [2][3]	NE	NE	NA	NA	NA	NA	NA	NA
Pyrene	170,000 [2]	1,700,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
PAH Totals (ug/kg):										
Low molecular weight PAI	NE	NE	29,000 [8]	NE	NA	NA	NA	NA	NA	NA
High molecular weight PA	NE	NE	18,000 [8]	NE	NA	NA	NA	NA	NA	NA

TABLE 7-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - JP-5 HILL AND DFM AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB136	74SB136	74SB136	74SB137	74SB137	74SB138
Sample ID					74SB136-03D	74SB136-03	74SB136-05	74SB137-03	74SB137-04	74SB138-03
Date					5/15/2008	5/15/2008	5/15/2008	5/15/2008	5/15/2008	5/15/2008
Depth Range (ft bgs)					5.0-7.0	5.0-7.0	9.0-11.0	5.0-7.0	7.0-9.0	5.0-7.0
Metals (mg/kg)										
Antimony	3.10 [2]	41.0 [2]	10.0 [9]	3.17	0.23 UJ	0.26 UJ	0.3 UJ	0.23 UJ	0.24 UJ	0.25 UJ
Arsenic	0.390	1.60	18.0 [10]	1.59	**1.2**	**1.1**	***3.2***	**1.4**	**1.3**	***2.1***
Barium	1500 [2]	19,000 [2]	330 [11]	220	86 J	140 J	530 J	40 J	97 J	270 J
Beryllium	16.0 [2]	200 [2]	21.0 [12]	0.596	0.39	0.3	0.73	0.45	0.35	0.34
Cadmium	7.00 [2]	81.0 [2]	0.770 [13]	0.54	0.12 J	0.074 J	0.41	0.046 J	0.039 U	0.11
Chromium	280	1,400	26.0 [14]	114.5	72 J	28 J	160	110	110	32
Cobalt	2.30 [2]	30.0 [2]	13.0 [15]	26.9	***44*** J	**27** J	***190*** J	***35*** J	**13** J	***51*** J
Copper	310 [2]	4,100 [2]	28.0 [16]	246	82	99	80	72	81	32
Lead	400 [4]	800 [4]	11.0 [17]	6.3	8.5 J	2.3 J	11	4.3	3.2	3
Mercury	2.30 [2]	31.0 [2]	0.100 [18]	0.108	0.053	0.054	0.0046 U	0.016 J	0.0051 U	0.0043 U
Nickel	160 [2]	2,000 [2]	38.0 [19]	24.7	28	22	61	23	20	27
Selenium	39.0 [2]	510 [2]	0.520 [20]	5.94	0.91	0.18 J	1.1	1.2	1.1	0.13 U
Silver	39.0 [2]	510 [2]	4.20 [21]	NE	0.057 J	0.045 J	0.028 J	0.034 J	0.02 UJ	0.017 UJ
Thallium	0.510 [2]	6.60 [2]	1.00 [22]	0.92	0.15 U	0.14 U	0.13 U	0.15 U	0.15 U	0.13 U
Vanadium	55.0 [2]	720 [2]	7.80 [23]	434	**210**	**190**	**520**	**220**	**220**	**240**
Zinc	2300 [2]	31,000 [2]	46.0 [24]	88	63 J	82 J	76 J	40 J	44 J	150 J
TPH DRO and GRO (mg/kg)										
Diesel Range Organics	25 [5]	NE	NE	NE	1 J	1.4 J	1.3 J	1.7 J	10	11
Gasoline Range Organics	25 [5]	NE	NE	NE	0.076 U	0.068 U	0.055 U	0.073 U	0.076 U	0.22 U
Total TPH	25 [5]	NE	NE	NE	1 J	1.4 J	1.3 J	1.7 J	10	11

TABLE 7-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - JP-5 HILL AND DFM AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB138 74SB138-04 5/15/2008 7.0-9.0	74SB139 74SB139-03 5/15/2008 5.0-7.0	74SB139 74SB139-05 5/15/2008 9.0-11.0	74SB140 74SB140-04 5/15/2008 7.0-9.0	74SB140 74SB140-05 5/15/2008 9.0-11.0	74SB141 74SB141-03 5/14/2008 5.0-7.0
Volatile Organic Compounds (ug/kg)										
2-Butanone (MEK)	2,800,000 [2]	19,000,000 [2]	NE	NE	3 U	3.4 U	2.7 U	2.7 U	2.8 U	2.9 U
2-Chloro-1,3-butadiene	860 [2]	3,600 [2]	NE	NE	0.53 U	0.71 U	0.57 U	0.58 U	0.59 U	0.62 U
Acetone	6,100,000 [2]	61,000,000 [2]	NE	NE	18 J	12 J	11 J	9.1 J	43 J	20 U
Benzene	1,100.0 [2]	5,600.0 [2]	101 [6]	NE	0.74 U	0.99 U	0.79 U	0.8 U	0.82 U	0.86 U
Carbon disulfide	670,000 [2]	300,000 [2]	NE	NE	0.48 U	0.64 U	0.51 U	0.52 U	0.53 U	0.55 U
Chloroform	300	1,500	1,002 [6]	NE	0.47 U	0.62 U	0.5 U	0.51 U	0.52 U	0.54 U
Chloromethane	1,700	8,400	NE	NE	0.67 U	0.89 U	0.71 U	0.72 U	0.74 U	0.77 U
Ethyl methacrylate	700,000 [2]	9,200,000 [2]	NE	NE	2.1 U	2.7 U	2.2 U	2.2 U	2.3 U	2.4 U
Ethylbenzene	5,700	29,000	5,003 [6]	NE	0.7 U	0.94 U	0.75 U	0.76 U	0.78 U	0.81 U
Iodomethane	NE	NE	NE	NE	0.94 U	1.2 U	1 U	1 UJ	1 UJ	1.1 UJ
Isobutyl alcohol	23,000,000 [2]	31,000,000 [2]	NE	NE	65 UJ	86 UJ	69 UJ	70 R	72 R	75 R
Methacrylonitrile	320 [2]	1,800 [2]	NE	NE	22 UJ	30 UJ	24 U	24 U	25 U	26 U
Methylene Chloride	11,000	54,000	1,004 [6]	NE	0.94 U	1.2 U	1 U	1 U	1.5 J	1.1 U
Tetrachloroethene	570	2,700	400 [6]	NE	0.68 U	0.91 U	0.73 U	0.74 U	0.76 U	0.79 U
Toluene	500000 [2]	4600000 [2]	13,001 [6]	NE	0.74 U	0.99 U	0.79 U	0.8 U	0.82 U	0.86 U
trans-1,2-Dichloroethene	NE	NE	100 [7]	NE	0.91 U	1.2 U	0.98 U	0.98 U	1 U	1.1 U
Vinyl acetate	99000 [2]	420000 [2]	NE	NE	1.4 UJ	1.9 UJ	1.5 U	1.5 U	1.6 U	1.6 U
Xylenes, Total	60000 [2]	260000 [2]	2,501 [6]	NE	2.2 U	2.9 U	2.3 U	2.3 U	2.4 U	2.5 U

TABLE 7-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - JP-5 HILL AND DFM AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB138 74SB138-04 5/15/2008 7.0-9.0	74SB139 74SB139-03 5/15/2008 5.0-7.0	74SB139 74SB139-05 5/15/2008 9.0-11.0	74SB140 74SB140-04 5/15/2008 7.0-9.0	74SB140 74SB140-05 5/15/2008 9.0-11.0	74SB141 74SB141-03 5/14/2008 5.0-7.0
LLPAHs (ug/kg)										
1-Methylnaphthalene	22,000	99,000	NE	NE	1.6 U	NA	NA	NA	NA	NA
2-Methylnaphthalene	31,000 [2]	410,000 [2]	NE	NE	2.2 U	NA	NA	NA	NA	NA
Acenaphthene	340,000 [2]	3,300,000 [2]	NE	NE	0.74 U	NA	NA	NA	NA	NA
Acenaphthylene	340,000 [2]	3,300,000 [2]	NE	NE	0.74 U	NA	NA	NA	NA	NA
Anthracene	1,700,000 [2]	17,000,000 [2]	NE	NE	2.2 U	NA	NA	NA	NA	NA
Benzo[a]anthracene	150	2,100	NE	NE	2.2 U	NA	NA	NA	NA	NA
Benzo[a]pyrene	15.0	210	NE	NE	0.85 U	NA	NA	NA	NA	NA
Benzo[b]fluoranthene	150	2,100	NE	NE	0.98 U	NA	NA	NA	NA	NA
Benzo[g,h,i]perylene	1,700	17,000	NE	NE	2.2 U	NA	NA	NA	NA	NA
Benzo[k]fluoranthene	1,500	21,000	NE	NE	1.3 U	NA	NA	NA	NA	NA
Chrysene	15,000	210,000	NE	NE	0.79 U	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	15.0	210	NE	NE	0.76 U	NA	NA	NA	NA	NA
Fluoranthene	230,000 [2]	2,200,000 [2]	NE	NE	2.2 U	NA	NA	NA	NA	NA
Fluorene	230,000 [2]	2,200,000 [2]	NE	NE	9.6	NA	NA	NA	NA	NA
Indeno[1,2,3-cd]pyrene	150	2,100	NE	NE	1.6 U	NA	NA	NA	NA	NA
Naphthalene	3,900	20,000	NE	NE	0.78 U	NA	NA	NA	NA	NA
Phenanthrene	170,000.0 [2][3]	1,700,000 [2][3]	NE	NE	2.2 U	NA	NA	NA	NA	NA
Pyrene	170,000 [2]	1,700,000 [2]	NE	NE	2.2 U	NA	NA	NA	NA	NA
PAH Totals (ug/kg):										
Low molecular weight PAI	NE	NE	29,000 [8]	NE	21.52	NA	NA	NA	NA	NA
High molecular weight PA	NE	NE	18,000 [8]	NE	15.08	NA	NA	NA	NA	NA

TABLE 7-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - JP-5 HILL AND DFM AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB138 74SB138-04 5/15/2008 7.0-9.0	74SB139 74SB139-03 5/15/2008 5.0-7.0	74SB139 74SB139-05 5/15/2008 9.0-11.0	74SB140 74SB140-04 5/15/2008 7.0-9.0	74SB140 74SB140-05 5/15/2008 9.0-11.0	74SB141 74SB141-03 5/14/2008 5.0-7.0
Metals (mg/kg)										
Antimony	3.10 [2]	41.0 [2]	10.0 [9]	3.17	0.24 UJ	0.24 UJ	0.16 UJ	0.15 UJ	0.14 UJ	0.08 UJ
Arsenic	0.390	1.60	18.0 [10]	1.59	**1.4**	**0.96**	**0.95**	**0.81**	**1**	***2.1***
Barium	1500 [2]	19,000 [2]	330 [11]	220	660 J	81 J	73 J	30 J	64 J	91 J
Beryllium	16.0 [2]	200 [2]	21.0 [12]	0.596	0.55	0.36	0.2	0.23	0.23	0.38
Cadmium	7.00 [2]	81.0 [2]	0.770 [13]	0.54	0.13	0.14	0.22	0.14	0.2	0.26
Chromium	280	1,400	26.0 [14]	114.5	110	130	79 J	39 J	35 J	12
Cobalt	2.30 [2]	30.0 [2]	13.0 [15]	26.9	***61*** J	***31*** J	**25** J	**24** J	**30** J	**27** J
Copper	310 [2]	4,100 [2]	28.0 [16]	246	84	110	91	58	72	140
Lead	400 [4]	800 [4]	11.0 [17]	6.3	5.8	2	0.73 J	9.6 J	15 J	63
Mercury	2.30 [2]	31.0 [2]	0.100 [18]	0.108	0.023 J	0.0047 U	0 U	0.004 U	0.004 U	0.0043 U
Nickel	160 [2]	2,000 [2]	38.0 [19]	24.7	36	52	42	25	28	12 J
Selenium	39.0 [2]	510 [2]	0.520 [20]	5.94	0.7	0.16 J	0.14 J	0.13 U	0.12 U	0.13 U
Silver	39.0 [2]	510 [2]	4.20 [21]	NE	0.032 J	0.028 J	0.02 J	0.037 J	0.037 J	0.062 J
Thallium	0.510 [2]	6.60 [2]	1.00 [22]	0.92	0.15 U	0.14 U	0.13 U	0.13 U	0.12 U	0.13 U
Vanadium	55.0 [2]	720 [2]	7.80 [23]	434	**220**	**140**	**110**	**180**	**190**	**120**
Zinc	2300 [2]	31,000 [2]	46.0 [24]	88	51 J	96 J	65 J	73 J	86 J	240 J
TPH DRO and GRO (mg/kg)										
Diesel Range Organics	25 [5]	NE	NE	NE	**60**	0.92 J	1.2 J	0.7 J	11	0.67 U
Gasoline Range Organics	25 [5]	NE	NE	NE	0.057 U	0.067 U	0.06 U	0.071 U	0.1 U	0.061 U
Total TPH	25 [5]	NE	NE	NE	**60**	0.92 J	1.2 J	0.7 J	11	0.731 U

TABLE 7-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - JP-5 HILL AND DFM AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB141 74SB141-05D 5/14/2008 9.0-11.0	74SB141 74SB141-05 5/14/2008 9.0-11.0	74SB142 74SB142-02 5/14/2008 3.0-5.0	74SB142 74SB142-04 5/14/2008 7.0-9.0	74SB143 74SB143-02 5/14/2008 3.0-5.0	74SB143 74SB143-04 5/14/2008 7.0-9.0
Volatile Organic Compounds (ug/kg)										
2-Butanone (MEK)	2,800,000 [2]	19,000,000 [2]	NE	NE	2.5 U	2.5 U	4.1 U	3.7 U	3.2 U	2.5 U
2-Chloro-1,3-butadiene	860 [2]	3,600 [2]	NE	NE	0.53 U	0.52 U	0.87 U	0.79 U	0.67 U	0.53 U
Acetone	6,100,000 [2]	61,000,000 [2]	NE	NE	12 J	14 J	26 J	19 U	250	7.9 J
Benzene	1,100.0 [2]	5,600.0 [2]	101 [6]	NE	0.73 U	0.72 U	1.2 U	1.1 U	0.93 U	0.73 U
Carbon disulfide	670,000 [2]	300,000 [2]	NE	NE	0.47 U	0.47 U	0.78 U	0.7 U	4.1 J	0.47 U
Chloroform	300	1,500	1,002 [6]	NE	0.46 U	0.46 U	0.76 U	0.69 U	0.59 U	0.82 J
Chloromethane	1,700	8,400	NE	NE	0.66 U	0.65 U	1.1 U	0.98 U	0.84 U	0.66 U
Ethyl methacrylate	700,000 [2]	9,200,000 [2]	NE	NE	2 U	2 U	3.4 U	3 U	2.6 U	2 U
Ethylbenzene	5,700	29,000	5,003 [6]	NE	0.7 U	0.69 U	1.1 U	1 U	0.89 U	0.7 U
Iodomethane	NE	NE	NE	NE	0.93 U	0.92 U	1.5 U	1.4 UJ	1.2 UJ	0.93 U
Isobutyl alcohol	23,000,000 [2]	31,000,000 [2]	NE	NE	64 R	63 R	110 R	95 R	82 R	64 R
Methacrylonitrile	320 [2]	1,800 [2]	NE	NE	22 U	22 U	37 U	33 U	28 U	22 U
Methylene Chloride	11,000	54,000	1,004 [6]	NE	0.93 U	0.92 U	1.5 U	1.4 U	1.2 U	0.93 U
Tetrachloroethene	570	2,700	400 [6]	NE	0.68 U	0.67 U	1.1 U	1 U	0.86 U	0.68 U
Toluene	500000 [2]	4600000 [2]	13,001 [6]	NE	0.73 U	0.72 U	1.2 U	1.1 U	0.93 U	0.73 U
trans-1,2-Dichloroethene	NE	NE	100 [7]	NE	0.9 U	0.89 U	1.5 U	1.3 U	1.1 U	0.9 U
Vinyl acetate	99000 [2]	420000 [2]	NE	NE	1.4 U	1.4 U	2.3 U	2.1 U	1.8 U	1.4 U
Xylenes, Total	60000 [2]	260000 [2]	2,501 [6]	NE	2.1 U	2.1 U	3.5 U	3.2 U	2.7 U	2.1 U

TABLE 7-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - JP-5 HILL AND DFM AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB141 74SB141-05D 5/14/2008 9.0-11.0	74SB141 74SB141-05 5/14/2008 9.0-11.0	74SB142 74SB142-02 5/14/2008 3.0-5.0	74SB142 74SB142-04 5/14/2008 7.0-9.0	74SB143 74SB143-02 5/14/2008 3.0-5.0	74SB143 74SB143-04 5/14/2008 7.0-9.0
LLPAHs (ug/kg)										
1-Methylnaphthalene	22,000	99,000	NE	NE	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	31,000 [2]	410,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Acenaphthene	340,000 [2]	3,300,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Acenaphthylene	340,000 [2]	3,300,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Anthracene	1,700,000 [2]	17,000,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[a]anthracene	150	2,100	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[a]pyrene	15.0	210	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[b]fluoranthene	150	2,100	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[g,h,i]perylene	1,700	17,000	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[k]fluoranthene	1,500	21,000	NE	NE	NA	NA	NA	NA	NA	NA
Chrysene	15,000	210,000	NE	NE	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	15.0	210	NE	NE	NA	NA	NA	NA	NA	NA
Fluoranthene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Fluorene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Indeno[1,2,3-cd]pyrene	150	2,100	NE	NE	NA	NA	NA	NA	NA	NA
Naphthalene	3,900	20,000	NE	NE	NA	NA	NA	NA	NA	NA
Phenanthrene	170,000.0 [2][3]	1,700,000 [2][3]	NE	NE	NA	NA	NA	NA	NA	NA
Pyrene	170,000 [2]	1,700,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
PAH Totals (ug/kg):										
Low molecular weight PAI	NE	NE	29,000 [8]	NE	NA	NA	NA	NA	NA	NA
High molecular weight PA	NE	NE	18,000 [8]	NE	NA	NA	NA	NA	NA	NA

TABLE 7-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - JP-5 HILL AND DFM AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID	**Regional Screening**	*Regional Screening*	Selected Ecological Soil Screening Values		74SB141	74SB141	74SB142	74SB142	74SB143	74SB143
Sample ID	**Levels**	*Levels*		NAPR	74SB141-05D	74SB141-05	74SB142-02	74SB142-04	74SB143-02	74SB143-04
Date	**Residential**	*Industrial*		Basewide	5/14/2008	5/14/2008	5/14/2008	5/14/2008	5/14/2008	5/14/2008
Depth Range (ft bgs)	**Soil**	*Soil*		Background [1]	9.0-11.0	9.0-11.0	3.0-5.0	7.0-9.0	3.0-5.0	7.0-9.0
Metals (mg/kg)										
Antimony	3.10 [2]	41.0 [2]	10.0 [9]	3.17	0.073 UJ	0.073 UJ	0.1 UJ	0.086 UJ	0.087 UJ	0.083 UJ
Arsenic	0.390	1.60	18.0 [10]	1.59	***1.9***	**1.5**	**0.64** J	**0.85**	**1.1**	**0.96**
Barium	1500 [2]	19,000 [2]	330 [11]	220	28 J	28 J	55 J	150 J	330 J	35 J
Beryllium	16.0 [2]	200 [2]	21.0 [12]	0.596	0.28	0.29	0.23	0.25	0.38	0.25
Cadmium	7.00 [2]	81.0 [2]	0.770 [13]	0.54	0.24	0.19	0.042 U	0.044 J	0.036 U	0.034 U
Chromium	280	1,400	26.0 [14]	114.5	2.4	2.9	5.8	5.8	28	6
Cobalt	2.30 [2]	30.0 [2]	13.0 [15]	26.9	**4.9** J	**5.4** J	**17** J	**23** J	**14** J	**16** J
Copper	310 [2]	4,100 [2]	28.0 [16]	246	79	85	13	13	26	20
Lead	400 [4]	800 [4]	11.0 [17]	6.3	80	62	2.1	2.8	3.6	0.91
Mercury	2.30 [2]	31.0 [2]	0.100 [18]	0.108	0.0036 U	0.0037 U	0.0049 U	0.0047 U	0.018 J	0.004 U
Nickel	160 [2]	2,000 [2]	38.0 [19]	24.7	2.2 J	2.6 J	11 J	12 J	11 J	10 J
Selenium	39.0 [2]	510 [2]	0.520 [20]	5.94	0.12 U	0.12 U	0.16 U	0.14 U	1.1	0.13 U
Silver	39.0 [2]	510 [2]	4.20 [21]	NE	0.021 J	0.025 J	0.047 J	0.035 J	0.039 J	0.041 J
Thallium	0.510 [2]	6.60 [2]	1.00 [22]	0.92	0.12 U	0.12 U	0.16 U	0.14 U	0.14 U	0.13 U
Vanadium	55.0 [2]	720 [2]	7.80 [23]	434	44	45	**180**	**160**	**200**	**170**
Zinc	2300 [2]	31,000 [2]	46.0 [24]	88	130 J	150 J	76 J	98 J	69 J	93 J
TPH DRO and GRO (mg/kg)										
Diesel Range Organics	25 [5]	NE	NE	NE	0.62 U	0.62 U	0.87 U	0.71 U	0.74 U	0.68 U
Gasoline Range Organics	25 [5]	NE	NE	NE	0.056 U	0.051 U	0.093 U	0.074 U	0.062 U	0.061 U
Total TPH	25 [5]	NE	NE	NE	0.676 U	0.671 U	0.963 U	0.784 U	0.802 U	0.741 U

TABLE 7-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - JP-5 HILL AND DFM AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB149 74SB149-04 5/15/2008 7.0-9.0	74SB149 74SB149-06 5/15/2008 11.0-13.0	74SB150 74SB150-02 5/15/2008 3.0-5.0	74SB150 74SB150-06 5/15/2008 11.0-13.0	74SB151 74SB151-01 5/15/2008 1.0-3.0	74SB151 74SB151-01D 5/15/2008 1.0-3.0
Volatile Organic Compounds (ug/kg)										
2-Butanone (MEK)	2,800,000 [2]	19,000,000 [2]	NE	NE	17 U	8.9 U	2.7 U	3.8 U	5 U	4.1 U
2-Chloro-1,3-butadiene	860 [2]	3,600 [2]	NE	NE	0.69 U	0.8 U	0.58 U	0.8 U	0.59 U	0.62 U
Acetone	6,100,000 [2]	61,000,000 [2]	NE	NE	82 J	67 J	63	40 J	28 J	18 J
Benzene	1,100.0 [2]	5,600.0 [2]	101 [6]	NE	0.96 U	1.1 U	0.8 U	1.1 U	0.81 U	0.85 U
Carbon disulfide	670,000 [2]	300,000 [2]	NE	NE	1.2 J	13	1.9 J	4.5 J	0.53 U	0.55 U
Chloroform	300	1,500	1,002 [6]	NE	0.6 U	0.7 U	0.51 U	0.7 U	0.52 U	0.54 U
Chloromethane	1,700	8,400	NE	NE	0.86 U	0.99 U	0.72 U	0.99 U	0.73 U	0.77 U
Ethyl methacrylate	700,000 [2]	9,200,000 [2]	NE	NE	2.7 U	3.1 U	2.2 U	3.1 U	2.3 U	2.4 U
Ethylbenzene	5,700	29,000	5,003 [6]	NE	0.91 U	1 U	0.76 U	1 U	0.77 U	0.81 U
Iodomethane	NE	NE	NE	NE	1.2 U	1.4 U	1 UJ	1.4 UJ	1 UJ	1.1 U
Isobutyl alcohol	23,000,000 [2]	31,000,000 [2]	NE	NE	83 R	96 R	70 R	96 R	71 R	75 UJ
Methacrylonitrile	320 [2]	1,800 [2]	NE	NE	29 U	33 U	24 U	34 U	25 U	26 UJ
Methylene Chloride	11,000	54,000	1,004 [6]	NE	1.2 U	1.4 U	1 U	1.4 U	1 U	1.1 U
Tetrachloroethene	570	2,700	400 [6]	NE	0.88 U	1 U	0.74 U	1 U	0.75 U	0.79 U
Toluene	500000 [2]	4600000 [2]	13,001 [6]	NE	0.96 U	1.1 U	0.8 U	1.1 U	0.81 U	0.85 U
trans-1,2-Dichloroethene	NE	NE	100 [7]	NE	1.2 U	1.4 U	0.98 U	1.4 U	1 U	1 U
Vinyl acetate	99000 [2]	420000 [2]	NE	NE	1.8 U	2.1 U	1.5 U	2.1 U	1.5 U	1.6 UJ
Xylenes, Total	60000 [2]	260000 [2]	2,501 [6]	NE	2.8 U	3.2 U	2.3 U	3.2 U	2.4 U	2.5 U

TABLE 7-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - JP-5 HILL AND DFM AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB149 74SB149-04 5/15/2008 7.0-9.0	74SB149 74SB149-06 5/15/2008 11.0-13.0	74SB150 74SB150-02 5/15/2008 3.0-5.0	74SB150 74SB150-06 5/15/2008 11.0-13.0	74SB151 74SB151-01 5/15/2008 1.0-3.0	74SB151 74SB151-01D 5/15/2008 1.0-3.0
LLPAHs (ug/kg)										
1-Methylnaphthalene	22,000	99,000	NE	NE	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	31,000 [2]	410,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Acenaphthene	340,000 [2]	3,300,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Acenaphthylene	340,000 [2]	3,300,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Anthracene	1,700,000 [2]	17,000,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[a]anthracene	150	2,100	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[a]pyrene	15.0	210	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[b]fluoranthene	150	2,100	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[g,h,i]perylene	1,700	17,000	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[k]fluoranthene	1,500	21,000	NE	NE	NA	NA	NA	NA	NA	NA
Chrysene	15,000	210,000	NE	NE	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	15.0	210	NE	NE	NA	NA	NA	NA	NA	NA
Fluoranthene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Fluorene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Indeno[1,2,3-cd]pyrene	150	2,100	NE	NE	NA	NA	NA	NA	NA	NA
Naphthalene	3,900	20,000	NE	NE	NA	NA	NA	NA	NA	NA
Phenanthrene	170,000.0 [2][3]	1,700,000 [2][3]	NE	NE	NA	NA	NA	NA	NA	NA
Pyrene	170,000 [2]	1,700,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
PAH Totals (ug/kg):										
Low molecular weight PAI	NE	NE	29,000 [8]	NE	NA	NA	NA	NA	NA	NA
High molecular weight PA	NE	NE	18,000 [8]	NE	NA	NA	NA	NA	NA	NA

TABLE 7-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - JP-5 HILL AND DFM AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB149	74SB149	74SB150	74SB150	74SB151	74SB151
Sample ID					74SB149-04	74SB149-06	74SB150-02	74SB150-06	74SB151-01	74SB151-01D
Date					5/15/2008	5/15/2008	5/15/2008	5/15/2008	5/15/2008	5/15/2008
Depth Range (ft bgs)					7.0-9.0	11.0-13.0	3.0-5.0	11.0-13.0	1.0-3.0	1.0-3.0
Metals (mg/kg)										
Antimony	3.10 [2]	41.0 [2]	10.0 [9]	3.17	0.09 U	0.15 U	0.29 U	0.12 U	0.45 UJ	0.4 UJ
Arsenic	0.390	1.60	18.0 [10]	1.59	**1**	***3***	***2.2***	***2.2***	***2.5***	***2.2***
Barium	1500 [2]	19,000 [2]	330 [11]	220	72 J	170 J	160 J	89 J	52 J	46 J
Beryllium	16.0 [2]	200 [2]	21.0 [12]	0.596	0.22	0.55	0.085 J	0.44	0.24	0.34
Cadmium	7.00 [2]	81.0 [2]	0.770 [13]	0.54	0.13	0.057 J	0.23	0.36	0.17	0.11
Chromium	280	1,400	26.0 [14]	114.5	46 J	70 J	35 J	60 J	28 J	31 J
Cobalt	2.30 [2]	30.0 [2]	13.0 [15]	26.9	**25** J	**26** J	**11** J	***59*** J	**16** J	**26** J
Copper	310 [2]	4,100 [2]	28.0 [16]	246	230 J	81 J	60 J	97 J	84	97
Lead	400 [4]	800 [4]	11.0 [17]	6.3	6.9	34	16	55	15 J	12 J
Mercury	2.30 [2]	31.0 [2]	0.100 [18]	0.108	0.007 J	0.043 J	0.0058 J	0.077 J	0.019 J	0.013 J
Nickel	160 [2]	2,000 [2]	38.0 [19]	24.7	17	18	11	17	11	12
Selenium	39.0 [2]	510 [2]	0.520 [20]	5.94	0.38 J	1.6	0.14 J	2.4	0.68	1.1
Silver	39.0 [2]	510 [2]	4.20 [21]	NE	0.047 J	0.042 J	0.037 J	0.2 J	0.08 J	0.17 J
Thallium	0.510 [2]	6.60 [2]	1.00 [22]	0.92	0.14 U	0.16 U	0.13 U	0.16 U	0.13 U	0.13 U
Vanadium	55.0 [2]	720 [2]	7.80 [23]	434	**210** J	**360** J	**86** J	**400** J	**170**	**230**
Zinc	2300 [2]	31,000 [2]	46.0 [24]	88	71 J	97 J	68 J	79 J	59 J	80 J
TPH DRO and GRO (mg/kg)										
Diesel Range Organics	25 [5]	NE	NE	NE	7.6	19	**51**	7.2	**62**	**31** J
Gasoline Range Organics	25 [5]	NE	NE	NE	0.12 J	0.087 U	0.058 U	0.085 U	0.066 U	0.067 U
Total TPH	25 [5]	NE	NE	NE	7.72 J	19	**51**	7.2	**62**	**31** J

TABLE 7-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - JP-5 HILL AND DFM AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB152 74SB152-03 5/15/2008 5.0-7.0	74SB152 74SB152-05 5/15/2008 9.0-11.0	74SB153 74SB153-02 5/15/2008 3.0-5.0	74SB153 74SB153-04 5/15/2008 7.0-9.0	74SB154 74SB154-04 5/15/2008 7.0-9.0	74SB154 74SB154-05 5/15/2008 9.0-11.0
Volatile Organic Compounds (ug/kg)										
2-Butanone (MEK)	2,800,000 [2]	19,000,000 [2]	NE	NE	13 U	3.4 U	23 U	3.1 U	2.9 U	3.1 U
2-Chloro-1,3-butadiene	860 [2]	3,600 [2]	NE	NE	0.68 U	0.71 U	0.64 U	0.65 U	0.61 U	0.65 U
Acetone	6,100,000 [2]	61,000,000 [2]	NE	NE	220 J	17 U	290	9.4 U	22 J	88
Benzene	1,100.0 [2]	5,600.0 [2]	101 [6]	NE	0.94 U	0.98 U	0.89 U	0.9 U	0.84 U	0.89 U
Carbon disulfide	670,000 [2]	300,000 [2]	NE	NE	3.9 J	6.3	0.58 U	0.58 U	0.54 U	1.4 J
Chloroform	300	1,500	1,002 [6]	NE	0.59 U	0.62 U	0.57 U	0.57 U	0.53 U	0.57 U
Chloromethane	1,700	8,400	NE	NE	0.84 U	0.88 U	0.8 U	0.81 U	0.76 U	0.8 U
Ethyl methacrylate	700,000 [2]	9,200,000 [2]	NE	NE	2.6 U	2.7 U	2.5 U	2.5 U	2.3 U	2.5 U
Ethylbenzene	5,700	29,000	5,003 [6]	NE	0.89 U	0.93 U	0.85 U	0.85 U	0.8 U	0.85 U
Iodomethane	NE	NE	NE	NE	1.2 U	1.2 U	2.2 J	1.1 U	1.1 UJ	1.1 UJ
Isobutyl alcohol	23,000,000 [2]	31,000,000 [2]	NE	NE	82 R	86 R	78 R	78 R	74 R	78 R
Methacrylonitrile	320 [2]	1,800 [2]	NE	NE	29 U	30 U	27 U	27 U	26 U	27 U
Methylene Chloride	11,000	54,000	1,004 [6]	NE	1.2 U	1.2 U	1.1 U	1.1 U	1.3 J	1.1 U
Tetrachloroethene	570	2,700	400 [6]	NE	0.87 U	0.91 U	0.83 U	0.83 U	0.78 U	0.83 U
Toluene	500000 [2]	4600000 [2]	13,001 [6]	NE	0.94 U	0.98 U	0.89 U	0.9 U	0.84 U	0.89 U
trans-1,2-Dichloroethene	NE	NE	100 [7]	NE	1.2 U	1.2 U	1.1 U	1.1 U	1 U	1.1 U
Vinyl acetate	99000 [2]	420000 [2]	NE	NE	1.8 U	1.9 U	1.7 U	1.7 U	1.6 U	1.7 U
Xylenes, Total	60000 [2]	260000 [2]	2,501 [6]	NE	2.7 U	2.9 U	2.6 U	2.6 U	2.5 U	2.6 U

TABLE 7-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - JP-5 HILL AND DFM AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB152 74SB152-03 5/15/2008 5.0-7.0	74SB152 74SB152-05 5/15/2008 9.0-11.0	74SB153 74SB153-02 5/15/2008 3.0-5.0	74SB153 74SB153-04 5/15/2008 7.0-9.0	74SB154 74SB154-04 5/15/2008 7.0-9.0	74SB154 74SB154-05 5/15/2008 9.0-11.0
LLPAHs (ug/kg)										
1-Methylnaphthalene	22,000	99,000	NE	NE	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	31,000 [2]	410,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Acenaphthene	340,000 [2]	3,300,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Acenaphthylene	340,000 [2]	3,300,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Anthracene	1,700,000 [2]	17,000,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[a]anthracene	150	2,100	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[a]pyrene	15.0	210	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[b]fluoranthene	150	2,100	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[g,h,i]perylene	1,700	17,000	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[k]fluoranthene	1,500	21,000	NE	NE	NA	NA	NA	NA	NA	NA
Chrysene	15,000	210,000	NE	NE	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	15.0	210	NE	NE	NA	NA	NA	NA	NA	NA
Fluoranthene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Fluorene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Indeno[1,2,3-cd]pyrene	150	2,100	NE	NE	NA	NA	NA	NA	NA	NA
Naphthalene	3,900	20,000	NE	NE	NA	NA	NA	NA	NA	NA
Phenanthrene	170,000.0 [2][3]	1,700,000 [2][3]	NE	NE	NA	NA	NA	NA	NA	NA
Pyrene	170,000 [2]	1,700,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
PAH Totals (ug/kg):										
Low molecular weight PAI	NE	NE	29,000 [8]	NE	NA	NA	NA	NA	NA	NA
High molecular weight PA	NE	NE	18,000 [8]	NE	NA	NA	NA	NA	NA	NA

TABLE 7-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - JP-5 HILL AND DFM AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB152 74SB152-03 5/15/2008 5.0-7.0	74SB152 74SB152-05 5/15/2008 9.0-11.0	74SB153 74SB153-02 5/15/2008 3.0-5.0	74SB153 74SB153-04 5/15/2008 7.0-9.0	74SB154 74SB154-04 5/15/2008 7.0-9.0	74SB154 74SB154-05 5/15/2008 9.0-11.0
Metals (mg/kg)										
Antimony	3.10 [2]	41.0 [2]	10.0 [9]	3.17	0.54 U	0.097 U	0.93	0.086 U	0.23 UJ	0.22 UJ
Arsenic	0.390	1.60	18.0 [10]	1.59	***1.9***	**0.51** J	**1.6**	**0.43** J	**1.5**	**0.72**
Barium	1500 [2]	19,000 [2]	330 [11]	220	130 J	820 J	99 J	200 J	58 J	29 J
Beryllium	16.0 [2]	200 [2]	21.0 [12]	0.596	0.75	0.44	0.44	0.4	0.5	0.093 J
Cadmium	7.00 [2]	81.0 [2]	0.770 [13]	0.54	0.55	1.7	0.074 J	0.044 J	0.04 U	0.054 J
Chromium	280	1,400	26.0 [14]	114.5	35 J	15 J	33 J	39 J	30 J	8.7 J
Cobalt	2.30 [2]	30.0 [2]	13.0 [15]	26.9	***45*** J	***59*** J	***33*** J	**13** J	**27** J	**6.6** J
Copper	310 [2]	4,100 [2]	28.0 [16]	246	98 J	89 J	100 J	130 J	150	36
Lead	400 [4]	800 [4]	11.0 [17]	6.3	9.4	1.6	3.5	1.4	1.9 J	3.3 J
Mercury	2.30 [2]	31.0 [2]	0.100 [18]	0.108	0.07 J	0.11 J	0.1 J	0.0047 UJ	0.01 J	0.013 J
Nickel	160 [2]	2,000 [2]	38.0 [19]	24.7	20	14	13	18	14	3.9
Selenium	39.0 [2]	510 [2]	0.520 [20]	5.94	1.8	0.16 U	0.73	0.14 U	0.68	0.2 J
Silver	39.0 [2]	510 [2]	4.20 [21]	NE	2.1	3.1	0.085 J	0.23	0.038 J	0.041 J
Thallium	0.510 [2]	6.60 [2]	1.00 [22]	0.92	0.15 U	0.16 U	0.14 U	0.14 U	0.16 U	0.15 U
Vanadium	55.0 [2]	720 [2]	7.80 [23]	434	**230** J	**82** J	**230** J	**150** J	**210**	38
Zinc	2300 [2]	31,000 [2]	46.0 [24]	88	73 J	71 J	57 J	67 J	83 J	20 J
TPH DRO and GRO (mg/kg)										
Diesel Range Organics	25 [5]	NE	NE	NE	7.7	5.8	6.9	1.1 J	4.8	3.5 J
Gasoline Range Organics	25 [5]	NE	NE	NE	0.07 U	0.069 U	0.069 U	0.071 U	0.076 U	0.07 U
Total TPH	25 [5]	NE	NE	NE	7.7	5.8	6.9	1.1 J	4.8	3.5 J

TABLE 7-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - JP-5 HILL AND DFM AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB155 74SB155-04 5/15/2008 7.0-9.0	74SB155 74SB155-05 5/15/2008 9.0-11.0	74SB156 74SB156-04 5/15/2008 7.0-9.0	74SB156 74SB156-05D 5/15/2008 9.0-11.0	74SB156 74SB156-05 5/15/2008 9.0-11.0	74SB157 74SB157-04 5/14/2008 7.0-9.0
Volatile Organic Compounds (ug/kg)										
2-Butanone (MEK)	2,800,000 [2]	19,000,000 [2]	NE	NE	3.8 U	2.7 U	3 U	2.9 U	3.4 U	3.4 U
2-Chloro-1,3-butadiene	860 [2]	3,600 [2]	NE	NE	0.8 U	0.57 U	0.63 U	0.62 U	0.72 U	0.72 U
Acetone	6,100,000 [2]	61,000,000 [2]	NE	NE	13 J	33 J	33 J	29 J	49 J	17 J
Benzene	1,100.0 [2]	5,600.0 [2]	101 [6]	NE	1.1 U	0.79 U	0.88 U	0.86 U	0.99 U	1 U
Carbon disulfide	670,000 [2]	300,000 [2]	NE	NE	0.72 U	1.1 J	2.5 J	2.6 J	3.4 J	5.4 J
Chloroform	300	1,500	1,002 [6]	NE	0.7 U	0.5 U	0.56 U	0.55 U	0.63 U	0.64 U
Chloromethane	1,700	8,400	NE	NE	1 U	0.71 U	0.79 U	0.77 U	0.89 U	0.9 U
Ethyl methacrylate	700,000 [2]	9,200,000 [2]	NE	NE	3.1 U	2.2 U	2.4 U	2.4 U	2.8 U	2.8 U
Ethylbenzene	5,700	29,000	5,003 [6]	NE	1.1 U	0.75 U	0.83 U	0.82 U	0.94 U	0.95 U
Iodomethane	NE	NE	NE	NE	1.4 UJ	1 UJ	1.1 UJ	1.1 UJ	1.3 UJ	1.3 U
Isobutyl alcohol	23,000,000 [2]	31,000,000 [2]	NE	NE	97 R	69 R	77 R	75 R	87 R	88 R
Methacrylonitrile	320 [2]	1,800 [2]	NE	NE	34 U	24 U	27 U	26 U	30 U	30 U
Methylene Chloride	11,000	54,000	1,004 [6]	NE	1.4 U	1 U	1.1 U	1.1 U	1.3 U	1.3 U
Tetrachloroethene	570	2,700	400 [6]	NE	1 U	0.73 U	0.81 U	0.8 U	0.92 U	0.93 U
Toluene	500000 [2]	4600000 [2]	13,001 [6]	NE	1.1 U	0.79 U	0.88 U	0.86 U	0.99 U	1 U
trans-1,2-Dichloroethene	NE	NE	100 [7]	NE	1.4 U	0.98 U	1.1 U	1.1 U	1.2 U	1.2 U
Vinyl acetate	99000 [2]	420000 [2]	NE	NE	2.1 U	1.5 U	1.7 U	1.6 U	1.9 U	1.9 U
Xylenes, Total	60000 [2]	260000 [2]	2,501 [6]	NE	3.2 U	2.3 U	2.6 U	2.5 U	2.9 U	2.9 U

TABLE 7-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - JP-5 HILL AND DFM AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB155 74SB155-04 5/15/2008 7.0-9.0	74SB155 74SB155-05 5/15/2008 9.0-11.0	74SB156 74SB156-04 5/15/2008 7.0-9.0	74SB156 74SB156-05D 5/15/2008 9.0-11.0	74SB156 74SB156-05 5/15/2008 9.0-11.0	74SB157 74SB157-04 5/14/2008 7.0-9.0
LLPAHs (ug/kg)										
1-Methylnaphthalene	22,000	99,000	NE	NE	NA	NA	NA	15 U	16 U	NA
2-Methylnaphthalene	31,000 [2]	410,000 [2]	NE	NE	NA	NA	NA	21 U	23 U	NA
Acenaphthene	340,000 [2]	3,300,000 [2]	NE	NE	NA	NA	NA	6.9 U	7.6 U	NA
Acenaphthylene	340,000 [2]	3,300,000 [2]	NE	NE	NA	NA	NA	6.9 U	7.6 U	NA
Anthracene	1,700,000 [2]	17,000,000 [2]	NE	NE	NA	NA	NA	21 U	23 U	NA
Benzo[a]anthracene	150	2,100	NE	NE	NA	NA	NA	21 U	23 U	NA
Benzo[a]pyrene	15.0	210	NE	NE	NA	NA	NA	8 U	8.8 U	NA
Benzo[b]fluoranthene	150	2,100	NE	NE	NA	NA	NA	9.3 U	10 U	NA
Benzo[g,h,i]perylene	1,700	17,000	NE	NE	NA	NA	NA	21 U	23 U	NA
Benzo[k]fluoranthene	1,500	21,000	NE	NE	NA	NA	NA	12 U	13 U	NA
Chrysene	15,000	210,000	NE	NE	NA	NA	NA	7.4 U	8.2 U	NA
Dibenz(a,h)anthracene	15.0	210	NE	NE	NA	NA	NA	7.2 U	7.9 U	NA
Fluoranthene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	NA	21 U	23 U	NA
Fluorene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	NA	130 J	10 UJ	NA
Indeno[1,2,3-cd]pyrene	150	2,100	NE	NE	NA	NA	NA	15 U	16 U	NA
Naphthalene	3,900	20,000	NE	NE	NA	NA	NA	7.3 U	8 U	NA
Phenanthrene	170,000.0 [2][3]	1,700,000 [2][3]	NE	NE	NA	NA	NA	290 J	23 UJ	NA
Pyrene	170,000 [2]	1,700,000 [2]	NE	NE	NA	NA	NA	21 U	23 U	NA
PAH Totals (ug/kg):										
Low molecular weight PAI	NE	NE	29,000 [8]	NE	NA	NA	NA	512.2	133.6	NA
High molecular weight PA	NE	NE	18,000 [8]	NE	NA	NA	NA	142.9	155.9	NA

TABLE 7-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - JP-5 HILL AND DFM AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB155 74SB155-04 5/15/2008 7.0-9.0	74SB155 74SB155-05 5/15/2008 9.0-11.0	74SB156 74SB156-04 5/15/2008 7.0-9.0	74SB156 74SB156-05D 5/15/2008 9.0-11.0	74SB156 74SB156-05 5/15/2008 9.0-11.0	74SB157 74SB157-04 5/14/2008 7.0-9.0
Metals (mg/kg)										
Antimony	3.10 [2]	41.0 [2]	10.0 [9]	3.17	0.11 UJ	0.41 UJ	0.22 UJ	0.2 UJ	0.18 UJ	0.2 UJ
Arsenic	0.390	1.60	18.0 [10]	1.59	**0.4** J	***1.7***	**1.4**	**1.2**	**1**	**1.6**
Barium	1500 [2]	19,000 [2]	330 [11]	220	19 J	59 J	73 J	97 J	110 J	38 J
Beryllium	16.0 [2]	200 [2]	21.0 [12]	0.596	0.15	0.32	0.64	0.25	0.23	0.4
Cadmium	7.00 [2]	81.0 [2]	0.770 [13]	0.54	0.11	0.27	0.053 J	0.13	0.15	0.038 U
Chromium	280	1,400	26.0 [14]	114.5	3.6 J	34 J	26 J	33 J	30 J	18
Cobalt	2.30 [2]	30.0 [2]	13.0 [15]	26.9	**19** J	**24** J	***66*** J	***40*** J	***46*** J	**27** J
Copper	310 [2]	4,100 [2]	28.0 [16]	246	59	99	130	130	140	110
Lead	400 [4]	800 [4]	11.0 [17]	6.3	0.38 J	5.3 J	2.5 J	0.89 J	1.1 J	2.7
Mercury	2.30 [2]	31.0 [2]	0.100 [18]	0.108	0.0079 J	0.018 J	0.005 U	0.011 J	0.0068 J	0.012 J
Nickel	160 [2]	2,000 [2]	38.0 [19]	24.7	4.7	14	29	23	25	16 J
Selenium	39.0 [2]	510 [2]	0.520 [20]	5.94	0.12 U	0.68	0.18 J	0.13 U	0.15 U	0.75
Silver	39.0 [2]	510 [2]	4.20 [21]	NE	0.026 J	0.12 J	0.028 J	0.11 J	0.16 J	0.029 J
Thallium	0.510 [2]	6.60 [2]	1.00 [22]	0.92	0.12 U	0.15 U	0.13 U	0.13 U	0.15 U	0.15 U
Vanadium	55.0 [2]	720 [2]	7.80 [23]	434	**150**	**180**	**160**	**200**	**190**	**270**
Zinc	2300 [2]	31,000 [2]	46.0 [24]	88	92 J	70 J	130 J	120 J	130 J	110 J
TPH DRO and GRO (mg/kg)										
Diesel Range Organics	25 [5]	NE	NE	NE	2 J	**89**	**1000** J	**1100** J	**890** J	2.5 J
Gasoline Range Organics	25 [5]	NE	NE	NE	0.076 U	0.2 U	12	3.7 U	**68** J	2.2
Total TPH	25 [5]	NE	NE	NE	2 J	**89**	**1,012** J	**1,100** J	**958** J	4.7 J

TABLE 7-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - JP-5 HILL AND DFM AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB157 74SB157-05 5/14/2008 9.0-11.0	74SB158 74SB158-03 5/14/2008 5.0-7.0	74SB158 74SB158-04 5/14/2008 7.0-9.0	74SB159 74SB159-03 5/14/2008 5.0-7.0	74SB159 74SB159-05 5/14/2008 9.0-11.0	74SB160 74SB160-04 5/14/2008 7.0-9.0
Volatile Organic Compounds (ug/kg)										
2-Butanone (MEK)	2,800,000 [2]	19,000,000 [2]	NE	NE	3.2 U	6.2 U	9.2 U	3 U	2.9 U	2.9 U
2-Chloro-1,3-butadiene	860 [2]	3,600 [2]	NE	NE	0.68 U	0.71 U	0.65 U	0.64 U	0.62 U	0.61 U
Acetone	6,100,000 [2]	61,000,000 [2]	NE	NE	40 J	84 J	130 J	72 J	19 J	59
Benzene	1,100.0 [2]	5,600.0 [2]	101 [6]	NE	0.95 U	4.2 J	0.91 U	0.89 U	0.86 U	0.85 U
Carbon disulfide	670,000 [2]	300,000 [2]	NE	NE	3.7 J	2 J	20	0.57 U	0.56 U	0.55 U
Chloroform	300	1,500	1,002 [6]	NE	0.6 U	0.62 U	0.57 U	0.56 U	0.55 U	0.54 U
Chloromethane	1,700	8,400	NE	NE	0.85 U	0.89 U	0.82 U	0.8 U	0.77 U	0.76 U
Ethyl methacrylate	700,000 [2]	9,200,000 [2]	NE	NE	2.6 U	2.7 U	2.5 U	2.5 U	2.4 U	2.4 U
Ethylbenzene	5,700	29,000	5,003 [6]	NE	0.9 U	0.94 U	0.86 U	0.84 U	0.82 U	0.8 U
Iodomethane	NE	NE	NE	NE	1.2 UJ	1.2 U	1.1 U	1.1 U	1.1 U	1.1 UJ
Isobutyl alcohol	23,000,000 [2]	31,000,000 [2]	NE	NE	83 R	86 R	79 R	77 R	75 R	74 R
Methacrylonitrile	320 [2]	1,800 [2]	NE	NE	29 U	30 U	28 U	27 U	26 U	26 U
Methylene Chloride	11,000	54,000	1,004 [6]	NE	1.2 U	1.2 U	1.1 U	1.1 U	1.1 U	1.1 U
Tetrachloroethene	570	2,700	400 [6]	NE	0.88 U	0.91 U	0.84 U	0.82 U	0.8 U	0.78 U
Toluene	500000 [2]	4600000 [2]	13,001 [6]	NE	0.95 U	1.5 J	0.91 U	0.89 U	0.86 U	0.85 U
trans-1,2-Dichloroethene	NE	NE	100 [7]	NE	1.2 U	1.2 U	1.1 U	1.1 U	1.1 U	1 U
Vinyl acetate	99000 [2]	420000 [2]	NE	NE	1.8 U	1.9 U	1.7 U	1.7 U	1.6 U	1.6 U
Xylenes, Total	60000 [2]	260000 [2]	2,501 [6]	NE	2.8 U	2.9 U	3.9 J	4.1 J	2.5 U	2.5 U

TABLE 7-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - JP-5 HILL AND DFM AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB157 74SB157-05 5/14/2008 9.0-11.0	74SB158 74SB158-03 5/14/2008 5.0-7.0	74SB158 74SB158-04 5/14/2008 7.0-9.0	74SB159 74SB159-03 5/14/2008 5.0-7.0	74SB159 74SB159-05 5/14/2008 9.0-11.0	74SB160 74SB160-04 5/14/2008 7.0-9.0
LLPAHs (ug/kg)										
1-Methylnaphthalene	22,000	99,000	NE	NE	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	31,000 [2]	410,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Acenaphthene	340,000 [2]	3,300,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Acenaphthylene	340,000 [2]	3,300,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Anthracene	1,700,000 [2]	17,000,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[a]anthracene	150	2,100	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[a]pyrene	15.0	210	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[b]fluoranthene	150	2,100	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[g,h,i]perylene	1,700	17,000	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[k]fluoranthene	1,500	21,000	NE	NE	NA	NA	NA	NA	NA	NA
Chrysene	15,000	210,000	NE	NE	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	15.0	210	NE	NE	NA	NA	NA	NA	NA	NA
Fluoranthene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Fluorene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Indeno[1,2,3-cd]pyrene	150	2,100	NE	NE	NA	NA	NA	NA	NA	NA
Naphthalene	3,900	20,000	NE	NE	NA	NA	NA	NA	NA	NA
Phenanthrene	170,000.0 [2][3]	1,700,000 [2][3]	NE	NE	NA	NA	NA	NA	NA	NA
Pyrene	170,000 [2]	1,700,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
PAH Totals (ug/kg):										
Low molecular weight PAI	NE	NE	29,000 [8]	NE	NA	NA	NA	NA	NA	NA
High molecular weight PA	NE	NE	18,000 [8]	NE	NA	NA	NA	NA	NA	NA

TABLE 7-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - JP-5 HILL AND DFM AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB157 74SB157-05 5/14/2008 9.0-11.0	74SB158 74SB158-03 5/14/2008 5.0-7.0	74SB158 74SB158-04 5/14/2008 7.0-9.0	74SB159 74SB159-03 5/14/2008 5.0-7.0	74SB159 74SB159-05 5/14/2008 9.0-11.0	74SB160 74SB160-04 5/14/2008 7.0-9.0
Metals (mg/kg)										
Antimony	3.10 [2]	41.0 [2]	10.0 [9]	3.17	0.16 UJ	0.084 UJ	0.24 UJ	0.1 U	0.094 U	0.084 U
Arsenic	0.390	1.60	18.0 [10]	1.59	**1.4**	**0.97**	**1.6**	**1.1**	**1.2**	**0.84**
Barium	1500 [2]	19,000 [2]	330 [11]	220	120 J	230 J	190 J	230 J	34 J	41 J
Beryllium	16.0 [2]	200 [2]	21.0 [12]	0.596	0.51	0.87	0.48	0.43	0.43	0.24
Cadmium	7.00 [2]	81.0 [2]	0.770 [13]	0.54	0.035 U	0.044 J	0.066 J	0.039 U	0.041 J	0.049 J
Chromium	280	1,400	26.0 [14]	114.5	18	47	78	120 J	3.5 J	12 J
Cobalt	2.30 [2]	30.0 [2]	13.0 [15]	26.9	***56*** J	***96*** J	***65*** J	**17** J	**8** J	**14** J
Copper	310 [2]	4,100 [2]	28.0 [16]	246	86	110	140	170 J	6.4 J	47 J
Lead	400 [4]	800 [4]	11.0 [17]	6.3	5.2	10	12	7.2	3	11
Mercury	2.30 [2]	31.0 [2]	0.100 [18]	0.108	0.0046 J	0.0044 U	0.0066 J	0.016 J	0.004 UJ	0.004 UJ
Nickel	160 [2]	2,000 [2]	38.0 [19]	24.7	18 J	42 J	32 J	19	4.1	11
Selenium	39.0 [2]	510 [2]	0.520 [20]	5.94	0.42 J	0.13 U	0.5 J	1.4	0.16 J	0.15 J
Silver	39.0 [2]	510 [2]	4.20 [21]	NE	0.082 J	0.021 J	0.031 J	0.049 J	0.043 J	0.039 J
Thallium	0.510 [2]	6.60 [2]	1.00 [22]	0.92	0.14 U	0.13 U	0.14 U	0.15 U	0.12 U	0.13 U
Vanadium	55.0 [2]	720 [2]	7.80 [23]	434	**240**	**180**	**200**	**240** J	**61** J	**120** J
Zinc	2300 [2]	31,000 [2]	46.0 [24]	88	120 J	78 J	97 J	45 J	33 J	77 J
TPH DRO and GRO (mg/kg)										
Diesel Range Organics	25 [5]	NE	NE	NE	**270**	3.3 J	2.8 J	0.82 U	2.4 J	0.67 U
Gasoline Range Organics	25 [5]	NE	NE	NE	**38**	0.24 J	1.7	0.81	2.4	0.054 U
Total TPH	25 [5]	NE	NE	NE	**308**	3.54 J	4.5 J	0.81	4.8 J	0.724 U

TABLE 7-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - JP-5 HILL AND DFM AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB160 74SB160-05 5/14/2008 9.0-11.0	74SB185 74SB185-03 5/19/2008 5.0-7.0	74SB185 74SB185-05 5/19/2008 9.0-11.0	74SB186 74SB186-03 5/19/2008 5.0-7.0	74SB186 74SB186-05 5/19/2008 9.0-11.0	74SB187 74SB187-03 5/19/2008 5.0-7.0
Volatile Organic Compounds (ug/kg)										
2-Butanone (MEK)	2,800,000 [2]	19,000,000 [2]	NE	NE	3.5 U	4.5 UJ	5.8 UJ	14 UJ	3.2 UJ	3.5 UJ
2-Chloro-1,3-butadiene	860 [2]	3,600 [2]	NE	NE	0.74 U	0.79 U	0.43 U	0.75 U	0.68 U	0.74 U
Acetone	6,100,000 [2]	61,000,000 [2]	NE	NE	10 J	27 J	35 J	74	29 J	34 J
Benzene	1,100.0 [2]	5,600.0 [2]	101 [6]	NE	1 U	1.1 U	1.4 J	1 U	0.95 U	1 U
Carbon disulfide	670,000 [2]	300,000 [2]	NE	NE	0.66 U	0.71 U	0.39 U	0.67 U	0.61 U	0.66 U
Chloroform	300	1,500	1,002 [6]	NE	0.65 U	0.69 U	0.38 U	0.66 U	0.6 U	0.65 U
Chloromethane	1,700	8,400	NE	NE	0.93 U	0.98 U	0.54 U	0.93 U	0.85 U	0.92 U
Ethyl methacrylate	700,000 [2]	9,200,000 [2]	NE	NE	2.9 U	3 U	1.7 U	2.9 U	2.6 U	2.8 U
Ethylbenzene	5,700	29,000	5,003 [6]	NE	0.98 U	1 U	0.57 U	0.98 U	0.9 U	0.97 U
Iodomethane	NE	NE	NE	NE	1.3 UJ	1.4 U	0.76 U	1.3 U	1.2 U	1.3 U
Isobutyl alcohol	23,000,000 [2]	31,000,000 [2]	NE	NE	90 R	96 R	52 R	2,700 J	83 R	89 R
Methacrylonitrile	320 [2]	1,800 [2]	NE	NE	31 U	33 U	18 U	31 U	29 U	31 U
Methylene Chloride	11,000	54,000	1,004 [6]	NE	1.3 U	1.4 U	0.76 U	1.3 U	1.2 U	1.3 U
Tetrachloroethene	570	2,700	400 [6]	NE	0.95 U	1 U	0.55 U	0.96 U	0.87 U	0.95 U
Toluene	500000 [2]	4600000 [2]	13,001 [6]	NE	1 U	1.6 U	1.3 U	1 U	0.95 U	1 U
trans-1,2-Dichloroethene	NE	NE	100 [7]	NE	1.3 U	1.3 U	0.73 U	1.3 U	1.2 U	1.3 U
Vinyl acetate	99000 [2]	420000 [2]	NE	NE	2 U	2.1 U	1.1 U	2 U	1.8 U	1.9 U
Xylenes, Total	60000 [2]	260000 [2]	2,501 [6]	NE	3 U	3.2 U	1.7 U	3 U	2.8 U	3 U

TABLE 7-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - JP-5 HILL AND DFM AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB160 74SB160-05 5/14/2008 9.0-11.0	74SB185 74SB185-03 5/19/2008 5.0-7.0	74SB185 74SB185-05 5/19/2008 9.0-11.0	74SB186 74SB186-03 5/19/2008 5.0-7.0	74SB186 74SB186-05 5/19/2008 9.0-11.0	74SB187 74SB187-03 5/19/2008 5.0-7.0
LLPAHs (ug/kg)										
1-Methylnaphthalene	22,000	99,000	NE	NE	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	31,000 [2]	410,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Acenaphthene	340,000 [2]	3,300,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Acenaphthylene	340,000 [2]	3,300,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Anthracene	1,700,000 [2]	17,000,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[a]anthracene	150	2,100	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[a]pyrene	15.0	210	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[b]fluoranthene	150	2,100	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[g,h,i]perylene	1,700	17,000	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[k]fluoranthene	1,500	21,000	NE	NE	NA	NA	NA	NA	NA	NA
Chrysene	15,000	210,000	NE	NE	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	15.0	210	NE	NE	NA	NA	NA	NA	NA	NA
Fluoranthene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Fluorene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Indeno[1,2,3-cd]pyrene	150	2,100	NE	NE	NA	NA	NA	NA	NA	NA
Naphthalene	3,900	20,000	NE	NE	NA	NA	NA	NA	NA	NA
Phenanthrene	170,000.0 [2][3]	1,700,000 [2][3]	NE	NE	NA	NA	NA	NA	NA	NA
Pyrene	170,000 [2]	1,700,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
PAH Totals (ug/kg):										
Low molecular weight PAI	NE	NE	29,000 [8]	NE	NA	NA	NA	NA	NA	NA
High molecular weight PA	NE	NE	18,000 [8]	NE	NA	NA	NA	NA	NA	NA

TABLE 7-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - JP-5 HILL AND DFM AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB160 74SB160-05 5/14/2008 9.0-11.0	74SB185 74SB185-03 5/19/2008 5.0-7.0	74SB185 74SB185-05 5/19/2008 9.0-11.0	74SB186 74SB186-03 5/19/2008 5.0-7.0	74SB186 74SB186-05 5/19/2008 9.0-11.0	74SB187 74SB187-03 5/19/2008 5.0-7.0
Metals (mg/kg)										
Antimony	3.10 [2]	41.0 [2]	10.0 [9]	3.17	0.093 U	0.12 UJ	0.16 UJ	0.095 UJ	0.094 UJ	0.087 UJ
Arsenic	0.390	1.60	18.0 [10]	1.59	**0.57** J	***3.8***	***4***	***3.7***	**1.6**	***2.2***
Barium	1500 [2]	19,000 [2]	330 [11]	220	200 J	19	24	220	150	31
Beryllium	16.0 [2]	200 [2]	21.0 [12]	0.596	0.23	0.035 J	0.026 J	0.43	0.39	0.33
Cadmium	7.00 [2]	81.0 [2]	0.770 [13]	0.54	0.079 J	0.033 U	0.051 J	0.2	0.053 J	0.036 U
Chromium	280	1,400	26.0 [14]	114.5	190 J	3.1	4.3	31	24	26
Cobalt	2.30 [2]	30.0 [2]	13.0 [15]	26.9	***69*** J	2.1	2.3	***360***	**15**	**8.9**
Copper	310 [2]	4,100 [2]	28.0 [16]	246	85 J	5.4	7.7	62	120	56
Lead	400 [4]	800 [4]	11.0 [17]	6.3	34	1.2	19	34	31	11
Mercury	2.30 [2]	31.0 [2]	0.100 [18]	0.108	0.0053 UJ	0.0063 J	0.0075 J	0.031	0.0047 U	0.06
Nickel	160 [2]	2,000 [2]	38.0 [19]	24.7	62	1.2	1.5	33	13	9
Selenium	39.0 [2]	510 [2]	0.520 [20]	5.94	0.15 U	0.13 U	0.16 J	1.9	0.85	1.5
Silver	39.0 [2]	510 [2]	4.20 [21]	NE	0.19 J	0.017 U	0.015 U	0.066 J	0.022 J	0.018 U
Thallium	0.510 [2]	6.60 [2]	1.00 [22]	0.92	0.15 U	0.13 U	0.11 U	0.15 U	0.15 U	0.14 U
Vanadium	55.0 [2]	720 [2]	7.80 [23]	434	**140** J	20	29	**200**	**230**	**260**
Zinc	2300 [2]	31,000 [2]	46.0 [24]	88	110 J	5.3 J	9.5 J	64 J	56 J	38 J
TPH DRO and GRO (mg/kg)										
Diesel Range Organics	25 [5]	NE	NE	NE	0.83 U	4.8 J	4.6 J	2.4 UJ	0.83 UJ	0.87 UJ
Gasoline Range Organics	25 [5]	NE	NE	NE	0.081 U	0.0095 U	0.0073 U	0.54	0.0078 U	0.0069 U
Total TPH	25 [5]	NE	NE	NE	0.911 U	4.8 J	4.6 J	0.54	0.8378 U	0.8769 U

TABLE 7-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - JP-5 HILL AND DFM AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB187 74SB187-04 5/19/2008 7.0-9.0	74SB200 74SB200-04 5/18/2008 7.0-9.0	74SB200 74SB200-05 5/18/2008 9.0-11.0	74SB201 74SB201-04D 5/18/2008 7.0-9.0	74SB201 74SB201-04 5/18/2008 7.0-9.0	74SB201 74SB201-05 5/18/2008 9.0-11.0
Volatile Organic Compounds (ug/kg)										
2-Butanone (MEK)	2,800,000 [2]	19,000,000 [2]	NE	NE	4.3 UJ	3.7 UJ	13 UJ	3 UJ	3.9 UJ	8 UJ
2-Chloro-1,3-butadiene	860 [2]	3,600 [2]	NE	NE	0.92 U	0.77 U	0.96 U	0.62 U	0.82 U	0.96 U
Acetone	6,100,000 [2]	61,000,000 [2]	NE	NE	66 J	11 J	43 J	8.4 J	32 J	26 J
Benzene	1,100.0 [2]	5,600.0 [2]	101 [6]	NE	1.3 U	1.1 U	2.5 J	0.87 U	1.1 U	2 J
Carbon disulfide	670,000 [2]	300,000 [2]	NE	NE	0.82 U	0.85 J	2.4 J	0.56 U	0.73 U	0.86 U
Chloroform	300	1,500	1,002 [6]	NE	0.8 U	0.68 U	0.84 U	0.55 U	0.72 U	0.84 U
Chloromethane	1,700	8,400	NE	NE	1.1 U	0.96 U	1.2 U	0.78 U	1 U	1.2 U
Ethyl methacrylate	700,000 [2]	9,200,000 [2]	NE	NE	3.5 U	3 UJ	3.7 UJ	2.4 UJ	3.2 UJ	3.7 UJ
Ethylbenzene	5,700	29,000	5,003 [6]	NE	1.2 U	1 U	1.3 U	0.82 U	1.1 U	1.3 U
Iodomethane	NE	NE	NE	NE	1.9 J	1.4 U	1.7 U	1.1 U	1.4 U	1.7 U
Isobutyl alcohol	23,000,000 [2]	31,000,000 [2]	NE	NE	810 J	94 U	120 U	76 U	99 U	120 U
Methacrylonitrile	320 [2]	1,800 [2]	NE	NE	39 U	33 U	40 U	26 U	34 U	40 U
Methylene Chloride	11,000	54,000	1,004 [6]	NE	1.6 U	1.4 U	1.7 U	1.1 U	1.4 U	1.7 U
Tetrachloroethene	570	2,700	400 [6]	NE	1.2 U	0.99 U	1.2 U	0.8 U	1 U	1.2 U
Toluene	500000 [2]	4600000 [2]	13,001 [6]	NE	1.3 U	1.1 U	1.3 U	0.87 U	1.1 U	1.3 U
trans-1,2-Dichloroethene	NE	NE	100 [7]	NE	1.6 U	1.3 U	1.6 U	1.1 U	1.4 U	1.6 U
Vinyl acetate	99000 [2]	420000 [2]	NE	NE	2.4 U	2 U	2.5 U	1.6 U	2.2 U	2.5 U
Xylenes, Total	60000 [2]	260000 [2]	2,501 [6]	NE	3.7 U	3.1 U	3.9 U	2.5 U	3.3 U	3.9 U

TABLE 7-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - JP-5 HILL AND DFM AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB187 74SB187-04 5/19/2008 7.0-9.0	74SB200 74SB200-04 5/18/2008 7.0-9.0	74SB200 74SB200-05 5/18/2008 9.0-11.0	74SB201 74SB201-04D 5/18/2008 7.0-9.0	74SB201 74SB201-04 5/18/2008 7.0-9.0	74SB201 74SB201-05 5/18/2008 9.0-11.0
LLPAHs (ug/kg)										
1-Methylnaphthalene	22,000	99,000	NE	NE	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	31,000 [2]	410,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Acenaphthene	340,000 [2]	3,300,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Acenaphthylene	340,000 [2]	3,300,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Anthracene	1,700,000 [2]	17,000,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[a]anthracene	150	2,100	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[a]pyrene	15.0	210	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[b]fluoranthene	150	2,100	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[g,h,i]perylene	1,700	17,000	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[k]fluoranthene	1,500	21,000	NE	NE	NA	NA	NA	NA	NA	NA
Chrysene	15,000	210,000	NE	NE	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	15.0	210	NE	NE	NA	NA	NA	NA	NA	NA
Fluoranthene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Fluorene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Indeno[1,2,3-cd]pyrene	150	2,100	NE	NE	NA	NA	NA	NA	NA	NA
Naphthalene	3,900	20,000	NE	NE	NA	NA	NA	NA	NA	NA
Phenanthrene	170,000.0 [2][3]	1,700,000 [2][3]	NE	NE	NA	NA	NA	NA	NA	NA
Pyrene	170,000 [2]	1,700,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
PAH Totals (ug/kg):										
Low molecular weight PAI	NE	NE	29,000 [8]	NE	NA	NA	NA	NA	NA	NA
High molecular weight PA	NE	NE	18,000 [8]	NE	NA	NA	NA	NA	NA	NA

TABLE 7-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - JP-5 HILL AND DFM AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB187	74SB200	74SB200	74SB201	74SB201	74SB201
Sample ID					74SB187-04	74SB200-04	74SB200-05	74SB201-04D	74SB201-04	74SB201-05
Date					5/19/2008	5/18/2008	5/18/2008	5/18/2008	5/18/2008	5/18/2008
Depth Range (ft bgs)					7.0-9.0	7.0-9.0	9.0-11.0	7.0-9.0	7.0-9.0	9.0-11.0
Metals (mg/kg)										
Antimony	3.10 [2]	41.0 [2]	10.0 [9]	3.17	0.13 UJ	0.09 U	0.34 J	0.09 U	0.093 U	0.27 J
Arsenic	0.390	1.60	18.0 [10]	1.59	**0.79** J	**0.95**	***7.4***	**0.94**	**0.92**	***5.5***
Barium	1500 [2]	19,000 [2]	330 [11]	220	86	150	13	53	57	22
Beryllium	16.0 [2]	200 [2]	21.0 [12]	0.596	0.6	0.44	0.072 J	0.28	0.19	0.046 J
Cadmium	7.00 [2]	81.0 [2]	0.770 [13]	0.54	0.053 U	0.1 J	0.055 U	0.12 J	0.057 J	0.047 U
Chromium	280	1,400	26.0 [14]	114.5	6.3	52	15	56	47	9.6
Cobalt	2.30 [2]	30.0 [2]	13.0 [15]	26.9	**16**	***32*** J	**2.4** J	***33*** J	***33*** J	**4.5** J
Copper	310 [2]	4,100 [2]	28.0 [16]	246	**500**	150	10	94	110	13
Lead	400 [4]	800 [4]	11.0 [17]	6.3	8.6	1.9	1.3	3.6 R	1.2 R	0.56
Mercury	2.30 [2]	31.0 [2]	0.100 [18]	0.108	0.006 U	0.0052 J	0.0095 J	0.0052 U	0.011 J	0.012 J
Nickel	160 [2]	2,000 [2]	38.0 [19]	24.7	10	33	4.9	36	40	4.3
Selenium	39.0 [2]	510 [2]	0.520 [20]	5.94	0.21 J	0.14 U	0.43 J	0.22 J	0.15 U	0.3 J
Silver	39.0 [2]	510 [2]	4.20 [21]	NE	0.029 J	0.042 J	0.043 J	0.027 J	0.02 UJ	0.024 UJ
Thallium	0.510 [2]	6.60 [2]	1.00 [22]	0.92	0.21 U	0.14 U	0.21 U	0.14 U	0.15 U	0.18 U
Vanadium	55.0 [2]	720 [2]	7.80 [23]	434	**230**	**150**	24	**160**	**170**	28
Zinc	2300 [2]	31,000 [2]	46.0 [24]	88	68 J	68 J	10 J	58 J	59 J	7.1 J
TPH DRO and GRO (mg/kg)										
Diesel Range Organics	25 [5]	NE	NE	NE	10 J	1.5 U	1.8 U	2 U	3.6 U	1.2 U
Gasoline Range Organics	25 [5]	NE	NE	NE	0.26	0.46	0.1 U	0.067 U	0.072 U	0.11 U
Total TPH	25 [5]	NE	NE	NE	10.26 J	0.46	1.9 U	2.067 U	3.672 U	1.31 U

TABLE 7-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - JP-5 HILL AND DFM AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB202 74SB202-04 5/18/2008 7.0-9.0	74SB202 74SB202-05 5/18/2008 9.0-11.0	74SB203 74SB203-04 5/18/2008 7.0-9.0	74SB203 74SB203-05 5/18/2008 9.0-11.0	74SB204 74SB204-04 5/18/2008 7.0-9.0	74SB204 74SB204-05 5/18/2008 9.0-11.0
Volatile Organic Compounds (ug/kg)										
2-Butanone (MEK)	2,800,000 [2]	19,000,000 [2]	NE	NE	2.6 UJ	3.7 UJ	3.2 UJ	3.6 UJ	3.7 UJ	3.3 UJ
2-Chloro-1,3-butadiene	860 [2]	3,600 [2]	NE	NE	0.56 U	0.79 U	0.68 U	0.77 U	0.77 U	0.7 U
Acetone	6,100,000 [2]	61,000,000 [2]	NE	NE	8.1 J	22 J	35 J	18 J	27 J	6.9 J
Benzene	1,100.0 [2]	5,600.0 [2]	101 [6]	NE	0.77 U	1.1 U	0.95 U	1.1 U	1.1 U	0.97 U
Carbon disulfide	670,000 [2]	300,000 [2]	NE	NE	0.5 U	0.93 J	1.7 J	1 J	2.1 J	0.62 U
Chloroform	300	1,500	1,002 [6]	NE	0.49 U	0.69 U	0.6 U	0.67 U	0.68 U	0.61 U
Chloromethane	1,700	8,400	NE	NE	0.69 U	0.98 U	0.85 U	0.95 U	0.96 U	0.87 U
Ethyl methacrylate	700,000 [2]	9,200,000 [2]	NE	NE	2.1 UJ	3 UJ	2.6 UJ	3 UJ	3 UJ	2.7 UJ
Ethylbenzene	5,700	29,000	5,003 [6]	NE	0.73 U	1 U	0.9 U	1 U	1 U	0.92 U
Iodomethane	NE	NE	NE	NE	0.98 U	1.4 U	1.2 U	1.3 U	1.4 U	1.2 U
Isobutyl alcohol	23,000,000 [2]	31,000,000 [2]	NE	NE	67 U	95 U	83 U	93 U	94 U	84 U
Methacrylonitrile	320 [2]	1,800 [2]	NE	NE	23 U	33 U	29 U	32 U	33 U	29 U
Methylene Chloride	11,000	54,000	1,004 [6]	NE	0.98 U	1.4 U	1.2 U	1.3 U	1.4 U	1.2 U
Tetrachloroethene	570	2,700	400 [6]	NE	0.71 U	1 U	0.87 U	0.98 U	0.99 U	0.89 U
Toluene	500000 [2]	4600000 [2]	13,001 [6]	NE	0.77 U	1.1 U	0.95 U	1.1 U	1.1 U	0.97 U
trans-1,2-Dichloroethene	NE	NE	100 [7]	NE	0.95 U	1.3 U	1.2 U	1.3 U	1.3 U	1.2 U
Vinyl acetate	99000 [2]	420000 [2]	NE	NE	1.5 U	2.1 U	1.8 U	2 U	2 U	1.8 U
Xylenes, Total	60000 [2]	260000 [2]	2,501 [6]	NE	2.2 U	3.2 U	2.8 U	3.1 U	3.1 U	2.8 U

TABLE 7-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - JP-5 HILL AND DFM AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB202 74SB202-04 5/18/2008 7.0-9.0	74SB202 74SB202-05 5/18/2008 9.0-11.0	74SB203 74SB203-04 5/18/2008 7.0-9.0	74SB203 74SB203-05 5/18/2008 9.0-11.0	74SB204 74SB204-04 5/18/2008 7.0-9.0	74SB204 74SB204-05 5/18/2008 9.0-11.0
LLPAHs (ug/kg)										
1-Methylnaphthalene	22,000	99,000	NE	NE	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	31,000 [2]	410,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Acenaphthene	340,000 [2]	3,300,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Acenaphthylene	340,000 [2]	3,300,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Anthracene	1,700,000 [2]	17,000,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[a]anthracene	150	2,100	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[a]pyrene	15.0	210	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[b]fluoranthene	150	2,100	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[g,h,i]perylene	1,700	17,000	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[k]fluoranthene	1,500	21,000	NE	NE	NA	NA	NA	NA	NA	NA
Chrysene	15,000	210,000	NE	NE	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	15.0	210	NE	NE	NA	NA	NA	NA	NA	NA
Fluoranthene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Fluorene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Indeno[1,2,3-cd]pyrene	150	2,100	NE	NE	NA	NA	NA	NA	NA	NA
Naphthalene	3,900	20,000	NE	NE	NA	NA	NA	NA	NA	NA
Phenanthrene	170,000.0 [2][3]	1,700,000 [2][3]	NE	NE	NA	NA	NA	NA	NA	NA
Pyrene	170,000 [2]	1,700,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
PAH Totals (ug/kg):										
Low molecular weight PAI	NE	NE	29,000 [8]	NE	NA	NA	NA	NA	NA	NA
High molecular weight PA	NE	NE	18,000 [8]	NE	NA	NA	NA	NA	NA	NA

TABLE 7-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - JP-5 HILL AND DFM AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB202 74SB202-04 5/18/2008 7.0-9.0	74SB202 74SB202-05 5/18/2008 9.0-11.0	74SB203 74SB203-04 5/18/2008 7.0-9.0	74SB203 74SB203-05 5/18/2008 9.0-11.0	74SB204 74SB204-04 5/18/2008 7.0-9.0	74SB204 74SB204-05 5/18/2008 9.0-11.0
Metals (mg/kg)										
Antimony	3.10 [2]	41.0 [2]	10.0 [9]	3.17	0.082 U	0.1 J	0.092 U	0.11 U	0.1 J	0.087 U
Arsenic	0.390	1.60	18.0 [10]	1.59	**1.2**	**1.5**	***2.1***	**1.6**	**1.4**	**0.85**
Barium	1500 [2]	19,000 [2]	330 [11]	220	64	90	58	120	26 J	110 J
Beryllium	16.0 [2]	200 [2]	21.0 [12]	0.596	0.27	0.35	0.38	0.49	0.5	0.23
Cadmium	7.00 [2]	81.0 [2]	0.770 [13]	0.54	0.065 J	0.064 J	0.068 J	0.053 J	0.12 J	0.22
Chromium	280	1,400	26.0 [14]	114.5	46	68	96	120	98	40
Cobalt	2.30 [2]	30.0 [2]	13.0 [15]	26.9	***32*** J	***32*** J	**30** J	***43*** J	***44*** J	***32*** J
Copper	310 [2]	4,100 [2]	28.0 [16]	246	100	82	88	92	110 J	130 J
Lead	400 [4]	800 [4]	11.0 [17]	6.3	1.4	3.8	5.7	3.9	2.8	0.95
Mercury	2.30 [2]	31.0 [2]	0.100 [18]	0.108	0.0063 J	0.017 J	0.038	0.013 J	0.024 J	0.0048 U
Nickel	160 [2]	2,000 [2]	38.0 [19]	24.7	39	30	30	38	35 J	17 J
Selenium	39.0 [2]	510 [2]	0.520 [20]	5.94	0.13 U	0.74	1.8	1.1	0.79	0.14 U
Silver	39.0 [2]	510 [2]	4.20 [21]	NE	0.027 J	0.027 J	0.031 J	0.025 J	0.063 J	0.11 J
Thallium	0.510 [2]	6.60 [2]	1.00 [22]	0.92	0.13 U	0.15 U	0.15 U	0.18 U	0.16 U	0.14 U
Vanadium	55.0 [2]	720 [2]	7.80 [23]	434	**160**	**190**	**260**	**250**	**230**	**190**
Zinc	2300 [2]	31,000 [2]	46.0 [24]	88	62 J	56 J	58 J	56 J	46 J	63 J
TPH DRO and GRO (mg/kg)										
Diesel Range Organics	25 [5]	NE	NE	NE	3.7 U	2.1 U	2.1 U	4.1 U	5.4	1.3 U
Gasoline Range Organics	25 [5]	NE	NE	NE	0.064 U	0.076 U	0.073 U	0.088 U	0.069 U	0.081 U
Total TPH	25 [5]	NE	NE	NE	3.764 U	2.176 U	2.173 U	4.188 U	5.4	1.381 U

TABLE 7-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - JP-5 HILL AND DFM AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background (1)	74SB205 74SB205-04 5/18/2008 7.0-9.0	74SB205 74SB205-05 5/18/2008 9.0-11.0	74SB206 74SB206-04D 5/19/2008 7.0-9.0	74SB206 74SB206-04 5/19/2008 7.0-9.0	74SB206 74SB206-05 5/19/2008 9.0-11.0	74SB207 74SB207-04 5/19/2008 7.0-9.0
Volatile Organic Compounds (ug/kg)										
2-Butanone (MEK)	2,800,000 (2)	19,000,000 (2)	NE	NE	3 U	2.8 U	3.4 UJ	3.8 UJ	3.8 UJ	2.5 UJ
2-Chloro-1,3-butadiene	860 (2)	3,600 (2)	NE	NE	0.63 UJ	0.6 UJ	0.71 U	0.8 U	0.8 U	0.53 U
Acetone	6,100,000 (2)	61,000,000 (2)	NE	NE	16 J	6.7 J	54 J	67 J	19 J	9.1 J
Benzene	1,100.0 (2)	5,600.0 (2)	101 (6)	NE	0.87 U	0.83 U	0.98 U	1.1 U	1.1 U	0.74 U
Carbon disulfide	670,000 (2)	300,000 (2)	NE	NE	0.56 U	0.54 U	0.63 U	0.72 U	0.72 U	0.48 U
Chloroform	300	1,500	1,002 (6)	NE	0.55 U	0.53 U	0.62 U	0.7 U	0.7 U	0.47 U
Chloromethane	1,700	8,400	NE	NE	0.78 U	0.75 U	0.88 U	1 U	1 U	0.67 U
Ethyl methacrylate	700,000 (2)	9,200,000 (2)	NE	NE	2.4 U	2.3 U	2.7 U	3.1 U	3.1 U	2.1 U
Ethylbenzene	5,700	29,000	5,003 (6)	NE	0.83 U	0.79 U	0.93 U	1.1 U	1.1 U	0.7 U
Iodomethane	NE	NE	NE	NE	1.1 U	1.1 U	1.2 U	1.4 U	1.4 UJ	0.94 UJ
Isobutyl alcohol	23,000,000 (2)	31,000,000 (2)	NE	NE	76 U	73 U	86 R	97 R	97 R	65 R
Methacrylonitrile	320 (2)	1,800 (2)	NE	NE	26 U	25 U	30 U	34 U	34 U	23 U
Methylene Chloride	11,000	54,000	1,004 (6)	NE	1.1 U	1.1 U	1.2 U	1.4 U	1.4 U	0.94 U
Tetrachloroethene	570	2,700	400 (6)	NE	0.8 U	0.77 U	0.91 U	1 U	1 U	0.68 U
Toluene	500000 (2)	4600000 (2)	13,001 (6)	NE	0.87 U	0.83 U	0.98 U	1.1 U	1.1 U	0.74 U
trans-1,2-Dichloroethene	NE	NE	100 (7)	NE	1.1 U	1 U	1.2 U	1.4 U	1.4 U	0.91 U
Vinyl acetate	99000 (2)	420000 (2)	NE	NE	1.7 U	1.6 U	1.9 U	2.1 U	2.1 U	1.4 U
Xylenes, Total	60000 (2)	260000 (2)	2,501 (6)	NE	2.5 U	2.4 U	2.9 U	3.2 U	3.2 U	2.2 U

TABLE 7-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - JP-5 HILL AND DFM AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB205 74SB205-04 5/18/2008 7.0-9.0	74SB205 74SB205-05 5/18/2008 9.0-11.0	74SB206 74SB206-04D 5/19/2008 7.0-9.0	74SB206 74SB206-04 5/19/2008 7.0-9.0	74SB206 74SB206-05 5/19/2008 9.0-11.0	74SB207 74SB207-04 5/19/2008 7.0-9.0
LLPAHs (ug/kg)										
1-Methylnaphthalene	22,000	99,000	NE	NE	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	31,000 [2]	410,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Acenaphthene	340,000 [2]	3,300,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Acenaphthylene	340,000 [2]	3,300,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Anthracene	1,700,000 [2]	17,000,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[a]anthracene	150	2,100	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[a]pyrene	15.0	210	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[b]fluoranthene	150	2,100	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[g,h,i]perylene	1,700	17,000	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[k]fluoranthene	1,500	21,000	NE	NE	NA	NA	NA	NA	NA	NA
Chrysene	15,000	210,000	NE	NE	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	15.0	210	NE	NE	NA	NA	NA	NA	NA	NA
Fluoranthene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Fluorene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Indeno[1,2,3-cd]pyrene	150	2,100	NE	NE	NA	NA	NA	NA	NA	NA
Naphthalene	3,900	20,000	NE	NE	NA	NA	NA	NA	NA	NA
Phenanthrene	170,000.0 [2][3]	1,700,000 [2][3]	NE	NE	NA	NA	NA	NA	NA	NA
Pyrene	170,000 [2]	1,700,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
PAH Totals (ug/kg):										
Low molecular weight PAI	NE	NE	29,000 [8]	NE	NA	NA	NA	NA	NA	NA
High molecular weight PA	NE	NE	18,000 [8]	NE	NA	NA	NA	NA	NA	NA

TABLE 7-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - JP-5 HILL AND DFM AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB205 74SB205-04 5/18/2008 7.0-9.0	74SB205 74SB205-05 5/18/2008 9.0-11.0	74SB206 74SB206-04D 5/19/2008 7.0-9.0	74SB206 74SB206-04 5/19/2008 7.0-9.0	74SB206 74SB206-05 5/19/2008 9.0-11.0	74SB207 74SB207-04 5/19/2008 7.0-9.0
Metals (mg/kg)										
Antimony	3.10 [2]	41.0 [2]	10.0 [9]	3.17	0.089 J	0.093 J	0.096 UJ	0.11 UJ	0.13 UJ	0.073 UJ
Arsenic	0.390	1.60	18.0 [10]	1.59	***2.5***	***1.7***	**1.4**	**1.5**	**1.1**	**0.53**
Barium	1500 [2]	19,000 [2]	330 [11]	220	23 J	18 J	66	76	24	28
Beryllium	16.0 [2]	200 [2]	21.0 [12]	0.596	0.36	0.22	0.52	0.5	0.29	0.2
Cadmium	7.00 [2]	81.0 [2]	0.770 [13]	0.54	0.27	0.2	0.04 U	0.062 J	0.031 U	0.058 J
Chromium	280	1,400	26.0 [14]	114.5	21	28	37	36	3.3	33
Cobalt	2.30 [2]	30.0 [2]	13.0 [15]	26.9	**15** J	**14** J	**13** J	**20** J	**9.6**	**26**
Copper	310 [2]	4,100 [2]	28.0 [16]	246	110 J	130 J	110	95	46	120
Lead	400 [4]	800 [4]	11.0 [17]	6.3	2	2.4	32	35	6.4	0.58
Mercury	2.30 [2]	31.0 [2]	0.100 [18]	0.108	0.0045 U	0.0077 J	0.015 J	0.081 J	0.004 U	0.0036 U
Nickel	160 [2]	2,000 [2]	38.0 [19]	24.7	12 J	8.3 J	13	14	4.6	44
Selenium	39.0 [2]	510 [2]	0.520 [20]	5.94	0.22 J	0.13 U	1.3	1.4	0.2 J	0.12 U
Silver	39.0 [2]	510 [2]	4.20 [21]	NE	0.02 J	0.17 J	0.036 J	0.032 J	0.043 J	0.1 J
Thallium	0.510 [2]	6.60 [2]	1.00 [22]	0.92	0.14 U	0.13 U	0.15 U	0.14 U	0.12 U	0.12 U
Vanadium	55.0 [2]	720 [2]	7.80 [23]	434	**130**	**95**	**300**	**290**	**80**	**150**
Zinc	2300 [2]	31,000 [2]	46.0 [24]	88	82 J	67 J	54 J	51 J	46 J	34 J
TPH DRO and GRO (mg/kg)										
Diesel Range Organics	25 [5]	NE	NE	NE	0.75 U	0.73 U	0.82 UJ	0.81 UJ	1 UJ	0.94 UJ
Gasoline Range Organics	25 [5]	NE	NE	NE	0.061 U	0.072 U	0.0075 U	0.0085 U	0.0065 U	0.007 U
Total TPH	25 [5]	NE	NE	NE	0.811 U	0.802 U	0.8275 U	0.8185 U	1.0065 U	0.947 U

TABLE 7-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - JP-5 HILL AND DFM AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB207 74SB207-05 5/19/2008 9.0-11.0	74SB209 74SB209-04 5/19/2008 7.0-9.0	74SB209 74SB209-05 5/19/2008 9.0-11.0	74SB210 74SB210-04 5/19/2008 7.0-9.0	74SB210 74SB210-05 5/19/2008 9.0-11.0	74SB211 74SB211-03D 5/19/2008 5.0-7.0
Volatile Organic Compounds (ug/kg)										
2-Butanone (MEK)	2,800,000 [2]	19,000,000 [2]	NE	NE	4.2 UJ	3.1 UJ	3.4 UJ	120 UJ	480 U	2.9 UJ
2-Chloro-1,3-butadiene	860 [2]	3,600 [2]	NE	NE	0.64 U	0.65 U	0.71 U	26 U	100 U	0.61 U
Acetone	6,100,000 [2]	61,000,000 [2]	NE	NE	62 J	32 J	20 J	200 UJ	1,400 J	15 J
Benzene	1,100.0 [2]	5,600.0 [2]	101 [6]	NE	0.89 U	0.9 U	0.99 U	**4,200** J	**3,200** J	0.85 U
Carbon disulfide	670,000 [2]	300,000 [2]	NE	NE	0.57 U	0.58 U	0.64 U	23 U	91 U	0.55 U
Chloroform	300	1,500	1,002 [6]	NE	0.56 U	0.57 U	0.62 U	23 U	89 U	0.54 U
Chloromethane	1,700	8,400	NE	NE	0.8 U	0.81 U	0.89 U	32 U	130 U	0.76 U
Ethyl methacrylate	700,000 [2]	9,200,000 [2]	NE	NE	2.5 U	2.5 U	2.7 U	100 U	310 U	2.4 U
Ethylbenzene	5,700	29,000	5,003 [6]	NE	0.84 U	0.85 U	0.94 U	**12,000**	**12,000** J	0.8 U
Iodomethane	NE	NE	NE	NE	1.1 UJ	1.1 UJ	1.2 U	45 U	180 U	1.1 U
Isobutyl alcohol	23,000,000 [2]	31,000,000 [2]	NE	NE	77 R	79 R	86 R	3,100 U	12,000 U	74 R
Methacrylonitrile	320 [2]	1,800 [2]	NE	NE	27 U	27 U	30 U	1,100 U	4,300 U	26 U
Methylene Chloride	11,000	54,000	1,004 [6]	NE	1.1 U	1.1 U	1.2 U	45 U	180 U	1.1 U
Tetrachloroethene	570	2,700	400 [6]	NE	0.82 U	0.83 U	0.91 U	33 U	130 U	0.78 U
Toluene	500000 [2]	4600000 [2]	13,001 [6]	NE	0.89 U	0.9 U	0.99 U	6,700 J	7,900 J	0.85 U
trans-1,2-Dichloroethene	NE	NE	100 [7]	NE	1.1 U	1.1 U	1.2 U	44 U	170 U	1 U
Vinyl acetate	99000 [2]	420000 [2]	NE	NE	1.7 U	1.7 U	1.9 U	68 U	270 U	1.6 U
Xylenes, Total	60000 [2]	260000 [2]	2,501 [6]	NE	2.6 U	2.6 U	2.9 U	**77,000**	**78,000** J	2.5 U

TABLE 7-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - JP-5 HILL AND DFM AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB207 74SB207-05 5/19/2008 9.0-11.0	74SB209 74SB209-04 5/19/2008 7.0-9.0	74SB209 74SB209-05 5/19/2008 9.0-11.0	74SB210 74SB210-04 5/19/2008 7.0-9.0	74SB210 74SB210-05 5/19/2008 9.0-11.0	74SB211 74SB211-03D 5/19/2008 5.0-7.0
LLPAHs (ug/kg)										
1-Methylnaphthalene	22,000	99,000	NE	NE	NA	NA	NA	710	260 J	NA
2-Methylnaphthalene	31,000 [2]	410,000 [2]	NE	NE	NA	NA	NA	1,500	540 J	NA
Acenaphthene	340,000 [2]	3,300,000 [2]	NE	NE	NA	NA	NA	12 J	6.1 U	NA
Acenaphthylene	340,000 [2]	3,300,000 [2]	NE	NE	NA	NA	NA	12 J	6.1 U	NA
Anthracene	1,700,000 [2]	17,000,000 [2]	NE	NE	NA	NA	NA	18 U	18 U	NA
Benzo[a]anthracene	150	2,100	NE	NE	NA	NA	NA	18 U	18 U	NA
Benzo[a]pyrene	15.0	210	NE	NE	NA	NA	NA	7.1 U	7.1 U	NA
Benzo[b]fluoranthene	150	2,100	NE	NE	NA	NA	NA	14 J	8.2 U	NA
Benzo[g,h,i]perylene	1,700	17,000	NE	NE	NA	NA	NA	18 U	18 U	NA
Benzo[k]fluoranthene	1,500	21,000	NE	NE	NA	NA	NA	11 U	11 U	NA
Chrysene	15,000	210,000	NE	NE	NA	NA	NA	25 J	14 J	NA
Dibenz(a,h)anthracene	15.0	210	NE	NE	NA	NA	NA	6.4 U	6.4 U	NA
Fluoranthene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	NA	48 J	30 J	NA
Fluorene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	NA	190	94 J	NA
Indeno[1,2,3-cd]pyrene	150	2,100	NE	NE	NA	NA	NA	13 U	13 U	NA
Naphthalene	3,900	20,000	NE	NE	NA	NA	NA	920	310	NA
Phenanthrene	170,000.0 [2][3]	1,700,000 [2][3]	NE	NE	NA	NA	NA	120	67 J	NA
Pyrene	170,000 [2]	1,700,000 [2]	NE	NE	NA	NA	NA	44 J	26 J	NA
PAH Totals (ug/kg):										
Low molecular weight PAI	NE	NE	29,000 [8]	NE	NA	NA	NA	3488	1313.1	NA
High molecular weight PA	NE	NE	18,000 [8]	NE	NA	NA	NA	204.5	151.7	NA

TABLE 7-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - JP-5 HILL AND DFM AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB207 74SB207-05 5/19/2008 9.0-11.0	74SB209 74SB209-04 5/19/2008 7.0-9.0	74SB209 74SB209-05 5/19/2008 9.0-11.0	74SB210 74SB210-04 5/19/2008 7.0-9.0	74SB210 74SB210-05 5/19/2008 9.0-11.0	74SB211 74SB211-03D 5/19/2008 5.0-7.0
Metals (mg/kg)										
Antimony	3.10 [2]	41.0 [2]	10.0 [9]	3.17	0.1 UJ	0.087 UJ	0.084 UJ	0.21 J	0.18 J	0.078 J
Arsenic	0.390	1.60	18.0 [10]	1.59	**1.6**	**0.99**	**0.67**	***2.5***	***2***	**1.1**
Barium	1500 [2]	19,000 [2]	330 [11]	220	25	35	24	21	9.5	36
Beryllium	16.0 [2]	200 [2]	21.0 [12]	0.596	0.22	0.21	0.21	0.3	0.23	0.18
Cadmium	7.00 [2]	81.0 [2]	0.770 [13]	0.54	0.14	0.35	0.26	0.13	0.07 J	0.04 J
Chromium	280	1,400	26.0 [14]	114.5	41	23	19	4.5	4.7	23
Cobalt	2.30 [2]	30.0 [2]	13.0 [15]	26.9	***100***	***32***	**30**	***33***	**18**	**25**
Copper	310 [2]	4,100 [2]	28.0 [16]	246	150	210	170	140	95	120 J
Lead	400 [4]	800 [4]	11.0 [17]	6.3	4.5	22	5	2.3	2.3	0.56
Mercury	2.30 [2]	31.0 [2]	0.100 [18]	0.108	0.0039 U	0.0044 U	0.0039 U	0.004 U	0.0042 U	0.004 U
Nickel	160 [2]	2,000 [2]	38.0 [19]	24.7	30	20	17	9.2	6.1	15
Selenium	39.0 [2]	510 [2]	0.520 [20]	5.94	0.31 J	0.15 J	0.13 U	0.12 U	0.12 U	0.12 U
Silver	39.0 [2]	510 [2]	4.20 [21]	NE	0.12 J	0.019 J	0.037 J	0.14 J	0.17 J	0.02 J
Thallium	0.510 [2]	6.60 [2]	1.00 [22]	0.92	0.12 U	0.14 U	0.13 U	0.12 U	0.12 U	0.12 U
Vanadium	55.0 [2]	720 [2]	7.80 [23]	434	**220**	**320**	**220**	**170**	**150**	**190**
Zinc	2300 [2]	31,000 [2]	46.0 [24]	88	47 J	97 J	58	47	49	46 J
TPH DRO and GRO (mg/kg)										
Diesel Range Organics	25 [5]	NE	NE	NE	3.2 UJ	0.78 UJ	1.6 U	**33**	**28**	0.85 U
Gasoline Range Organics	25 [5]	NE	NE	NE	0.06	0.0084 U	0.063 U	**680** J	18 J	0.076 U
Total TPH	25 [5]	NE	NE	NE	0.06	0.7884 U	1.663 U	**713** J	**46** J	0.926 U

TABLE 7-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - JP-5 HILL AND DFM AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB211 74SB211-03 5/19/2008 5.0-7.0	74SB211 74SB211-04 5/19/2008 7.0-9.0	74SB226 74SB226-04 5/20/2008 7.0-9.0	74SB226 74SB226-05D 5/20/2008 9.0-11.0	74SB226 74SB226-05 5/20/2008 9.0-11.0	74SB227 74SB227-04 5/20/2008 7.0-9.0
Volatile Organic Compounds (ug/kg)										
2-Butanone (MEK)	2,800,000 [2]	19,000,000 [2]	NE	NE	4.3 UJ	7.5 UJ	5.3 UJ	97 U	130 U	6.9 UJ
2-Chloro-1,3-butadiene	860 [2]	3,600 [2]	NE	NE	0.63 U	0.64 U	0.62 U	20 U	22 U	0.7 U
Acetone	6,100,000 [2]	61,000,000 [2]	NE	NE	60 J	57 J	40 UJ	150 UJ	190 UJ	31 UJ
Benzene	1,100.0 [2]	5,600.0 [2]	101 [6]	NE	0.87 U	0.88 U	0.86 U	28 U	31 U	0.96 U
Carbon disulfide	670,000 [2]	300,000 [2]	NE	NE	0.56 U	0.57 U	0.93 J	18 U	20 U	1.3 J
Chloroform	300	1,500	1,002 [6]	NE	0.55 U	0.56 U	0.55 U	17 U	19 U	0.61 U
Chloromethane	1,700	8,400	NE	NE	0.79 U	0.8 U	0.77 U	25 U	28 U	0.87 U
Ethyl methacrylate	700,000 [2]	9,200,000 [2]	NE	NE	2.4 U	2.5 U	2.4 UJ	77 U	86 U	2.7 UJ
Ethylbenzene	5,700	29,000	5,003 [6]	NE	0.83 U	0.84 U	0.82 U	26 U	29 U	0.91 U
Iodomethane	NE	NE	NE	NE	1.1 U	1.1 U	1.1 U	35 U	39 U	1.2 U
Isobutyl alcohol	23,000,000 [2]	31,000,000 [2]	NE	NE	76 R	77 R	75 R	2,400 U	2,700 U	84 R
Methacrylonitrile	320 [2]	1,800 [2]	NE	NE	27 U	27 U	26 U	840 U	930 U	29 U
Methylene Chloride	11,000	54,000	1,004 [6]	NE	1.1 U	1.1 U	1.1 U	35 UJ	39 UJ	1.2 U
Tetrachloroethene	570	2,700	400 [6]	NE	0.81 U	0.82 U	0.8 U	25 U	32 J	0.89 U
Toluene	500000 [2]	4600000 [2]	13,001 [6]	NE	0.87 U	0.88 U	0.86 U	53 U	60 U	0.96 U
trans-1,2-Dichloroethene	NE	NE	100 [7]	NE	1.1 U	1.1 U	1.1 U	34 UJ	38 UJ	1.2 U
Vinyl acetate	99000 [2]	420000 [2]	NE	NE	1.7 U	1.7 U	1.6 U	52 U	58 U	1.8 U
Xylenes, Total	60000 [2]	260000 [2]	2,501 [6]	NE	2.5 U	2.6 U	2.5 U	80 U	89 U	2.8 U

TABLE 7-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - JP-5 HILL AND DFM AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB211 74SB211-03 5/19/2008 5.0-7.0	74SB211 74SB211-04 5/19/2008 7.0-9.0	74SB226 74SB226-04 5/20/2008 7.0-9.0	74SB226 74SB226-05D 5/20/2008 9.0-11.0	74SB226 74SB226-05 5/20/2008 9.0-11.0	74SB227 74SB227-04 5/20/2008 7.0-9.0
LLPAHs (ug/kg)										
1-Methylnaphthalene	22,000	99,000	NE	NE	NA	NA	NA	130	79	NA
2-Methylnaphthalene	31,000 [2]	410,000 [2]	NE	NE	NA	NA	NA	19 U	19 U	NA
Acenaphthene	340,000 [2]	3,300,000 [2]	NE	NE	NA	NA	NA	110	88	NA
Acenaphthylene	340,000 [2]	3,300,000 [2]	NE	NE	NA	NA	NA	25 J	19 U	NA
Anthracene	1,700,000 [2]	17,000,000 [2]	NE	NE	NA	NA	NA	190	160	NA
Benzo[a]anthracene	150	2,100	NE	NE	NA	NA	NA	120	100	NA
Benzo[a]pyrene	15.0	210	NE	NE	NA	NA	NA	**51** J	**44** J	NA
Benzo[b]fluoranthene	150	2,100	NE	NE	NA	NA	NA	93	52 J	NA
Benzo[g,h,i]perylene	1,700	17,000	NE	NE	NA	NA	NA	25 J	22 J	NA
Benzo[k]fluoranthene	1,500	21,000	NE	NE	NA	NA	NA	11 U	28 J	NA
Chrysene	15,000	210,000	NE	NE	NA	NA	NA	120	100	NA
Dibenz(a,h)anthracene	15.0	210	NE	NE	NA	NA	NA	6.6 U	6.8 U	NA
Fluoranthene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	NA	440	340	NA
Fluorene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	NA	130	110	NA
Indeno[1,2,3-cd]pyrene	150	2,100	NE	NE	NA	NA	NA	26 J	19 J	NA
Naphthalene	3,900	20,000	NE	NE	NA	NA	NA	6.7 U	6.9 U	NA
Phenanthrene	170,000.0 [2][3]	1,700,000 [2][3]	NE	NE	NA	NA	NA	340	240	NA
Pyrene	170,000 [2]	1,700,000 [2]	NE	NE	NA	NA	NA	370	310	NA
PAH Totals (ug/kg):										
Low molecular weight PAI	NE	NE	29,000 [8]	NE	NA	NA	NA	950.7	721.9	NA
High molecular weight PA	NE	NE	18,000 [8]	NE	NA	NA	NA	1262.6	1021.8	NA

TABLE 7-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - JP-5 HILL AND DFM AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB211 74SB211-03 5/19/2008 5.0-7.0	74SB211 74SB211-04 5/19/2008 7.0-9.0	74SB226 74SB226-04 5/20/2008 7.0-9.0	74SB226 74SB226-05D 5/20/2008 9.0-11.0	74SB226 74SB226-05 5/20/2008 9.0-11.0	74SB227 74SB227-04 5/20/2008 7.0-9.0
Metals (mg/kg)										
Antimony	3.10 [2]	41.0 [2]	10.0 [9]	3.17	0.076 U	0.08 J	0.093 J	0.17 J	0.13 J	0.087 J
Arsenic	0.390	1.60	18.0 [10]	1.59	**1.2**	**1.1**	**1.3**	**1.4**	**1.5**	**0.93**
Barium	1500 [2]	19,000 [2]	330 [11]	220	28	36	30	19	24	52
Beryllium	16.0 [2]	200 [2]	21.0 [12]	0.596	0.2	0.19	0.21	0.22	0.23	0.27
Cadmium	7.00 [2]	81.0 [2]	0.770 [13]	0.54	0.059 J	0.077 J	0.086 J	0.14	0.2	0.035 U
Chromium	280	1,400	26.0 [14]	114.5	28	27	5	4.8	4.4	13
Cobalt	2.30 [2]	30.0 [2]	13.0 [15]	26.9	**25**	**21**	**15**	**17**	**22**	***39***
Copper	310 [2]	4,100 [2]	28.0 [16]	246	140 J	110 J	29	71	77	31
Lead	400 [4]	800 [4]	11.0 [17]	6.3	0.49	0.53	2	1.9 J	2.3	1.4
Mercury	2.30 [2]	31.0 [2]	0.100 [18]	0.108	0.004 U	0.0043 U	0.004 U	0.0042 U	0.0045 U	0.0042 U
Nickel	160 [2]	2,000 [2]	38.0 [19]	24.7	17	17	6.5	7.6	7.6	28
Selenium	39.0 [2]	510 [2]	0.520 [20]	5.94	0.12 U	0.12 U	0.13 U	0.41 J	0.64	0.15 J
Silver	39.0 [2]	510 [2]	4.20 [21]	NE	0.029 J	0.032 J	0.017 U	0.017 U	0.028 J	0.018 U
Thallium	0.510 [2]	6.60 [2]	1.00 [22]	0.92	0.12 U	0.12 U	0.13 U	0.13 U	0.13 U	0.13 U
Vanadium	55.0 [2]	720 [2]	7.80 [23]	434	**190**	**160**	**190** J	**300** J	**310** J	**210** J
Zinc	2300 [2]	31,000 [2]	46.0 [24]	88	43 J	37 J	79 J	140	110 J	67 J
TPH DRO and GRO (mg/kg)										
Diesel Range Organics	25 [5]	NE	NE	NE	0.76 U	1.6 U	**510**	**1,300** J	**420** J	4.8
Gasoline Range Organics	25 [5]	NE	NE	NE	0.12 J	0.56	**39**	**48**	**33**	0.21
Total TPH	25 [5]	NE	NE	NE	0.12 J	0.56	**549**	**1,348** J	**453** J	5.01

TABLE 7-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - JP-5 HILL AND DFM AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB227 74SB227-05 5/20/2008 9.0-11.0	74SB228 74SB228-04 5/20/2008 7.0-9.0	74SB228 74SB228-05 5/20/2008 9.0-11.0	74SB229 74SB229-04 5/20/2008 7.0-9.0	74SB229 74SB229-05 5/20/2008 9.0-11.0	74SB230 74SB230-04 5/20/2008 7.0-9.0
Volatile Organic Compounds (ug/kg)										
2-Butanone (MEK)	2,800,000 [2]	19,000,000 [2]	NE	NE	130 U	3.1 UJ	110 U	2.8 UJ	110 U	5.7 UJ
2-Chloro-1,3-butadiene	860 [2]	3,600 [2]	NE	NE	27 U	0.66 U	27 J	0.6 U	24 U	0.7 U
Acetone	6,100,000 [2]	61,000,000 [2]	NE	NE	210 UJ	24 U	180 UJ	23 U	180 U	52 U
Benzene	1,100.0 [2]	5,600.0 [2]	101 [6]	NE	38 U	0.92 U	32 U	0.83 U	33 U	0.97 U
Carbon disulfide	670,000 [2]	300,000 [2]	NE	NE	24 U	0.59 U	29 J	0.54 U	21 U	3.4 J
Chloroform	300	1,500	1,002 [6]	NE	24 U	0.58 U	20 U	0.53 U	21 U	0.61 U
Chloromethane	1,700	8,400	NE	NE	34 U	0.82 U	29 U	0.75 U	30 U	0.87 U
Ethyl methacrylate	700,000 [2]	9,200,000 [2]	NE	NE	110 U	2.6 U	90 U	2.3 U	92 U	2.7 U
Ethylbenzene	5,700	29,000	5,003 [6]	NE	1,000	0.87 U	44 J	0.79 U	31 U	0.92 U
Iodomethane	NE	NE	NE	NE	48 U	1.2 U	41 U	1.1 U	42 U	1.2 U
Isobutyl alcohol	23,000,000 [2]	31,000,000 [2]	NE	NE	3,300 U	80 R	2,800 U	73 R	2,900 U	84 R
Methacrylonitrile	320 [2]	1,800 [2]	NE	NE	1,200 U	28 U	980 U	25 U	1,000 U	29 U
Methylene Chloride	11,000	54,000	1,004 [6]	NE	48 UJ	1.2 U	63 UJ	1.1 U	42 U	1.2 U
Tetrachloroethene	570	2,700	400 [6]	NE	35 U	0.85 U	30 U	0.77 U	30 U	0.89 U
Toluene	500000 [2]	4600000 [2]	13,001 [6]	NE	38 U	0.92 U	61 U	0.83 U	33 UJ	0.97 U
trans-1,2-Dichloroethene	NE	NE	100 [7]	NE	47 UJ	1.1 U	40 UJ	1 U	40 U	1.2 U
Vinyl acetate	99000 [2]	420000 [2]	NE	NE	72 U	1.7 U	61 U	1.6 U	62 U	1.8 U
Xylenes, Total	60000 [2]	260000 [2]	2,501 [6]	NE	840	2.7 U	94 U	2.4 U	180 J	2.8 U

TABLE 7-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - JP-5 HILL AND DFM AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB227 74SB227-05 5/20/2008 9.0-11.0	74SB228 74SB228-04 5/20/2008 7.0-9.0	74SB228 74SB228-05 5/20/2008 9.0-11.0	74SB229 74SB229-04 5/20/2008 7.0-9.0	74SB229 74SB229-05 5/20/2008 9.0-11.0	74SB230 74SB230-04 5/20/2008 7.0-9.0
LLPAHs (ug/kg)										
1-Methylnaphthalene	22,000	99,000	NE	NE	7.8	NA	11	NA	NA	NA
2-Methylnaphthalene	31,000 [2]	410,000 [2]	NE	NE	14	NA	9.2	NA	NA	NA
Acenaphthene	340,000 [2]	3,300,000 [2]	NE	NE	0.65 U	NA	0.71 U	NA	NA	NA
Acenaphthylene	340,000 [2]	3,300,000 [2]	NE	NE	1.9 U	NA	2.1 U	NA	NA	NA
Anthracene	1,700,000 [2]	17,000,000 [2]	NE	NE	1.9 U	NA	2.1 U	NA	NA	NA
Benzo[a]anthracene	150	2,100	NE	NE	1.9 U	NA	2.1 U	NA	NA	NA
Benzo[a]pyrene	15.0	210	NE	NE	0.75 U	NA	0.82 U	NA	NA	NA
Benzo[b]fluoranthene	150	2,100	NE	NE	0.86 U	NA	0.95 U	NA	NA	NA
Benzo[g,h,i]perylene	1,700	17,000	NE	NE	1.9 U	NA	2.1 U	NA	NA	NA
Benzo[k]fluoranthene	1,500	21,000	NE	NE	1.1 U	NA	1.2 U	NA	NA	NA
Chrysene	15,000	210,000	NE	NE	0.82 J	NA	0.76 U	NA	NA	NA
Dibenz(a,h)anthracene	15.0	210	NE	NE	0.67 U	NA	0.73 U	NA	NA	NA
Fluoranthene	230,000 [2]	2,200,000 [2]	NE	NE	2.3 J	NA	2.1 U	NA	NA	NA
Fluorene	230,000 [2]	2,200,000 [2]	NE	NE	1.6 J	NA	3.4 J	NA	NA	NA
Indeno[1,2,3-cd]pyrene	150	2,100	NE	NE	1.4 U	NA	1.5 U	NA	NA	NA
Naphthalene	3,900	20,000	NE	NE	0.68 U	NA	0.75 U	NA	NA	NA
Phenanthrene	170,000.0 [2][3]	1,700,000 [2][3]	NE	NE	2.5 J	NA	2.4 J	NA	NA	NA
Pyrene	170,000 [2]	1,700,000 [2]	NE	NE	1.9 U	NA	2.1 U	NA	NA	NA
PAH Totals (ug/kg):										
Low molecular weight PAI	NE	NE	29,000 [8]	NE	31.03	NA	31.66	NA	NA	NA
High molecular weight PA	NE	NE	18,000 [8]	NE	13.6	NA	14.36	NA	NA	NA

TABLE 7-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - JP-5 HILL AND DFM AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB227 74SB227-05 5/20/2008 9.0-11.0	74SB228 74SB228-04 5/20/2008 7.0-9.0	74SB228 74SB228-05 5/20/2008 9.0-11.0	74SB229 74SB229-04 5/20/2008 7.0-9.0	74SB229 74SB229-05 5/20/2008 9.0-11.0	74SB230 74SB230-04 5/20/2008 7.0-9.0
Metals (mg/kg)										
Antimony	3.10 [2]	41.0 [2]	10.0 [9]	3.17	0.084 J	0.25 U	0.086 U	0.27 U	0.17 U	0.095 U
Arsenic	0.390	1.60	18.0 [10]	1.59	**1.2**	***3.9***	***1.9***	***1.8***	***3.4***	**1.2**
Barium	1500 [2]	19,000 [2]	330 [11]	220	73	67	29	49	230	96
Beryllium	16.0 [2]	200 [2]	21.0 [12]	0.596	0.31	0.29	0.3	0.43	0.65	0.34
Cadmium	7.00 [2]	81.0 [2]	0.770 [13]	0.54	0.032 U	0.24	0.061 J	0.088 J	0.073 J	0.039 U
Chromium	280	1,400	26.0 [14]	114.5	33	23	14	46	1.7	27
Cobalt	2.30 [2]	30.0 [2]	13.0 [15]	26.9	***31***	**29**	**23**	***40***	**20**	**26**
Copper	310 [2]	4,100 [2]	28.0 [16]	246	180	59	44	120	53	79
Lead	400 [4]	800 [4]	11.0 [17]	6.3	1.7	6.9	4.2	19	8.2	3.3
Mercury	2.30 [2]	31.0 [2]	0.100 [18]	0.108	0.004 U	0.024 J	0.035	0.0074 J	0.0043 U	0.0081 J
Nickel	160 [2]	2,000 [2]	38.0 [19]	24.7	22	14	8.6	26	3.7	11
Selenium	39.0 [2]	510 [2]	0.520 [20]	5.94	0.12 U	0.51 J	0.53 J	0.47 J	0.18 J	0.81
Silver	39.0 [2]	510 [2]	4.20 [21]	NE	0.032 U	0.051 J	0.11 J	0.03 J	0.018 UJ	0.062 J
Thallium	0.510 [2]	6.60 [2]	1.00 [22]	0.92	0.12 U	0.14 U	0.14 U	0.14 U	0.13 U	0.15 U
Vanadium	55.0 [2]	720 [2]	7.80 [23]	434	**230** J	**150**	**140**	**200**	**60**	**210**
Zinc	2300 [2]	31,000 [2]	46.0 [24]	88	64 J	86	40	95	70	55
TPH DRO and GRO (mg/kg)										
Diesel Range Organics	25 [5]	NE	NE	NE	8.9	**120**	8.3	14	**86**	2 U
Gasoline Range Organics	25 [5]	NE	NE	NE	**150**	0.066 U	**230**	0.063 U	**110**	0.077 U
Total TPH	25 [5]	NE	NE	NE	**159**	**120**	**238**	14	**196**	2.08 U

TABLE 7-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - JP-5 HILL AND DFM AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB230 74SB230-05 5/20/2008 9.0-11.0	74SB268 74SB268-03 5/20/2008 5.0-7.0	74SB268 74SB268-05 5/20/2008 9.0-11.0	74SB269 74SB269-04 5/20/2008 7.0-9.0	74SB269 74SB269-05 5/20/2008 9.0-11.0	74SB270 74SB270-04 5/28/2008 7.0-9.0
Volatile Organic Compounds (ug/kg)										
2-Butanone (MEK)	2,800,000 [2]	19,000,000 [2]	NE	NE	130 U	1,400 U	560 U	3,200 U	1,600 U	2.9 UJ
2-Chloro-1,3-butadiene	860 [2]	3,600 [2]	NE	NE	28 U	300 U	120 U	670 U	340 U	0.62 U
Acetone	6,100,000 [2]	61,000,000 [2]	NE	NE	210 UJ	2,300 UJ	910 UJ	5,200 UJ	2,600 UJ	13 UJ
Benzene	1,100.0 [2]	5,600.0 [2]	101 [6]	NE	39 U	420 U	160 U	***10,000***	**1,500** J	0.86 U
Carbon disulfide	670,000 [2]	300,000 [2]	NE	NE	25 U	270 U	110 U	600 U	300 U	0.56 U
Chloroform	300	1,500	1,002 [6]	NE	24 U	260 U	100 U	590 U	300 U	0.55 U
Chloromethane	1,700	8,400	NE	NE	35 U	380 U	150 U	840 U	420 U	0.78 U
Ethyl methacrylate	700,000 [2]	9,200,000 [2]	NE	NE	120 J	1,200 U	460 U	2,600 U	1,300 U	2.4 U
Ethylbenzene	5,700	29,000	5,003 [6]	NE	37 U	400 U	160 U	***30,000***	3,100	0.82 U
Iodomethane	NE	NE	NE	NE	49 U	530 U	210 U	1,200 U	600 U	1.1 U
Isobutyl alcohol	23,000,000 [2]	31,000,000 [2]	NE	NE	3,400 U	37,000 U	14,000 U	82,000 UJ	41,000 UJ	75 U
Methacrylonitrile	320 [2]	1,800 [2]	NE	NE	1,200 U	13,000 U	5,000 U	28,000 U	14,000 U	26 U
Methylene Chloride	11,000	54,000	1,004 [6]	NE	49 UJ	530 UJ	210 UJ	1,200 U	600 U	1.1 U
Tetrachloroethene	570	2,700	400 [6]	NE	36 U	390 U	150 U	860 U	430 U	0.8 U
Toluene	500000 [2]	4600000 [2]	13,001 [6]	NE	39 U	530 U	160 U	1,800 U	830 UJ	0.86 U
trans-1,2-Dichloroethene	NE	NE	100 [7]	NE	47 UJ	510 UJ	200 UJ	1,100 U	580 U	1.1 U
Vinyl acetate	99000 [2]	420000 [2]	NE	NE	73 U	790 U	310 U	1,800 U	890 U	1.6 U
Xylenes, Total	60000 [2]	260000 [2]	2,501 [6]	NE	110 U	1,200 U	480 U	2,700 U	1,400 U	2.5 U

TABLE 7-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - JP-5 HILL AND DFM AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB230 74SB230-05 5/20/2008 9.0-11.0	74SB268 74SB268-03 5/20/2008 5.0-7.0	74SB268 74SB268-05 5/20/2008 9.0-11.0	74SB269 74SB269-04 5/20/2008 7.0-9.0	74SB269 74SB269-05 5/20/2008 9.0-11.0	74SB270 74SB270-04 5/28/2008 7.0-9.0
LLPAHs (ug/kg)										
1-Methylnaphthalene	22,000	99,000	NE	NE	46	NA	38 J	NA	390	NA
2-Methylnaphthalene	31,000 [2]	410,000 [2]	NE	NE	69	NA	37 J	NA	630	NA
Acenaphthene	340,000 [2]	3,300,000 [2]	NE	NE	23	NA	6.3 U	NA	7.6 U	NA
Acenaphthylene	340,000 [2]	3,300,000 [2]	NE	NE	2.3 U	NA	19 U	NA	23 U	NA
Anthracene	1,700,000 [2]	17,000,000 [2]	NE	NE	2.3 U	NA	19 U	NA	23 U	NA
Benzo[a]anthracene	150	2,100	NE	NE	2.3 U	NA	19 U	NA	23 U	NA
Benzo[a]pyrene	15.0	210	NE	NE	0.87 U	NA	7.2 U	NA	8.8 U	NA
Benzo[b]fluoranthene	150	2,100	NE	NE	1 U	NA	8.3 U	NA	10 U	NA
Benzo[g,h,i]perylene	1,700	17,000	NE	NE	2.3 U	NA	19 U	NA	23 U	NA
Benzo[k]fluoranthene	1,500	21,000	NE	NE	1.3 U	NA	11 U	NA	13 U	NA
Chrysene	15,000	210,000	NE	NE	1.6 J	NA	11 J	NA	8.2 U	NA
Dibenz(a,h)anthracene	15.0	210	NE	NE	0.78 U	NA	6.5 U	NA	7.9 U	NA
Fluoranthene	230,000 [2]	2,200,000 [2]	NE	NE	21	NA	22 J	NA	24 J	NA
Fluorene	230,000 [2]	2,200,000 [2]	NE	NE	43	NA	43 J	NA	10 U	NA
Indeno[1,2,3-cd]pyrene	150	2,100	NE	NE	1.6 U	NA	13 U	NA	16 U	NA
Naphthalene	3,900	20,000	NE	NE	64	NA	6.6 U	NA	890	NA
Phenanthrene	170,000.0 [2][3]	1,700,000 [2][3]	NE	NE	99	NA	34 J	NA	97	NA
Pyrene	170,000 [2]	1,700,000 [2]	NE	NE	16	NA	28 J	NA	31 J	NA
PAH Totals (ug/kg):										
Low molecular weight PAI	NE	NE	29,000 [8]	NE	348.6	NA	202.9	NA	2070.6	NA
High molecular weight PA	NE	NE	18,000 [8]	NE	48.75	NA	145	NA	164.9	NA

TABLE 7-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - JP-5 HILL AND DFM AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB230 74SB230-05 5/20/2008 9.0-11.0	74SB268 74SB268-03 5/20/2008 5.0-7.0	74SB268 74SB268-05 5/20/2008 9.0-11.0	74SB269 74SB269-04 5/20/2008 7.0-9.0	74SB269 74SB269-05 5/20/2008 9.0-11.0	74SB270 74SB270-04 5/28/2008 7.0-9.0
Metals (mg/kg)										
Antimony	3.10 [2]	41.0 [2]	10.0 [9]	3.17	0.15 U	0.15 U	0.074 U	0.47 U	0.24 U	0.16 UJ
Arsenic	0.390	1.60	18.0 [10]	1.59	***3.1***	**1.3**	**1.2**	***7.2***	***2.9***	***2.1***
Barium	1500 [2]	19,000 [2]	330 [11]	220	140	43	46	180	100	14 J
Beryllium	16.0 [2]	200 [2]	21.0 [12]	0.596	0.49	0.29	0.21	0.77	0.54	0.49
Cadmium	7.00 [2]	81.0 [2]	0.770 [13]	0.54	0.13	0.15	0.086 J	0.67	0.098 J	0.053 J
Chromium	280	1,400	26.0 [14]	114.5	50	48	2.4	23	140	87 J
Cobalt	2.30 [2]	30.0 [2]	13.0 [15]	26.9	***42***	**27**	**23**	***34***	***94***	**8**
Copper	310 [2]	4,100 [2]	28.0 [16]	246	66	69	130	97	47	230
Lead	400 [4]	800 [4]	11.0 [17]	6.3	8.9	5.6	1.8	11	8.6	6.9
Mercury	2.30 [2]	31.0 [2]	0.100 [18]	0.108	0.014 J	0.0079 J	0.004 U	0.011 J	0.051	0.0047 U
Nickel	160 [2]	2,000 [2]	38.0 [19]	24.7	18	21	16	16	38	15
Selenium	39.0 [2]	510 [2]	0.520 [20]	5.94	0.6	0.27 J	0.14 J	0.65	1.7	0.32 J
Silver	39.0 [2]	510 [2]	4.20 [21]	NE	0.036 J	0.053 J	0.03 J	0.055 J	0.064 J	0.037 J
Thallium	0.510 [2]	6.60 [2]	1.00 [22]	0.92	0.14 U	0.14 U	0.12 U	0.14 U	0.15 U	0.15 U
Vanadium	55.0 [2]	720 [2]	7.80 [23]	434	**150**	**160**	**180**	**210**	**240**	**410**
Zinc	2300 [2]	31,000 [2]	46.0 [24]	88	81	73 J	64 J	99 J	52 J	64 J
TPH DRO and GRO (mg/kg)										
Diesel Range Organics	25 [5]	NE	NE	NE	**46**	**1,500**	**57**	**250**	**140**	0.7
Gasoline Range Organics	25 [5]	NE	NE	NE	**29** J	**120**	**69** J	**880** J	**700** J	0.071 U
Total TPH	25 [5]	NE	NE	NE	**75** J	**1,620**	**126** J	**1,130** J	**840** J	0.7

TABLE 7-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - JP-5 HILL AND DFM AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB270 74SB270-05 5/28/2008 9.0-11.0	74SB271 74SB271-03D 5/28/2008 5.0-7.0	74SB271 74SB271-03 5/28/2008 5.0-7.0	74SB271 74SB271-05 5/28/2008 9.0-11.0	74SB272 74SB272-04 5/28/2008 7.0-9.0	74SB272 74SB272-05 5/28/2008 9.0-11.0
Volatile Organic Compounds (ug/kg)										
2-Butanone (MEK)	2,800,000 [2]	19,000,000 [2]	NE	NE	3.2 UJ	4 UJ	3.9 UJ	4.2 UJ	3.5 UJ	3.6 UJ
2-Chloro-1,3-butadiene	860 [2]	3,600 [2]	NE	NE	0.67 U	0.85 U	0.82 U	0.89 U	0.74 U	0.75 U
Acetone	6,100,000 [2]	61,000,000 [2]	NE	NE	12 UJ	23 UJ	8.9 UJ	6.8 UJ	17 UJ	15 UJ
Benzene	1,100.0 [2]	5,600.0 [2]	101 [6]	NE	0.93 U	1.2 U	1.1 U	1.2 U	1 U	1 U
Carbon disulfide	670,000 [2]	300,000 [2]	NE	NE	0.6 U	0.76 U	0.73 U	0.79 U	0.66 U	0.67 U
Chloroform	300	1,500	1,002 [6]	NE	0.59 U	0.75 U	0.72 U	0.78 U	0.65 U	0.66 U
Chloromethane	1,700	8,400	NE	NE	0.83 U	1.1 U	1 U	1.1 U	0.92 U	0.93 U
Ethyl methacrylate	700,000 [2]	9,200,000 [2]	NE	NE	2.6 U	3.3 U	3.2 U	3.4 U	2.8 U	2.9 U
Ethylbenzene	5,700	29,000	5,003 [6]	NE	0.88 U	1.1 U	1.1 U	1.2 U	0.97 U	0.99 U
Iodomethane	NE	NE	NE	NE	1.2 U	1.5 U	1.4 U	1.6 U	1.3 U	1.3 U
Isobutyl alcohol	23,000,000 [2]	31,000,000 [2]	NE	NE	81 U	100 U	99 U	110 U	89 U	91 U
Methacrylonitrile	320 [2]	1,800 [2]	NE	NE	28 U	36 U	35 U	37 U	31 U	32 U
Methylene Chloride	11,000	54,000	1,004 [6]	NE	1.2 U	1.5 U	1.4 U	1.6 U	1.3 U	1.3 U
Tetrachloroethene	570	2,700	400 [6]	NE	0.86 U	1.1 U	1.1 U	1.1 U	0.94 U	0.96 U
Toluene	500000 [2]	4600000 [2]	13,001 [6]	NE	0.93 U	1.2 U	1.1 U	1.2 U	1 U	1 U
trans-1,2-Dichloroethene	NE	NE	100 [7]	NE	1.1 U	1.5 U	1.4 U	1.5 U	1.3 U	1.3 U
Vinyl acetate	99000 [2]	420000 [2]	NE	NE	1.8 U	2.2 U	2.2 U	2.3 U	1.9 U	2 U
Xylenes, Total	60000 [2]	260000 [2]	2,501 [6]	NE	2.7 U	3.4 U	3.3 U	3.6 U	3 U	3 U

TABLE 7-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - JP-5 HILL AND DFM AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB270 74SB270-05 5/28/2008 9.0-11.0	74SB271 74SB271-03D 5/28/2008 5.0-7.0	74SB271 74SB271-03 5/28/2008 5.0-7.0	74SB271 74SB271-05 5/28/2008 9.0-11.0	74SB272 74SB272-04 5/28/2008 7.0-9.0	74SB272 74SB272-05 5/28/2008 9.0-11.0
LLPAHs (ug/kg)										
1-Methylnaphthalene	22,000	99,000	NE	NE	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	31,000 [2]	410,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Acenaphthene	340,000 [2]	3,300,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Acenaphthylene	340,000 [2]	3,300,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Anthracene	1,700,000 [2]	17,000,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[a]anthracene	150	2,100	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[a]pyrene	15.0	210	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[b]fluoranthene	150	2,100	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[g,h,i]perylene	1,700	17,000	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[k]fluoranthene	1,500	21,000	NE	NE	NA	NA	NA	NA	NA	NA
Chrysene	15,000	210,000	NE	NE	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	15.0	210	NE	NE	NA	NA	NA	NA	NA	NA
Fluoranthene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Fluorene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Indeno[1,2,3-cd]pyrene	150	2,100	NE	NE	NA	NA	NA	NA	NA	NA
Naphthalene	3,900	20,000	NE	NE	NA	NA	NA	NA	NA	NA
Phenanthrene	170,000.0 [2][3]	1,700,000 [2][3]	NE	NE	NA	NA	NA	NA	NA	NA
Pyrene	170,000 [2]	1,700,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
PAH Totals (ug/kg):										
Low molecular weight PAI	NE	NE	29,000 [8]	NE	NA	NA	NA	NA	NA	NA
High molecular weight PA	NE	NE	18,000 [8]	NE	NA	NA	NA	NA	NA	NA

TABLE 7-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - JP-5 HILL AND DFM AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB270 74SB270-05 5/28/2008 9.0-11.0	74SB271 74SB271-03D 5/28/2008 5.0-7.0	74SB271 74SB271-03 5/28/2008 5.0-7.0	74SB271 74SB271-05 5/28/2008 9.0-11.0	74SB272 74SB272-04 5/28/2008 7.0-9.0	74SB272 74SB272-05 5/28/2008 9.0-11.0
Metals (mg/kg)										
Antimony	3.10 [2]	41.0 [2]	10.0 [9]	3.17	0.088 UJ	0.1 UJ	0.11 UJ	0.19 UJ	0.087 UJ	0.088 UJ
Arsenic	0.390	1.60	18.0 [10]	1.59	**0.79**	0.27 J	0.3 J	**1.4**	***2.8***	***2.5***
Barium	1500 [2]	19,000 [2]	330 [11]	220	4.9 J	8.9 R	86 R	2.2 J	240 J	250 J
Beryllium	16.0 [2]	200 [2]	21.0 [12]	0.596	0.34	0.12 J	0.12 J	0.31	1.3	1.3
Cadmium	7.00 [2]	81.0 [2]	0.770 [13]	0.54	0.042 J	0.041 U	0.044 U	0.045 J	0.17	0.24
Chromium	280	1,400	26.0 [14]	114.5	54 J	83 J	110 J	180 J	25 J	32 J
Cobalt	2.30 [2]	30.0 [2]	13.0 [15]	26.9	**4.6**	**4.9**	**5.4**	**4**	***70***	***91***
Copper	310 [2]	4,100 [2]	28.0 [16]	246	87	53	67	55	55	53
Lead	400 [4]	800 [4]	11.0 [17]	6.3	3.6	0.85	0.89	3.6	3	4
Mercury	2.30 [2]	31.0 [2]	0.100 [18]	0.108	0.0052 U	0.0049 U	0.0058 U	0.0055 U	0.0048 U	0.0043 U
Nickel	160 [2]	2,000 [2]	38.0 [19]	24.7	9.5	12	18	21	32	32
Selenium	39.0 [2]	510 [2]	0.520 [20]	5.94	0.24 J	0.16 U	0.17 U	0.18 J	0.16 J	0.16 J
Silver	39.0 [2]	510 [2]	4.20 [21]	NE	0.03 J	0.031 J	0.023 U	0.069 J	0.019 J	0.034 J
Thallium	0.510 [2]	6.60 [2]	1.00 [22]	0.92	0.14 U	0.16 U	0.17 U	0.16 U	0.14 U	0.14 U
Vanadium	55.0 [2]	720 [2]	7.80 [23]	434	**180**	40	40	**290**	47	**63**
Zinc	2300 [2]	31,000 [2]	46.0 [24]	88	39 J	59 J	96 J	73 J	160 J	140 J
TPH DRO and GRO (mg/kg)										
Diesel Range Organics	25 [5]	NE	NE	NE	0.74	0.79	1.6	0.61	2.6	0.82
Gasoline Range Organics	25 [5]	NE	NE	NE	0.072 U	0.089 U	0.1 U	0.082 U	0.088 U	0.074 U
Total TPH	25 [5]	NE	NE	NE	0.74	0.79	1.6	0.61	2.6	0.82

TABLE 7-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - JP-5 HILL AND DFM AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB273 74SB273-04 5/28/2008 7.0-9.0	74SB273 74SB273-05 5/28/2008 9.0-11.0	74SB274 74SB274-03 5/28/2008 5.0-7.0	74SB274 74SB274-05 5/28/2008 9.0-11.0	74SB275 74SB275-03D 5/28/2008 5.0-7.0	74SB275 74SB275-03 5/28/2008 5.0-7.0
Volatile Organic Compounds (ug/kg)										
2-Butanone (MEK)	2,800,000 [2]	19,000,000 [2]	NE	NE	2.9 UJ	3.1 UJ	2.7 UJ	2.8 UJ	4 UJ	3.1 UJ
2-Chloro-1,3-butadiene	860 [2]	3,600 [2]	NE	NE	0.61 U	0.66 U	0.56 U	0.6 U	0.85 U	0.65 U
Acetone	6,100,000 [2]	61,000,000 [2]	NE	NE	4.8 UJ	12 UJ	5.1 UJ	6.7 UJ	13 UJ	9.6 UJ
Benzene	1,100.0 [2]	5,600.0 [2]	101 [6]	NE	0.85 U	0.92 U	0.78 U	0.83 U	1.2 U	0.91 U
Carbon disulfide	670,000 [2]	300,000 [2]	NE	NE	0.55 U	0.59 U	0.5 U	0.53 U	0.76 U	0.59 U
Chloroform	300	1,500	1,002 [6]	NE	0.54 U	0.58 U	0.49 U	0.52 U	0.75 U	0.57 U
Chloromethane	1,700	8,400	NE	NE	0.76 U	0.82 U	0.7 U	0.74 U	1.1 U	0.82 U
Ethyl methacrylate	700,000 [2]	9,200,000 [2]	NE	NE	2.4 U	2.5 U	2.2 U	2.3 U	3.3 U	2.5 U
Ethylbenzene	5,700	29,000	5,003 [6]	NE	0.8 U	0.87 U	0.74 U	0.78 U	1.1 U	0.86 U
Iodomethane	NE	NE	NE	NE	1.1 U	1.2 U	0.99 U	1 U	1.5 U	1.1 U
Isobutyl alcohol	23,000,000 [2]	31,000,000 [2]	NE	NE	74 U	80 U	68 U	72 U	100 R	79 R
Methacrylonitrile	320 [2]	1,800 [2]	NE	NE	26 U	28 U	24 U	25 U	36 UJ	28 UJ
Methylene Chloride	11,000	54,000	1,004 [6]	NE	1.1 U	1.2 U	0.99 U	1 U	1.5 U	1.1 U
Tetrachloroethene	570	2,700	400 [6]	NE	0.78 U	0.85 U	0.72 U	0.76 U	1.1 U	0.84 U
Toluene	500000 [2]	4600000 [2]	13,001 [6]	NE	0.85 U	0.92 U	0.78 U	0.83 U	1.2 U	0.91 U
trans-1,2-Dichloroethene	NE	NE	100 [7]	NE	1 U	1.1 U	0.96 U	1 U	1.5 U	1.1 U
Vinyl acetate	99000 [2]	420000 [2]	NE	NE	1.6 U	1.7 U	1.5 U	1.6 U	2.2 U	1.7 U
Xylenes, Total	60000 [2]	260000 [2]	2,501 [6]	NE	2.5 U	2.7 U	2.3 U	2.4 U	3.4 U	2.6 U

TABLE 7-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - JP-5 HILL AND DFM AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB273 74SB273-04 5/28/2008 7.0-9.0	74SB273 74SB273-05 5/28/2008 9.0-11.0	74SB274 74SB274-03 5/28/2008 5.0-7.0	74SB274 74SB274-05 5/28/2008 9.0-11.0	74SB275 74SB275-03D 5/28/2008 5.0-7.0	74SB275 74SB275-03 5/28/2008 5.0-7.0
LLPAHs (ug/kg)										
1-Methylnaphthalene	22,000	99,000	NE	NE	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	31,000 [2]	410,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Acenaphthene	340,000 [2]	3,300,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Acenaphthylene	340,000 [2]	3,300,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Anthracene	1,700,000 [2]	17,000,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[a]anthracene	150	2,100	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[a]pyrene	15.0	210	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[b]fluoranthene	150	2,100	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[g,h,i]perylene	1,700	17,000	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[k]fluoranthene	1,500	21,000	NE	NE	NA	NA	NA	NA	NA	NA
Chrysene	15,000	210,000	NE	NE	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	15.0	210	NE	NE	NA	NA	NA	NA	NA	NA
Fluoranthene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Fluorene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Indeno[1,2,3-cd]pyrene	150	2,100	NE	NE	NA	NA	NA	NA	NA	NA
Naphthalene	3,900	20,000	NE	NE	NA	NA	NA	NA	NA	NA
Phenanthrene	170,000.0 [2][3]	1,700,000 [2][3]	NE	NE	NA	NA	NA	NA	NA	NA
Pyrene	170,000 [2]	1,700,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
PAH Totals (ug/kg):										
Low molecular weight PAI	NE	NE	29,000 [8]	NE	NA	NA	NA	NA	NA	NA
High molecular weight PA	NE	NE	18,000 [8]	NE	NA	NA	NA	NA	NA	NA

TABLE 7-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - JP-5 HILL AND DFM AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB273 74SB273-04 5/28/2008 7.0-9.0	74SB273 74SB273-05 5/28/2008 9.0-11.0	74SB274 74SB274-03 5/28/2008 5.0-7.0	74SB274 74SB274-05 5/28/2008 9.0-11.0	74SB275 74SB275-03D 5/28/2008 5.0-7.0	74SB275 74SB275-03 5/28/2008 5.0-7.0
Metals (mg/kg)										
Antimony	3.10 [2]	41.0 [2]	10.0 [9]	3.17	0.083 UJ	0.094 UJ	0.078 UJ	0.095 UJ	0.11 UJ	0.083 UJ
Arsenic	0.390	1.60	18.0 [10]	1.59	**0.8**	**1**	**0.89**	***2.8***	**1.4**	***1.7***
Barium	1500 [2]	19,000 [2]	330 [11]	220	24 J	140 J	24 J	37 J	36 J	82 J
Beryllium	16.0 [2]	200 [2]	21.0 [12]	0.596	0.2	0.26	0.23	0.29	0.3	0.27
Cadmium	7.00 [2]	81.0 [2]	0.770 [13]	0.54	0.1 J	0.28	0.45	0.79	0.043 U	0.083 U
Chromium	280	1,400	26.0 [14]	114.5	21 J	75 J	49 J	58 J	24	19
Cobalt	2.30 [2]	30.0 [2]	13.0 [15]	26.9	**9.4**	***37***	**25**	***31***	**18**	**25**
Copper	310 [2]	4,100 [2]	28.0 [16]	246	150	160	150	93	110	140
Lead	400 [4]	800 [4]	11.0 [17]	6.3	0.43	2.5	1.4	5.4	1.2	1.5
Mercury	2.30 [2]	31.0 [2]	0.100 [18]	0.108	0.0047 U	0.0041 U	0.0043 U	0.0044 U	0.01 J	0.0042 U
Nickel	160 [2]	2,000 [2]	38.0 [19]	24.7	22	50	29	31	16	16
Selenium	39.0 [2]	510 [2]	0.520 [20]	5.94	0.13 U	0.13 U	0.13 U	0.13 U	0.17 U	0.13 U
Silver	39.0 [2]	510 [2]	4.20 [21]	NE	0.082 J	0.044 J	0.072 J	0.026 J	0.076 J	0.088 J
Thallium	0.510 [2]	6.60 [2]	1.00 [22]	0.92	0.13 U	0.13 U	0.13 U	0.13 U	0.17 U	0.13 U
Vanadium	55.0 [2]	720 [2]	7.80 [23]	434	**220**	**140**	**180**	**260**	**200**	**230**
Zinc	2300 [2]	31,000 [2]	46.0 [24]	88	30 J	67 J	62 J	100 J	61 J	95 J
TPH DRO and GRO (mg/kg)										
Diesel Range Organics	25 [5]	NE	NE	NE	0.84	2.2	1.1	0.62	1.4	1.1
Gasoline Range Organics	25 [5]	NE	NE	NE	0.069 U	0.072 U	0.066 U	0.065 U	0.17 J	0.07 U
Total TPH	25 [5]	NE	NE	NE	0.84	2.2	1.1	0.62	1.57 J	1.1

TABLE 7-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - JP-5 HILL AND DFM AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB277 74SB277-02 5/28/2008 3.0-5.0	74SB278 74SB278-03 5/28/2008 5.0-7.0	74SB279 74SB279-03 5/28/2008 5.0-7.0	74SB279 74SB279-05 5/28/2008 9.0-11.0	74SB280 74SB280-02 5/28/2008 3.0-5.0	74SB280 74SB280-05 5/28/2008 9.0-11.0
Volatile Organic Compounds (ug/kg)										
2-Butanone (MEK)	2,800,000 [2]	19,000,000 [2]	NE	NE	4.1 UJ	3.3 UJ	3.9 UJ	3.6 UJ	3.7 UJ	4.1 UJ
2-Chloro-1,3-butadiene	860 [2]	3,600 [2]	NE	NE	0.87 U	0.7 U	0.83 U	0.77 U	0.78 U	0.87 U
Acetone	6,100,000 [2]	61,000,000 [2]	NE	NE	34 UJ	7.4 UJ	14 UJ	8.8 UJ	10 UJ	9 UJ
Benzene	1,100.0 [2]	5,600.0 [2]	101 [6]	NE	1.2 U	0.98 U	1.1 U	1.1 U	1.1 U	1.2 U
Carbon disulfide	670,000 [2]	300,000 [2]	NE	NE	0.78 U	0.63 U	0.74 U	0.68 U	0.7 U	0.77 U
Chloroform	300	1,500	1,002 [6]	NE	0.77 U	0.62 U	0.73 U	0.67 U	0.68 U	0.76 U
Chloromethane	1,700	8,400	NE	NE	1.1 U	0.88 U	1 U	0.95 U	0.97 U	1.1 U
Ethyl methacrylate	700,000 [2]	9,200,000 [2]	NE	NE	3.4 U	2.7 U	3.2 U	3 U	3 U	3.3 U
Ethylbenzene	5,700	29,000	5,003 [6]	NE	1.1 U	0.93 U	1.1 U	1 U	1 U	1.1 U
Iodomethane	NE	NE	NE	NE	1.5 U	1.2 U	1.5 U	1.3 U	1.4 U	1.5 U
Isobutyl alcohol	23,000,000 [2]	31,000,000 [2]	NE	NE	110 R	85 R	100 U	93 U	94 R	100 R
Methacrylonitrile	320 [2]	1,800 [2]	NE	NE	37 UJ	30 UJ	35 U	32 U	33 UJ	36 UJ
Methylene Chloride	11,000	54,000	1,004 [6]	NE	1.5 U	1.2 U	1.5 U	1.3 U	1.4 U	1.5 U
Tetrachloroethene	570	2,700	400 [6]	NE	1.1 U	0.9 U	1.1 U	0.98 U	1 U	1.1 U
Toluene	500000 [2]	4600000 [2]	13,001 [6]	NE	1.2 U	0.98 U	1.1 U	1.1 U	1.1 U	1.2 U
trans-1,2-Dichloroethene	NE	NE	100 [7]	NE	1.5 U	1.2 U	1.4 U	1.3 U	1.3 U	1.5 U
Vinyl acetate	99000 [2]	420000 [2]	NE	NE	2.3 U	1.9 U	2.2 U	2 U	2 U	2.3 U
Xylenes, Total	60000 [2]	260000 [2]	2,501 [6]	NE	3.5 U	2.8 U	3.3 U	3.1 U	3.1 U	3.5 U

TABLE 7-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - JP-5 HILL AND DFM AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB277 74SB277-02 5/28/2008 3.0-5.0	74SB278 74SB278-03 5/28/2008 5.0-7.0	74SB279 74SB279-03 5/28/2008 5.0-7.0	74SB279 74SB279-05 5/28/2008 9.0-11.0	74SB280 74SB280-02 5/28/2008 3.0-5.0	74SB280 74SB280-05 5/28/2008 9.0-11.0
LLPAHs (ug/kg)										
1-Methylnaphthalene	22,000	99,000	NE	NE	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	31,000 [2]	410,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Acenaphthene	340,000 [2]	3,300,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Acenaphthylene	340,000 [2]	3,300,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Anthracene	1,700,000 [2]	17,000,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[a]anthracene	150	2,100	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[a]pyrene	15.0	210	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[b]fluoranthene	150	2,100	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[g,h,i]perylene	1,700	17,000	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[k]fluoranthene	1,500	21,000	NE	NE	NA	NA	NA	NA	NA	NA
Chrysene	15,000	210,000	NE	NE	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	15.0	210	NE	NE	NA	NA	NA	NA	NA	NA
Fluoranthene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Fluorene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Indeno[1,2,3-cd]pyrene	150	2,100	NE	NE	NA	NA	NA	NA	NA	NA
Naphthalene	3,900	20,000	NE	NE	NA	NA	NA	NA	NA	NA
Phenanthrene	170,000.0 [2][3]	1,700,000 [2][3]	NE	NE	NA	NA	NA	NA	NA	NA
Pyrene	170,000 [2]	1,700,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
PAH Totals (ug/kg):										
Low molecular weight PAI	NE	NE	29,000 [8]	NE	NA	NA	NA	NA	NA	NA
High molecular weight PA	NE	NE	18,000 [8]	NE	NA	NA	NA	NA	NA	NA

TABLE 7-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - JP-5 HILL AND DFM AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB277 74SB277-02 5/28/2008 3.0-5.0	74SB278 74SB278-03 5/28/2008 5.0-7.0	74SB279 74SB279-03 5/28/2008 5.0-7.0	74SB279 74SB279-05 5/28/2008 9.0-11.0	74SB280 74SB280-02 5/28/2008 3.0-5.0	74SB280 74SB280-05 5/28/2008 9.0-11.0
Metals (mg/kg)										
Antimony	3.10 [2]	41.0 [2]	10.0 [9]	3.17	0.082 UJ	0.074 UJ	0.095 UJ	0.096 UJ	0.097 UJ	0.096 UJ
Arsenic	0.390	1.60	18.0 [10]	1.59	**0.97**	**1.1**	**1**	**1.2**	**1.5**	**0.6** J
Barium	1500 [2]	19,000 [2]	330 [11]	220	56	110	190 J	150 J	90	19
Beryllium	16.0 [2]	200 [2]	21.0 [12]	0.596	0.24	0.26	0.57	0.34	0.34	0.22
Cadmium	7.00 [2]	81.0 [2]	0.770 [13]	0.54	0.072 U	0.059 U	0.039 U	0.06 J	0.04 U	0.04 U
Chromium	280	1,400	26.0 [14]	114.5	31	22	37 J	36 J	83	52
Cobalt	2.30 [2]	30.0 [2]	13.0 [15]	26.9	**22**	***36***	***67***	***35***	**18**	**11**
Copper	310 [2]	4,100 [2]	28.0 [16]	246	110	130	130	100	120	130
Lead	400 [4]	800 [4]	11.0 [17]	6.3	1.9	1.6	1.2	1.4	3	1.9
Mercury	2.30 [2]	31.0 [2]	0.100 [18]	0.108	0.0047 U	0.0042 U	0.0052 U	0.0051 U	0.0048 U	0.0051 U
Nickel	160 [2]	2,000 [2]	38.0 [19]	24.7	22	17	26	32	21	28
Selenium	39.0 [2]	510 [2]	0.520 [20]	5.94	0.13 U	0.12 U	0.15 U	0.15 U	1.1	0.15 U
Silver	39.0 [2]	510 [2]	4.20 [21]	NE	0.042 J	0.11 J	0.027 J	0.021 J	0.021 UJ	0.023 J
Thallium	0.510 [2]	6.60 [2]	1.00 [22]	0.92	0.13 U	0.12 U	0.15 U	0.15 U	0.15 U	0.15 U
Vanadium	55.0 [2]	720 [2]	7.80 [23]	434	**170**	**160**	**160**	**200**	**310**	**130**
Zinc	2300 [2]	31,000 [2]	46.0 [24]	88	56 J	42 J	60 J	73 J	39 J	66 J
TPH DRO and GRO (mg/kg)										
Diesel Range Organics	25 [5]	NE	NE	NE	1.8	0.53	0.73	0.91	1	1.3
Gasoline Range Organics	25 [5]	NE	NE	NE	0.13 J	0.081 U	0.08 U	0.082 U	0.082 U	0.11 J
Total TPH	25 [5]	NE	NE	NE	1.93 J	0.53	0.73	0.91	1	1.41 J

TABLE 7-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - JP-5 HILL AND DFM AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB281 74SB281-02 5/28/2008 3.0-5.0	74SB281 74SB281-05D 5/28/2008 9.0-11.0	74SB281 74SB281-05 5/28/2008 9.0-11.0	74SB282 74SB282-02 5/28/2008 3.0-5.0	74SB282 74SB282-05 5/28/2008 9.0-11.0	74SB283 74SB283-02 5/28/2008 3.0-5.0
Volatile Organic Compounds (ug/kg)										
2-Butanone (MEK)	2,800,000 [2]	19,000,000 [2]	NE	NE	3.9 UJ	3 UJ	3.1 UJ	3.7 UJ	2.9 UJ	2.6 UJ
2-Chloro-1,3-butadiene	860 [2]	3,600 [2]	NE	NE	0.83 U	0.64 U	0.65 U	0.79 U	0.62 U	0.54 U
Acetone	6,100,000 [2]	61,000,000 [2]	NE	NE	24 UJ	4.9 UJ	5.1 UJ	16 UJ	6.3 UJ	24 UJ
Benzene	1,100.0 [2]	5,600.0 [2]	101 [6]	NE	1.2 U	0.88 U	0.91 U	1.1 U	0.86 U	0.75 U
Carbon disulfide	670,000 [2]	300,000 [2]	NE	NE	0.74 U	0.57 U	0.59 U	0.71 U	0.56 U	0.48 U
Chloroform	300	1,500	1,002 [6]	NE	0.73 U	0.56 U	0.57 U	0.69 U	0.55 U	0.47 U
Chloromethane	1,700	8,400	NE	NE	1 U	0.79 U	0.82 U	0.98 U	0.78 U	0.67 U
Ethyl methacrylate	700,000 [2]	9,200,000 [2]	NE	NE	3.2 U	2.5 U	2.5 U	3.1 U	2.4 U	2.1 U
Ethylbenzene	5,700	29,000	5,003 [6]	NE	1.1 U	0.84 U	0.86 U	1 U	0.82 U	0.71 U
Iodomethane	NE	NE	NE	NE	1.5 U	1.1 U	1.1 U	2.2 J	1.1 U	0.95 U
Isobutyl alcohol	23,000,000 [2]	31,000,000 [2]	NE	NE	100 R	77 R	79 R	96 R	75 R	65 U
Methacrylonitrile	320 [2]	1,800 [2]	NE	NE	35 UJ	27 UJ	28 UJ	33 UJ	26 UJ	23 U
Methylene Chloride	11,000	54,000	1,004 [6]	NE	1.5 U	1.1 U	1.1 U	1.4 U	1.1 U	0.95 U
Tetrachloroethene	570	2,700	400 [6]	NE	1.1 U	0.82 U	0.84 U	1 U	0.8 U	0.69 U
Toluene	500000 [2]	4600000 [2]	13,001 [6]	NE	1.2 U	0.88 U	0.91 U	1.1 U	0.86 U	0.75 U
trans-1,2-Dichloroethene	NE	NE	100 [7]	NE	1.4 U	1.1 U	1.1 U	1.3 U	1.1 U	0.92 U
Vinyl acetate	99000 [2]	420000 [2]	NE	NE	2.2 U	1.7 U	1.7 U	2.1 U	1.6 U	1.4 U
Xylenes, Total	60000 [2]	260000 [2]	2,501 [6]	NE	3.4 U	2.6 U	2.6 U	3.2 U	2.5 U	2.2 U

TABLE 7-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - JP-5 HILL AND DFM AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB281 74SB281-02 5/28/2008 3.0-5.0	74SB281 74SB281-05D 5/28/2008 9.0-11.0	74SB281 74SB281-05 5/28/2008 9.0-11.0	74SB282 74SB282-02 5/28/2008 3.0-5.0	74SB282 74SB282-05 5/28/2008 9.0-11.0	74SB283 74SB283-02 5/28/2008 3.0-5.0
LLPAHs (ug/kg)										
1-Methylnaphthalene	22,000	99,000	NE	NE	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	31,000 [2]	410,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Acenaphthene	340,000 [2]	3,300,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Acenaphthylene	340,000 [2]	3,300,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Anthracene	1,700,000 [2]	17,000,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[a]anthracene	150	2,100	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[a]pyrene	15.0	210	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[b]fluoranthene	150	2,100	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[g,h,i]perylene	1,700	17,000	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[k]fluoranthene	1,500	21,000	NE	NE	NA	NA	NA	NA	NA	NA
Chrysene	15,000	210,000	NE	NE	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	15.0	210	NE	NE	NA	NA	NA	NA	NA	NA
Fluoranthene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Fluorene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Indeno[1,2,3-cd]pyrene	150	2,100	NE	NE	NA	NA	NA	NA	NA	NA
Naphthalene	3,900	20,000	NE	NE	NA	NA	NA	NA	NA	NA
Phenanthrene	170,000.0 [2][3]	1,700,000 [2][3]	NE	NE	NA	NA	NA	NA	NA	NA
Pyrene	170,000 [2]	1,700,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
PAH Totals (ug/kg):										
Low molecular weight PAI	NE	NE	29,000 [8]	NE	NA	NA	NA	NA	NA	NA
High molecular weight PA	NE	NE	18,000 [8]	NE	NA	NA	NA	NA	NA	NA

TABLE 7-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - JP-5 HILL AND DFM AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB281 74SB281-02 5/28/2008 3.0-5.0	74SB281 74SB281-05D 5/28/2008 9.0-11.0	74SB281 74SB281-05 5/28/2008 9.0-11.0	74SB282 74SB282-02 5/28/2008 3.0-5.0	74SB282 74SB282-05 5/28/2008 9.0-11.0	74SB283 74SB283-02 5/28/2008 3.0-5.0
Metals (mg/kg)										
Antimony	3.10 [2]	41.0 [2]	10.0 [9]	3.17	0.099 UJ	0.09 UJ	0.085 UJ	0.079 UJ	0.083 UJ	0.073 UJ
Arsenic	0.390	1.60	18.0 [10]	1.59	***2***	***2***	***2***	**1.1**	**1.1**	***1.7***
Barium	1500 [2]	19,000 [2]	330 [11]	220	420	150 J	240 J	63	89	59 J
Beryllium	16.0 [2]	200 [2]	21.0 [12]	0.596	0.31	0.69	0.75	0.22	0.28	0.3
Cadmium	7.00 [2]	81.0 [2]	0.770 [13]	0.54	0.052 U	0.09 U	0.09 U	0.036 U	0.046 U	0.049 J
Chromium	280	1,400	26.0 [14]	114.5	78	60	54	20	30	54 J
Cobalt	2.30 [2]	30.0 [2]	13.0 [15]	26.9	**12**	***64***	***56***	**21**	**21**	**27**
Copper	310 [2]	4,100 [2]	28.0 [16]	246	90	150	160	100	130	95
Lead	400 [4]	800 [4]	11.0 [17]	6.3	8.7	1.1	1.1	0.79	0.89	1.7
Mercury	2.30 [2]	31.0 [2]	0.100 [18]	0.108	0.022 J	0.0051 U	0.0046 U	0.0045 U	0.0044 U	0.011 J
Nickel	160 [2]	2,000 [2]	38.0 [19]	24.7	18	41	45	19	19	35
Selenium	39.0 [2]	510 [2]	0.520 [20]	5.94	1.5	0.21 U	0.2 U	0.13 U	0.13 U	0.23 J
Silver	39.0 [2]	510 [2]	4.20 [21]	NE	0.025 J	0.024 J	0.018 UJ	0.036 J	0.022 J	0.056 J
Thallium	0.510 [2]	6.60 [2]	1.00 [22]	0.92	0.16 U	0.14 U	0.14 U	0.13 U	0.13 U	0.12 U
Vanadium	55.0 [2]	720 [2]	7.80 [23]	434	**380**	**330**	**260**	**190**	**210**	**150**
Zinc	2300 [2]	31,000 [2]	46.0 [24]	88	41 J	96 J	88 J	30 J	36 J	42 J
TPH DRO and GRO (mg/kg)										
Diesel Range Organics	25 [5]	NE	NE	NE	1.9	0.96	2.1	1.2	1.3	1.4
Gasoline Range Organics	25 [5]	NE	NE	NE	0.087 U	0.064 UJ	0.079 UJ	0.077 U	0.062 U	0.066 U
Total TPH	25 [5]	NE	NE	NE	1.9	0.96	2.1	1.2	1.3	1.4

TABLE 7-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - JP-5 HILL AND DFM AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB284 74SB284-02 5/28/2008 3.0-5.0	74SB284 74SB284-05 5/28/2008 9.0-11.0	74SB285 74SB285-02 5/28/2008 3.0-5.0	74SB285 74SB285-05 5/28/2008 9.0-11.0	74VP05a 74VP05a-04 5/16/2008 7.0-9.0	74VP05a 74VP05a-09 5/16/2008 17.0-19.0
Volatile Organic Compounds (ug/kg)										
2-Butanone (MEK)	2,800,000 [2]	19,000,000 [2]	NE	NE	3.5 UJ	3.7 UJ	3.6 UJ	4.3 UJ	6.8 UJ	3.1 U
2-Chloro-1,3-butadiene	860 [2]	3,600 [2]	NE	NE	0.74 U	0.78 U	0.75 U	0.91 U	0.61 U	0.65 U
Acetone	6,100,000 [2]	61,000,000 [2]	NE	NE	35 UJ	18 UJ	9.5 UJ	9.4 UJ	53 J	10 J
Benzene	1,100.0 [2]	5,600.0 [2]	101 [6]	NE	1 U	1.1 U	1 U	1.3 U	0.84 U	0.9 U
Carbon disulfide	670,000 [2]	300,000 [2]	NE	NE	0.66 U	0.7 U	0.67 U	0.81 U	2.9 J	0.58 U
Chloroform	300	1,500	1,002 [6]	NE	0.65 U	0.69 U	0.66 U	0.8 U	0.53 U	0.57 U
Chloromethane	1,700	8,400	NE	NE	0.92 U	0.98 U	0.94 U	1.1 U	0.76 U	0.81 U
Ethyl methacrylate	700,000 [2]	9,200,000 [2]	NE	NE	2.9 U	3 U	2.9 U	3.5 U	2.4 U	2.5 U
Ethylbenzene	5,700	29,000	5,003 [6]	NE	0.98 U	1 U	0.99 U	1.2 U	0.8 U	0.85 U
Iodomethane	NE	NE	NE	NE	1.3 U	1.4 U	1.3 U	1.6 U	1.1 U	1.1 U
Isobutyl alcohol	23,000,000 [2]	31,000,000 [2]	NE	NE	90 U	95 U	91 U	110 U	74 U	78 U
Methacrylonitrile	320 [2]	1,800 [2]	NE	NE	31 U	33 U	32 U	38 U	26 U	27 U
Methylene Chloride	11,000	54,000	1,004 [6]	NE	1.3 U	1.4 U	1.3 U	1.6 U	1.1 U	1.1 U
Tetrachloroethene	570	2,700	400 [6]	NE	0.95 U	1 U	0.97 U	1.2 U	0.78 U	0.83 U
Toluene	500000 [2]	4600000 [2]	13,001 [6]	NE	1 U	1.1 U	1 U	1.3 U	0.84 U	0.9 U
trans-1,2-Dichloroethene	NE	NE	100 [7]	NE	1.3 U	1.3 U	1.3 U	1.5 U	1 U	1.1 U
Vinyl acetate	99000 [2]	420000 [2]	NE	NE	2 U	2.1 U	2 U	2.4 U	1.6 U	1.7 U
Xylenes, Total	60000 [2]	260000 [2]	2,501 [6]	NE	3 U	3.2 U	3 U	3.7 U	2.5 U	2.6 U

TABLE 7-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - JP-5 HILL AND DFM AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB284 74SB284-02 5/28/2008 3.0-5.0	74SB284 74SB284-05 5/28/2008 9.0-11.0	74SB285 74SB285-02 5/28/2008 3.0-5.0	74SB285 74SB285-05 5/28/2008 9.0-11.0	74VP05a 74VP05a-04 5/16/2008 7.0-9.0	74VP05a 74VP05a-09 5/16/2008 17.0-19.0
LLPAHs (ug/kg)										
1-Methylnaphthalene	22,000	99,000	NE	NE	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	31,000 [2]	410,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Acenaphthene	340,000 [2]	3,300,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Acenaphthylene	340,000 [2]	3,300,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Anthracene	1,700,000 [2]	17,000,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[a]anthracene	150	2,100	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[a]pyrene	15.0	210	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[b]fluoranthene	150	2,100	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[g,h,i]perylene	1,700	17,000	NE	NE	NA	NA	NA	NA	NA	NA
Benzo[k]fluoranthene	1,500	21,000	NE	NE	NA	NA	NA	NA	NA	NA
Chrysene	15,000	210,000	NE	NE	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	15.0	210	NE	NE	NA	NA	NA	NA	NA	NA
Fluoranthene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Fluorene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
Indeno[1,2,3-cd]pyrene	150	2,100	NE	NE	NA	NA	NA	NA	NA	NA
Naphthalene	3,900	20,000	NE	NE	NA	NA	NA	NA	NA	NA
Phenanthrene	170,000.0 [2][3]	1,700,000 [2][3]	NE	NE	NA	NA	NA	NA	NA	NA
Pyrene	170,000 [2]	1,700,000 [2]	NE	NE	NA	NA	NA	NA	NA	NA
PAH Totals (ug/kg):										
Low molecular weight PAI	NE	NE	29,000 [8]	NE	NA	NA	NA	NA	NA	NA
High molecular weight PA	NE	NE	18,000 [8]	NE	NA	NA	NA	NA	NA	NA

TABLE 7-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - JP-5 HILL AND DFM AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB284 74SB284-02 5/28/2008 3.0-5.0	74SB284 74SB284-05 5/28/2008 9.0-11.0	74SB285 74SB285-02 5/28/2008 3.0-5.0	74SB285 74SB285-05 5/28/2008 9.0-11.0	74VP05a 74VP05a-04 5/16/2008 7.0-9.0	74VP05a 74VP05a-09 5/16/2008 17.0-19.0
Metals (mg/kg)										
Antimony	3.10 [2]	41.0 [2]	10.0 [9]	3.17	0.082 UJ	0.076 UJ	0.089 UJ	0.087 UJ	0.11 UJ	0.13 UJ
Arsenic	0.390	1.60	18.0 [10]	1.59	**1**	**1.1**	**0.79**	**0.64**	**1.4**	**0.96**
Barium	1500 [2]	19,000 [2]	330 [11]	220	330 J	34 J	130 J	60 J	120 J	57 J
Beryllium	16.0 [2]	200 [2]	21.0 [12]	0.596	0.44	0.28	0.26	0.18	0.42	0.33
Cadmium	7.00 [2]	81.0 [2]	0.770 [13]	0.54	0.054 J	0.17	0.037 U	0.036 U	0.042 J	0.27
Chromium	280	1,400	26.0 [14]	114.5	66 J	35 J	43 J	44 J	13 J	12 J
Cobalt	2.30 [2]	30.0 [2]	13.0 [15]	26.9	***56***	**23**	**20**	**11**	**18**	**19**
Copper	310 [2]	4,100 [2]	28.0 [16]	246	100	98	110	74	70	72
Lead	400 [4]	800 [4]	11.0 [17]	6.3	3.3	0.83	1.8	1.6	15	2.3
Mercury	2.30 [2]	31.0 [2]	0.100 [18]	0.108	0.0044 U	0.0043 U	0.0047 U	0.005 U	0.0098 J	0.058
Nickel	160 [2]	2,000 [2]	38.0 [19]	24.7	39	51	33	26	9	6.3
Selenium	39.0 [2]	510 [2]	0.520 [20]	5.94	0.13 U	0.12 U	0.14 U	0.14 U	0.61 J	0.14 U
Silver	39.0 [2]	510 [2]	4.20 [21]	NE	0.033 J	0.051 J	0.14 J	0.11 J	0.026 J	0.08 J
Thallium	0.510 [2]	6.60 [2]	1.00 [22]	0.92	0.13 U	0.12 U	0.14 U	0.14 U	0.15 U	0.14 U
Vanadium	55.0 [2]	720 [2]	7.80 [23]	434	**170**	**160**	**140**	**110**	**190**	**130**
Zinc	2300 [2]	31,000 [2]	46.0 [24]	88	92 J	62 J	70 J	60 J	56	68
TPH DRO and GRO (mg/kg)										
Diesel Range Organics	25 [5]	NE	NE	NE	1.2	0.77	0.89	1.3	1.3 U	0.76 U
Gasoline Range Organics	25 [5]	NE	NE	NE	0.076 U	0.091 U	0.097 U	0.088 U	0.074 U	0.073 U
Total TPH	25 [5]	NE	NE	NE	1.2	0.77	0.89	1.3	1.374 U	0.833 U

TABLE 7-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - JP-5 HILL AND DFM AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74VP08a 74VP08a-07 5/15/2008 13.0-15.0	74VP08a 74VP08a-10 5/15/2008 19.0-21.0	74VP9b/JP5 74VP9b/JP5-03 5/16/2008 5.0-7.0	74VP9b/JP5 74VP9b/JP5-05 5/16/2008 9.0-11.0	74VP10a/JP5 74VP10a/JP5-04 5/16/2008 7.0-9.0
Volatile Organic Compounds (ug/kg)									
2-Butanone (MEK)	2,800,000 [2]	19,000,000 [2]	NE	NE	4.5 U	3.2 U	190 U	3.6 UJ	2.6 U
2-Chloro-1,3-butadiene	860 [2]	3,600 [2]	NE	NE	0.96 U	0.67 U	34 U	0.76 U	0.55 U
Acetone	6,100,000 [2]	61,000,000 [2]	NE	NE	12 U	8.5 U	270 J	19 UJ	52 J
Benzene	1,100.0 [2]	5,600.0 [2]	101 [6]	NE	1.3 U	0.93 U	47 U	1.1 U	0.76 U
Carbon disulfide	670,000 [2]	300,000 [2]	NE	NE	0.86 U	0.6 U	30 U	1.5 J	0.98 J
Chloroform	300	1,500	1,002 [6]	NE	0.84 U	0.59 U	29 U	0.67 U	0.48 U
Chloromethane	1,700	8,400	NE	NE	1.2 U	0.84 U	42 U	0.95 U	0.68 U
Ethyl methacrylate	700,000 [2]	9,200,000 [2]	NE	NE	3.7 U	2.6 U	130 U	2.9 U	2.1 U
Ethylbenzene	5,700	29,000	5,003 [6]	NE	1.3 U	0.88 U	44 U	1 U	0.72 U
Iodomethane	NE	NE	NE	NE	1.7 U	1.2 U	59 U	1.3 U	0.96 U
Isobutyl alcohol	23,000,000 [2]	31,000,000 [2]	NE	NE	120 R	81 R	4,100 U	92 R	66 U
Methacrylonitrile	320 [2]	1,800 [2]	NE	NE	40 U	28 U	1,400 U	32 U	23 U
Methylene Chloride	11,000	54,000	1,004 [6]	NE	1.7 U	1.2 U	59 U	1.3 U	0.96 U
Tetrachloroethene	570	2,700	400 [6]	NE	1.2 U	0.86 U	43 U	0.98 U	0.7 U
Toluene	500000 [2]	4600000 [2]	13,001 [6]	NE	1.3 U	0.93 U	47 U	1.1 U	0.76 U
trans-1,2-Dichloroethene	NE	NE	100 [7]	NE	1.6 U	1.1 U	57 U	1.3 U	0.93 U
Vinyl acetate	99000 [2]	420000 [2]	NE	NE	2.5 U	1.8 U	88 U	2 U	1.4 U
Xylenes, Total	60000 [2]	260000 [2]	2,501 [6]	NE	3.9 U	2.7 U	140 U	3.1 U	2.2 U

TABLE 7-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - JP-5 HILL AND DFM AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74VP08a 74VP08a-07 5/15/2008 13.0-15.0	74VP08a 74VP08a-10 5/15/2008 19.0-21.0	74VP9b/JP5 74VP9b/JP5-03 5/16/2008 5.0-7.0	74VP9b/JP5 74VP9b/JP5-05 5/16/2008 9.0-11.0	74VP10a/JP5 74VP10a/JP5-04 5/16/2008 7.0-9.0
LLPAHs (ug/kg)									
1-Methylnaphthalene	22,000	99,000	NE	NE	NA	NA	18 U	1.4 U	14 U
2-Methylnaphthalene	31,000 [2]	410,000 [2]	NE	NE	NA	NA	25 U	1.9 U	20 U
Acenaphthene	340,000 [2]	3,300,000 [2]	NE	NE	NA	NA	8.4 U	4.6 J	6.8 U
Acenaphthylene	340,000 [2]	3,300,000 [2]	NE	NE	NA	NA	25 U	2.2 J	20 U
Anthracene	1,700,000 [2]	17,000,000 [2]	NE	NE	NA	NA	25 U	1.9 U	20 U
Benzo[a]anthracene	150	2,100	NE	NE	NA	NA	25 U	1.9 U	20 U
Benzo[a]pyrene	15.0	210	NE	NE	NA	NA	9.7 U	0.75 U	7.9 U
Benzo[b]fluoranthene	150	2,100	NE	NE	NA	NA	11 U	0.86 U	9.1 U
Benzo[g,h,i]perylene	1,700	17,000	NE	NE	NA	NA	25 U	1.9 U	63 J
Benzo[k]fluoranthene	1,500	21,000	NE	NE	NA	NA	15 U	1.1 U	12 U
Chrysene	15,000	210,000	NE	NE	NA	NA	9 U	0.69 U	7.3 U
Dibenz(a,h)anthracene	15.0	210	NE	NE	NA	NA	8.7 U	0.67 U	7 U
Fluoranthene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	25 U	1.9 U	44 J
Fluorene	230,000 [2]	2,200,000 [2]	NE	NE	NA	NA	11 U	3.1 J	9.2 U
Indeno[1,2,3-cd]pyrene	150	2,100	NE	NE	NA	NA	18 U	1.4 U	14 U
Naphthalene	3,900	20,000	NE	NE	NA	NA	8.8 U	1.9 J	7.2 U
Phenanthrene	170,000.0 [2][3]	1,700,000 [2][3]	NE	NE	NA	NA	25 U	5 J	20 U
Pyrene	170,000 [2]	1,700,000 [2]	NE	NE	NA	NA	25 U	1.9 U	69 J
PAH Totals (ug/kg):									
Low molecular weight PAI	NE	NE	29,000 [8]	NE	NA	NA	146.2	22	117.2
High molecular weight PA	NE	NE	18,000 [8]	NE	NA	NA	171.4	13.07	253.3

TABLE 7-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - JP-5 HILL AND DFM AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74VP08a 74VP08a-07 5/15/2008 13.0-15.0	74VP08a 74VP08a-10 5/15/2008 19.0-21.0	74VP9b/JP5 74VP9b/JP5-03 5/16/2008 5.0-7.0	74VP9b/JP5 74VP9b/JP5-05 5/16/2008 9.0-11.0	74VP10a/JP5 74VP10a/JP5-04 5/16/2008 7.0-9.0
Metals (mg/kg)									
Antimony	3.10 [2]	41.0 [2]	10.0 [9]	3.17	0.098 U	0.083 UJ	0.11 UJ	0.079 UJ	0.08 UJ
Arsenic	0.390	1.60	18.0 [10]	1.59	**0.5** J	**0.95**	0.26 J	0.37 J	**1.1**
Barium	1500 [2]	19,000 [2]	330 [11]	220	91 J	48	34 J	43 J	83 J
Beryllium	16.0 [2]	200 [2]	21.0 [12]	0.596	0.24	0.2	0.12 J	0.29	0.26
Cadmium	7.00 [2]	81.0 [2]	0.770 [13]	0.54	0.05 J	0.25	0.1 J	0.097 J	0.14
Chromium	280	1,400	26.0 [14]	114.5	20 J	20	19 J	23 J	36 J
Cobalt	2.30 [2]	30.0 [2]	13.0 [15]	26.9	**28** J	**27** J	**14**	**17**	**26**
Copper	310 [2]	4,100 [2]	28.0 [16]	246	180 J	140	47	50	76
Lead	400 [4]	800 [4]	11.0 [17]	6.3	1.6	59	2.2	0.85	8
Mercury	2.30 [2]	31.0 [2]	0.100 [18]	0.108	0.0055 UJ	0.0042 U	0.0054 U	0.0041 U	0.01 J
Nickel	160 [2]	2,000 [2]	38.0 [19]	24.7	28	26	17	25	26
Selenium	39.0 [2]	510 [2]	0.520 [20]	5.94	0.16 U	0.32 J	0.17 U	0.13 U	0.2 J
Silver	39.0 [2]	510 [2]	4.20 [21]	NE	0.24 J	0.081 J	0.035 J	0.078 J	0.05 J
Thallium	0.510 [2]	6.60 [2]	1.00 [22]	0.92	0.16 U	0.13 U	0.17 U	0.13 U	0.13 U
Vanadium	55.0 [2]	720 [2]	7.80 [23]	434	**280** J	**270**	**85**	**96**	**150**
Zinc	2300 [2]	31,000 [2]	46.0 [24]	88	150 J	160	54	49	67
TPH DRO and GRO (mg/kg)									
Diesel Range Organics	25 [5]	NE	NE	NE	0.83 U	0.7 U	**89**	**54**	**370**
Gasoline Range Organics	25 [5]	NE	NE	NE	0.3	0.097 U	0.43	8.3 J	1.0
Total TPH	25 [5]	NE	NE	NE	0.3	0.797 U	**89.43**	**62.3** J	**371**

TABLE 7-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - JP-5 HILL AND DFM AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74VP10a/JP5 74VP10a/JP5-05 5/16/2008 9.0-11.0	74VP10b/DFM 74VP10b/DFM-04 5/17/2008 7.0-9.0	74VP10b/DFM 74VP10b/DFM-05 5/17/2008 9.0-11.0	74VP11b/JP5 74VP11b/JP5-04 5/17/2008 7.0-9.0	74VP11b/JP5 74VP11b/JP5-05 5/17/2008 9.0-11.0
Volatile Organic Compounds (ug/kg)									
2-Butanone (MEK)	2,800,000 [2]	19,000,000 [2]	NE	NE	130 UJ	19 UJ	7.7 UJ	6.7 UJ	3.1 UJ
2-Chloro-1,3-butadiene	860 [2]	3,600 [2]	NE	NE	21 U	0.6 U	0.62 U	0.58 U	0.66 U
Acetone	6,100,000 [2]	61,000,000 [2]	NE	NE	160 U	100	58	63	22 J
Benzene	1,100.0 [2]	5,600.0 [2]	101 [6]	NE	29 U	0.83 U	0.86 U	0.8 U	0.91 U
Carbon disulfide	670,000 [2]	300,000 [2]	NE	NE	19 U	0.54 U	0.56 U	0.52 U	0.59 U
Chloroform	300	1,500	1,002 [6]	NE	19 U	0.53 U	0.54 U	0.51 U	0.58 U
Chloromethane	1,700	8,400	NE	NE	26 U	0.75 U	0.77 U	0.72 U	0.82 U
Ethyl methacrylate	700,000 [2]	9,200,000 [2]	NE	NE	82 U	2.3 UJ	2.4 UJ	2.2 UJ	2.5 UJ
Ethylbenzene	5,700	29,000	5,003 [6]	NE	28 U	0.79 U	0.82 U	0.76 U	0.87 U
Iodomethane	NE	NE	NE	NE	37 U	1.1 U	1.1 U	2.4 J	1.2 U
Isobutyl alcohol	23,000,000 [2]	31,000,000 [2]	NE	NE	2,700 J	73 U	75 U	70 U	80 U
Methacrylonitrile	320 [2]	1,800 [2]	NE	NE	890 U	25 U	26 U	24 U	28 U
Methylene Chloride	11,000	54,000	1,004 [6]	NE	37 U	1.1 U	1.1 U	1 U	1.2 U
Tetrachloroethene	570	2,700	400 [6]	NE	27 U	0.77 U	0.8 U	0.74 U	0.84 U
Toluene	500000 [2]	4600000 [2]	13,001 [6]	NE	29 U	0.83 U	0.86 U	0.8 U	0.91 U
trans-1,2-Dichloroethene	NE	NE	100 [7]	NE	36 U	1 U	1.1 U	0.99 U	1.1 U
Vinyl acetate	99000 [2]	420000 [2]	NE	NE	56 U	2.4 J	1.6 U	1.5 U	1.7 U
Xylenes, Total	60000 [2]	260000 [2]	2,501 [6]	NE	85 U	2.4 U	2.5 U	2.3 U	2.7 U

TABLE 7-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - JP-5 HILL AND DFM AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74VP10a/JP5	74VP10b/DFM	74VP10b/DFM	74VP11b/JP5	74VP11b/JP5
Sample ID					74VP10a/JP5-05	74VP10b/DFM-04	74VP10b/DFM-05	74VP11b/JP5-04	74VP11b/JP5-05
Date					5/16/2008	5/17/2008	5/17/2008	5/17/2008	5/17/2008
Depth Range (ft bgs)					9.0-11.0	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0
LLPAHs (ug/kg)									
1-Methylnaphthalene	22,000	99,000	NE	NE	14 U	1.3 U	1.4 U	NA	NA
2-Methylnaphthalene	31,000 [2]	410,000 [2]	NE	NE	20 U	1.9 U	2 U	NA	NA
Acenaphthene	340,000 [2]	3,300,000 [2]	NE	NE	6.7 U	10	0.69 U	NA	NA
Acenaphthylene	340,000 [2]	3,300,000 [2]	NE	NE	20 U	1.9 U	2 U	NA	NA
Anthracene	1,700,000 [2]	17,000,000 [2]	NE	NE	20 U	44	2 U	NA	NA
Benzo[a]anthracene	150	2,100	NE	NE	20 U	53	2.7 J	NA	NA
Benzo[a]pyrene	15.0	210	NE	NE	7.7 U	**29**	0.79 U	NA	NA
Benzo[b]fluoranthene	150	2,100	NE	NE	8.9 U	57	0.91 U	NA	NA
Benzo[g,h,i]perylene	1,700	17,000	NE	NE	20 U	12	2 U	NA	NA
Benzo[k]fluoranthene	1,500	21,000	NE	NE	12 U	1.1 U	1.2 U	NA	NA
Chrysene	15,000	210,000	NE	NE	7.1 U	52	3 J	NA	NA
Dibenz(a,h)anthracene	15.0	210	NE	NE	6.9 U	5.3 J	0.71 U	NA	NA
Fluoranthene	230,000 [2]	2,200,000 [2]	NE	NE	230	140	7.6 J	NA	NA
Fluorene	230,000 [2]	2,200,000 [2]	NE	NE	9 U	16	0.93 U	NA	NA
Indeno[1,2,3-cd]pyrene	150	2,100	NE	NE	14 U	12	1.4 U	NA	NA
Naphthalene	3,900	20,000	NE	NE	7 U	0.89 J	0.72 U	NA	NA
Phenanthrene	170,000.0 [2][3]	1,700,000 [2][3]	NE	NE	20 U	1.9 J	2 U	NA	NA
Pyrene	170,000 [2]	1,700,000 [2]	NE	NE	220	110	6.9 J	NA	NA
PAH Totals (ug/kg):									
Low molecular weight PAI	NE	NE	29,000 [8]	NE	116.7	77.89	11.74	NA	NA
High molecular weight PA	NE	NE	18,000 [8]	NE	546.6	471.4	27.21	NA	NA

TABLE 7-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - JP-5 HILL AND DFM AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74VP10a/JP5	74VP10b/DFM	74VP10b/DFM	74VP11b/JP5	74VP11b/JP5
Sample ID					74VP10a/JP5-05	74VP10b/DFM-04	74VP10b/DFM-05	74VP11b/JP5-04	74VP11b/JP5-05
Date					5/16/2008	5/17/2008	5/17/2008	5/17/2008	5/17/2008
Depth Range (ft bgs)					9.0-11.0	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0
Metals (mg/kg)									
Antimony	3.10 [2]	41.0 [2]	10.0 [9]	3.17	0.26 UJ	0.081 J	0.11 J	0.084 U	0.082 U
Arsenic	0.390	1.60	18.0 [10]	1.59	**1.4**	**1**	**0.83**	**1.3**	**1.2**
Barium	1500 [2]	19,000 [2]	330 [11]	220	82	310	36	220	110
Beryllium	16.0 [2]	200 [2]	21.0 [12]	0.596	0.18	0.43	0.42	0.48	0.33
Cadmium	7.00 [2]	81.0 [2]	0.770 [13]	0.54	0.43	0.06 J	0.073 J	0.8	0.42
Chromium	280	1,400	26.0 [14]	114.5	34	38	63	78	100
Cobalt	2.30 [2]	30.0 [2]	13.0 [15]	26.9	***27*** J	***120*** J	***37*** J	***72*** J	***48*** J
Copper	310 [2]	4,100 [2]	28.0 [16]	246	110	140	90	97	100
Lead	400 [4]	800 [4]	11.0 [17]	6.3	47 J	2	2	9.5	27
Mercury	2.30 [2]	31.0 [2]	0.100 [18]	0.108	0.0046 R	0.0044 J	0.0043 U	0.0074 J	0.0063 J
Nickel	160 [2]	2,000 [2]	38.0 [19]	24.7	25	30	39	69	52
Selenium	39.0 [2]	510 [2]	0.520 [20]	5.94	0.13 U	0.17 J	0.14 U	0.13 U	0.13 U
Silver	39.0 [2]	510 [2]	4.20 [21]	NE	0.046 J	0.037 J	0.054 J	0.042 J	0.034 J
Thallium	0.510 [2]	6.60 [2]	1.00 [22]	0.92	0.13 U	0.12 U	0.14 U	0.13 U	0.13 U
Vanadium	55.0 [2]	720 [2]	7.80 [23]	434	**160**	**140**	**220**	**120**	**130**
Zinc	2300 [2]	31,000 [2]	46.0 [24]	88	73	59 J	110 J	110 J	100 J
TPH DRO and GRO (mg/kg)									
Diesel Range Organics	25 [5]	NE	NE	NE	**240**	3.1 U	4	1.5 U	1.4 U
Gasoline Range Organics	25 [5]	NE	NE	NE	4.9	0.27	0.15 J	0.06 U	0.075 U
Total TPH	25 [5]	NE	NE	NE	**244.9**	0.27	4.15 J	1.56 U	1.475 U

TABLE 7-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - JP-5 HILL AND DFM AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74VP19b 74VP19b-03 5/18/2008 5.0-7.0	74VP19b 74VP19b-05 5/18/2008 9.0-11.0	74VP20 74VP20-05 5/19/2008 9.0-11.0	74VP20 74VP20-06 5/19/2008 11.0-13.0	74VP1982 74VP1982-03 5/19/2008 5.0-7.0	74VP1982 74VP1982-05 5/19/2008 9.0-11.0
Volatile Organic Compounds (ug/kg)										
2-Butanone (MEK)	2,800,000 [2]	19,000,000 [2]	NE	NE	120 U	130 U	6.2 UJ	3.6 UJ	320 UJ	15 UJ
2-Chloro-1,3-butadiene	860 [2]	3,600 [2]	NE	NE	24 U	24 U	0.64 U	0.76 U	25 UJ	0.68 U
Acetone	6,100,000 [2]	61,000,000 [2]	NE	NE	190 U	190 U	55 J	43 J	190 UJ	66 J
Benzene	1,100.0 [2]	5,600.0 [2]	101 [6]	NE	34 U	33 U	0.88 U	3.7 J	34 UJ	2.5 J
Carbon disulfide	670,000 [2]	300,000 [2]	NE	NE	22 U	22 U	1.2 J	0.91 J	22 UJ	0.61 U
Chloroform	300	1,500	1,002 [6]	NE	21 U	21 U	0.56 U	0.67 U	22 UJ	0.6 U
Chloromethane	1,700	8,400	NE	NE	30 U	30 U	0.79 U	0.95 U	31 UJ	0.85 U
Ethyl methacrylate	700,000 [2]	9,200,000 [2]	NE	NE	94 U	93 U	2.5 U	2.9 U	96 UJ	2.6 U
Ethylbenzene	5,700	29,000	5,003 [6]	NE	32 U	32 U	3 J	6 J	33 UJ	0.9 U
Iodomethane	NE	NE	NE	NE	43 U	42 U	2.5 J	1.3 U	44 UJ	1.2 U
Isobutyl alcohol	23,000,000 [2]	31,000,000 [2]	NE	NE	2,900 UJ	2,900 U	77 R	92 R	3,000 UJ	82 R
Methacrylonitrile	320 [2]	1,800 [2]	NE	NE	1,000 U	1,000 U	27 U	32 U	1,000 UJ	29 U
Methylene Chloride	11,000	54,000	1,004 [6]	NE	43 U	42 U	1.1 U	1.3 U	44 UJ	1.2 U
Tetrachloroethene	570	2,700	400 [6]	NE	31 U	31 U	0.82 U	0.97 U	32 UJ	0.87 U
Toluene	500000 [2]	4600000 [2]	13,001 [6]	NE	34 U	33 U	0.88 U	1.1 U	38 UJ	0.94 U
trans-1,2-Dichloroethene	NE	NE	100 [7]	NE	41 U	41 U	1.1 U	1.3 U	42 UJ	1.2 U
Vinyl acetate	99000 [2]	420000 [2]	NE	NE	64 U	63 U	1.7 U	2 U	65 UJ	1.8 U
Xylenes, Total	60000 [2]	260000 [2]	2,501 [6]	NE	98 U	97 U	9 J	3.1 U	100 UJ	2.7 U

TABLE 7-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - JP-5 HILL AND DFM AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74VP19b 74VP19b-03 5/18/2008 5.0-7.0	74VP19b 74VP19b-05 5/18/2008 9.0-11.0	74VP20 74VP20-05 5/19/2008 9.0-11.0	74VP20 74VP20-06 5/19/2008 11.0-13.0	74VP1982 74VP1982-03 5/19/2008 5.0-7.0	74VP1982 74VP1982-05 5/19/2008 9.0-11.0
LLPAHs (ug/kg)										
1-Methylnaphthalene	22,000	99,000	NE	NE	17 U	16 U	NA	680	9.4	NA
2-Methylnaphthalene	31,000 [2]	410,000 [2]	NE	NE	24 U	22 U	NA	670	10	NA
Acenaphthene	340,000 [2]	3,300,000 [2]	NE	NE	7.9 U	7.4 U	NA	8.5 U	0.74 U	NA
Acenaphthylene	340,000 [2]	3,300,000 [2]	NE	NE	24 U	22 U	NA	25 U	2.2 U	NA
Anthracene	1,700,000 [2]	17,000,000 [2]	NE	NE	24 U	22 U	NA	25 U	2.2 U	NA
Benzo[a]anthracene	150	2,100	NE	NE	130 J	22 U	NA	25 U	3.4 J	NA
Benzo[a]pyrene	15.0	210	NE	NE	9.2 U	8.5 U	NA	9.8 U	1.7 J	NA
Benzo[b]fluoranthene	150	2,100	NE	NE	11 U	9.8 U	NA	11 U	2 J	NA
Benzo[g,h,i]perylene	1,700	17,000	NE	NE	100 J	22 U	NA	25 U	2.2 U	NA
Benzo[k]fluoranthene	1,500	21,000	NE	NE	14 U	13 U	NA	15 U	1.3 U	NA
Chrysene	15,000	210,000	NE	NE	270 J	7.9 U	NA	9.1 U	5.1 J	NA
Dibenz(a,h)anthracene	15.0	210	NE	NE	8.2 U	7.6 U	NA	8.8 U	0.76 U	NA
Fluoranthene	230,000 [2]	2,200,000 [2]	NE	NE	360 J	22 U	NA	25 U	13	NA
Fluorene	230,000 [2]	2,200,000 [2]	NE	NE	2,700 J	10 U	NA	29 J	29	NA
Indeno[1,2,3-cd]pyrene	150	2,100	NE	NE	17 U	16 U	NA	18 U	1.6 U	NA
Naphthalene	3,900	20,000	NE	NE	8.3 U	7.8 U	NA	200	0.78 U	NA
Phenanthrene	170,000.0 [2][3]	1,700,000 [2][3]	NE	NE	7,900 J	22 U	NA	32 J	2.2 U	NA
Pyrene	170,000 [2]	1,700,000 [2]	NE	NE	650 J	200	NA	25 U	12	NA
PAH Totals (ug/kg):										
Low molecular weight PAI	NE	NE	29,000 [8]	NE	10705.2	129.2	NA	1669.5	56.52	NA
High molecular weight PA	NE	NE	18,000 [8]	NE	1569.4	328.8	NA	171.7	43.06	NA

TABLE 7-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - JP-5 HILL AND DFM AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74VP19b 74VP19b-03 5/18/2008 5.0-7.0	74VP19b 74VP19b-05 5/18/2008 9.0-11.0	74VP20 74VP20-05 5/19/2008 9.0-11.0	74VP20 74VP20-06 5/19/2008 11.0-13.0	74VP1982 74VP1982-03 5/19/2008 5.0-7.0	74VP1982 74VP1982-05 5/19/2008 9.0-11.0
Metals (mg/kg)										
Antimony	3.10 [2]	41.0 [2]	10.0 [9]	3.17	0.22 J	0.2 J	0.26 J	0.32 J	0.26 J	0.28 J
Arsenic	0.390	1.60	18.0 [10]	1.59	***2.3***	***2.1***	***2.5***	***2.5***	***9.9***	***3***
Barium	1500 [2]	19,000 [2]	330 [11]	220	120 J	110 J	86	79	210	100
Beryllium	16.0 [2]	200 [2]	21.0 [12]	0.596	0.33	0.51	0.51	0.57	0.58	0.55
Cadmium	7.00 [2]	81.0 [2]	0.770 [13]	0.54	0.21	0.061 J	0.22	0.35	0.44	0.21
Chromium	280	1,400	26.0 [14]	114.5	49	60	180	170	29	140
Cobalt	2.30 [2]	30.0 [2]	13.0 [15]	26.9	***43*** J	***37*** J	***39***	***34***	***42***	***37***
Copper	310 [2]	4,100 [2]	28.0 [16]	246	110 J	120 J	59 J	65 J	70 J	78 J
Lead	400 [4]	800 [4]	11.0 [17]	6.3	8.4	8.1	6.7	8.1	11	6.5
Mercury	2.30 [2]	31.0 [2]	0.100 [18]	0.108	0.049	0.0049 J	0.081 J	0.27 J	0.013 J	0.072 J
Nickel	160 [2]	2,000 [2]	38.0 [19]	24.7	23 J	17 J	29	37	12	30
Selenium	39.0 [2]	510 [2]	0.520 [20]	5.94	0.81	1.6	1.5	1.4	1.3	1.1
Silver	39.0 [2]	510 [2]	4.20 [21]	NE	0.082 J	0.025 J	1.2	1.9	0.033 J	0.32
Thallium	0.510 [2]	6.60 [2]	1.00 [22]	0.92	0.15 U	0.15 U	0.15 U	0.16 U	0.15 U	0.16 U
Vanadium	55.0 [2]	720 [2]	7.80 [23]	434	**200**	**430**	**270**	**310**	**240**	**250**
Zinc	2300 [2]	31,000 [2]	46.0 [24]	88	82 J	59 J	36 J	38 J	55 J	59 J
TPH DRO and GRO (mg/kg)										
Diesel Range Organics	25 [5]	NE	NE	NE	**7,400** J	**280**	6	**190**	**270**	20
Gasoline Range Organics	25 [5]	NE	NE	NE	24 J	1.3 J	0.34 J	**36** J	**250** J	0.67
Total TPH	25 [5]	NE	NE	NE	**7,424** J	**281.3** J	6.34 J	**226** J	**520** J	20.7

TABLE 7-2

SUMMARY OF DETECTED RESULTS - JP-5 HILL AND DFM AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Notes/Qualifiers:

J - Estimated: The analyte was positively identified; the quantitation is an estimation
U - Undetected at the Limit of Detection.
UJ - Reported quantitation limit is qualified as estimated
R - Data is rejected and not usable

NA - Not Analyzed
NE - Not Established

ft bgs - feet below ground surface
mg/kg - milligram per kilogram
ug/kg - microgram per kilogram

DRO - Diesel Range Organics
GRO - Gasoline Range Organics
TPH - Total Petroleum Hydrocarbons
LLPAH - Low-level Polynuclear Aromatic Hydrocarbon

NAPR - Naval Activity Puerto Rico
USEPA - United States Environmental Protection Agency

(1) NAPR basewide background surface soil screening value (upper limit of the means concentration [mean plus two standard deviations]) for Subsurface Soil Background Clay Table 3-4 (Baker, 2008)
(2) Noncarcinogenic Regional Screening Levels based on a target hazard quotient of 0.1 for conservative screening purposes
(3) Pyrene used as a surrogate for screening purposes.
(4) USEPA Action Level for lead in soils
(5) Screening level for TPH is 25% of PREQB soil criterion, as proposed in the approved Work Plan dated 12/6/07
(6) The screening value shown is an average of the target and intervention soil standards. The value is based on a default organic carbon content of 0.02 (2 percent), which represents a minimum value (adjustment range is 2 to 30 percent). [MHSPE 2000]
(7) Canadian soil quality guideline based on agricultural land uses [CCME 2007]
(8) Ecological soil screening level for soil invertebrates [USEPA 2007a]
(9) Ecological soil screening level for mammalian herbivores [USEPA 2005a]
(10) Ecological soil screening level for plants [USEPA 2005b]
(11) Ecological soil screening level for soil invertebrates [USEPA 2005c]
(12) Ecological soil screening level for mammalian herbivores [USEPA 2005d]
(13) Ecological soil screening level for avian ground insectivores [USEPA 2005e]
(14) Ecological soil screening level for avian ground insectivores [USEPA 2008]
(15) Ecological soil screening level for plants [USEPA 2005f]
(16) Ecological soil screening level for avian ground insectivores [USEPA 2007b]
(17) Ecological soil screening level for avian ground insectivores [USEPA 2005g]
(18) Toxicological threshold for earthworms [Efroymson et al. 1997a]
(19) Ecological soil screening level for plants [USEPA 2007c]
(20) Ecological soil screening level for plants [USEPA 2007d]
(21) Ecological soil screening level for avian ground insectivores [USEPA 2006]
(22) Toxicological threshold for plants [Efroymson et al. 1997b]
(23) Ecological soil screening level for avian ground insectivores [USEPA 2005h]
(24) Ecological soil screening level for avian ground insectivores [USEPA 2007e]

SUMMARY OF DETECTED RESULTS - JP-5 HILL AND DFM AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

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USEPA. 2007c. Ecological Soil Screening Levels for Nickel (Interim Final). Office of Solid Waste and Emergency Response, Washington, D.C. OSWER Directive 9285.7-76.

USEPA. 2007d. Ecological Soil Screening Levels for Selenium (Interim Final). Office of Solid Waste and Emergency Response, Washington, D.C. OSWER Directive 9285.7-72.

USEPA. 2007e. Ecological Soil Screening Levels for Zinc (Interim Final). Office of Solid Waste and Emergency Response, Washington, D.C. OSWER Directive 9285.7-72.

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USEPA. 2005a. Ecological Soil Screening Levels for Antimony (Interim Final). Office of Solid Waste and Emergency Response, Washington, D.C. OSWER Directive 9285.7-61.

USEPA. 2005b. Ecological Soil Screening Levels for Arsenic (Interim Final). Office of Solid Waste and Emergency Response, Washington, D.C.

USEPA. 2005c. Ecological Soil Screening Levels for Barium (Interim Final). Office of Solid Waste and Emergency Response, Washington, D.C. OSWER Directive 9285.7-63.

USEPA. 2005d. Ecological Soil Screening Levels for Beryllium (Interim Final). Office of Solid Waste and Emergency Response, Washington, D.C. OSWER Directive 9285.7-63.

USEPA. 2005e. Ecological Soil Screening Levels for Cadmium (Interim Final). Office of Solid Waste and Emergency Response, Washington, D.C. OSWER Directive 9285.7-62.

USEPA. 2005f. Ecological Soil Screening Levels for Cobalt (Interim Final). Office of Solid Waste and Emergency Response, Washington, D.C. OSWER Directive 9285.7-67

USEPA. 2005g. Ecological Soil Screening Levels for Lead (Interim Final). Office of Solid Waste and Emergency Response, Washington, D.C. OSWER Directive 9285.7-70.

USEPA. 2005h. Ecological Soil Screening Levels for Vanadium (Interim Final). Office of Solid Waste and Emergency Response, Washington, D.C. OSWER Directive 9285.7-75.

TABLE 7-3

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - JP-5 HILL AND DFM AREA - GROUNDWATER
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date	**Regional Tap Water Screening Levels**	*USEPA MCLs*	Selected Ecological Surface Water Screening Values	NAPR Basewide Background [1]	74VP05a 74GWVP05a 5/30/2008	74VP05a 74GWVP05a 7/23/2008	74VP07b 74GWVP07 5/21/2008	74VP08a 74GWVP08a 5/31/2008	74VP08b 74GWVP08b 5/31/2008
Volatile Organic Compounds (ug/L)									
2-Hexanone	NE	NE	99 [5][6]	NE	0.68 U	NA	0.68 U	22	0.68 U
4-Methyl-2-pentanone (MIBK)	200 [2]	NE	170 [5][6]	NE	0.6 U	NA	0.6 U	0.6 U	0.87 J
Acetone	2,200 [2]	NE	1,000 [7]	NE	7.8 U	NA	7.9 J	5 J	37
Benzene	0.41	5.0	109 [8]	NE	0.32 U	NA	0.32 U	0.32 U	0.32 U
Carbon disulfide	100 [2]	NE	15 [6][9]	NE	7.9 J	NA	0.44 J	2 J	4.7 J
Chloroform	0.19	NE	815 [8]	NE	0.29 U	NA	0.29 U	0.29 U	0.29 U
Ethylbenzene	1.5	700	4.3 [8]	NE	0.3 U	NA	1.5	0.3 U	0.3 U
Xylenes, Total	20 [2]	10,000	27 [6][10]	NE	0.87 U	NA	0.87 U	0.87 U	0.87 U
LLPAHs (ug/L)									
1-Methylnaphthalene	2.3	NE	NE	NE	NA	NA	NA	NA	NA
2-Methylnaphthalene	15 [2]	NE	6 [11]	NE	NA	NA	NA	NA	NA
Acenaphthene	220 [2]	NE	9.7 [8]	NE	NA	NA	NA	NA	NA
Anthracene	1,100 [2]	NE	5.35 [12]	NE	NA	NA	NA	NA	NA
Benzo[a]anthracene	0.03	NE	0.025 [5][6]	NE	NA	NA	NA	NA	NA
Benzo[a]pyrene	0.003	0.20	10 [13]	NE	NA	NA	NA	NA	NA
Benzo[b]fluoranthene	0.029	NE	6 [14]	NE	NA	NA	NA	NA	NA
Benzo[g,h,i]perylene	110 [2]	NE	6 [14]	NE	NA	NA	NA	NA	NA
Benzo[k]fluoranthene	0.290	NE	6 [14]	NE	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	0.003	NE	6 [14]	NE	NA	NA	NA	NA	NA
Fluoranthene	150 [2]	NE	11 [15]	NE	NA	NA	NA	NA	NA
Fluorene	150 [2]	NE	10 [16]	NE	NA	NA	NA	NA	NA
Indeno[1,2,3-cd]pyrene	0.03	NE	6 [14]	NE	NA	NA	NA	NA	NA
Naphthalene	0.14	NE	23.5 [8]	NE	NA	NA	NA	NA	NA
Phenanthrene	NE	NE	8.3 [15]	NE	NA	NA	NA	NA	NA
Pyrene	110 [2]	NE	0.248 [12]	NE	NA	NA	NA	NA	NA

TABLE 7-3

SUMMARY OF DETECTED RESULTS - JP-5 HILL AND DFM AREA - GROUNDWATER
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date	**Regional Tap Water Screening Levels**	*USEPA MCLs*	Selected Ecological Surface Water Screening Values	NAPR Basewide Background [1]	74VP05a 74GWVP05a 5/30/2008	74VP05a 74GWVP05a 7/23/2008	74VP07b 74GWVP07 5/21/2008	74VP08a 74GWVP08a 5/31/2008	74VP08b 74GWVP08b 5/31/2008
Total Metals (ug/L)									
Arsenic	0.045	10	36 [17]	18.89	NA	**1.6** J	**5.4**	1.6 U	2.2 U
Barium	730 [2]	2,000	16,667 [18]	686	NA	46 J	130	120	20
Beryllium	7 [2]	4	310 [19]	2.21	NA	0.067 J	0.065 U	0.065 U	0.065 U
Cadmium	1.8 [2]	5.0	8.85 [20]	16.62	NA	0.18 J	0.12 U	0.12 U	0.29 J
Chromium	5,500 [2]	NE	50.4 [21]	162.41	NA	40	2.5 U	3.6 U	9.6
Cobalt	1 [2]	NE	45 [22]	633.21	NA	**5.4** J	**6.6** J	**2.3** J	**4.4**
Copper	150 [2]	1,300	3.73 [20]	324	NA	27	3.4 U	7.4	12
Lead	NE	15 [3]	8.52 [20]	26.25	NA	***22***	0.43 U	0.63 U	0.78 U
Mercury	1 [2]	NE	1.11 [20]	0.15	NA	0.08 U	0.08 U	0.08 U	0.32
Nickel	73 [2]	NE	8.28 [20]	95.7	NA	25	11	2.5	8.2
Selenium	18 [2]	50	71.1 [20]	29.88	NA	0.6 U	0.9 J	0.98 J	1 J
Silver	18 [2]	NE	0.23 [8]	18.31	NA	0.2 J	0.09 U	0.09 U	0.19 J
Tin	2,200 [2]	NE	180 [5][6]	9.35	NA	3 J	1.9 J	1.9 U	2.6 U
Vanadium	26 [2]	NE	12 [5][6]	484.66	NA	**27**	7.3	14	**34**
Zinc	1,100 [2]	NE	85.6 [20]	547.53	NA	240	55	23 J	46 J
Dissolved Metals (ug/L)									
Arsenic	0.045	10	36 [23]	14.03	NA	**0.96** J	**5.2** J	1.5 U	2.3 U
Barium	730 [2]	2,000	16,667 [18][24]	260	NA	31 J	130 R	110	16
Cadmium	1.8 [2]	5.0	8.8 [25]	36.42	NA	0.12 U	0.14 J	0.12 J	0.2 J
Chromium	5,500 [2]	NE	50.0 [26]	6.5	NA	1.8 J	1.9 U	0.78 U	1.2 U
Cobalt	1.1	NE	45 [22][24]	580.5	NA	**2.6** J	**8.8** J	**3** J	**3.8**
Mercury	1 [2]	NE	0.94 [27]	0.157	NA	0.08 U	0.08 U	0.08 U	0.09 J
Nickel	73	NE	8.2 [25]	84.1	NA	8.8	10 J	1.9	5.4
Selenium	18 [2]	50	71 [25]	23.92	NA	0.6 U	0.75 J	0.92 J	1 J
Silver	18 [2]	NE	0.23 [27][24]	3.67	NA	0.09 U	0.09 UJ	0.09 UJ	0.11 J
Tin	2,200 [2]	NE	180 [5][6][24]	NE	NA	0.9 U	1.4 U	1.4 U	0.9 U
Vanadium	26 [2]	NE	12 [5][6][24]	20.96	NA	3.6 J	5.2	15	**28**
Zinc	1,100 [2]	NE	81 [28]	360.64	NA	11 J	54 R	20 J	19 J

TABLE 7-3

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - JP-5 HILL AND DFM AREA - GROUNDWATER
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date	**Regional Tap Water Screening Levels**	*USEPA MCLs*	Selected Ecological Surface Water Screening Values	NAPR Basewide Background [1]	74VP05a 74GWVP05a 5/30/2008	74VP05a 74GWVP05a 7/23/2008	74VP07b 74GWVP07 5/21/2008	74VP08a 74GWVP08a 5/31/2008	74VP08b 74GWVP08b 5/31/2008
TPH DRO and GRO (mg/L)									
Diesel Range Organics	12.5 [4]	NE	NE	NE	NA	NA	5.4	0.73	0.85
Gasoline Range Organics	12.5 [4]	NE	NE	NE	0.012 U	NA	0.076	0.052	0.036 J
Total TPH	12.5 [4]	NE	NE	NE	0.012 U	NA	5.476	0.782	0.886 J

TABLE 7-3

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - JP-5 HILL AND DFM AREA - GROUNDWATER
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date	**Regional Tap Water Screening Levels**	*USEPA MCLs*	Selected Ecological Surface Water Screening Values	NAPR Basewide Background [1]	74VP9b/JP5 74GWVP9b/JP5 7/23/2008	74VP10a/DFM 74GWVP10a/DFM 5/18/2008	74VP10a/JP5 74GWVP10a/JP5 5/19/2008	74VP19b 74GWVP19b 5/28/2008
Volatile Organic Compounds (ug/L)								
2-Hexanone	NE	NE	99 [5][6]	NE	0.68 U	0.68 U	0.68 U	0.68 U
4-Methyl-2-pentanone (MIBK)	200 [2]	NE	170 [5][6]	NE	0.6 U	0.6 U	0.6 U	0.9 J
Acetone	2,200 [2]	NE	1,000 [7]	NE	5 U	15 J	7.4 J	8.6 U
Benzene	0.41	5.0	109 [8]	NE	0.32 U	0.32 U	0.32 U	0.32 U
Carbon disulfide	100 [2]	NE	15 [6][9]	NE	0.6 U	0.17 U	0.17 U	0.57 J
Chloroform	0.19	NE	815 [8]	NE	0.29 U	0.29 U	0.29 U	0.29 U
Ethylbenzene	1.5	700	4.3 [8]	NE	0.3 U	0.3 U	0.3 U	0.3 U
Xylenes, Total	20 [2]	10,000	27 [6][10]	NE	0.87 U	0.87 U	0.87 U	0.87 U
LLPAHs (ug/L)								
1-Methylnaphthalene	2.3	NE	NE	NE	NA	1.1	1.8	NA
2-Methylnaphthalene	15 [2]	NE	6 [11]	NE	NA	1	1.3	NA
Acenaphthene	220 [2]	NE	9.7 [8]	NE	NA	0.26	0.85	NA
Anthracene	1,100 [2]	NE	5.35 [12]	NE	NA	0.021 U	0.12 J	NA
Benzo[a]anthracene	0.03	NE	0.025 [5][6]	NE	NA	0.025 U	0.025 U	NA
Benzo[a]pyrene	0.003	0.20	10 [13]	NE	NA	0.024 U	0.024 U	NA
Benzo[b]fluoranthene	0.029	NE	6 [14]	NE	NA	0.036 U	0.036 U	NA
Benzo[g,h,i]perylene	110 [2]	NE	6 [14]	NE	NA	0.023 U	0.023 U	NA
Benzo[k]fluoranthene	0.290	NE	6 [14]	NE	NA	0.019 U	0.019 U	NA
Dibenz(a,h)anthracene	0.003	NE	6 [14]	NE	NA	0.023 U	0.023 U	NA
Fluoranthene	150 [2]	NE	11 [15]	NE	NA	0.049 U	0.45	NA
Fluorene	150 [2]	NE	10 [16]	NE	NA	0.42	1.3	NA
Indeno[1,2,3-cd]pyrene	0.03	NE	6 [14]	NE	NA	0.022 U	0.022 U	NA
Naphthalene	0.14	NE	23.5 [8]	NE	NA	0.049 U	0.049 U	NA
Phenanthrene	NE	NE	8.3 [15]	NE	NA	0.24	0.22	NA
Pyrene	110 [2]	NE	0.248 [12]	NE	NA	0.026 U	0.31	NA

TABLE 7-3

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - JP-5 HILL AND DFM AREA - GROUNDWATER
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID / Sample ID / Date	**Regional Tap Water Screening Levels**	*USEPA MCLs*	Selected Ecological Surface Water Screening Values	NAPR Basewide Background [1]	74VP9b/JP5 74GWVP9b/JP5 7/23/2008	74VP10a/DFM 74GWVP10a/DFM 5/18/2008	74VP10a/JP5 74GWVP10a/JP5 5/19/2008	74VP19b 74GWVP19b 5/28/2008
Total Metals (ug/L)								
Arsenic	0.045	10	36 [17]	18.89	**3.1**	**1.1** J	**1.8** J	NA
Barium	730 [2]	2,000	16,667 [18]	686	58 J	14	56	NA
Beryllium	7 [2]	4	310 [19]	2.21	0.065 U	0.065 U	0.065 U	NA
Cadmium	1.8 [2]	5.0	8.85 [20]	16.62	0.26 J	0.19 J	0.12 U	NA
Chromium	5,500 [2]	NE	50.4 [21]	162.41	28	0.88 J	1.4 U	NA
Cobalt	1 [2]	NE	45 [22]	633.21	**4.2** J	0.88 R	1.1 R	NA
Copper	150 [2]	1,300	3.73 [20]	324	17	4.1 U	2.6 U	NA
Lead	NE	15 [3]	8.52 [20]	26.25	3.3	0.77 U	0.88 U	NA
Mercury	1 [2]	NE	1.11 [20]	0.15	0.08 U	0.08 U	0.08 U	NA
Nickel	73 [2]	NE	8.28 [20]	95.7	17	1.4	1.3	NA
Selenium	18 [2]	50	71.1 [20]	29.88	0.06 U	0.6 U	0.6 U	NA
Silver	18 [2]	NE	0.23 [8]	18.31	0.1 J	0.09 UJ	0.09 U	NA
Tin	2,200 [2]	NE	180 [5][6]	9.35	4.7 J	2.1 J	0.9 U	NA
Vanadium	26 [2]	NE	12 [5][6]	484.66	24	**140**	5.9	NA
Zinc	1,100 [2]	NE	85.6 [20]	547.53	160	25	12 J	NA
Dissolved Metals (ug/L)								
Arsenic	0.045	10	36 [23]	14.03	NA	0.96 U	11 U	NA
Barium	730 [2]	2,000	16,667 [18][24]	260	NA	11	380 R	NA
Cadmium	1.8 [2]	5.0	8.8 [25]	36.42	NA	0.12 U	0.12 U	NA
Chromium	5,500 [2]	NE	50.0 [26]	6.5	NA	0.6 U	7.6 U	NA
Cobalt	1.1	NE	45 [22][24]	580.5	NA	2 R	4.2 R	NA
Mercury	1 [2]	NE	0.94 [27]	0.157	NA	0.08 U	0.08 U	NA
Nickel	73	NE	8.2 [25]	84.1	NA	1.2	15 J	NA
Selenium	18 [2]	50	71 [25]	23.92	NA	0.6 U	3 U	NA
Silver	18 [2]	NE	0.23 [27][24]	3.67	NA	0.09 U	0.45 UJ	NA
Tin	2,200 [2]	NE	180 [5][6][24]	NE	NA	1.1 J	4.5 U	NA
Vanadium	26 [2]	NE	12 [5][6][24]	20.96	NA	**130**	**41**	NA
Zinc	1,100 [2]	NE	81 [28]	360.64	NA	13 J	67 R	NA

TABLE 7-3

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - JP-5 HILL AND DFM AREA - GROUNDWATER
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date	**Regional Tap Water Screening Levels**	*USEPA MCLs*	Selected Ecological Surface Water Screening Values	NAPR Basewide Background [1]	74VP9b/JP5 74GWVP9b/JP5 7/23/2008	74VP10a/DFM 74GWVP10a/DFM 5/18/2008	74VP10a/JP5 74GWVP10a/JP5 5/19/2008	74VP19b 74GWVP19b 5/28/2008
TPH DRO and GRO (mg/L)								
Diesel Range Organics	12.5 [4]	NE	NE	NE	NA	1.5	1.5	NA
Gasoline Range Organics	12.5 [4]	NE	NE	NE	0.12 U	0.21	0.031 J	0.11
Total TPH	12.5 [4]	NE	NE	NE	0.12 U	1.71	1.531 J	0.11

TABLE 7-3

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - JP-5 HILL AND DFM AREA - GROUNDWATER
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID / Sample ID / Date	**Regional Tap Water Screening Levels**	*USEPA MCLs*	Selected Ecological Surface Water Screening Values	NAPR Basewide Background [1]	74VP19b 74GWVP19b 7/23/2008	74VP20 74GWVP20 5/28/2008	74SB151 74GW151 5/21/2008	74SB273 74GW273 5/30/2008	74VP1982 74GWVP1982 5/28/2008
Volatile Organic Compounds (ug/L)									
2-Hexanone	NE	NE	99 [5][6]	NE	NA	0.68 U	0.68 U	0.68 U	0.68 U
4-Methyl-2-pentanone (MIBK)	200 [2]	NE	170 [5][6]	NE	NA	0.6 U	0.6 U	0.6 U	0.6 U
Acetone	2,200 [2]	NE	1,000 [7]	NE	NA	17 U	5 U	9 J	9.7 U
Benzene	0.41	5.0	109 [8]	NE	NA	***5.3***	0.32 U	0.32 U	**3.6**
Carbon disulfide	100 [2]	NE	15 [6][9]	NE	NA	0.17 U	0.17 U	0.17 U	0.17 U
Chloroform	0.19	NE	815 [8]	NE	NA	0.29 U	0.29 U	**1.3**	0.29 U
Ethylbenzene	1.5	700	4.3 [8]	NE	NA	**34**	0.3 U	0.3 U	**16**
Xylenes, Total	20 [2]	10,000	27 [6][10]	NE	NA	**22**	0.87 U	0.87 U	19
LLPAHs (ug/L)									
1-Methylnaphthalene	2.3	NE	NE	NE	NA	**56**	NA	NA	**16** J
2-Methylnaphthalene	15 [2]	NE	6 [11]	NE	NA	**50**	NA	NA	11 J
Acenaphthene	220 [2]	NE	9.7 [8]	NE	NA	0.71 J	NA	NA	0.65 J
Anthracene	1,100 [2]	NE	5.35 [12]	NE	NA	0.4 J	NA	NA	0.22 U
Benzo[a]anthracene	0.03	NE	0.025 [5][6]	NE	NA	**0.49** J	NA	NA	0.25 U
Benzo[a]pyrene	0.003	0.20	10 [13]	NE	NA	***0.4*** J	NA	NA	0.25 U
Benzo[b]fluoranthene	0.029	NE	6 [14]	NE	NA	**0.38** J	NA	NA	0.36 U
Benzo[g,h,i]perylene	110 [2]	NE	6 [14]	NE	NA	0.37 J	NA	NA	0.24 U
Benzo[k]fluoranthene	0.290	NE	6 [14]	NE	NA	**0.37** J	NA	NA	0.2 U
Dibenz(a,h)anthracene	0.003	NE	6 [14]	NE	NA	**0.35** J	NA	NA	0.24 U
Fluoranthene	150 [2]	NE	11 [15]	NE	NA	0.49 U	NA	NA	0.49 U
Fluorene	150 [2]	NE	10 [16]	NE	NA	0.73 J	NA	NA	1.4 J
Indeno[1,2,3-cd]pyrene	0.03	NE	6 [14]	NE	NA	**0.34** J	NA	NA	0.23 U
Naphthalene	0.14	NE	23.5 [8]	NE	NA	**67**	NA	NA	**13** J
Phenanthrene	NE	NE	8.3 [15]	NE	NA	0.54 J	NA	NA	0.88 J
Pyrene	110 [2]	NE	0.248 [12]	NE	NA	0.43 J	NA	NA	0.26 U

TABLE 7-3

SUMMARY OF DETECTED RESULTS - JP-5 HILL AND DFM AREA - GROUNDWATER
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID / Sample ID / Date	**Regional Tap Water Screening Levels**	*USEPA MCLs*	Selected Ecological Surface Water Screening Values	NAPR Basewide Background [1]	74VP19b 74GWVP19b 7/23/2008	74VP20 74GWVP20 5/28/2008	74SB151 74GW151 5/21/2008	74SB273 74GW273 5/30/2008	74VP1982 74GWVP1982 5/28/2008
Total Metals (ug/L)									
Arsenic	0.045	10	36 [17]	18.89	**4.9**	**2.8**	**2.9**	2.2 U	**4.2**
Barium	730 [2]	2,000	16,667 [18]	686	300 J	***3,400***	210	40	**1,600**
Beryllium	7 [2]	4	310 [19]	2.21	0.065 U	0.065 U	0.065 U	0.17 U	0.065 U
Cadmium	1.8 [2]	5.0	8.85 [20]	16.62	0.12 U	0.12 U	0.12 U	0.24 J	0.12 U
Chromium	5,500 [2]	NE	50.4 [21]	162.41	3.9 J	14 J	5 U	54	2.9 J
Cobalt	1 [2]	NE	45 [22]	633.21	**8.6** J	**55**	**2.8**	**23**	**11**
Copper	150 [2]	1,300	3.73 [20]	324	6.3	1.8 U	8.9	73	3.9 U
Lead	NE	15 [3]	8.52 [20]	26.25	0.68 U	0.15 U	1.6	1.4 U	0.5 U
Mercury	1 [2]	NE	1.11 [20]	0.15	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
Nickel	73 [2]	NE	8.28 [20]	95.7	4.9	57	3.2	37	11
Selenium	18 [2]	50	71.1 [20]	29.88	1.5 J	0.81 J	0.6 U	1.6 J	1.5 J
Silver	18 [2]	NE	0.23 [8]	18.31	0.09 U	0.09 U	0.09 U	0.17 J	0.1 J
Tin	2,200 [2]	NE	180 [5][6]	9.35	1.9 J	1.5 J	1.2 J	3.4 U	3.1 J
Vanadium	26 [2]	NE	12 [5][6]	484.66	12	5.8	12	**140**	12
Zinc	1,100 [2]	NE	85.6 [20]	547.53	27	190 J	15 J	56 J	8.3 J
Dissolved Metals (ug/L)									
Arsenic	0.045	10	36 [23]	14.03	**5.7**	2.2 U	1.9 U	1.4 U	**3.9**
Barium	730 [2]	2,000	16,667 [18][24]	260	200 J	***3,900***	200 R	2.7 J	**1,900**
Cadmium	1.8 [2]	5.0	8.8 [25]	36.42	0.12 U	0.38 U	0.12 U	0.12 U	0.12 U
Chromium	5,500 [2]	NE	50.0 [26]	6.5	2.8 J	20 J	1.3 U	0.6 U	3.2 J
Cobalt	1.1	NE	45 [22][24]	580.5	**12** J	**55**	**2.2**	**4.5**	12 B
Mercury	1 [2]	NE	0.94 [27]	0.157	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
Nickel	73	NE	8.2 [25]	84.1	6.5	57	1.3 J	9	12
Selenium	18 [2]	50	71 [25]	23.92	1.9 J	0.79 J	0.6 U	1.2 J	1.4 J
Silver	18 [2]	NE	0.23 [27][24]	3.67	0.09 U	0.37 J	0.09 UJ	0.09 UJ	0.09 UJ
Tin	2,200 [2]	NE	180 [5][6][24]	NE	1.1 J	3.1 J	0.9 U	1 U	3.3 J
Vanadium	26 [2]	NE	12 [5][6][24]	20.96	16	4.7 U	2.2 U	**55**	11
Zinc	1,100 [2]	NE	81 [28]	360.64	8.5 J	220	6.8 R	6.5 U	9.1 J

TABLE 7-3

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - JP-5 HILL AND DFM AREA - GROUNDWATER
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date	**Regional Tap Water Screening Levels**	*USEPA MCLs*	Selected Ecological Surface Water Screening Values	NAPR Basewide Background [1]	74VP19b 74GWVP19b 7/23/2008	74VP20 74GWVP20 5/28/2008	74SB151 74GW151 5/21/2008	74SB273 74GW273 5/30/2008	74VP1982 74GWVP1982 5/28/2008
TPH DRO and GRO (mg/L)									
Diesel Range Organics	12.5 [4]	NE	NE	NE	NA	4.7	3.6	0.92	8.7
Gasoline Range Organics	12.5 [4]	NE	NE	NE	NA	0.42	0.15	0.012 U	0.43
Total TPH	12.5 [4]	NE	NE	NE	NA	5.12	3.75	0.92	9.13

TABLE 7-3

SUMMARY OF DETECTED RESULTS - JP-5 HILL AND DFM AREA - GROUNDWATER
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Notes/Qualifiers:

U - Not detected
J - Analyte present - Reported value is estimated
UJ - Reported quantitation limit is qualified as estimated
NE - Not Established
NA - Not Analyzed
R - Rejected data, not usable

mg/l - milligram per liter
ug/l - microgram per liter

DRO - Diesel Range Organics
GRO - Gasoline Range Organics
TPH - Total Petroleum Hydrocarbons
LLPAH - Low-level Polynuclear Aromatic Hydrocarbon
NAPR - Naval Activity Puerto Rico
USEPA - United States Environmental Protection Agency

(1) NAPR Basewide Groundwater Background - Upper Limit of Means (Mean + 2 standard deviations) Revised Final Summary Report for Environmental Background Concentrations of Inorganic Compounds, Naval Activity Puerto Rico, Ceiba, PR, Baker Environmental (Baker, 2008)
(2) Noncarcinogenic Regional Screening Levels based on a target hazard quotient of 0.1 for conservative screening purposes
(3) USEPA Action Level for lead in drinking water
(4) Screening level for TPH is 25% of PREQB groundwater criterion, as proposed in the approved Work Plan dated 12/6/07
(5) The chemical lacks a marine/estuarine surface water screening value/literature-based toxicity value. The value shown is a freshwater screening value/toxicity value.
(6) USEPA Region 5 ecological screening level [USEPA 2003]
(7) Minimum acute value (96-hr LC50 for Lumbriculus variegatus [Oligochaete]) with a safety factor of 100 [USEPA 2007a]
(8) USEPA Region 4 chronic screening value [USEPA 2001]
(9) The safety factors applied to acute endpoints (i.e., LC_{50}, EC_{50}, NOEC, and LOEL values) and chronic endpoints (i.e., LOELs) are those recommended by Wentsel et al. (1996).
(10) The value shown is for o-xylene.
(11) Minimum acute value (96-hr LC50 for Penaeus aztecus [brown shrimp]) with a safety factor of 100 [USEPA 2007a]
(12) Minimum acute value (48-hr LC50 for Americamysis bahia [opossum shrimp]) with a safety factor of 100 [USEPA 2007a]
(13) Acute value (LC50) with a safety factor of 100 [USEPA 2004]
(14) Acute LOEL for chemical class with a safety factor of 50 (value for high molecular weight PAHs) [Buchman 2008]
(15) Final Chronic Value [USEPA 1996]
(16) Minimum acute value (96-hr LC50 for Nereis arenaceodentata [polychaete]) with a safety factor of 100 [USEPA 2007a]
(17) Total recoverable Criteria Continuous Concentration for trivalent arsenic [USEPA 2009]
(18) Minimum acute value (96-hr NOEC for Cyprinodon variegatus [sheepshead minnow]) with a safety factor of 30 [USEPA 2007a]
(19) Minimum acute value (96-hr LC50 for Fundulus heteroclitus [mummichog]) with a safety factor of 100 [USEPA 2007a]
(20) Total recoverable Criteria Continuous Concentration [USEPA 2009]
(21) Total recoverable Criteria Continuous Concentration for hexavalent chromium [USEPA 2009]
(22) Minimum acute value (96-hr LC50 for Nitocra spinipes [Harpacticoid copepod]) with a safety factor of 100 [USEPA 2007a]

TABLE 7-3

SUMMARY OF DETECTED RESULTS - JP-5 HILL AND DFM AREA - GROUNDWATER
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Notes/Qualifiers:

(23) Dissolved Criteria Continuous Concentration for trivalent arsenic [USEPA 2009]

(24) The chemical lacks a screening value expressed as a dissolved concentration. The value shown is expressed as a total recoverable concentration.

(25) Dissolved Criteria Continuous Concentration [USEPA 2009]

(26) Dissolved Criteria Continuous Concentration for hexavalent chromium [USEPA 2009]

(27) Criteria Continuous Concentration based on Final Residaul Value/Puerto Rico Water Quality Standard [USEPA 2009/PREQB 2003]

(28) Dissolved Criteria Continuous Concentration/Puerto Rico Water Quality Standard [USEPA 2009/PREQB 2003]

SUMMARY OF DETECTED RESULTS - JP-5 HILL AND DFM AREA - GROUNDWATER
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

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TABLE 8-1

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - SWMU 9 AREA C - SURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB161 74SB161-00 5/16/2008 0.0-1.0	74SB161 74SB161-00D 5/16/2008 0.0-1.0	74SB171 74SB171-00 5/17/2008 0.0-1.0	74SB181 74SB181-00 5/19/2008 0.0-1.0	74SB191 74SB191-00 5/19/2008 0.0-1.0
Voltile Organic Compounds (ug/kg)									
2-Butanone (MEK)	28,000	190,000	NE	NE	4.6 U	6.8 U	11 J	2.9 UJ	11 U
Acetone	6,100,000 [2]	61,000,000 [2]	NE	NE	21 J	38 J	120 J	44 J	75
Benzene	1,100 [2]	5,600 [2]	101 [5]	NE	0.75 U	1 U	0.87 U	0.85 U	1.1 J
Iodomethane	NE	NE	NE	NE	0.95 UJ	1.3 UJ	1.2 J	1.1 UJ	1.3 U
Metals (mg/kg)									
Arsenic	0.390	1.60	18.0 [6]	2.65	***4***	***4.2***	***3.2***	**1.4**	***2.8***
Barium	1,500 [2]	19,000 [2]	330 [7]	199	15 J	20 J	53	350	52 J
Beryllium	16.0 [2]	200 [2]	21.0 [8]	0.59	0.054 J	0.091 J	0.24	0.38	0.18
Cadmium	7.00 [2]	81.0 [2]	0.770 [9]	1.02	0.051 J	0.081 J	0.44	0.041 J	0.33
Chromium	280	1,400	26.0 [10]	49.8	17 J	23 J	22	58	32
Cobalt	2.30 [2]	30.0 [2]	13.0 [11]	46.2	**5.4** J	**7.5** J	**16** J	**19**	**16** J
Copper	310 [2]	4,100 [2]	28.0 [12]	168	21 J	51 J	93	65	68 J
Lead	400 [3]	800 [3]	11.0 [13]	22	6.5 J	7.8 J	38 J	3.4	210 J
Mercury	2.300 [2]	31.00 [2]	0.100 [14]	0.109	0.004 J	0.0056 J	0.014 R	0.01 J	0.024
Nickel	160 [2]	2,000 [2]	38.0 [15]	20.7	6.8	7.8	12	18	15
Selenium	39.0 [2]	510 [2]	0.520 [16]	1.48	0.18 J	0.23 J	1.2	1	0.32 J
Silver	39.0 [2]	510 [2]	4.20 [17]	NE	0.016 UJ	0.019 J	0.18 J	0.041 J	0.067 J
Vanadium	55.000 [2]	720.00 [2]	7.80 [18]	259	**63**	**68**	**150**	**260**	**130**
Zinc	2,300 [2]	31,000 [2]	46.0 [19]	115	14 J	22 J	80	53 J	110
TPH DRO and GRO (mg/kg)									
Diesel Range Organics	25 [4]	NE	NE	NE	2.4 J	2.3 J	2.8 U	1.2 UJ	**77**
Gasoline Range Organics	25 [4]	NE	NE	NE	0.071 U	0.072 U	0.067 U	0.032 J	0.018 J
Total TPH	25 [4]	NE	NE	NE	2.4 J	2.3 J	2.867 U	0.032 J	**77.018** J

TABLE 8-1

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - SWMU 9 AREA C - SURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Notes/Qualifiers:

J - Estimated: The analyte was positively identified; the quantitation is an estimation
U - Undetected at the Limit of Detection.
UJ - Reported quantitation limit is qualified as estimated
ft bgs - feet below ground surface
ug/kg - microgram per kilogram
mg/kg - milligram per kilogram
NE - Not Established

DRO - Diesel Range Organics
GRO - Gasoline Range Organics
TPH - Total Petroleum Hydrocarbons

NAPR - Naval Activity Puerto Rico
USEPA - United States Environmental Protection Agency

(1) NAPR basewide background surface soil screening value (upper limit of the means concentration [mean plus two standard deviations]) (Baker, 2008)
(2) Noncarcinogenic Regional Screening Levels based on a target hazard quotient of 0.1 for conservative screening purposes
(3) USEPA Action Level for lead in soils
(4) Screening level for TPH is 25% of PREQB soil criterion, as proposed in the approved Work Plan dated 12/6/07
(5) The screening value shown is an average of the target and intervention soil standards. The value is based on a default organic carbon content of 0.02 (2 percent), which represents a minimum value (adjustment range is 2 to 30 percent). [MHSPE 2000]
(6) Ecological soil screening level for plants [USEPA 2005a]
(7) Ecological soil screening level for soil invertebrates [USEPA 2005b]
(8) Ecological soil screening level for mammalian herbivores [USEPA 2005c]
(9) Ecological soil screening level for avian ground insectivores [USEPA 2005d]
(10) Ecological soil screening level for avian ground insectivores [USEPA 2008]
(11) Ecological soil screening level for plants [USEPA 2005e]
(12) Ecological soil screening level for avian ground insectivores [USEPA 2007a]
(13) Ecological soil screening level for avian ground insectivores [USEPA 2005f]
(14) Toxicological threshold for earthworms [Efroymson et al. 1997]
(15) Ecological soil screening level for plants [USEPA 2007b]
(16) Ecological soil screening level for plants [USEPA 2007c]
(17) Ecological soil screening level for avian ground insectivores [USEPA 2006]
(18) Ecological soil screening level for avian ground insectivores [USEPA 2005g]
(19) Ecological soil screening level for avian ground insectivores [USEPA 2007d]

TABLE 8-1

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - SWMU 9 AREA C - SURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Table References:

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TABLE 8-2

SUMMARY OF DETECTED RESULTS - SWMU 9 AREA C - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	NAPR Basewide Background [1]	74SB144	74SB144	74SB145	74SB145	74SB146	74SB146
Sample ID				74SB144-03	74SB144-05	74SB145-05	74SB145-09	74SB146-02	74SB146-02D
Date				5/14/2008	5/14/2008	5/16/2008	5/16/2008	5/15/2008	5/15/2008
Depth Range (ft bgs)				5.0-7.0	9.0-11.0	9.0-11.0	17.0-19.0	3.0-5.0	3.0-5.0
Volatile Organic Compounds (ug/kg)									
2-Butanone (MEK)	2,800,000 [2]	19,000,000 [2]	NE	3 U	3.5 U	3.9 UJ	3.1 U	2.5 U	2.4 U
2-Chloro-1,3-butadiene	860 [2]	3,600 [2]	NE	0.63 U	0.73 U	0.63 U	0.66 U	0.53 U	0.5 U
2-Hexanone	NE	NE	NE	2.3 U	2.7 U	2.3 U	2.4 UJ	2 U	1.8 U
Acetone	6,100,000 [2]	61,000,000 [2]	NE	11 J	13 J	23 J	11 J	4.1 U	18 J
Benzene	1,100	5,600	NE	0.87 U	1 U	0.87 U	0.92 U	0.73 U	0.69 U
Bromoform	6,100	22,000	NE	1.2 U	7.7	1.2 U	1.3 U	1 U	0.97 U
Carbon disulfide	67,000	300,000	NE	0.56 U	0.66 U	0.56 U	0.59 U	0.47 U	0.45 U
Ethylbenzene	5,700	29,000	NE	0.83 U	0.96 U	0.83 U	0.87 U	0.7 U	0.66 U
Iodomethane	NE	NE	NE	1.1 U	1.3 U	1.1 U	1.2 U	0.97 UJ	0.88 UJ
Isobutyl alcohol	2,300,000 [2]	31,000,000 [2]	NE	76 R	89 R	76 U	80 U	64 R	61 R
Methacrylonitrile	320 [2]	1,800 [2]	NE	27 U	31 U	26 U	28 U	22 U	21 U
trans-1,2-Dichloroethene	NE	NE	NE	1.1 U	1.2 U	1.1 U	1.1 U	0.9 U	0.85 U
LLAHs (ug/kg)									
Acenaphthene	340,000 [2]	3,300,000 [2]	NE	NA	NA	NA	NA	NA	NA
Anthracene	1,700,000 [2]	170,000 [2]	NE	NA	NA	NA	NA	NA	NA
Benzo[a]anthracene	150	2,100	NE	NA	NA	NA	NA	NA	NA
Benzo[a]pyrene	15	210	NE	NA	NA	NA	NA	NA	NA
Benzo[b]fluoranthene	150	2,100	NE	NA	NA	NA	NA	NA	NA
Benzo[g,h,i]perylene	1,700	17,000	NE	NA	NA	NA	NA	NA	NA
Benzo[k]fluoranthene	1,500	21,000	NE	NA	NA	NA	NA	NA	NA
Chrysene	15,000	210,000	NE	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	15	210	NE	NA	NA	NA	NA	NA	NA
Fluoranthene	230,000 [2]	2,200,000 [2]	NE	NA	NA	NA	NA	NA	NA
Fluorene	230,000 [2]	2,200,000 [2]	NE	NA	NA	NA	NA	NA	NA
Indeno[1,2,3-cd]pyrene	150	2,100	NE	NA	NA	NA	NA	NA	NA
Pyrene	170,000 [2]	1,700,000 [2]	NE	NA	NA	NA	NA	NA	NA

TABLE 8-2

SUMMARY OF DETECTED RESULTS - SWMU 9 AREA C - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	NAPR Basewide Background (1)	74SB144	74SB144	74SB145	74SB145	74SB146	74SB146
Sample ID				74SB144-03	74SB144-05	74SB145-05	74SB145-09	74SB146-02	74SB146-02D
Date				5/14/2008	5/14/2008	5/16/2008	5/16/2008	5/15/2008	5/15/2008
Depth Range (ft bgs)				5.0-7.0	9.0-11.0	9.0-11.0	17.0-19.0	3.0-5.0	3.0-5.0
PAH Totals (ug/kg):									
Low molecular weight PAHs	NE	NE	NE	NA	NA	NA	NA	NA	NA
High molecular weight PAHs	NE	NE	NE	NA	NA	NA	NA	NA	NA
Metals (mg/kg)									
Antimony	3.10 (2)	41.0 (2)	NE	0.094 UJ	0.086 UJ	0.086 UJ	0.081 UJ	0.28 U	0.075 U
Arsenic	0.390	1.60	1.59	**1.4**	**0.86**	**0.66**	**0.87**	**1.1**	**1**
Barium	1,500 (2)	19,000 (2)	220	190 J	150 J	62 J	27 J	76 J	54 J
Beryllium	16.0 (2)	200 (2)	0.596	0.38	0.48	0.44	0.14	0.32	0.23
Cadmium	7.00 (2)	81.0 (2)	0.54	0.039 U	0.036 U	0.056 J	0.1 J	1.2 R	0.31 R
Chromium	280	1,400	114.5	18	7.9	20 J	6.2 J	28 J	38 J
Cobalt	2.30 (2)	30.0 (2)	26.9	**9.8** J	***62*** J	***46***	**18**	***39*** J	**26** J
Copper	310 (2)	4,100 (2)	246	63	9.9	43	**510**	110 J	91 J
Lead	400 (3)	800 (3)	6.3	5.1	1.5	1	0.69	4.8	4.3
Mercury	2.300 (2)	31.00 (2)	0.108	0.007 J	0.0042 U	0.0044 U	0.0044 U	0.0078 J	0.011 J
Nickel	160 (2)	2,000 (2)	24.7	8.8 J	16 J	16	12	31	23
Selenium	39.0 (2)	510 (2)	5.94	1.2	0.17 J	0.23 J	0.12 U	0.18 J	0.14 J
Silver	39.0 (2)	510 (2)	NE	0.02 U	0.028 J	0.031 J	0.11 J	0.12 J	0.037 J
Thallium	0.510 (2)	6.60 (2)	0.92	0.15 U	0.14 U	0.13 U	0.12 U	0.12 U	0.12 U
Vanadium	55.000 (2)	720.00 (2)	434.00	**200**	**150**	**170**	**120**	**130** J	**170** J
Zinc	2,300 (2)	31,000 (2)	88.00	56 J	120 J	78	56	130 J	96 J
TPH DRO and GRO (mg/kg)									
Diesel Range Organics	25 (4)	NE	NE	0.82 U	0.72 U	0.74 U	0.67 U	1.9 J	3.3 J
Gasoline Range Organics	25 (4)	NE	NE	0.073 U	0.067 U	0.074 U	0.058 U	0.068 U	0.073 U
Total TPH	25 (4)	NE	NE	0.893 U	0.787 U	0.814 U	0.728 U	1.9 J	3.3 J

TABLE 8-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - SWMU 9 AREA C - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	NAPR Basewide Background [1]	74SB146	74SB147	74SB147	74SB148	74SB148	74SB161	74SB161
Sample ID				74SB146-05	74SB147-03	74SB147-04	74SB148-02	74SB148-04	74SB161-04	74SB161-04D
Date				5/15/2008	5/15/2008	5/15/2008	5/15/2008	5/15/2008	5/16/2008	5/16/2008
Depth Range (ft bgs)				9.0-11.0	5.0-7.0	7.0-9.0	3.0-5.0	7.0-9.0	7.0-9.0	7.0-9.0
Volatile Organic Compounds (ug/kg)										
2-Butanone (MEK)	2,800,000 [2]	19,000,000 [2]	NE	3 U	3.7 U	2.6 U	3.3 U	3.5 U	5.5 U	5.8 U
2-Chloro-1,3-butadiene	860 [2]	3,600 [2]	NE	0.63 U	0.77 U	0.54 U	0.7 U	0.74 U	0.62 U	0.68 U
2-Hexanone	NE	NE	NE	2.3 U	2.8 U	2 U	2.6 U	2.7 U	2.3 U	2.5 U
Acetone	6,100,000 [2]	61,000,000 [2]	NE	8.6 J	53 J	4.5 J	7.8 J	42 J	41 J	34 J
Benzene	1,100	5,600	NE	0.88 U	1.1 U	0.75 U	0.97 U	1 U	0.86 U	0.95 U
Bromoform	6,100	22,000	NE	1.2 U	1.5 U	1 U	1.3 U	1.4 U	1.2 U	1.3 U
Carbon disulfide	67,000	300,000	NE	0.57 U	2.5 J	0.49 U	0.62 U	0.66 U	0.55 U	0.61 U
Ethylbenzene	5,700	29,000	NE	0.84 U	1 U	0.71 U	0.92 U	0.98 U	0.81 U	0.9 U
Iodomethane	NE	NE	NE	1.1 UJ	2.1 J	0.95 U	1.2 U	1.3 UJ	1.1 UJ	1.2 U
Isobutyl alcohol	2,300,000 [2]	31,000,000 [2]	NE	77 R	93 R	66 R	84 R	90 R	75 R	83 UJ
Methacrylonitrile	320 [2]	1,800 [2]	NE	27 U	33 U	23 U	29 U	31 U	26 U	29 UJ
trans-1,2-Dichloroethene	NE	NE	NE	1.1 U	1.3 U	0.92 U	1.2 U	1.3 U	1.1 U	1.2 U
LLAHs (ug/kg)										
Acenaphthene	340,000 [2]	3,300,000 [2]	NE	NA	NA	NA	NA	NA	NA	NA
Anthracene	1,700,000 [2]	170,000 [2]	NE	NA	NA	NA	NA	NA	NA	NA
Benzo[a]anthracene	150	2,100	NE	NA	NA	NA	NA	NA	NA	NA
Benzo[a]pyrene	15	210	NE	NA	NA	NA	NA	NA	NA	NA
Benzo[b]fluoranthene	150	2,100	NE	NA	NA	NA	NA	NA	NA	NA
Benzo[g,h,i]perylene	1,700	17,000	NE	NA	NA	NA	NA	NA	NA	NA
Benzo[k]fluoranthene	1,500	21,000	NE	NA	NA	NA	NA	NA	NA	NA
Chrysene	15,000	210,000	NE	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	15	210	NE	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	230,000 [2]	2,200,000 [2]	NE	NA	NA	NA	NA	NA	NA	NA
Fluorene	230,000 [2]	2,200,000 [2]	NE	NA	NA	NA	NA	NA	NA	NA
Indeno[1,2,3-cd]pyrene	150	2,100	NE	NA	NA	NA	NA	NA	NA	NA
Pyrene	170,000 [2]	1,700,000 [2]	NE	NA	NA	NA	NA	NA	NA	NA

TABLE 8-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - SWMU 9 AREA C - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	NAPR Basewide Background (1)	74SB146	74SB147	74SB147	74SB148	74SB148	74SB161	74SB161
Sample ID				74SB146-05	74SB147-03	74SB147-04	74SB148-02	74SB148-04	74SB161-04	74SB161-04D
Date				5/15/2008	5/15/2008	5/15/2008	5/15/2008	5/15/2008	5/16/2008	5/16/2008
Depth Range (ft bgs)				9.0-11.0	5.0-7.0	7.0-9.0	3.0-5.0	7.0-9.0	7.0-9.0	7.0-9.0
PAH Totals (ug/kg):										
Low molecular weight PAHs	NE	NE	NE	NA	NA	NA	NA	NA	NA	NA
High molecular weight PAHs	NE	NE	NE	NA	NA	NA	NA	NA	NA	NA
Metals (mg/kg)										
Antimony	3.10 (2)	41.0 (2)	NE	0.094 U	0.12 U	0.076 U	0.15 U	0.48 U	0.15 UJ	0.17 UJ
Arsenic	0.390	1.60	1.59	**0.74**	**1.6**	**0.95**	**1.5**	***3.8***	**1.6**	**1.5**
Barium	1,500 (2)	19,000 (2)	220	95 J	92 J	87 J	52 J	97 J	51 J	46 J
Beryllium	16.0 (2)	200 (2)	0.596	0.63	0.45	0.53	0.18	0.57	0.33	0.32
Cadmium	7.00 (2)	81.0 (2)	0.54	0.047 J	0.41	0.07 J	0.22	1.1	0.057 J	0.084 J
Chromium	280	1,400	114.5	**650** J	41 J	110 J	34 J	65 J	24 J	26 J
Cobalt	2.30 (2)	30.0 (2)	26.9	***64*** J	***36*** J	**26** J	**21** J	***91*** J	**22** J	**26** J
Copper	310 (2)	4,100 (2)	246	140 J	81 J	250 J	79 J	170 J	93	89
Lead	400 (3)	800 (3)	6.3	0.98	12	2.3	7.3	16	15 J	20 J
Mercury	2.300 (2)	31.00 (2)	0.108	0.0045 UJ	0.094 J	0.0043 UJ	0.0063 J	0.054 J	0.0043 U	0.005 J
Nickel	160 (2)	2,000 (2)	24.7	**200**	16	88	19	46	20	22
Selenium	39.0 (2)	510 (2)	5.94	0.15 U	1.3	0.12 U	0.16 J	1.2	0.15 J	0.16 J
Silver	39.0 (2)	510 (2)	NE	0.063 J	0.2 J	0.082 J	0.06 J	0.16 J	0.041 J	0.04 J
Thallium	0.510 (2)	6.60 (2)	0.92	0.15 U	0.16 U	0.12 U	0.13 U	0.16 U	0.12 U	0.13 U
Vanadium	55.000 (2)	720.00 (2)	434.00	**110** J	**170** J	**99** J	**130** J	**240** J	**170**	**190**
Zinc	2,300 (2)	31,000 (2)	88.00	95 J	65 J	45 J	79 J	87 J	63 J	75 J
TPH DRO and GRO (mg/kg)										
Diesel Range Organics	25 (4)	NE	NE	1.8 J	0.84 U	6.9	18	6.6	2.9 J	2.2 J
Gasoline Range Organics	25 (4)	NE	NE	0.08 U	0.083 U	0.066 U	0.065 U	0.081 U	0.065 U	0.065 U
Total TPH	25 (4)	NE	NE	1.8 J	0.923 U	6.9	18	6.6	2.9 J	2.2 J

TABLE 8-2

SUMMARY OF DETECTED RESULTS - SWMU 9 AREA C - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	NAPR Basewide Background [1]	74SB161	74SB162	74SB162	74SB163	74SB163	74SB164	74SB164
Sample ID				74SB161-05	74SB162-04	74SB162-05	74SB163-03	74SB163-04	74SB164-04	74SB164-05
Date				5/16/2008	5/16/2008	5/16/2008	5/16/2008	5/16/2008	5/16/2008	5/16/2008
Depth Range (ft bgs)				9.0-11.0	7.0-9.0	9.0-11.0	5.0-7.0	7.0-9.0	7.0-9.0	9.0-11.0
Volatile Organic Compounds (ug/kg)										
2-Butanone (MEK)	2,800,000 [2]	19,000,000 [2]	NE	4.4 U	4.8 U	4 U	3.5 U	2.7 U	5.8 UJ	3.4 U
2-Chloro-1,3-butadiene	860 [2]	3,600 [2]	NE	0.65 U	1 U	0.85 U	0.75 U	0.56 U	1 U	0.72 U
2-Hexanone	NE	NE	NE	2.4 U	3.7 UJ	3.1 UJ	2.7 UJ	2.1 UJ	3.7 U	2.7 U
Acetone	6,100,000 [2]	61,000,000 [2]	NE	28 J	55 J	22 J	11 J	9.2 J	39 J	11 J
Benzene	1,100	5,600	NE	0.91 U	1.4 U	1.2 U	1 U	0.78 U	1.4 U	1 U
Bromoform	6,100	22,000	NE	1.3 U	1.9 U	1.6 U	1.4 U	1.1 U	2 U	1.4 U
Carbon disulfide	67,000	300,000	NE	0.59 U	0.9 U	0.76 U	0.67 U	0.5 U	0.91 U	0.65 U
Ethylbenzene	5,700	29,000	NE	0.86 U	1.3 U	1.1 U	0.98 U	0.74 U	1.3 U	0.95 U
Iodomethane	NE	NE	NE	1.1 U	1.8 U	1.5 U	1.3 U	0.98 U	1.8 U	1.3 U
Isobutyl alcohol	2,300,000 [2]	31,000,000 [2]	NE	79 UJ	120 U	100 U	90 U	68 U	120 U	88 U
Methacrylonitrile	320 [2]	1,800 [2]	NE	28 UJ	42 U	36 U	31 U	24 U	43 U	30 U
trans-1,2-Dichloroethene	NE	NE	NE	1.1 U	1.7 U	1.5 U	1.3 U	0.95 U	1.7 U	1.2 U
LLAHs (ug/kg)										
Acenaphthene	340,000 [2]	3,300,000 [2]	NE	NA	NA	NA	NA	NA	NA	NA
Anthracene	1,700,000 [2]	170,000 [2]	NE	NA	NA	NA	NA	NA	NA	NA
Benzo[a]anthracene	150	2,100	NE	NA	NA	NA	NA	NA	NA	NA
Benzo[a]pyrene	15	210	NE	NA	NA	NA	NA	NA	NA	NA
Benzo[b]fluoranthene	150	2,100	NE	NA	NA	NA	NA	NA	NA	NA
Benzo[g,h,i]perylene	1,700	17,000	NE	NA	NA	NA	NA	NA	NA	NA
Benzo[k]fluoranthene	1,500	21,000	NE	NA	NA	NA	NA	NA	NA	NA
Chrysene	15,000	210,000	NE	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	15	210	NE	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	230,000 [2]	2,200,000 [2]	NE	NA	NA	NA	NA	NA	NA	NA
Fluorene	230,000 [2]	2,200,000 [2]	NE	NA	NA	NA	NA	NA	NA	NA
Indeno[1,2,3-cd]pyrene	150	2,100	NE	NA	NA	NA	NA	NA	NA	NA
Pyrene	170,000 [2]	1,700,000 [2]	NE	NA	NA	NA	NA	NA	NA	NA

TABLE 8-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - SWMU 9 AREA C - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	NAPR Basewide Background (1)	74SB161	74SB162	74SB162	74SB163	74SB163	74SB164	74SB164
Sample ID				74SB161-05	74SB162-04	74SB162-05	74SB163-03	74SB163-04	74SB164-04	74SB164-05
Date				5/16/2008	5/16/2008	5/16/2008	5/16/2008	5/16/2008	5/16/2008	5/16/2008
Depth Range (ft bgs)				9.0-11.0	7.0-9.0	9.0-11.0	5.0-7.0	7.0-9.0	7.0-9.0	9.0-11.0
PAH Totals (ug/kg):										
Low molecular weight PAHs	NE	NE	NE	NA	NA	NA	NA	NA	NA	NA
High molecular weight PAHs	NE	NE	NE	NA	NA	NA	NA	NA	NA	NA
Metals (mg/kg)										
Antimony	3.10 (2)	41.0 (2)	NE	0.17 UJ	0.23 UJ	0.21 UJ	0.17 UJ	0.17 UJ	0.12 UJ	0.085 UJ
Arsenic	0.390	1.60	1.59	**1.3**	***2.3***	**1.1**	***2.4***	***2.9***	**1.2**	**0.78**
Barium	1,500 (2)	19,000 (2)	220	35 J	450 J	140 J	96	91	170 J	63 J
Beryllium	16.0 (2)	200 (2)	0.596	0.44	0.37	0.37	0.48	0.49	0.5	0.4
Cadmium	7.00 (2)	81.0 (2)	0.54	0.049 J	0.1 J	0.13	0.14	0.16	0.045 J	0.035 U
Chromium	280	1,400	114.5	26 J	61 J	62 J	41	32	21 J	24 J
Cobalt	2.30 (2)	30.0 (2)	26.9	**23** J	**29** J	***36*** J	**25**	**23**	***31***	**24**
Copper	310 (2)	4,100 (2)	246	89	77	81	230	210	130	57
Lead	400 (3)	800 (3)	6.3	4.4 J	12 J	1.4 J	3	2.7	2.7	1.7
Mercury	2.300 (2)	31.00 (2)	0.108	0.0093 J	0.0047 U	0.005 U	0.004 U	0.0038 U	0.0055 U	0.0046 U
Nickel	160 (2)	2,000 (2)	24.7	18	31	31	26	20	24	22
Selenium	39.0 (2)	510 (2)	5.94	0.14 U	0.3 J	0.15 U	0.51 J	0.53	0.26 J	0.14 U
Silver	39.0 (2)	510 (2)	NE	0.049 J	0.032 J	0.037 J	0.081 J	0.11 J	0.054 J	0.069 J
Thallium	0.510 (2)	6.60 (2)	0.92	0.14 U	0.13 U	0.15 U	0.12 U	0.12 U	0.16 U	0.14 U
Vanadium	55.000 (2)	720.00 (2)	434.00	**190**	**210**	**160**	**240**	**180**	**240**	**190**
Zinc	2,300 (2)	31,000 (2)	88.00	68 J	84 J	89 J	92 J	91 J	80	65
TPH DRO and GRO (mg/kg)										
Diesel Range Organics	25 (4)	NE	NE	2.1 J	0.77 J	0.77 U	1.4 J	1.8 J	0.93 UJ	0.73 UJ
Gasoline Range Organics	25 (4)	NE	NE	0.07 U	0.066 U	0.084 U	0.063 U	0.069 U	0.11 U	0.069 U
Total TPH	25 (4)	NE	NE	2.1 J	0.77 J	0.854 U	1.4 J	1.8 J	1.04 U	0.799 U

TABLE 8-2

SUMMARY OF DETECTED RESULTS - SWMU 9 AREA C - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	NAPR Basewide Background [1]	74SB165	74SB165	74SB166	74SB166	74SB166	74SB167	74SB167
Sample ID				74SB165-04	74SB165-05	74SB166-04	74SB166-04D	74SB166-05	74SB167-04	74SB167-05
Date				5/16/2008	5/16/2008	5/16/2008	5/16/2008	5/16/2008	5/16/2008	5/16/2008
Depth Range (ft bgs)				7.0-9.0	9.0-11.0	7.0-9.0	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0
Volatile Organic Compounds (ug/kg)										
2-Butanone (MEK)	2,800,000 [2]	19,000,000 [2]	NE	3.3 U	3 U	3.3 U	3.1 U	3.9 U	3.3 UJ	2.9 U
2-Chloro-1,3-butadiene	860 [2]	3,600 [2]	NE	0.7 U	0.64 U	0.7 U	0.66 U	0.82 U	0.65 U	0.62 U
2-Hexanone	NE	NE	NE	2.6 U	2.3 U	2.6 U	2.4 UJ	3 U	2.4 U	2.3 U
Acetone	6,100,000 [2]	61,000,000 [2]	NE	16 J	17 J	13 J	9.7 J	11 J	19 J	9.7 J
Benzene	1,100	5,600	NE	0.97 U	0.88 U	0.97 U	0.92 U	1.1 U	0.9 U	0.86 U
Bromoform	6,100	22,000	NE	1.3 U	1.2 U	1.3 U	1.3 U	1.6 U	1.3 U	1.2 U
Carbon disulfide	67,000	300,000	NE	0.62 U	0.57 U	0.62 U	0.59 U	0.73 U	0.58 U	0.55 U
Ethylbenzene	5,700	29,000	NE	0.92 U	0.84 U	0.92 U	0.87 U	1.1 U	0.85 U	0.81 U
Iodomethane	NE	NE	NE	1.2 U	1.1 U	1.2 U	1.2 U	1.4 U	1.1 U	1.1 U
Isobutyl alcohol	2,300,000 [2]	31,000,000 [2]	NE	84 U	180 J	84 U	80 U	99 U	79 U	75 U
Methacrylonitrile	320 [2]	1,800 [2]	NE	29 U	27 U	29 U	28 U	34 U	27 U	26 U
trans-1,2-Dichloroethene	NE	NE	NE	1.2 U	1.1 U	1.2 U	1.1 U	1.4 U	1.1 U	1.1 U
LLAHs (ug/kg)										
Acenaphthene	340,000 [2]	3,300,000 [2]	NE	NA	NA	NA	NA	NA	NA	NA
Anthracene	1,700,000 [2]	170,000 [2]	NE	NA	NA	NA	NA	NA	NA	NA
Benzo[a]anthracene	150	2,100	NE	NA	NA	NA	NA	NA	NA	NA
Benzo[a]pyrene	15	210	NE	NA	NA	NA	NA	NA	NA	NA
Benzo[b]fluoranthene	150	2,100	NE	NA	NA	NA	NA	NA	NA	NA
Benzo[g,h,i]perylene	1,700	17,000	NE	NA	NA	NA	NA	NA	NA	NA
Benzo[k]fluoranthene	1,500	21,000	NE	NA	NA	NA	NA	NA	NA	NA
Chrysene	15,000	210,000	NE	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	15	210	NE	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	230,000 [2]	2,200,000 [2]	NE	NA	NA	NA	NA	NA	NA	NA
Fluorene	230,000 [2]	2,200,000 [2]	NE	NA	NA	NA	NA	NA	NA	NA
Indeno[1,2,3-cd]pyrene	150	2,100	NE	NA	NA	NA	NA	NA	NA	NA
Pyrene	170,000 [2]	1,700,000 [2]	NE	NA	NA	NA	NA	NA	NA	NA

TABLE 8-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - SWMU 9 AREA C - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	NAPR Basewide Background [1]	74SB165	74SB165	74SB166	74SB166	74SB166	74SB167	74SB167
Sample ID				74SB165-04	74SB165-05	74SB166-04	74SB166-04D	74SB166-05	74SB167-04	74SB167-05
Date				5/16/2008	5/16/2008	5/16/2008	5/16/2008	5/16/2008	5/16/2008	5/16/2008
Depth Range (ft bgs)				7.0-9.0	9.0-11.0	7.0-9.0	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0
PAH Totals (ug/kg):										
Low molecular weight PAHs	NE	NE	NE	NA	NA	NA	NA	NA	NA	NA
High molecular weight PAHs	NE	NE	NE	NA	NA	NA	NA	NA	NA	NA
Metals (mg/kg)										
Antimony	3.10 [2]	41.0 [2]	NE	0.094 UJ	0.089 UJ	0.12 UJ	0.1 UJ	0.1 UJ	0.083 UJ	0.088 UJ
Arsenic	0.390	1.60	1.59	**0.52**	**1.3**	**0.84**	**0.84**	**0.64** J	**0.89**	**0.9**
Barium	1,500 [2]	19,000 [2]	220	66 J	140 J	100 J	56 J	86 J	79 J	75 J
Beryllium	16.0 [2]	200 [2]	0.596	0.22	0.33	0.26	0.28	0.23	0.81	0.34
Cadmium	7.00 [2]	81.0 [2]	0.54	0.038 J	0.079 J	0.056 J	0.064 J	0.12 J	0.038 J	0.068 J
Chromium	280	1,400	114.5	28 J	21 J	23 J	18 J	29 J	25 J	36 J
Cobalt	2.30 [2]	30.0 [2]	26.9	***33***	***34***	***31***	***29***	**26**	***39***	**22**
Copper	310 [2]	4,100 [2]	246	83	59	92	120	78	90	130
Lead	400 [3]	800 [3]	6.3	2.1	3.3	2.3	2.4	1.2	4.9	1.9
Mercury	2.300 [2]	31.00 [2]	0.108	0.0048 J	0.004 U	0.0043 U	0.0039 U	0.0054 U	0.004 U	0.0048 U
Nickel	160 [2]	2,000 [2]	24.7	28	29	27	30	22	13	20
Selenium	39.0 [2]	510 [2]	5.94	0.12 U	0.14 U	0.16 J	0.13 U	0.16 U	0.2 J	0.19 J
Silver	39.0 [2]	510 [2]	NE	0.33	0.042 J	0.035 J	0.038 J	0.035 J	0.022 J	0.051 J
Thallium	0.510 [2]	6.60 [2]	0.92	0.12 U	0.14 U	0.13 U	0.13 U	0.16 U	0.13 U	0.14 U
Vanadium	55.000 [2]	720.00 [2]	434.00	**200**	**160**	**270**	**280**	**210**	**140**	**170**
Zinc	2,300 [2]	31,000 [2]	88.00	92	99	80	74	60	110	140
TPH DRO and GRO (mg/kg)										
Diesel Range Organics	25 [4]	NE	NE	2.2 UJ	1.3 UJ	0.69 UJ	0.68 UJ	0.86 UJ	1.2 UJ	0.75 UJ
Gasoline Range Organics	25 [4]	NE	NE	0.065 U	0.09 J	0.072 U	0.066 U	0.088 U	0.061 U	0.078 U
Total TPH	25 [4]	NE	NE	2.265 U	0.09 J	0.762 U	0.746 U	0.948 U	1.261 U	0.828 U

TABLE 8-2

SUMMARY OF DETECTED RESULTS - SWMU 9 AREA C - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	NAPR Basewide Background [1]	74SB168	74SB168	74SB169	74SB169	74SB170	74SB170	74SB171
Sample ID				74SB168-04	74SB168-05	74SB169-04	74SB169-05	74SB170-04	74SB170-05	74SB171-04
Date				5/16/2008	5/16/2008	5/16/2008	5/16/2008	5/17/2008	5/17/2008	5/17/2008
Depth Range (ft bgs)				7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0	7.0-9.0
Volatile Organic Compounds (ug/kg)										
2-Butanone (MEK)	2,800,000 [2]	19,000,000 [2]	NE	3 U	2.8 U	3.9 UJ	3.5 U	3.3 UJ	5.9 J	14 J
2-Chloro-1,3-butadiene	860 [2]	3,600 [2]	NE	0.64 U	0.58 U	0.67 U	0.73 U	0.69 U	0.74 U	0.58 U
2-Hexanone	NE	NE	NE	2.3 U	2.2 U	2.5 U	2.7 U	2.5 UJ	3 J	2.2 UJ
Acetone	6,100,000 [2]	61,000,000 [2]	NE	20 J	6.2 J	42 J	18 J	27 UJ	40 UJ	180 J
Benzene	1,100	5,600	NE	0.88 U	0.81 U	0.92 U	1 U	0.95 U	1 U	0.81 U
Bromoform	6,100	22,000	NE	1.2 U	1.1 U	1.3 U	1.4 U	1.3 U	1.4 U	1.1 U
Carbon disulfide	67,000	300,000	NE	0.57 U	0.52 U	0.6 U	0.66 U	0.61 U	0.66 U	0.52 U
Ethylbenzene	5,700	29,000	NE	0.84 U	0.77 U	0.88 U	0.96 U	0.9 U	0.98 U	0.77 U
Iodomethane	NE	NE	NE	1.1 U	1 U	1.2 U	1.3 U	1.2 U	1.3 U	12
Isobutyl alcohol	2,300,000 [2]	31,000,000 [2]	NE	77 U	71 U	81 U	89 U	83 R	90 R	71 R
Methacrylonitrile	320 [2]	1,800 [2]	NE	27 U	25 U	28 U	31 U	29 U	31 U	25 U
trans-1,2-Dichloroethene	NE	NE	NE	1.1 U	0.99 U	1.1 U	1.2 U	1.2 U	1.3 U	0.99 U
LLAHs (ug/kg)										
Acenaphthene	340,000 [2]	3,300,000 [2]	NE	NA	NA	NA	NA	0.71 U	NA	NA
Anthracene	1,700,000 [2]	170,000 [2]	NE	NA	NA	NA	NA	2.1 U	NA	NA
Benzo[a]anthracene	150	2,100	NE	NA	NA	NA	NA	2.1 U	NA	NA
Benzo[a]pyrene	15	210	NE	NA	NA	NA	NA	0.82 U	NA	NA
Benzo[b]fluoranthene	150	2,100	NE	NA	NA	NA	NA	0.94 U	NA	NA
Benzo[g,h,i]perylene	1,700	17,000	NE	NA	NA	NA	NA	2.1 U	NA	NA
Benzo[k]fluoranthene	1,500	21,000	NE	NA	NA	NA	NA	1.2 U	NA	NA
Chrysene	15,000	210,000	NE	NA	NA	NA	NA	0.76 U	NA	NA
Dibenz(a,h)anthracene	15	210	NE	NA	NA	NA	NA	0.73 U	NA	NA
Fluoranthene	230,000 [2]	2,200,000 [2]	NE	NA	NA	NA	NA	2.1 U	NA	NA
Fluorene	230,000 [2]	2,200,000 [2]	NE	NA	NA	NA	NA	0.95 U	NA	NA
Indeno[1,2,3-cd]pyrene	150	2,100	NE	NA	NA	NA	NA	1.5 U	NA	NA
Pyrene	170,000 [2]	1,700,000 [2]	NE	NA	NA	NA	NA	2.1 U	NA	NA

TABLE 8-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - SWMU 9 AREA C - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID	**Regional Screening**	*Regional Screening*		74SB168	74SB168	74SB169	74SB169	74SB170	74SB170	74SB171
Sample ID	**Levels**	*Levels*	NAPR	74SB168-04	74SB168-05	74SB169-04	74SB169-05	74SB170-04	74SB170-05	74SB171-04
Date	**Residential**	*Industrial*	Basewide	5/16/2008	5/16/2008	5/16/2008	5/16/2008	5/17/2008	5/17/2008	5/17/2008
Depth Range (ft bgs)	**Soil**	*Soil*	Background (1)	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0	7.0-9.0
PAH Totals (ug/kg):										
Low molecular weight PAHs	NE	NE	NE	NA	NA	NA	NA	12.3	NA	NA
High molecular weight PAHs	NE	NE	NE	NA	NA	NA	NA	14.35	NA	NA
Metals (mg/kg)										
Antimony	3.10 (2)	41.0 (2)	NE	0.11 UJ	0.12 UJ	0.094 UJ	0.088 UJ	0.15 UJ	0.084 UJ	0.12 UJ
Arsenic	0.390	1.60	1.59	***2.4***	***2***	**1.1**	**0.8**	**0.75**	**0.71**	***2.5***
Barium	1,500 (2)	19,000 (2)	220	230 J	66 J	300 J	92 J	51	83	44
Beryllium	16.0 (2)	200 (2)	0.596	0.75	1.1	0.66	0.27	0.31	0.49	0.45
Cadmium	7.00 (2)	81.0 (2)	0.54	0.095 J	0.22	0.097 J	0.14	0.067 J	0.21	1.6
Chromium	280	1,400	114.5	45 J	20 J	40 J	40 J	29	28	33
Cobalt	2.30 (2)	30.0 (2)	26.9	**21**	**11**	***36***	**30**	**19** J	**21** J	***33*** J
Copper	310 (2)	4,100 (2)	246	96	88	55	85	39	31	110
Lead	400 (3)	800 (3)	6.3	78	47	13	6.1	6.9 J	1.7 J	63 J
Mercury	2.300 (2)	31.00 (2)	0.108	0.0048 U	0.0044 U	0.015 J	0.02 J	0.0042 R	0.0046 R	0.013 R
Nickel	160 (2)	2,000 (2)	24.7	14	17	23	21	20	23	16
Selenium	39.0 (2)	510 (2)	5.94	1.6	0.37 J	0.98	0.14 U	0.2 J	0.13 U	1.9
Silver	39.0 (2)	510 (2)	NE	0.035 J	0.36	0.12 J	0.67	0.036 J	0.18 J	0.65
Thallium	0.510 (2)	6.60 (2)	0.92	0.14 U	0.14 U	0.15 U	0.14 U	0.14 U	0.13 U	0.13 U
Vanadium	55.000 (2)	720.00 (2)	434.00	**280**	**190**	**210**	**200**	**130**	**130**	**330**
Zinc	2,300 (2)	31,000 (2)	88.00	120	130	110	95	110	100	140
TPH DRO and GRO (mg/kg)										
Diesel Range Organics	25 (4)	NE	NE	0.78 UJ	0.75 U	2.2 U	0.76 U	4.6	1.5 U	1.2 U
Gasoline Range Organics	25 (4)	NE	NE	0.075 U	0.065 U	0.071 U	0.07 U	0.078 U	0.087 U	0.071 U
Total TPH	25 (4)	NE	NE	0.855 U	0.815 U	2.271 U	0.83 U	4.6	1.587 U	1.271 U

TABLE 8-2

SUMMARY OF DETECTED RESULTS - SWMU 9 AREA C - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID	**Regional Screening**	*Regional Screening*		74SB171	74SB171	74SB172	74SB172	74SB173	74SB173	74SB174
Sample ID	**Levels**	*Levels*	NAPR	74SB171-05	74SB171-05D	74SB172-04	74SB172-05	74SB173-04	74SB173-05	74SB174-04
Date	**Residential**	*Industrial*	Basewide	5/17/2008	5/17/2008	5/17/2008	5/17/2008	5/17/2008	5/17/2008	5/17/2008
Depth Range (ft bgs)	**Soil**	*Soil*	Background [1]	9.0-11.0	9.0-11.0	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0	7.0-9.0
Volatile Organic Compounds (ug/kg)										
2-Butanone (MEK)	2,800,000 [2]	19,000,000 [2]	NE	3.7 U	3.3 U	3.5 U	7.6 J	3.1 U	3.2 U	3.5 U
2-Chloro-1,3-butadiene	860 [2]	3,600 [2]	NE	0.78 U	0.69 U	0.74 U	0.7 U	5 J	0.67 U	0.75 U
2-Hexanone	NE	NE	NE	2.9 U	2.5 U	2.7 U	2.6 UJ	2.4 U	2.5 U	2.8 U
Acetone	6,100,000 [2]	61,000,000 [2]	NE	46 UJ	72 UJ	62 UJ	140 J	39 UJ	23 UJ	22 UJ
Benzene	1,100	5,600	NE	1.1 U	0.96 U	1 U	0.97 U	0.91 U	0.92 U	1 U
Bromoform	6,100	22,000	NE	1.5 U	1.3 U	1.4 U	1.4 U	1.3 U	1.3 U	1.4 U
Carbon disulfide	67,000	300,000	NE	0.7 U	0.62 U	0.66 U	0.63 U	0.59 U	0.6 U	0.69 J
Ethylbenzene	5,700	29,000	NE	1 U	0.91 U	0.97 U	0.92 U	0.86 U	0.88 U	0.99 U
Iodomethane	NE	NE	NE	1.4 U	1.2 U	1.3 U	1.2 U	1.2 U	1.2 U	1.3 U
Isobutyl alcohol	2,300,000 [2]	31,000,000 [2]	NE	94 R	84 R	90 R	85 R	79 R	81 R	91 R
Methacrylonitrile	320 [2]	1,800 [2]	NE	33 U	29 U	31 U	30 U	28 U	28 U	32 U
trans-1,2-Dichloroethene	NE	NE	NE	1.3 U	1.2 U	1.3 U	1.2 U	1.1 U	1.1 U	1.3 U
LLAHs (ug/kg)										
Acenaphthene	340,000 [2]	3,300,000 [2]	NE	NA	NA	NA	NA	NA	NA	240 R
Anthracene	1,700,000 [2]	170,000 [2]	NE	NA	NA	NA	NA	NA	NA	4500
Benzo[a]anthracene	150	2,100	NE	NA	NA	NA	NA	NA	NA	***4800***
Benzo[a]pyrene	15	210	NE	NA	NA	NA	NA	NA	NA	***2300***
Benzo[b]fluoranthene	150	2,100	NE	NA	NA	NA	NA	NA	NA	***5100***
Benzo[g,h,i]perylene	1,700	17,000	NE	NA	NA	NA	NA	NA	NA	1100 R
Benzo[k]fluoranthene	1,500	21,000	NE	NA	NA	NA	NA	NA	NA	140 R
Chrysene	15,000	210,000	NE	NA	NA	NA	NA	NA	NA	4800
Dibenz(a,h)anthracene	15	210	NE	NA	NA	NA	NA	NA	NA	82 R
Fluoranthene	230,000 [2]	2,200,000 [2]	NE	NA	NA	NA	NA	NA	NA	14000
Fluorene	230,000 [2]	2,200,000 [2]	NE	NA	NA	NA	NA	NA	NA	1600
Indeno[1,2,3-cd]pyrene	150	2,100	NE	NA	NA	NA	NA	NA	NA	1000 R
Pyrene	170,000 [2]	1,700,000 [2]	NE	NA	NA	NA	NA	NA	NA	11000

TABLE 8-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - SWMU 9 AREA C - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	NAPR Basewide Background (1)	74SB171	74SB171	74SB172	74SB172	74SB173	74SB173	74SB174
Sample ID				74SB171-05	74SB171-05D	74SB172-04	74SB172-05	74SB173-04	74SB173-05	74SB174-04
Date				5/17/2008	5/17/2008	5/17/2008	5/17/2008	5/17/2008	5/17/2008	5/17/2008
Depth Range (ft bgs)				9.0-11.0	9.0-11.0	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0	7.0-9.0
PAH Totals (ug/kg):										
Low molecular weight PAHs	NE	NE	NE	NA	NA	NA	NA	NA	NA	6100
High molecular weight PAHs	NE	NE	NE	NA	NA	NA	NA	NA	NA	42000
Metals (mg/kg)										
Antimony	3.10 (2)	41.0 (2)	NE	0.13 UJ	0.11 UJ	0.12 UJ	0.094 UJ	0.1 UJ	0.087 UJ	0.12 UJ
Arsenic	0.390	1.60	1.59	**1.4**	**0.92**	***2.6***	**1.3**	***2.2***	**0.64**	**1.5**
Barium	1,500 (2)	19,000 (2)	220	31	29	8.7	12	30	4	34
Beryllium	16.0 (2)	200 (2)	0.596	0.43	0.38	0.73	0.55	0.35	0.27	0.28
Cadmium	7.00 (2)	81.0 (2)	0.54	0.08 J	0.071 J	0.1 J	0.098 J	0.039 U	0.044 J	0.042 U
Chromium	280	1,400	114.5	53	51	81	63	44	95	22
Cobalt	2.30 (2)	30.0 (2)	26.9	**8.3** J	**12** J	**9** J	**4.4** J	**5.2** J	**12** J	**4.2** J
Copper	310 (2)	4,100 (2)	246	160	170	190	140	68	99	75
Lead	400 (3)	800 (3)	6.3	29 J	23 J	28 J	40 J	9.8 J	3.7 J	12 J
Mercury	2.300 (2)	31.00 (2)	0.108	0.0052 R	0.011 R	0.0044 R	0.005 R	0.0052 R	0.005 R	0.0049 R
Nickel	160 (2)	2,000 (2)	24.7	12	14	17	12	9.9	28	8.6
Selenium	39.0 (2)	510 (2)	5.94	2	0.92	2.5	2.6	3.2	0.14 U	1.4
Silver	39.0 (2)	510 (2)	NE	0.061 J	0.075 J	0.055 J	0.082 J	0.025 J	0.11 J	0.033 J
Thallium	0.510 (2)	6.60 (2)	0.92	0.15 U	0.14 U	0.14 U	0.15 U	0.15 U	0.14 U	0.16 U
Vanadium	55.000 (2)	720.00 (2)	434.00	**340**	**280**	**390**	**350**	**340**	**160**	**310**
Zinc	2,300 (2)	31,000 (2)	88.00	120	130	110	65	42	110	49
TPH DRO and GRO (mg/kg)										
Diesel Range Organics	25 (4)	NE	NE	1.4 U	1.1 U	0.74 U	0.78 U	0.94 U	2.5 U	1.1 U
Gasoline Range Organics	25 (4)	NE	NE	0.072 U	0.073 U	0.081 U	0.077 U	0.068 U	0.074 U	9.8 J
Total TPH	25 (4)	NE	NE	1.472 U	1.173 U	0.821 U	0.857 U	1.008 U	2.574 U	9.8 J

TABLE 8-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - SWMU 9 AREA C - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	NAPR Basewide Background [1]	74SB174	74SB175	74SB175	74SB176	74SB176	74SB176	74SB177
Sample ID				74SB174-05	74SB175-04	74SB175-05	74SB176-04	74SB176-05	74SB176-05D	74SB177-04
Date				5/17/2008	5/17/2008	5/17/2008	5/17/2008	5/17/2008	5/17/2008	5/17/2008
Depth Range (ft bgs)				9.0-11.0	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0	9.0-11.0	7.0-9.0
Volatile Organic Compounds (ug/kg)										
2-Butanone (MEK)	2,800,000 [2]	19,000,000 [2]	NE	140 UJ	3.8 UJ	3.3 UJ	2.9 UJ	3.8 UJ	3.5 UJ	3.9 UJ
2-Chloro-1,3-butadiene	860 [2]	3,600 [2]	NE	30 UJ	0.8 U	0.7 U	0.61 U	0.8 U	0.74 U	0.81 U
2-Hexanone	NE	NE	NE	110 UJ	2.9 UJ	2.6 UJ	2.2 UJ	2.9 UJ	2.7 UJ	3 UJ
Acetone	6,100,000 [2]	61,000,000 [2]	NE	4000 J	40 UJ	38 J	16 UJ	24 UJ	19 UJ	19 UJ
Benzene	1,100	5,600	NE	42 UJ	1.1 U	0.97 U	0.85 U	1.1 U	1 U	1.1 U
Bromoform	6,100	22,000	NE	59 UJ	1.5 U	1.3 U	1.2 U	1.5 U	1.4 U	1.6 U
Carbon disulfide	67,000	300,000	NE	27 UJ	0.71 U	0.62 U	0.55 U	0.72 U	0.67 U	0.73 U
Ethylbenzene	5,700	29,000	NE	1600 J	1 U	0.92 U	0.8 U	1.1 U	0.98 U	1.1 U
Iodomethane	NE	NE	NE	53 UJ	1.4 U	1.2 U	1.1 U	1.4 U	1.3 U	1.4 U
Isobutyl alcohol	2,300,000 [2]	31,000,000 [2]	NE	3700 R	97 R	85 R	74 R	97 R	90 R	99 R
Methacrylonitrile	320 [2]	1,800 [2]	NE	1300 UJ	34 U	29 U	26 U	34 U	31 U	34 U
trans-1,2-Dichloroethene	NE	NE	NE	52 UJ	1.4 U	1.2 U	1 U	1.4 U	1.3 U	1.4 U
LLAHs (ug/kg)										
Acenaphthene	340,000 [2]	3,300,000 [2]	NE	810	NA	NA	NA	NA	NA	NA
Anthracene	1,700,000 [2]	170,000 [2]	NE	3000 R	NA	NA	NA	NA	NA	NA
Benzo[a]anthracene	150	2,100	NE	3900 R	NA	NA	NA	NA	NA	NA
Benzo[a]pyrene	15	210	NE	1800 R	NA	NA	NA	NA	NA	NA
Benzo[b]fluoranthene	150	2,100	NE	2700 R	NA	NA	NA	NA	NA	NA
Benzo[g,h,i]perylene	1,700	17,000	NE	640	NA	NA	NA	NA	NA	NA
Benzo[k]fluoranthene	1,500	21,000	NE	1000 J	NA	NA	NA	NA	NA	NA
Chrysene	15,000	210,000	NE	3000 R	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	15	210	NE	***250***	NA	NA	NA	NA	NA	NA
Fluoranthene	230,000 [2]	2,200,000 [2]	NE	5700 R	NA	NA	NA	NA	NA	NA
Fluorene	230,000 [2]	2,200,000 [2]	NE	1300 R	NA	NA	NA	NA	NA	NA
Indeno[1,2,3-cd]pyrene	150	2,100	NE	**740**	NA	NA	NA	NA	NA	NA
Pyrene	170,000 [2]	1,700,000 [2]	NE	4900 R	NA	NA	NA	NA	NA	NA

TABLE 8-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - SWMU 9 AREA C - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	NAPR Basewide Background (1)	74SB174	74SB175	74SB175	74SB176	74SB176	74SB176	74SB177
Sample ID				74SB174-05	74SB175-04	74SB175-05	74SB176-04	74SB176-05	74SB176-05D	74SB177-04
Date				5/17/2008	5/17/2008	5/17/2008	5/17/2008	5/17/2008	5/17/2008	5/17/2008
Depth Range (ft bgs)				9.0-11.0	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0	9.0-11.0	7.0-9.0
PAH Totals (ug/kg):										
Low molecular weight PAHs	NE	NE	NE	819.74	NA	NA	NA	NA	NA	NA
High molecular weight PAHs	NE	NE	NE	2630	NA	NA	NA	NA	NA	NA
Metals (mg/kg)										
Antimony	3.10 (2)	41.0 (2)	NE	0.12 UJ	0.092 UJ	0.12 UJ	0.17 UJ	0.099 UJ	0.13 UJ	0.11 UJ
Arsenic	0.390	1.60	1.59	**1.4**	**0.73**	**0.76**	**1.1**	**0.61**	**0.72**	**0.72**
Barium	1,500 (2)	19,000 (2)	220	84	89	130	80	110	94	49
Beryllium	16.0 (2)	200 (2)	0.596	0.21	0.27	0.5	0.14	0.14	0.12	0.16
Cadmium	7.00 (2)	81.0 (2)	0.54	0.13 J	0.063 J	0.24	0.22	0.42	0.29	0.3
Chromium	280	1,400	114.5	17	9.8	5.8	10	8.7	9.6	23
Cobalt	2.30 (2)	30.0 (2)	26.9	**14** J	**12** J	**29** J	**28** J	**24** J	**22** J	**28** J
Copper	310 (2)	4,100 (2)	246	110	72	82	130	140	160	68
Lead	400 (3)	800 (3)	6.3	27 J	29 J	96 J	2.1 J	1.7 J	1.7 J	6.4 J
Mercury	2.300 (2)	31.00 (2)	0.108	0.006 R	0.0046 R	0.004 R	0.0043 R	0.0043 R	0.0042 R	0.004 R
Nickel	160 (2)	2,000 (2)	24.7	14	6.9	8.3	9.8	9.1	9	18
Selenium	39.0 (2)	510 (2)	5.94	0.17 J	0.15 U	0.14 U	0.13 U	0.13 U	0.13 U	0.12 U
Silver	39.0 (2)	510 (2)	NE	0.14 J	0.16 J	0.14 J	0.064 J	0.098 J	0.084 J	0.044 J
Thallium	0.510 (2)	6.60 (2)	0.92	0.16 U	0.15 U	0.14 U	0.13 U	0.13 U	0.13 U	0.12 U
Vanadium	55.000 (2)	720.00 (2)	434.00	**240**	**180**	**170**	**280**	**200**	**210**	**260**
Zinc	2,300 (2)	31,000 (2)	88.00	120	87	150	110	88	91	100
TPH DRO and GRO (mg/kg)										
Diesel Range Organics	25 (4)	NE	NE	**140**	1.1 U	1.1 U	1.1 U	2.2 U	2.3 U	1.1 U
Gasoline Range Organics	25 (4)	NE	NE	**1800**	0.082 U	0.073 U	0.072 U	0.085 J	0.07 U	0.076 U
Total TPH	25 (4)	NE	NE	**1940**	1.182 U	1.173 U	1.172 U	0.085 J	2.37 U	1.176 U

TABLE 8-2

SUMMARY OF DETECTED RESULTS - SWMU 9 AREA C - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	NAPR Basewide Background [1]	74SB177	74SB178	74SB178	74SB179	74SB179	74SB180	74SB180
Sample ID				74SB177-05	74SB178-04	74SB178-05	74SB179-04	74SB179-05	74SB180-04	74SB180-05
Date				5/17/2008	5/19/2008	5/19/2008	5/19/2008	5/19/2008	5/19/2008	5/19/2008
Depth Range (ft bgs)				9.0-11.0	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0
Volatile Organic Compounds (ug/kg)										
2-Butanone (MEK)	2,800,000 [2]	19,000,000 [2]	NE	3.2 UJ	2.9 U	3 U	2.8 U	2.8 U	4.1 UJ	3.8 UJ
2-Chloro-1,3-butadiene	860 [2]	3,600 [2]	NE	0.68 U	0.61 UJ	0.63 UJ	0.6 UJ	0.6 UJ	0.87 U	0.81 U
2-Hexanone	NE	NE	NE	2.5 UJ	2.3 U	2.3 U	2.2 U	2.2 U	3.2 UJ	3 UJ
Acetone	6,100,000 [2]	61,000,000 [2]	NE	12 UJ	14 J	10 J	6.9 J	8 J	14 J	11 J
Benzene	1,100	5,600	NE	0.94 U	0.85 U	0.88 U	0.83 U	0.83 U	1.2 U	1.1 U
Bromoform	6,100	22,000	NE	1.3 U	1.2 U	1.2 U	1.2 U	1.2 U	1.7 U	1.6 U
Carbon disulfide	67,000	300,000	NE	0.61 U	0.55 U	0.57 U	0.54 U	0.54 U	0.77 U	0.72 U
Ethylbenzene	5,700	29,000	NE	0.89 U	0.81 U	0.84 U	0.79 U	0.79 U	1.1 U	1.1 U
Iodomethane	NE	NE	NE	1.2 U	1.1 U	1.1 U	1.1 U	1.1 U	1.5 UJ	1.4 UJ
Isobutyl alcohol	2,300,000 [2]	31,000,000 [2]	NE	82 R	74 U	77 U	73 U	73 U	100 R	98 R
Methacrylonitrile	320 [2]	1,800 [2]	NE	28 U	26 U	27 U	25 U	25 U	36 U	34 U
trans-1,2-Dichloroethene	NE	NE	NE	1.2 U	1 U	1.1 U	1 U	1 U	1.5 U	1.4 U
LLAHs (ug/kg)										
Acenaphthene	340,000 [2]	3,300,000 [2]	NE	NA	NA	NA	NA	NA	NA	NA
Anthracene	1,700,000 [2]	170,000 [2]	NE	NA	NA	NA	NA	NA	NA	NA
Benzo[a]anthracene	150	2,100	NE	NA	NA	NA	NA	NA	NA	NA
Benzo[a]pyrene	15	210	NE	NA	NA	NA	NA	NA	NA	NA
Benzo[b]fluoranthene	150	2,100	NE	NA	NA	NA	NA	NA	NA	NA
Benzo[g,h,i]perylene	1,700	17,000	NE	NA	NA	NA	NA	NA	NA	NA
Benzo[k]fluoranthene	1,500	21,000	NE	NA	NA	NA	NA	NA	NA	NA
Chrysene	15,000	210,000	NE	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	15	210	NE	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	230,000 [2]	2,200,000 [2]	NE	NA	NA	NA	NA	NA	NA	NA
Fluorene	230,000 [2]	2,200,000 [2]	NE	NA	NA	NA	NA	NA	NA	NA
Indeno[1,2,3-cd]pyrene	150	2,100	NE	NA	NA	NA	NA	NA	NA	NA
Pyrene	170,000 [2]	1,700,000 [2]	NE	NA	NA	NA	NA	NA	NA	NA

TABLE 8-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - SWMU 9 AREA C - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	NAPR Basewide Background (1)	74SB177	74SB178	74SB178	74SB179	74SB179	74SB180	74SB180
Sample ID				74SB177-05	74SB178-04	74SB178-05	74SB179-04	74SB179-05	74SB180-04	74SB180-05
Date				5/17/2008	5/19/2008	5/19/2008	5/19/2008	5/19/2008	5/19/2008	5/19/2008
Depth Range (ft bgs)				9.0-11.0	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0
PAH Totals (ug/kg):										
Low molecular weight PAHs	NE	NE	NE	NA	NA	NA	NA	NA	NA	NA
High molecular weight PAHs	NE	NE	NE	NA	NA	NA	NA	NA	NA	NA
Metals (mg/kg)										
Antimony	3.10 (2)	41.0 (2)	NE	0.091 UJ	0.094 UJ	0.19 UJ	0.077 UJ	0.077 UJ	0.078 UJ	0.075 UJ
Arsenic	0.390	1.60	1.59	**0.88**	**0.65**	**1.4**	**1.2**	**1**	**1.2**	**1.3**
Barium	1,500 (2)	19,000 (2)	220	73	90 J	46 J	67 J	50 J	140 J	70 J
Beryllium	16.0 (2)	200 (2)	0.596	0.16	0.18	0.32	0.43	0.22	0.26	0.22
Cadmium	7.00 (2)	81.0 (2)	0.54	0.72	0.09 J	0.1 J	0.063 J	0.069 J	0.18	0.11
Chromium	280	1,400	114.5	23	50	36	11	9.2	43	30
Cobalt	2.30 (2)	30.0 (2)	26.9	***33*** J	***38*** J	**30** J	**27** J	**27** J	***41*** J	***51*** J
Copper	310 (2)	4,100 (2)	246	30	160 J	66 J	110 J	84 J	150 J	**580** J
Lead	400 (3)	800 (3)	6.3	120 J	0.91 J	0.99 J	1.6 J	1 J	0.85 J	1.5 J
Mercury	2.300 (2)	31.00 (2)	0.108	0.004 R	0.0043 U	0.0047 U	0.004 U	0.0037 U	0.0042 U	0.004 U
Nickel	160 (2)	2,000 (2)	24.7	19	32	28	13	13	19	13
Selenium	39.0 (2)	510 (2)	5.94	0.13 U	0.13 U	0.14 U	0.12 U	0.12 U	0.12 U	0.12 U
Silver	39.0 (2)	510 (2)	NE	0.017 U	0.027 J	0.044 J	0.058 J	0.077 J	0.048 J	0.046 J
Thallium	0.510 (2)	6.60 (2)	0.92	0.13 U	0.13 U	0.14 U	0.12 U	0.12 U	0.12 U	0.12 U
Vanadium	55.000 (2)	720.00 (2)	434.00	**180**	**260**	**240**	**220**	**200**	**290**	**260**
Zinc	2,300 (2)	31,000 (2)	88.00	410	180	85	70	74	75	51
TPH DRO and GRO (mg/kg)										
Diesel Range Organics	25 (4)	NE	NE	0.77 U	4.8	4.4	3.5 U	3.1 U	3 U	4.3
Gasoline Range Organics	25 (4)	NE	NE	0.067 U	0.0072 U	0.0074 U	0.0066 U	0.0062 U	0.0073 U	0.0071 U
Total TPH	25 (4)	NE	NE	0.837 U	4.8	4.4	3.5066 U	3.1062 U	3.0073 U	4.3

TABLE 8-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - SWMU 9 AREA C - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID	**Regional Screening**	*Regional Screening*		74SB181	74SB181	74SB181	74SB182	74SB182	74SB183	74SB183
Sample ID	**Levels**	*Levels*	NAPR	74SB181-04	74SB181-05	74SB181-05D	74SB182-04	74SB182-05	74SB183-04	74SB183-05
Date	**Residential**	*Industrial*	Basewide	5/19/2008	5/19/2008	5/19/2008	5/19/2008	5/19/2008	5/19/2008	5/19/2008
Depth Range (ft bgs)	**Soil**	*Soil*	Background [1]	7.0-9.0	9.0-11.0	9.0-11.0	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0
Volatile Organic Compounds (ug/kg)										
2-Butanone (MEK)	2,800,000 [2]	19,000,000 [2]	NE	2.4 UJ	3.8 UJ	3.4 UJ	3.1 UJ	3.7 UJ	3.4 UJ	3.2 UJ
2-Chloro-1,3-butadiene	860 [2]	3,600 [2]	NE	0.5 U	0.8 U	0.71 U	0.66 U	0.78 U	0.72 U	0.67 U
2-Hexanone	NE	NE	NE	1.8 UJ	3 UJ	2.6 UJ	2.4 UJ	2.9 UJ	2.6 UJ	2.5 UJ
Acetone	6,100,000 [2]	61,000,000 [2]	NE	18 J	18 J	16 J	8.2 J	11 J	7.4 J	5.1 U
Benzene	1,100	5,600	NE	0.69 U	1.1 U	0.99 U	0.91 U	1.1 U	1 U	0.92 U
Bromoform	6,100	22,000	NE	0.96 U	1.5 U	1.4 U	1.3 U	1.5 U	1.4 U	1.3 U
Carbon disulfide	67,000	300,000	NE	0.44 U	0.72 U	0.64 U	0.59 U	0.7 U	0.64 U	0.6 U
Ethylbenzene	5,700	29,000	NE	0.65 U	1.1 U	0.94 U	0.87 U	1 U	0.95 U	0.88 U
Iodomethane	NE	NE	NE	0.87 UJ	1.4 UJ	1.3 UJ	1.2 U	1.4 UJ	1.3 U	1.2 U
Isobutyl alcohol	2,300,000 [2]	31,000,000 [2]	NE	60 R	97 R	86 R	80 R	94 R	87 R	81 R
Methacrylonitrile	320 [2]	1,800 [2]	NE	21 U	34 U	30 U	28 U	33 U	30 U	28 U
trans-1,2-Dichloroethene	NE	NE	NE	0.85 U	1.4 U	1.2 U	1.1 U	1.3 U	1.2 U	1.1 U
LLAHs (ug/kg)										
Acenaphthene	340,000 [2]	3,300,000 [2]	NE	NA	NA	NA	NA	NA	NA	NA
Anthracene	1,700,000 [2]	170,000 [2]	NE	NA	NA	NA	NA	NA	NA	NA
Benzo[a]anthracene	150	2,100	NE	NA	NA	NA	NA	NA	NA	NA
Benzo[a]pyrene	15	210	NE	NA	NA	NA	NA	NA	NA	NA
Benzo[b]fluoranthene	150	2,100	NE	NA	NA	NA	NA	NA	NA	NA
Benzo[g,h,i]perylene	1,700	17,000	NE	NA	NA	NA	NA	NA	NA	NA
Benzo[k]fluoranthene	1,500	21,000	NE	NA	NA	NA	NA	NA	NA	NA
Chrysene	15,000	210,000	NE	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	15	210	NE	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	230,000 [2]	2,200,000 [2]	NE	NA	NA	NA	NA	NA	NA	NA
Fluorene	230,000 [2]	2,200,000 [2]	NE	NA	NA	NA	NA	NA	NA	NA
Indeno[1,2,3-cd]pyrene	150	2,100	NE	NA	NA	NA	NA	NA	NA	NA
Pyrene	170,000 [2]	1,700,000 [2]	NE	NA	NA	NA	NA	NA	NA	NA

TABLE 8-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - SWMU 9 AREA C - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	NAPR Basewide Background (1)	74SB181	74SB181	74SB181	74SB182	74SB182	74SB183	74SB183
Sample ID				74SB181-04	74SB181-05	74SB181-05D	74SB182-04	74SB182-05	74SB183-04	74SB183-05
Date				5/19/2008	5/19/2008	5/19/2008	5/19/2008	5/19/2008	5/19/2008	5/19/2008
Depth Range (ft bgs)				7.0-9.0	9.0-11.0	9.0-11.0	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0
PAH Totals (ug/kg):										
Low molecular weight PAHs	NE	NE	NE	NA	NA	NA	NA	NA	NA	NA
High molecular weight PAHs	NE	NE	NE	NA	NA	NA	NA	NA	NA	NA
Metals (mg/kg)										
Antimony	3.10 (2)	41.0 (2)	NE	0.075 UJ	0.083 UJ	0.081 UJ	0.087 UJ	0.087 UJ	0.087 UJ	0.087 UJ
Arsenic	0.390	1.60	1.59	**1**	**0.97**	**0.92**	**1.2**	**1.1**	**1.5**	**1.5**
Barium	1,500 (2)	19,000 (2)	220	63	89 J	130 J	95	140	200	110
Beryllium	16.0 (2)	200 (2)	0.596	0.14	0.24	0.24	0.23	0.23	0.64	0.25
Cadmium	7.00 (2)	81.0 (2)	0.54	0.09 J	0.067 J	0.073 J	0.04 J	0.043 J	0.29	0.32
Chromium	280	1,400	114.5	21	59	61	86	55	22	26
Cobalt	2.30 (2)	30.0 (2)	26.9	***29***	***52***	***53***	***33***	***32***	***78***	***39***
Copper	310 (2)	4,100 (2)	246	91	14	15	130	180	87	110
Lead	400 (3)	800 (3)	6.3	1	1.3	1.6	31	2	0.73	0.63
Mercury	2.300 (2)	31.00 (2)	0.108	0.004 U	0.0042 U	0.0044 U	0.0045 U	0.0047 U	0.0046 U	0.0048 U
Nickel	160 (2)	2,000 (2)	24.7	24	39	49	41	30	36	41
Selenium	39.0 (2)	510 (2)	5.94	0.12 U	0.13 U	0.13 U	0.14 U	0.14 U	0.14 U	0.14 U
Silver	39.0 (2)	510 (2)	NE	0.074 J	0.056 J	0.054 J	0.047 J	0.059 J	0.083 J	0.092 J
Thallium	0.510 (2)	6.60 (2)	0.92	0.12 U	0.13 U	0.13 U	0.14 U	0.14 U	0.14 U	0.14 U
Vanadium	55.000 (2)	720.00 (2)	434.00	**260**	**190**	**190**	**280**	**230**	**220**	**240**
Zinc	2,300 (2)	31,000 (2)	88.00	66 J	93 J	90 J	74 J	86 J	69 J	74 J
TPH DRO and GRO (mg/kg)										
Diesel Range Organics	25 (4)	NE	NE	1.1 UJ	0.91 UJ	0.88 UJ	0.71 UJ	0.94 UJ	1.2 UJ	0.76 UJ
Gasoline Range Organics	25 (4)	NE	NE	0.0064 U	0.0094 U	0.0082 U	0.0071 U	0.0077 U	0.0076 U	0.0091 U
Total TPH	25 (4)	NE	NE	1.1064	0.9194 U	0.8882 U	0.7171 U	0.9477 U	1.2076 U	0.7691 U

TABLE 8-2

SUMMARY OF DETECTED RESULTS - SWMU 9 AREA C - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID	**Regional Screening**	*Regional Screening*		74SB184	74SB184	74SB188	74SB188	74SB189	74SB189	74SB190
Sample ID	**Levels**	*Levels*	NAPR	74SB184-04	74SB184-05	74SB188-03	74SB188-04	74SB189-03	74SB189-05	74SB190-03
Date	**Residential**	*Industrial*	Basewide	5/19/2008	5/19/2008	5/19/2008	5/19/2008	5/19/2008	5/19/2008	5/19/2008
Depth Range (ft bgs)	**Soil**	*Soil*	Background (1)	7.0-9.0	9.0-11.0	5.0-7.0	7.0-9.0	5.0-7.0	9.0-11.0	5.0-7.0
Volatile Organic Compounds (ug/kg)										
2-Butanone (MEK)	2,800,000 (2)	19,000,000 (2)	NE	2.9 U	3.2 U	14 U	3.2 U	3 U	3.4 U	29 U
2-Chloro-1,3-butadiene	860 (2)	3,600 (2)	NE	0.62 UJ	0.67 UJ	0.57 UJ	0.62 UJ	0.64 UJ	0.72 UJ	0.81 UJ
2-Hexanone	NE	NE	NE	2.3 U	2.5 U	2.1 U	2.3 U	2.3 U	2.6 U	3 U
Acetone	6,100,000 (2)	61,000,000 (2)	NE	10 J	11 J	150	24 J	23 J	9.1 J	330
Benzene	1,100	5,600	NE	0.86 U	0.93 U	0.79 U	0.85 U	0.88 U	1 U	1.1 U
Bromoform	6,100	22,000	NE	1.2 U	1.3 U	2.1 J	1.2 U	1.2 U	1.4 U	1.6 U
Carbon disulfide	67,000	300,000	NE	0.55 U	0.6 U	0.51 U	0.55 U	0.57 U	0.64 U	0.76 J
Ethylbenzene	5,700	29,000	NE	0.81 U	0.88 U	0.75 U	0.81 U	0.84 U	0.95 U	1.1 U
Iodomethane	NE	NE	NE	1.1 U	1.2 U	5.7	1.1 U	1.1 U	1.3 U	11
Isobutyl alcohol	2,300,000 (2)	31,000,000 (2)	NE	75 U	81 U	69 U	74 U	77 U	87 U	98 U
Methacrylonitrile	320 (2)	1,800 (2)	NE	26 U	28 U	24 U	26 U	27 U	30 U	34 U
trans-1,2-Dichloroethene	NE	NE	NE	1.1 U	1.1 U	0.97 U	1 U	1.1 U	1.2 U	1.4 U
LLAHs (ug/kg)										
Acenaphthene	340,000 (2)	3,300,000 (2)	NE	NA	NA	NA	NA	NA	NA	NA
Anthracene	1,700,000 (2)	170,000 (2)	NE	NA	NA	NA	NA	NA	NA	NA
Benzo[a]anthracene	150	2,100	NE	NA	NA	NA	NA	NA	NA	NA
Benzo[a]pyrene	15	210	NE	NA	NA	NA	NA	NA	NA	NA
Benzo[b]fluoranthene	150	2,100	NE	NA	NA	NA	NA	NA	NA	NA
Benzo[g,h,i]perylene	1,700	17,000	NE	NA	NA	NA	NA	NA	NA	NA
Benzo[k]fluoranthene	1,500	21,000	NE	NA	NA	NA	NA	NA	NA	NA
Chrysene	15,000	210,000	NE	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	15	210	NE	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	230,000 (2)	2,200,000 (2)	NE	NA	NA	NA	NA	NA	NA	NA
Fluorene	230,000 (2)	2,200,000 (2)	NE	NA	NA	NA	NA	NA	NA	NA
Indeno[1,2,3-cd]pyrene	150	2,100	NE	NA	NA	NA	NA	NA	NA	NA
Pyrene	170,000 (2)	1,700,000 (2)	NE	NA	NA	NA	NA	NA	NA	NA

TABLE 8-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - SWMU 9 AREA C - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	NAPR Basewide Background (1)	74SB184	74SB184	74SB188	74SB188	74SB189	74SB189	74SB190
Sample ID				74SB184-04	74SB184-05	74SB188-03	74SB188-04	74SB189-03	74SB189-05	74SB190-03
Date				5/19/2008	5/19/2008	5/19/2008	5/19/2008	5/19/2008	5/19/2008	5/19/2008
Depth Range (ft bgs)				7.0-9.0	9.0-11.0	5.0-7.0	7.0-9.0	5.0-7.0	9.0-11.0	5.0-7.0
PAH Totals (ug/kg):										
Low molecular weight PAHs	NE	NE	NE	NA	NA	NA	NA	NA	NA	NA
High molecular weight PAHs	NE	NE	NE	NA	NA	NA	NA	NA	NA	NA
Metals (mg/kg)										
Antimony	3.10 (2)	41.0 (2)	NE	0.21 UJ	0.18 UJ	0.18 UJ	0.092 UJ	0.083 UJ	0.1 UJ	0.28 UJ
Arsenic	0.390	1.60	1.59	***4.7***	***1.7***	***5.5***	***2.2***	**1.6**	**0.56** J	***6.3***
Barium	1,500 (2)	19,000 (2)	220	22 J	87 J	1500 J	69 J	11 J	39 J	210 J
Beryllium	16.0 (2)	200 (2)	0.596	0.38	0.64	0.81	0.29	0.13	0.16	0.78
Cadmium	7.00 (2)	81.0 (2)	0.54	0.11 J	0.082 J	1.1	0.038 U	0.034 U	0.042 U	0.73
Chromium	280	1,400	114.5	7.3	14	31	21	18	6.1	44
Cobalt	2.30 (2)	30.0 (2)	26.9	**14** J	***42*** J	***320*** J	**5.8** J	**2.6** J	**5.6** J	***160*** J
Copper	310 (2)	4,100 (2)	246	230 J	120 J	43 J	51 J	32 J	130 J	59 J
Lead	400 (3)	800 (3)	6.3	20 J	2.5 J	97 J	19 J	7.8 J	7.8 J	99 J
Mercury	2.300 (2)	31.00 (2)	0.108	0.0047 U	0.005 U	0.061	0.28	0.12	0.02 J	0.064
Nickel	160 (2)	2,000 (2)	24.7	12	18	46	6.2	4.7	6.5	23
Selenium	39.0 (2)	510 (2)	5.94	0.23 J	0.15 U	3.2	2	1.7	0.32 J	4.4
Silver	39.0 (2)	510 (2)	NE	0.063 J	0.04 J	0.075 J	0.02 U	0.082 J	0.022 U	0.12 J
Thallium	0.510 (2)	6.60 (2)	0.92	0.19 J	0.15 U	0.35 J	0.15 U	0.13 U	0.16 U	0.19 J
Vanadium	55.000 (2)	720.00 (2)	434.00	**320**	**180**	**430**	**250**	**220**	**180**	**510**
Zinc	2,300 (2)	31,000 (2)	88.00	92	84	100	34	19	47	83
TPH DRO and GRO (mg/kg)										
Diesel Range Organics	25 (4)	NE	NE	1.4 U	0.93 U	1.2 U	2.3 U	2.1 U	5.3	13
Gasoline Range Organics	25 (4)	NE	NE	0.0078 U	0.0081 U	0.0079 U	0.023 J	0.0088 U	0.0075 U	0.057 J
Total TPH	25 (4)	NE	NE	1.4078 U	0.9381 U	1.2079 U	0.023 J	2.1088 U	5.3	13 J

TABLE 8-2

SUMMARY OF DETECTED RESULTS - SWMU 9 AREA C - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	NAPR Basewide Background [1]	74SB190	74SB191	74SB191	74SB191	74SB192	74SB192	74SB193
Sample ID				74SB190-05	74SB191-03	74SB191-03D	74SB191-05	74SB192-03	74SB192-05	74SB193-03
Date				5/19/2008	5/19/2008	5/19/2008	5/19/2008	5/19/2008	5/19/2008	5/20/2008
Depth Range (ft bgs)				9.0-11.0	5.0-7.0	5.0-7.0	9.0-11.0	5.0-7.0	9.0-11.0	5.0-7.0
Volatile Organic Compounds (ug/kg)										
2-Butanone (MEK)	2,800,000 [2]	19,000,000 [2]	NE	2.9 U	7.8 U	8.5 U	3 U	3.2 U	3.3 U	2.9 UJ
2-Chloro-1,3-butadiene	860 [2]	3,600 [2]	NE	0.6 UJ	0.61 UJ	0.55 UJ	0.63 UJ	0.67 UJ	0.69 UJ	0.61 U
2-Hexanone	NE	NE	NE	2.2 U	2.2 U	2 U	2.3 U	2.5 U	2.5 U	2.2 UJ
Acetone	6,100,000 [2]	61,000,000 [2]	NE	19 J	98	90	14 J	27 J	14 J	18 UJ
Benzene	1,100	5,600	NE	0.83 U	0.84 U	0.76 U	0.87 U	0.92 U	0.96 U	0.84 U
Bromoform	6,100	22,000	NE	1.2 U	1.2 U	1.1 U	1.2 U	1.3 U	1.3 U	1.2 U
Carbon disulfide	67,000	300,000	NE	0.55 J	0.54 U	0.49 U	0.56 U	0.6 U	0.62 U	0.54 U
Ethylbenzene	5,700	29,000	NE	0.79 U	0.8 U	0.73 U	0.83 U	0.88 U	0.91 U	0.8 U
Iodomethane	NE	NE	NE	1.1 U	8.7	8	1.1 U	1.2 U	1.2 U	1.1 U
Isobutyl alcohol	2,300,000 [2]	31,000,000 [2]	NE	73 U	74 U	67 U	76 U	81 U	84 U	74 R
Methacrylonitrile	320 [2]	1,800 [2]	NE	25 U	26 U	23 U	26 U	28 U	29 U	26 U
trans-1,2-Dichloroethene	NE	NE	NE	1 U	1 U	0.94 U	1.1 U	1.1 U	1.2 U	1 U
LLAHs (ug/kg)										
Acenaphthene	340,000 [2]	3,300,000 [2]	NE	NA	NA	NA	NA	NA	NA	NA
Anthracene	1,700,000 [2]	170,000 [2]	NE	NA	NA	NA	NA	NA	NA	NA
Benzo[a]anthracene	150	2,100	NE	NA	NA	NA	NA	NA	NA	NA
Benzo[a]pyrene	15	210	NE	NA	NA	NA	NA	NA	NA	NA
Benzo[b]fluoranthene	150	2,100	NE	NA	NA	NA	NA	NA	NA	NA
Benzo[g,h,i]perylene	1,700	17,000	NE	NA	NA	NA	NA	NA	NA	NA
Benzo[k]fluoranthene	1,500	21,000	NE	NA	NA	NA	NA	NA	NA	NA
Chrysene	15,000	210,000	NE	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	15	210	NE	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	230,000 [2]	2,200,000 [2]	NE	NA	NA	NA	NA	NA	NA	NA
Fluorene	230,000 [2]	2,200,000 [2]	NE	NA	NA	NA	NA	NA	NA	NA
Indeno[1,2,3-cd]pyrene	150	2,100	NE	NA	NA	NA	NA	NA	NA	NA
Pyrene	170,000 [2]	1,700,000 [2]	NE	NA	NA	NA	NA	NA	NA	NA

TABLE 8-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - SWMU 9 AREA C - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	NAPR Basewide Background (1)	74SB190	74SB191	74SB191	74SB191	74SB192	74SB192	74SB193
Sample ID				74SB190-05	74SB191-03	74SB191-03D	74SB191-05	74SB192-03	74SB192-05	74SB193-03
Date				5/19/2008	5/19/2008	5/19/2008	5/19/2008	5/19/2008	5/19/2008	5/20/2008
Depth Range (ft bgs)				9.0-11.0	5.0-7.0	5.0-7.0	9.0-11.0	5.0-7.0	9.0-11.0	5.0-7.0
PAH Totals (ug/kg):										
Low molecular weight PAHs	NE	NE	NE	NA	NA	NA	NA	NA	NA	NA
High molecular weight PAHs	NE	NE	NE	NA	NA	NA	NA	NA	NA	NA
Metals (mg/kg)										
Antimony	3.10 (2)	41.0 (2)	NE	0.088 UJ	0.16 UJ	0.13 UJ	0.11 UJ	0.091 UJ	0.095 UJ	0.095 UJ
Arsenic	0.390	1.60	1.59	***2.7***	***3***	***2.5***	***2.9***	***2.2***	**0.69**	***2.8***
Barium	1,500 (2)	19,000 (2)	220	77 J	280 R	34 R	15 J	11 J	5.5 J	33
Beryllium	16.0 (2)	200 (2)	0.596	0.26	0.39	0.41	0.17	0.099 J	0.056 J	0.12 J
Cadmium	7.00 (2)	81.0 (2)	0.54	0.036 U	0.11 J	0.097 J	0.08 J	0.038 U	0.039 U	0.039 U
Chromium	280	1,400	114.5	15	23	20	26	36	14	46
Cobalt	2.30 (2)	30.0 (2)	26.9	**5.4** J	**28** J	**19** J	**8.4** J	2.3 J	0.9 J	**2.4**
Copper	310 (2)	4,100 (2)	246	95 J	34 J	34 J	27 J	33 J	21 J	34
Lead	400 (3)	800 (3)	6.3	15 J	23 J	14 J	14 J	6.3 J	2.5 J	8.4
Mercury	2.300 (2)	31.00 (2)	0.108	0.066	0.09	0.024	0.088	0.071	0.0055 U	0.02 J
Nickel	160 (2)	2,000 (2)	24.7	4.6	8	8.3	4.4	6.1	2.7	6.1
Selenium	39.0 (2)	510 (2)	5.94	1	2.1	1.2	1.8	3.4	0.56 J	5.3
Silver	39.0 (2)	510 (2)	NE	0.043 J	0.055 J	0.075 J	0.07 J	0.23 J	0.026 J	0.17 U
Thallium	0.510 (2)	6.60 (2)	0.92	0.14 U	0.14 U	0.13 U	0.14 U	0.18 J	0.15 U	0.15 U
Vanadium	55.000 (2)	720.00 (2)	434.00	**330**	**290**	**280**	**310**	**220**	**82**	**240** J
Zinc	2,300 (2)	31,000 (2)	88.00	30	44	57	19	18	7.2	20 J
TPH DRO and GRO (mg/kg)										
Diesel Range Organics	25 (4)	NE	NE	4.3 U	21 J	4 J	5.3	5.6	5	3.6 U
Gasoline Range Organics	25 (4)	NE	NE	0.007 U	0.0054 U	0.0059 U	0.0073 U	0.0073 U	0.0078 U	0.007 U
Total TPH	25 (4)	NE	NE	4.307 U	21 J	4 J	5.3	5.6	5	3.607 U

TABLE 8-2

SUMMARY OF DETECTED RESULTS - SWMU 9 AREA C - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID	**Regional Screening**	*Regional Screening*		74SB193	74SB194	74SB194	74SB195	74SB195	74SB196
Sample ID	**Levels**	*Levels*	NAPR	74SB193-05	74SB194-03	74SB194-05	74SB195-03	74SB195-05	74SB196-03
Date	**Residential**	*Industrial*	Basewide	5/20/2008	5/20/2008	5/20/2008	5/20/2008	5/20/2008	5/20/2008
Depth Range (ft bgs)	**Soil**	*Soil*	Background [1]	9.0-11.0	5.0-7.0	9.0-11.0	5.0-7.0	9.0-11.0	5.0-7.0
Volatile Organic Compounds (ug/kg)									
2-Butanone (MEK)	2,800,000 [2]	19,000,000 [2]	NE	3.7 UJ	3.7 UJ	3.7 UJ	7.6 UJ	5.3 UJ	3.3 UJ
2-Chloro-1,3-butadiene	860 [2]	3,600 [2]	NE	0.79 U	0.61 U	0.78 U	0.69 U	0.91 U	0.7 U
2-Hexanone	NE	NE	NE	2.9 UJ	2.2 UJ	2.9 UJ	2.5 UJ	3.3 UJ	2.6 UJ
Acetone	6,100,000 [2]	61,000,000 [2]	NE	12 UJ	55 U	22 UJ	77 UJ	70 UJ	33 UJ
Benzene	1,100	5,600	NE	1.1 U	0.84 U	1.1 U	1.1 J	1.3 U	0.97 U
Bromoform	6,100	22,000	NE	1.5 U	1.2 U	1.5 U	1.3 U	1.8 U	1.3 U
Carbon disulfide	67,000	300,000	NE	0.71 U	0.54 U	0.87 J	0.62 U	2.9 J	0.62 U
Ethylbenzene	5,700	29,000	NE	1 U	0.8 U	1 U	0.91 U	1.2 U	0.92 U
Iodomethane	NE	NE	NE	1.4 U	1.1 U	1.4 U	1.2 U	1.6 U	1.2 U
Isobutyl alcohol	2,300,000 [2]	31,000,000 [2]	NE	95 R	74 R	95 R	84 R	110 R	84 R
Methacrylonitrile	320 [2]	1,800 [2]	NE	110 J	26 U	33 U	29 U	38 U	29 U
trans-1,2-Dichloroethene	NE	NE	NE	1.3 U	1 U	1.3 U	1.2 U	1.5 U	1.2 U
LLAHs (ug/kg)									
Acenaphthene	340,000 [2]	3,300,000 [2]	NE	NA	NA	NA	NA	NA	NA
Anthracene	1,700,000 [2]	170,000 [2]	NE	NA	NA	NA	NA	NA	NA
Benzo[a]anthracene	150	2,100	NE	NA	NA	NA	NA	NA	NA
Benzo[a]pyrene	15	210	NE	NA	NA	NA	NA	NA	NA
Benzo[b]fluoranthene	150	2,100	NE	NA	NA	NA	NA	NA	NA
Benzo[g,h,i]perylene	1,700	17,000	NE	NA	NA	NA	NA	NA	NA
Benzo[k]fluoranthene	1,500	21,000	NE	NA	NA	NA	NA	NA	NA
Chrysene	15,000	210,000	NE	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	15	210	NE	NA	NA	NA	NA	NA	NA
Fluoranthene	230,000 [2]	2,200,000 [2]	NE	NA	NA	NA	NA	NA	NA
Fluorene	230,000 [2]	2,200,000 [2]	NE	NA	NA	NA	NA	NA	NA
Indeno[1,2,3-cd]pyrene	150	2,100	NE	NA	NA	NA	NA	NA	NA
Pyrene	170,000 [2]	1,700,000 [2]	NE	NA	NA	NA	NA	NA	NA

TABLE 8-2

SUMMARY OF DETECTED RESULTS - SWMU 9 AREA C - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	NAPR Basewide Background [1]	74SB193	74SB194	74SB194	74SB195	74SB195	74SB196
Sample ID				74SB193-05	74SB194-03	74SB194-05	74SB195-03	74SB195-05	74SB196-03
Date				5/20/2008	5/20/2008	5/20/2008	5/20/2008	5/20/2008	5/20/2008
Depth Range (ft bgs)				9.0-11.0	5.0-7.0	9.0-11.0	5.0-7.0	9.0-11.0	5.0-7.0
PAH Totals (ug/kg):									
Low molecular weight PAHs	NE	NE	NE	NA	NA	NA	NA	NA	NA
High molecular weight PAHs	NE	NE	NE	NA	NA	NA	NA	NA	NA
Metals (mg/kg)									
Antimony	3.10 [2]	41.0 [2]	NE	0.087 UJ	0.085 UJ	0.12 J	0.13 J	0.12 J	0.091 UJ
Arsenic	0.390	1.60	1.59	***1.7***	***1.9***	***3.4***	***2.7***	***2***	**1.6**
Barium	1,500 [2]	19,000 [2]	220	7.6	49	6.9	220	55	57
Beryllium	16.0 [2]	200 [2]	0.596	0.11 J	0.13	0.46	0.3	0.39	0.33
Cadmium	7.00 [2]	81.0 [2]	0.54	0.036 U	0.035 U	0.051 J	0.16	0.24	0.066 J
Chromium	280	1,400	114.5	32	25	26	140	92	37
Cobalt	2.30 [2]	30.0 [2]	26.9	1.1	1.4	**4.2**	**20**	**18**	**8.9**
Copper	310 [2]	4,100 [2]	246	59	56	130	110	130	92
Lead	400 [3]	800 [3]	6.3	8.1	8.8	16	12	17	7.1
Mercury	2.300 [2]	31.00 [2]	0.108	0.0044 U	0.07	0.0047 U	0.01 J	0.022 J	0.005 U
Nickel	160 [2]	2,000 [2]	24.7	3	4.5	6.2	16	14	11
Selenium	39.0 [2]	510 [2]	5.94	1.4	1.4	1.4	0.92	0.69 J	1
Silver	39.0 [2]	510 [2]	NE	0.019 U	0.15 U	0.039 U	0.058 U	0.08 U	0.036 U
Thallium	0.510 [2]	6.60 [2]	0.92	0.14 U	0.14 U	0.15 U	0.16 U	0.17 U	0.15 U
Vanadium	55.000 [2]	720.00 [2]	434.00	**210** J	**210** J	**590** J	**290** J	**300** J	**260** J
Zinc	2,300 [2]	31,000 [2]	88.00	9.8 J	18 J	38 J	58 J	73 J	46 J
TPH DRO and GRO (mg/kg)									
Diesel Range Organics	25 [4]	NE	NE	2 U	3 U	2.7 U	3.4	1.5 U	1.5 U
Gasoline Range Organics	25 [4]	NE	NE	0.0068 U	0.0076 U	0.0064 U	0.0091 U	0.0096 U	0.0075 U
Total TPH	25 [4]	NE	NE	2.0068 U	3.0076 U	2.7064 U	3.4	1.5096 U	1.5075 U

TABLE 8-2

SUMMARY OF DETECTED RESULTS - SWMU 9 AREA C - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	NAPR Basewide Background [1]	74SB196	74SB196	74SB197	74SB197	74VP6Aa	74VP6Aa
Sample ID				74SB196-03D	74SB196-05	74SB197-03	74SB197-05	74VP6Aa-04	74VP6Aa-07
Date				5/20/2008	5/20/2008	5/20/2008	5/20/2008	5/17/2008	5/18/2008
Depth Range (ft bgs)				5.0-7.0	9.0-11.0	5.0-7.0	9.0-11.0	7.0-9.0	13.0-15.0
Volatile Organic Compounds (ug/kg)									
2-Butanone (MEK)	2,800,000 [2]	19,000,000 [2]	NE	3.2 UJ	9.2 UJ	4.9 UJ	4 UJ	3.5 UJ	3.3 UJ
2-Chloro-1,3-butadiene	860 [2]	3,600 [2]	NE	0.67 U	0.7 U	0.64 U	0.79 U	0.74 U	0.69 U
2-Hexanone	NE	NE	NE	2.5 UJ	2.6 UJ	2.4 UJ	2.9 UJ	2.7 UJ	2.5 UJ
Acetone	6,100,000 [2]	61,000,000 [2]	NE	32 UJ	26 UJ	22 U	34 U	15 J	12 J
Benzene	1,100	5,600	NE	0.94 U	0.97 U	0.89 U	1.1 U	1 U	0.95 U
Bromoform	6,100	22,000	NE	1.3 U	1.4 U	1.2 U	1.5 U	1.4 U	1.3 U
Carbon disulfide	67,000	300,000	NE	0.6 U	0.63 U	0.57 U	13	0.66 U	0.61 U
Ethylbenzene	5,700	29,000	NE	0.89 U	0.92 U	0.84 U	1 U	0.97 U	0.9 U
Iodomethane	NE	NE	NE	1.4 J	1.2 U	1.1 U	1.4 U	1.3 U	1.2 U
Isobutyl alcohol	2,300,000 [2]	31,000,000 [2]	NE	82 R	85 R	77 R	95 R	90 U	83 R
Methacrylonitrile	320 [2]	1,800 [2]	NE	28 U	30 U	27 U	33 U	31 U	29 U
trans-1,2-Dichloroethene	NE	NE	NE	1.1 U	1.2 U	1.1 U	1.3 U	1.3 U	1.2 U
LLAHs (ug/kg)									
Acenaphthene	340,000 [2]	3,300,000 [2]	NE	NA	NA	NA	NA	NA	NA
Anthracene	1,700,000 [2]	170,000 [2]	NE	NA	NA	NA	NA	NA	NA
Benzo[a]anthracene	150	2,100	NE	NA	NA	NA	NA	NA	NA
Benzo[a]pyrene	15	210	NE	NA	NA	NA	NA	NA	NA
Benzo[b]fluoranthene	150	2,100	NE	NA	NA	NA	NA	NA	NA
Benzo[g,h,i]perylene	1,700	17,000	NE	NA	NA	NA	NA	NA	NA
Benzo[k]fluoranthene	1,500	21,000	NE	NA	NA	NA	NA	NA	NA
Chrysene	15,000	210,000	NE	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	15	210	NE	NA	NA	NA	NA	NA	NA
Fluoranthene	230,000 [2]	2,200,000 [2]	NE	NA	NA	NA	NA	NA	NA
Fluorene	230,000 [2]	2,200,000 [2]	NE	NA	NA	NA	NA	NA	NA
Indeno[1,2,3-cd]pyrene	150	2,100	NE	NA	NA	NA	NA	NA	NA
Pyrene	170,000 [2]	1,700,000 [2]	NE	NA	NA	NA	NA	NA	NA

TABLE 8-2

SUMMARY OF DETECTED RESULTS - SWMU 9 AREA C - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	NAPR Basewide Background [1]	74SB196	74SB196	74SB197	74SB197	74VP6Aa	74VP6Aa
Sample ID				74SB196-03D	74SB196-05	74SB197-03	74SB197-05	74VP6Aa-04	74VP6Aa-07
Date				5/20/2008	5/20/2008	5/20/2008	5/20/2008	5/17/2008	5/18/2008
Depth Range (ft bgs)				5.0-7.0	9.0-11.0	5.0-7.0	9.0-11.0	7.0-9.0	13.0-15.0
PAH Totals (ug/kg):									
Low molecular weight PAHs	NE	NE	NE	NA	NA	NA	NA	NA	NA
High molecular weight PAHs	NE	NE	NE	NA	NA	NA	NA	NA	NA
Metals (mg/kg)									
Antimony	3.10 [2]	41.0 [2]	NE	0.093 UJ	0.098 UJ	0.095 U	0.092 U	0.091 U	0.096 J
Arsenic	0.390	1.60	1.59	***2.2***	**0.74**	***1.7***	**0.91**	**0.95**	**1.3**
Barium	1,500 [2]	19,000 [2]	220	57	18	18	37	75	61
Beryllium	16.0 [2]	200 [2]	0.596	0.38	0.42	0.21	0.22	0.18	0.2
Cadmium	7.00 [2]	81.0 [2]	0.54	0.099 J	0.04 U	0.074 J	0.05 J	0.14	0.16
Chromium	280	1,400	114.5	38	25	41	17	100	9.2
Cobalt	2.30 [2]	30.0 [2]	26.9	**8.5**	**14**	**3.5**	**10**	***48*** J	***31*** J
Copper	310 [2]	4,100 [2]	246	93	86	56	86	82	59
Lead	400 [3]	800 [3]	6.3	12	3.9	17	11	1.9	1.8
Mercury	2.300 [2]	31.00 [2]	0.108	0.0056 J	0.0051 U	0.0051 U	0.0048 U	0.0051 U	0.0041 U
Nickel	160 [2]	2,000 [2]	24.7	11	14	6.6	11	33	8.7
Selenium	39.0 [2]	510 [2]	5.94	1.6	0.16 U	1.7	0.25 J	0.15 U	0.14 U
Silver	39.0 [2]	510 [2]	NE	0.039 U	0.11 U	0.074 J	0.059 J	0.047 J	0.035 J
Thallium	0.510 [2]	6.60 [2]	0.92	0.15 U	0.16 U	0.15 U	0.15 U	0.15 U	0.14 U
Vanadium	55.000 [2]	720.00 [2]	434.00	**320** J	**100** J	**300**	**160**	**200**	**270**
Zinc	2,300 [2]	31,000 [2]	88.00	48 J	60 J	36	70	110 J	77 J
TPH DRO and GRO (mg/kg)									
Diesel Range Organics	25 [4]	NE	NE	1.6 U	2.4 U	1.3 U	1.4 U	1.7 U	0.77 U
Gasoline Range Organics	25 [4]	NE	NE	0.0078 U	0.0095 U	0.062 U	0.078 U	0.074 U	0.069 U
Total TPH	25 [4]	NE	NE	1.6078 U	2.4095 U	1.362 U	1.478 U	1.774 U	0.839 U

TABLE 8-2

SUMMARY OF DETECTED RESULTS - SWMU 9 AREA C - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	NAPR Basewide Background [1]	74VP6Ba	74VP6Ba	74VP6Cb	74VP6Cb
Sample ID				74VP6Ba-03	74VP6Ba-04	74VP6Cb-04	74VP6Cb-07
Date				5/17/2008	5/17/2008	5/17/2008	5/17/2008
Depth Range (ft bgs)				5.0-7.0	7.0-9.0	7.0-9.0	13.0-15.0
Volatile Organic Compounds (ug/kg)							
2-Butanone (MEK)	2,800,000 [2]	19,000,000 [2]	NE	3.1 UJ	3.9 UJ	2.8 UJ	150 UJ
2-Chloro-1,3-butadiene	860 [2]	3,600 [2]	NE	0.65 U	0.82 U	0.59 U	31 U
2-Hexanone	NE	NE	NE	2.4 UJ	3 UJ	2.2 UJ	110 UJ
Acetone	6,100,000 [2]	61,000,000 [2]	NE	22 J	43 J	20 J	2500 J
Benzene	1,100	5,600	NE	0.9 U	1.1 U	0.81 U	43 U
Bromoform	6,100	22,000	NE	1.3 U	1.6 U	1.1 U	60 U
Carbon disulfide	67,000	300,000	NE	0.58 U	0.73 U	0.53 U	28 U
Ethylbenzene	5,700	29,000	NE	0.85 U	1.1 U	0.77 U	49 J
Iodomethane	NE	NE	NE	1.1 U	2.9 J	1 U	54 UJ
Isobutyl alcohol	2,300,000 [2]	31,000,000 [2]	NE	79 U	99 U	71 U	3800 R
Methacrylonitrile	320 [2]	1,800 [2]	NE	27 U	35 U	25 U	1300 U
trans-1,2-Dichloroethene	NE	NE	NE	1.1 U	1.4 U	1 U	53 U
LLAHs (ug/kg)							
Acenaphthene	340,000 [2]	3,300,000 [2]	NE	NA	NA	NA	NA
Anthracene	1,700,000 [2]	170,000 [2]	NE	NA	NA	NA	NA
Benzo[a]anthracene	150	2,100	NE	NA	NA	NA	NA
Benzo[a]pyrene	15	210	NE	NA	NA	NA	NA
Benzo[b]fluoranthene	150	2,100	NE	NA	NA	NA	NA
Benzo[g,h,i]perylene	1,700	17,000	NE	NA	NA	NA	NA
Benzo[k]fluoranthene	1,500	21,000	NE	NA	NA	NA	NA
Chrysene	15,000	210,000	NE	NA	NA	NA	NA
Dibenz(a,h)anthracene	15	210	NE	NA	NA	NA	NA
Fluoranthene	230,000 [2]	2,200,000 [2]	NE	NA	NA	NA	NA
Fluorene	230,000 [2]	2,200,000 [2]	NE	NA	NA	NA	NA
Indeno[1,2,3-cd]pyrene	150	2,100	NE	NA	NA	NA	NA
Pyrene	170,000 [2]	1,700,000 [2]	NE	NA	NA	NA	NA

TABLE 8-2

SUMMARY OF DETECTED RESULTS - SWMU 9 AREA C - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	NAPR Basewide Background [1]	74VP6Ba	74VP6Ba	74VP6Cb	74VP6Cb
Sample ID				74VP6Ba-03	74VP6Ba-04	74VP6Cb-04	74VP6Cb-07
Date				5/17/2008	5/17/2008	5/17/2008	5/17/2008
Depth Range (ft bgs)				5.0-7.0	7.0-9.0	7.0-9.0	13.0-15.0
PAH Totals (ug/kg):							
Low molecular weight PAHs	NE	NE	NE	NA	NA	NA	NA
High molecular weight PAHs	NE	NE	NE	NA	NA	NA	NA
Metals (mg/kg)							
Antimony	3.10 [2]	41.0 [2]	NE	0.096 U	0.11 U	0.099 J	0.094 U
Arsenic	0.390	1.60	1.59	***1.8***	**1.6**	***3.2***	**1.2**
Barium	1,500 [2]	19,000 [2]	220	130	61	270	57
Beryllium	16.0 [2]	200 [2]	0.596	0.37	0.71	0.33	0.32
Cadmium	7.00 [2]	81.0 [2]	0.54	0.063 J	0.11 J	0.045 J	0.2
Chromium	280	1,400	114.5	41	58	19	28
Cobalt	2.30 [2]	30.0 [2]	26.9	**8.4** J	***41*** J	**29** J	***34*** J
Copper	310 [2]	4,100 [2]	246	84	120	82	66
Lead	400 [3]	800 [3]	6.3	17	3.4	11	3.6
Mercury	2.300 [2]	31.00 [2]	0.108	0.038	0.01 J	0.13	0.047
Nickel	160 [2]	2,000 [2]	24.7	14	31	17	36
Selenium	39.0 [2]	510 [2]	5.94	1.5	0.18 J	1.6	0.15 U
Silver	39.0 [2]	510 [2]	NE	0.19 J	0.1 J	0.056 J	0.055 J
Thallium	0.510 [2]	6.60 [2]	0.92	0.15 U	0.17 U	0.14 U	0.15 U
Vanadium	55.000 [2]	720.00 [2]	434.00	**240**	**240**	**110**	**130**
Zinc	2,300 [2]	31,000 [2]	88.00	78 J	160 J	92 J	81 J
TPH DRO and GRO (mg/kg)							
Diesel Range Organics	25 [4]	NE	NE	1.2 U	1.8 U	1.4 U	0.99 U
Gasoline Range Organics	25 [4]	NE	NE	0.072 U	0.08 U	0.13 J	**480** J
Total TPH	25 [4]	NE	NE	1.272 U	1.88 U	0.13 J	**480** J

TABLE 8-2

SUMMARY OF DETECTED RESULTS - SWMU 9 AREA C - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Notes/Qualifiers:

J - Estimated: The analyte was positively identified; the quantitation is an estimation
U - Undetected at the Limit of Detection.
UJ - Reported quantitation limit is qualified as estimated
R - Data is rejected and not usable
NE - Not Established
NA - Not Analyzed

ft bgs - feet below ground surface
mg/kg - milligram per kilogram
ug/kg - microgram per kilogram

DRO - Diesel Range Organics
GRO - Gasoline Range Organics
TPH - Total Petroleum Hydrocarbons
LLPAH - Low-level Polynuclear Aromatic Hydrocarbon

NAPR - Naval Activity Puerto Rico
USEPA - United States Environmental Protection Agency

(1) NAPR basewide background surface soil screening value (upper limit of the means concentration [mean plus two standard deviations]) for Subsurface Soil Background Clay Table 3-4 (Baker, 2008)
(2) Noncarcinogenic Regional Screening Levels based on a target hazard quotient of 0.1 for conservative screening purposes
(3) USEPA Action Level for lead in soils
(4) Screening level for TPH is 25% of PREQB soil criterion, as proposed in the approved Work Plan dated 12/6/07
(5) The screening value shown is an average of the target and intervention soil standards. The value is based on a default organic carbon content of 0.02 (2 percent), which represents a minimum value (adjustment range is 2 to 30 percent). [MHSPE 2000]
(6) Canadian soil quality guideline based on agricultural land uses [CCME 2007]
(7) Ecological soil screening level for soil invertebrates [USEPA 2007a]
(8) Ecological soil screening level for mammalian herbivores [USEPA 2005a]
(9) Ecological soil screening level for plants [USEPA 2005b]
(10) Ecological soil screening level for soil invertebrates [USEPA 2005c]
(11) Ecological soil screening level for mammalian herbivores [USEPA 2005d]
(12) Ecological soil screening level for avian ground insectivores [USEPA 2005e]
(13) Ecological soil screening level for avian ground insectivores [USEPA 2008]
(14) Ecological soil screening level for plants [USEPA 2005f]
(15) Ecological soil screening level for avian ground insectivores [USEPA 2007b]
(16) Ecological soil screening level for avian ground insectivores [USEPA 2005g]
(17) Toxicological threshold for earthworms [Efroymson et al. 1997a]
(18) Ecological soil screening level for plants [USEPA 2007c]
(19) Ecological soil screening level for plants [USEPA 2007d]
(20) Ecological soil screening level for avian ground insectivores [USEPA 2006]
(21) Toxicological threshold for plants [Efroymson et al. 1997b]
(22) Ecological soil screening level for avian ground insectivores [USEPA 2005h]
(23) Ecological soil screening level for avian ground insectivores [USEPA 2007e]

SUMMARY OF DETECTED RESULTS - SWMU 9 AREA C - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Table References:

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USEPA. 2007b. Ecological Soil Screening Levels for Copper (Interim Final). Office of Solid Waste and Emergency Response, Washington, D.C. OSWER Directive 9285.7-68.

USEPA. 2007c. Ecological Soil Screening Levels for Nickel (Interim Final). Office of Solid Waste and Emergency Response, Washington, D.C. OSWER Directive 9285.7-76.

USEPA. 2007d. Ecological Soil Screening Levels for Selenium (Interim Final). Office of Solid Waste and Emergency Response, Washington, D.C. OSWER Directive 9285.7-72.

USEPA. 2007e. Ecological Soil Screening Levels for Zinc (Interim Final). Office of Solid Waste and Emergency Response, Washington, D.C. OSWER Directive 9285.7-72.

USEPA. 2006. Ecological Soil Screening Levels for Silver (Interim Final). Office of Solid Waste and Emergency Response, Washington, D.C. OSWEER Directive 9285.7-77.

USEPA. 2005a. Ecological Soil Screening Levels for Antimony (Interim Final). Office of Solid Waste and Emergency Response, Washington, D.C. OSWER Directive 9285.7-61.

USEPA. 2005b. Ecological Soil Screening Levels for Arsenic (Interim Final). Office of Solid Waste and Emergency Response, Washington, D.C.

USEPA. 2005c. Ecological Soil Screening Levels for Barium (Interim Final). Office of Solid Waste and Emergency Response, Washington, D.C. OSWER Directive 9285.7-63.

USEPA. 2005d. Ecological Soil Screening Levels for Beryllium (Interim Final). Office of Solid Waste and Emergency Response, Washington, D.C. OSWER Directive 9285.7-63.

USEPA. 2005e. Ecological Soil Screening Levels for Cadmium (Interim Final). Office of Solid Waste and Emergency Response, Washington, D.C. OSWER Directive 9285.7-62.

USEPA. 2005f. Ecological Soil Screening Levels for Cobalt (Interim Final). Office of Solid Waste and Emergency Response, Washington, D.C. OSWER Directive 9285.7-67

USEPA. 2005g. Ecological Soil Screening Levels for Lead (Interim Final). Office of Solid Waste and Emergency Response, Washington, D.C. OSWER Directive 9285.7-70.

USEPA. 2005h. Ecological Soil Screening Levels for Vanadium (Interim Final). Office of Solid Waste and Emergency Response, Washington, D.C. OSWER Directive 9285.7-75.

TABLE 8-3

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - SWMU 9 AREA C - GROUNDWATER
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date	**Regional Tap Water Screening Levels**	*USEPA MCLs*	Selected Ecological Surface Water Screening Values	NAPR Basewide Background [1]	18GW01 74GWVP06 5/18/2008	74VP6Ca 74GWVP6Ca 5/21/2008	74VP6Cb 74GWVP6Cb 5/21/2008	74VP6Ba 74GWVP6Ba 5/21/2008	13GW11 74GWVP6Bb 5/30/2008	74SB145 74GW145 5/21/2008
Volatile Organic Compounds (ug/L)										
2-Butanone (MEK)	710 [2]	NE	13,333 [5]	NE	0.6 U	64	27	1.1 U	1.2 U	0.6 U
4-Methyl-2-pentanone (MIBK)	200 [2]	NE	170 [6][7]	NE	0.6 U	24	0.6 U	0.6 U	0.6 U	0.6 U
Acetone	2,200 [2]	NE	1,000 [8]	NE	5 U	250	61	16 J	5 U	11 J
Benzene	0.41	5.0	109 [9]	NE	0.32 U	**1.1**	0.32 U	0.32 U	0.32 U	0.32 U
Carbon disulfide	100 [2]	NE	15 [7][10]	NE	0.17 U	52	2.1	1.5 UJ	0.17 U	1.2 J
Chloromethane	1.8	NE	2,700 [11]	NE	0.28 U	0.28 U	0.28 U	0.28 UJ	0.28 UJ	0.49 J
Ethylbenzene	1.5	700	4.3 [9]	NE	0.3 U	0.5 J	0.3 U	0.3 U	0.3 U	0.3 U
Vinyl chloride	0.02	2.0	930 [6][7]	NE	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	**0.2** J
LLPAHs (ug/L)										
None Detected										
Total Metals (ug/L)										
Arsenic	0.045	10	36 [12]	18.89	**0.94** J	**1.8** J	**1** J	1.9 U	2 U	1.1 U
Barium	730 [2]	2,000	16,667 [13]	686	8.6	32	20	35	4.6 J	20
Cadmium	1.8 [2]	5.0	8.85 [14]	16.62	0.12 U	0.12 U	0.12 U	0.12 U	***6.8***	0.16 J
Chromium	5,500 [2]	NE	50.4 [15]	162.41	21	18	10	14 J	1 J	5.3
Cobalt	1 [2]	NE	45 [16]	633.21	**1.6**	**2.6**	1 R	**4.7**	**2.1**	0.31 U
Copper	150 [2]	1,300	3.73 [14]	324	1.2 U	19	9	7.1	5 U	5.6
Lead	NE	15 [3]	8.52 [14]	26.25	0.15 U	***21***	7.3	1.4 U	0.4 U	0.41 U
Mercury	1 [2]	NE	1.11 [14]	0.15	0.27	0.08 U	0.08 U	0.08 U	0.97	0.08 U
Nickel	73 [2]	NE	8.28 [14]	95.7	7.3	7.4	4.5	3.6	3.1	1.6
Selenium	18 [2]	50	71.1 [14]	29.88	0.6 U	0.77 J	0.6 U	0.6 U	0.6 U	1.3 J
Silver	18 [2]	NE	0.23 [9]	18.31	0.09 UJ	0.09 U	0.09 U	0.09 U	9.7	0.09 UJ
Tin	2,200 [2]	NE	180 [6][7]	9.35	0.9 U	7.6	4.9 J	1.6 J	0.9 U	2 U
Vanadium	26 [2]	NE	12 [6][7]	484.66	16	19	6.2	8.2	26	18
Zinc	1,100 [2]	NE	85.6 [14]	547.53	19 J	54	33	140 J	9.2 J	26 J

TABLE 8-3

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - SWMU 9 AREA C - GROUNDWATER
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date	**Regional Tap Water Screening Levels**	*USEPA MCLs*	Selected Ecological Surface Water Screening Values	NAPR Basewide Background [1]	18GW01 74GWVP06 5/18/2008	74VP6Ca 74GWVP6Ca 5/21/2008	74VP6Cb 74GWVP6Cb 5/21/2008	74VP6Ba 74GWVP6Ba 5/21/2008	13GW11 74GWVP6Bb 5/30/2008	74SB145 74GW145 5/21/2008
Dissolved Metals (ug/L)										
Barium	730 [2]	2,000	16,667 [13][17]	260	7.5	23 R	16 R	25	2.6 J	21
Cadmium	1.8 [2]	5.0	8.8 [18]	36.42	0.12 U	0.19 J	0.12 U	0.16 J	***6.8***	0.12 U
Chromium	5,500 [2]	NE	50.0 [19]	6.5	0.6 U	3.1 U	1.5 U	1.3 J	0.74 J	1.1 J
Cobalt	1.1	NE	45.0 (6) [16][17]	580.5	**1.8**	**2.3**	1.6 R	**5**	**1.5**	0.61
Lead	NE	15 [3]	8.1 [20]	1.3	0.15 UJ	***17***	2.6	0.15 U	0.15 U	0.15 U
Mercury	1 [2]	NE	0.94 [20]	0.157	0.087 J	0.08 U	0.08 U	0.08 U	0.65	0.08 U
Nickel	73	NE	8.2 [18]	84.1	0.39 J	1.7 J	2.4 J	2.1	2.4	0.96 J
Selenium	18 [2]	50	71 [18]	23.92	0.6 U	0.77 J	0.6 U	0.6 U	0.6 U	1.1 J
Silver	18 [2]	NE	0.23 [17][20]	3.67	0.09 U	0.09 UJ	0.09 UJ	0.09 UJ	8.8 J	0.09 UJ
Tin	2,200 [2]	NE	180 [6][7][17]	NE	0.9 U	6.7	3 U	0.9 U	0.9 U	2.8 J
Vanadium	26 [2]	NE	12 [6][7][17]	20.96	13	4.9 U	2.4 U	2.3 U	17	14
Zinc	1,100 [2]	NE	81 [21]	360.64	8.3 J	15 R	14 R	33	7.6 J	23
TPH DRO and GRO (mg/L)										
Diesel Range Organics	12.5 [4]	NE	NE	NE	0.25	1.5	0.84	0.4	0.086 J	1
Gasoline Range Organics	12.5 [4]	NE	NE	NE	0.012 U	1.9	1.9	0.012 U	0.012 U	0.0069 U
Total TPH	12.5 [4]	NE	NE	NE	0.25	3.4	2.74	0.4	0.086 J	1

TABLE 8-3

SUMMARY OF DETECTED RESULTS - SWMU 9 AREA C - GROUNDWATER
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Notes/Qualifiers:

U - Not detected
J - Analyte present - Reported value is estimated
UJ - Reported quantitation limit is qualified as estimated
R - Rejected
NE - Not Established
mg/l - milligram per liter
ug/l - microgram per liter

DRO - Diesel Range Organics
GRO - Gasoline Range Organics
TPH - Total Petroleum Hydrocarbons
LLPAH - Low-level Polynuclear Aromatic Hydrocarbon

NAPR - Naval Activity Puerto Rico
USEPA - United States Environmental Protection Agency

(1) NAPR Basewide Groundwater Background - Upper Limit of Means (Mean + 2 standard deviations) Revised Final Summary Report for Environmental Background Concentrations of Inorganic Compounds, Naval Activity Puerto Rico, Ceiba, PR, Baker Environmental (Baker, 2008)
(2) Noncarcinogenic Regional Screening Levels based on a target hazard quotient of 0.1 for conservative screening purposes
(3) USEPA Action Level for lead in drinking water
(3) Total Recoverable Criteria Continuous Concentration
(4) Screening level for TPH is 25% of PREQB groundwater criterion, as proposed in the approved Work Plan dated 12/6/07
(5) Minimum acute value (96-hour NOEC for Cyprinodon variegatus [sheepshead minnow]) with a safety factor of 30 [USEPA 2007]
(6) The chemical lacks a marine/estuarine surface water screening value/literature-based toxicity value. The value shown is a freshwater screening value/toxicity value.
(7) USEPA Region 5 ecological screening level [USEPA 2003]
(8) Minimum acute value (96-hr LC50 for Lumbriculus variegatus [Oligochaete]) with a safety factor of 100 [USEPA 2007]
(9) USEPA Region 4 chronic screening value [USEPA 2001]
(10) Noncarcinogenic Regional Screening Levels based on a target hazard quotient of 0.1 for conservative screening purposes.
(11) Minimum acute value (96-hr LC50 for Menidia beryllina [inland silverside]) with a safety factor of 100 [USEPA 2007]
(12) Total recoverable Criteria Continuous Concentration for trivalent arsenic [USEPA 2009]
(13) Minimum acute value (96-hr NOEC for Cyprinodon variegatus [sheepshead minnow]) with a safety factor of 30 [USEPA 2007]
(14) Total recoverable Criteria Continuous Concentration [USEPA 2009]
(15) Total recoverable Criteria Continuous Concentration for hexavalent chromium [USEPA 2009]
(16) Minimum acute value (96-hr LC50 for Nitocra spinipes [Harpacticoid copepod]) with a safety factor of 100 [USEPA 2007]
(17) The chemical lacks a screening value expressed as a dissolved concentration. The value shown is expressed as a total recoverable concentration.
(18) Dissolved Criteria Continuous Concentration [USEPA 2009]
(19) Dissolved Criteria Continuous Concentration for hexavalent chromium [USEPA 2009]
(20) Criteria Continuous Concentration based on Final Residaul Value/Puerto Rico Water Quality Standard [USEPA 2009/PREQB 2003]
(21) Dissolved Criteria Continuous Concentration/Puerto Rico Water Quality Standard [USEPA 2009/PREQB 2003]

SUMMARY OF DETECTED RESULTS - SWMU 9 AREA C - GROUNDWATER
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

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USEPA. 2003. USEPA Region 5 Ecological Screening Levels Table. http://www.epa.gov/reg5rcra/ca/ESL.pdf.

USEPA. 2001. Region 4 Ecological Risk Assessment Bulletins - Supplement to RQGS. Waste Management Division, Atlanta, GA. http://www.epa.gov/region04/waste/ots/ecolbul.htm.

TABLE 9-1

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - FUELING PIERS AREA - SURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	Selected Ecological Soil Screening Values	NAPR Basewide Background [1]	74SB221 74SB221-00 5/20/2008 0.0-1.0	74SB221 74SB221-00D 5/20/2008 0.0-1.0	74SB231 74SB231-00 5/20/2008 0.0-1.0	74SB241 74SB241-00 5/21/2008 0.0-1.0	74SB251 74SB251-00 5/21/2008 0.0-1.0	74SB261 74SB261-00 5/21/2008 0.0-1.0
Voltile Organic Compounds (ug/kg)										
Acetone	6,100,000 [2]	61,000,000 [2]	NE	NE	48 J	31 J	70 U	53 U	78 UJ	74 U
Benzene	1,100 [2]	5,600 [2]	101 [5]	NE	1.1 J	0.82 U	1.2 U	0.69 U	1.4 U	0.87 U
Carbon disulfide	67,000 [2]	300,000 [2]	NE	NE	0.5 U	0.53 U	0.76 U	1.1 J	0.88 U	0.68 J
Metals (mg/kg)										
Antimony	3.10 [2]	41.0 [2]	10.0 [6]	3.17	0.51	0.41 J	0.39 U	0.53	0.26 J	0.59
Arsenic	0.390	1.60	18.0 [7]	2.65	***3.6***	***3.1***	***4.6***	***2***	***3.1***	***2.9***
Barium	1,500 [2]	19,000 [2]	330 [8]	199	110 J	37 J	25	79 J	58	46 J
Beryllium	16.0 [2]	200 [2]	21.0 [9]	0.59	0.26	0.26	0.038 U	0.18	0.13 J	0.16
Cadmium	7.00 [2]	81.0 [2]	0.770 [10]	1.02	0.14	0.098 J	0.22	0.38	0.16	0.17
Chromium	280	1,400	26.0 [11]	49.8	25	20	8.4	25 J	16	29 J
Cobalt	2.30 [2]	30.0 [2]	13.0 [12]	46.2	**21**	**16**	**2.7**	**12** J	**8.8**	**14** J
Copper	310 [2]	4,100 [2]	28.0 [13]	168	86 J	73 J	14	72 J	70	55 J
Lead	400 [3]	800 [3]	11.0 [14]	22	5.2	4.6	35	49	6.1	14
Mercury	2.300 [2]	31.00 [2]	0.100 [15]	0.109	0.021 J	0.024 J	0.01 J	0.012 J	0.011 J	0.0099 J
Nickel	160 [2]	2,000 [2]	38.0 [16]	20.7	16	16	2.9	18 J	7.8	11 J
Selenium	39.0 [2]	510 [2]	0.520 [17]	1.48	0.19 J	0.21 J	0.26 J	0.12 J	0.3 U	0.28 J
Silver	39.0 [2]	510 [2]	4.20 [18]	NE	0.085 J	0.062 J	0.04 J	0.057 J	0.042 J	0.049 J
Vanadium	55.000 [2]	720.00 [2]	7.80 [19]	259	**150**	**130**	18	**120** J	**89**	**110** J
Zinc	2,300 [2]	31,000 [2]	46.0 [20]	115	54 J	48 J	22	89	52 J	58
TPH DRO and GRO (mg/kg)										
Diesel Range Organics	25 [4]	NE	NE	NE	**100** J	**26** J	**69**	19	6.7	9.3
Gasoline Range Organics	25 [4]	NE	NE	NE	0.06 U	0.058 U	0.084 U	0.0053 U	0.056 J	0.0062 U
Total TPH	25 [4]	NE	NE	NE	**100** J	**26** J	**69**	19	6.756 J	9.3

TABLE 9-1

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - FUELING PIERS AREA - SURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Notes/Qualifiers:

J - Estimated: The analyte was positively identified; the quantitation is an estimation
U - Undetected at the Limit of Detection.
ft bgs - feet below ground surface
ug/kg - microgram per kilogram
mg/kg - milligram per kilogram
NE - Not Established

DRO - Diesel Range Organics
GRO - Gasoline Range Organics
TPH - Total Petroleum Hydrocarbons

NAPR - Naval Activity Puerto Rico
USEPA - United States Environmental Protection Agency

(1) NAPR basewide background surface soil screening value (upper limit of the means concentration [mean plus two standard deviations]) (Baker, 2008)
(2) Noncarcinogenic Regional Screening Levels based on a target hazard quotient of 0.1 for conservative screening purposes
(3) USEPA Action Level for lead in soils
(4) Screening level for TPH is 25% of PREQB soil criterion, as proposed in the approved Work Plan dated 12/6/07
(5) The screening value shown is an average of the target and intervention soil standards. The value is based on a default organic carbon content of 0.02 (2 percent), which represents a minimum value (adjustment range is 2 to 30 percent). [MHSPE 2000]
(6) Ecological soil screening level for mammalian herbivores [USEPA 2005a]
(7) Ecological soil screening level for plants [USEPA 2005b]
(8) Ecological soil screening level for soil invertebrates [USEPA 2005c]
(9) Ecological soil screening level for mammalian herbivores [USEPA 2005d]
(10) Ecological soil screening level for avian ground insectivores [USEPA 2005e]
(11) Ecological soil screening level for avian ground insectivores [USEPA 2008]
(12) Ecological soil screening level for plants [USEPA 2005f]
(13) Ecological soil screening level for avian ground insectivores [USEPA 2007a]
(14) Ecological soil screening level for avian ground insectivores [USEPA 2005g]
(15) Toxicological threshold for earthworms [Efroymson et al. 1997]
(16) Ecological soil screening level for plants [USEPA 2007b]
(17) Ecological soil screening level for plants [USEPA 2007c]
(18) Ecological soil screening level for avian ground insectivores [USEPA 2006]
(19) Ecological soil screening level for avian ground insectivores [USEPA 2005h]
(20) Ecological soil screening level for avian ground insectivores [USEPA 2007d]

SUMMARY OF DETECTED RESULTS - FUELING PIERS AREA - SURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

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USEPA. 2007d. Ecological Soil Screening Levels for Zinc (Interim Final). Office of Solid Waste and Emergency Response, Washington, D.C. OSWER Directive 9285.7-72.

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USEPA. 2005b. Ecological Soil Screening Levels for Arsenic (Interim Final). Office of Solid Waste and Emergency Response, Washington, D.C.

USEPA. 2005c. Ecological Soil Screening Levels for Barium (Interim Final). Office of Solid Waste and Emergency Response, Washington, D.C. OSWER Directive 9285.7-63.

USEPA. 2005d. Ecological Soil Screening Levels for Beryllium (Interim Final). Office of Solid Waste and Emergency Response, Washington, D.C. OSWER Directive 9285.7-63.

USEPA. 2005e. Ecological Soil Screening Levels for Cadmium (Interim Final). Office of Solid Waste and Emergency Response, Washington, D.C. OSWER Directive 9285.7-62.

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USEPA. 2005h. Ecological Soil Screening Levels for Vanadium (Interim Final). Office of Solid Waste and Emergency Response, Washington, D.C. OSWER Directive 9285.7-75.

TABLE 9-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - FUELING PIERS AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID	**Regional**	*Regional*	NAPR	74SB213	74SB215	74SB216	74SB216	74SB216	74SB218
Sample ID	**Screening**	*Screening*	Basewide	74SB213-03	74SB215-03	74SB216-03	74SB216-05	74SB216-05D	74SB218-03
Date	**Levels**	*Levels*	Background [1]	5/19/2008	5/19/2008	5/19/2008	5/19/2008	5/19/2008	5/19/2008
Depth Range (ft bgs)	**Residential**	*Industrial*		5.0-7.0	5.0-7.0	5.0-7.0	9.0-11.0	9.0-11.0	5.0-7.0
	Soil	*Soil*							
Volatile Organic Compounds (ug/kg)									
2-Butanone (MEK)	2,800,000 [2]	19,000,000 [2]	NE	6.8 UJ	5.4 UJ	150 U	3.3 UJ	3.7 UJ	100 UJ
2-Hexanone	2,800,000 [2]	19,000,000 [2]	NE	2.4 UJ	2.4 UJ	120 UJ	2.6 UJ	2.9 UJ	82 UJ
4-Methyl-2-pentanone (MIBK)	530,000 [2]	5,200,000 [2]	NE	3.3 UJ	3.4 UJ	160 UJ	3.6 UJ	4 UJ	110 U
Acetone	6,100,000 [2]	61,000,000 [2]	NE	49 J	48 J	250 U	30 J	37 J	170 UJ
Benzene	1,100	5,600	NE	1 J	0.92 U	44 U	0.98 U	1.1 U	31 U
Carbon disulfide	67,000 [2]	300,000 [2]	NE	0.57 U	2.1 J	29 U	1.3 J	1.2 J	20 U
Chloromethane	1,700	8,400	NE	0.8 U	0.82 U	40 U	0.88 U	0.97 U	28 U
Ethylbenzene	5,700	29,000	NE	0.84 U	0.87 U	42 U	0.93 U	1 U	29 U
Iodomethane	NE	NE	NE	1.1 U	1.2 U	56 U	1.2 U	1.4 U	39 U
Styrene	650,000 [2]	3,800,000 [2]	NE	0.74 U	0.77 U	37 U	0.81 U	0.9 U	26 U
Tetrachloroethene	570	2,700	NE	0.82 U	0.85 U	41 U	0.9 U	1 U	28 U
Toluene	500,000 [2]	4,600,000 [2]	NE	0.89 U	0.92 U	69 U	0.98 U	1.1 U	51 U
Xylenes, Total	60,000 [2]	260,000 [2]	NE	2.6 U	2.7 U	320 J	2.8 U	3.1 U	89 U
LLPAHs (ug/kg)									
1-Methylnaphthalene	22,000	99,000	NE	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	31,000 [2]	410,000 [2]	NE	NA	NA	NA	NA	NA	NA
Acenaphthene	340,000 [2]	3,300,000 [2]	NE	NA	NA	NA	NA	NA	NA
Acenaphthylene	340,000 [2]	3,300,000 [2]	NE	NA	NA	NA	NA	NA	NA
Benzo[a]anthracene	150	2,100	NE	NA	NA	NA	NA	NA	NA
Benzo[a]pyrene	15	210	NE	NA	NA	NA	NA	NA	NA
Benzo[b]fluoranthene	150	2,100	NE	NA	NA	NA	NA	NA	NA
Benzo[g,h,i]perylene	1,700	17,000	NE	NA	NA	NA	NA	NA	NA
Chrysene	15,000	210,000	NE	NA	NA	NA	NA	NA	NA
Fluoranthene	230,000 [2]	2,200,000 [2]	NE	NA	NA	NA	NA	NA	NA
Fluorene	230,000 [2]	2,200,000 [2]	NE	NA	NA	NA	NA	NA	NA

TABLE 9-2

SUMMARY OF DETECTED RESULTS - FUELING PIERS AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	NAPR Basewide Background [1]	74SB213 74SB213-03 5/19/2008 5.0-7.0	74SB215 74SB215-03 5/19/2008 5.0-7.0	74SB216 74SB216-03 5/19/2008 5.0-7.0	74SB216 74SB216-05 5/19/2008 9.0-11.0	74SB216 74SB216-05D 5/19/2008 9.0-11.0	74SB218 74SB218-03 5/19/2008 5.0-7.0
LLPAHs (ug/kg)									
Indeno[1,2,3-cd]pyrene	150	2,100	NE	NA	NA	NA	NA	NA	NA
Naphthalene	3,900	20,000	NE	NA	NA	NA	NA	NA	NA
Phenanthrene	170,000 [2][5]	1,700,000 [2][5]	NE	NA	NA	NA	NA	NA	NA
Pyrene	170,000 [2]	1,700,000 [2]	NE	NA	NA	NA	NA	NA	NA
PAH Totals (ug/kg):									
Low molecular weight PAHs	NE	NE	NE	NA	NA	NA	NA	NA	NA
High molecular weight PAHs	NE	NE	NE	NA	NA	NA	NA	NA	NA
Metals (mg/kg)									
Antimony	3.1 [2]	41 [2]	7.44	0.39 J	0.26 J	0.5 J	0.35 J	0.4 J	0.091 J
Arsenic	0.39	2	6.66	***1.9***	***1.9***	***2.5***	***2.4***	***2.4***	**1.2**
Barium	1,500 [2]	19,000 [2]	207	70	190	81	68	73	24
Beryllium	16 [2]	200 [2]	0.933	0.32	0.49	0.38	0.7	0.8	0.19
Cadmium	7 [2]	81 [2]	0.57	0.096 J	0.047 J	0.039 U	0.041 J	0.049 J	0.048 J
Chromium	280	1,400	47.9	16	110	200	160	200	8.5
Cobalt	2.3 [2]	30 [2]	63.1	**18**	**15**	**12**	***53***	***61***	**23**
Copper	310 [2]	4,100 [2]	120	56 J	74 J	69 J	87 J	98 J	48 J
Lead	400 [3]	800 [3]	6.2	2.8	3.6	9.2	4.7	5.2	1.4
Mercury	2.3 [2]	31 [2]	0.067	0.0072 J	0.014 J	0.015 J	0.022 J	0.042 J	0.0038 U
Nickel	160 [2]	2,000 [2]	26.5	14	20	23	36	40	10
Selenium	39 [2]	510 [2]	1.19	0.16 J	1.2	1.6	1.3	1.5	0.13 U
Silver	39 [2]	510 [2]	NE	0.034 J	0.02 U	0.034 J	0.021 J	0.029 J	0.017 U
Vanadium	55 [2]	720 [2]	256	**110**	**240**	**250**	**250**	**300**	**270**
Zinc	2,300 [2]	31,000 [2]	92	50 J	46 J	44 J	53 J	61 J	88 J
TPH DRO and GRO (mg/kg)									
Diesel Range Organics	25 [4]	NE	NE	8.8	**320**	**2,900**	**2,300**	**2,400**	**260**
Gasoline Range Organics	25 [4]	NE	NE	0.054 U	0.072 U	**29**	0.46	0.42	**81**
Total TPH	25 [4]	NE	NE	8.8	**320**	**2,929**	**2,300.46**	**2,400.42**	**341**

TABLE 9-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - FUELING PIERS AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID	**Regional**	*Regional*	NAPR	74SB218	74SB221	74SB221	74SB222	74SB223	74SB224
Sample ID	**Screening**	*Screening*	Basewide	74SB218-05	74SB221-02	74SB221-02D	74SB222-03	74SB223-03	74SB224-04
Date	**Levels**	*Levels*	Background [1]	5/19/2008	5/20/2008	5/20/2008	5/20/2008	5/20/2008	5/20/2008
Depth Range (ft bgs)	**Residential**	*Industrial*		9.0-11.0	3.0-5.0	3.0-5.0	5.0-7.0	5.0-7.0	7.0-9.0
	Soil	*Soil*							
Volatile Organic Compounds (ug/kg)									
2-Butanone (MEK)	2,800,000 [2]	19,000,000 [2]	NE	140 UJ	14 UJ	91 UJ	13 UJ	160 UJ	96 U
2-Hexanone	2,800,000 [2]	19,000,000 [2]	NE	110 UJ	1.9 UJ	71 UJ	2.8 UJ	87 UJ	75 UJ
4-Methyl-2-pentanone (MIBK)	530,000 [2]	5,200,000 [2]	NE	150 U	2.7 UJ	98 U	3.8 U	120 U	100 U
Acetone	6,100,000 [2]	61,000,000 [2]	NE	220 UJ	75 J	150 UJ	40 UJ	180 UJ	160 UJ
Benzene	1,100	5,600	NE	40 U	0.73 U	27 U	1.1 J	33 U	28 U
Carbon disulfide	67,000 [2]	300,000 [2]	NE	26 U	0.57 J	17 U	0.68 U	21 U	18 U
Chloromethane	1,700	8,400	NE	36 U	0.86 J	24 U	0.94 U	29 U	25 U
Ethylbenzene	5,700	29,000	NE	38 U	0.69 U	25 U	0.99 U	31 U	30 J
Iodomethane	NE	NE	NE	50 U	5.5	34 U	1.3 U	41 U	36 U
Styrene	650,000 [2]	3,800,000 [2]	NE	33 U	0.61 U	22 U	0.88 U	27 U	24 J
Tetrachloroethene	570	2,700	NE	37 U	0.67 U	26 J	0.97 U	30 U	26 U
Toluene	500,000 [2]	4,600,000 [2]	NE	61 U	0.73 U	35 U	1 U	47 J	74 U
Xylenes, Total	60,000 [2]	260,000 [2]	NE	120 U	2.1 U	78 U	3.1 U	95 U	94 J
LLPAHs (ug/kg)									
1-Methylnaphthalene	22,000	99,000	NE	NA	14 U	14 U	14 U	100	NA
2-Methylnaphthalene	31,000 [2]	410,000 [2]	NE	NA	20 U	20 U	20 U	19 U	NA
Acenaphthene	340,000 [2]	3,300,000 [2]	NE	NA	6.6 U	6.5 U	160	240	NA
Acenaphthylene	340,000 [2]	3,300,000 [2]	NE	NA	20 U	20 U	20 U	84	NA
Benzo[a]anthracene	150	2,100	NE	NA	20 U	20 U	**310**	**190**	NA
Benzo[a]pyrene	15	210	NE	NA	7.7 U	13 J	***360***	**110**	NA
Benzo[b]fluoranthene	150	2,100	NE	NA	15 J	13 J	**720**	110	NA
Benzo[g,h,i]perylene	1,700	17,000	NE	NA	20 U	20 U	200	42 J	NA
Chrysene	15,000	210,000	NE	NA	7.7 J	14 J	470	240	NA
Fluoranthene	230,000 [2]	2,200,000 [2]	NE	NA	20 U	20 U	380	350	NA
Fluorene	230,000 [2]	2,200,000 [2]	NE	NA	9 U	8.8 U	300	440	NA

TABLE 9-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - FUELING PIERS AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID	**Regional**	*Regional*	NAPR	74SB218	74SB221	74SB221	74SB222	74SB223	74SB224
Sample ID	**Screening**	*Screening*	Basewide	74SB218-05	74SB221-02	74SB221-02D	74SB222-03	74SB223-03	74SB224-04
Date	**Levels**	*Levels*	Background [1]	5/19/2008	5/20/2008	5/20/2008	5/20/2008	5/20/2008	5/20/2008
Depth Range (ft bgs)	**Residential**	*Industrial*		9.0-11.0	3.0-5.0	3.0-5.0	5.0-7.0	5.0-7.0	7.0-9.0
	Soil	*Soil*							
LLPAHs (ug/kg)									
Indeno[1,2,3-cd]pyrene	150	2,100	NE	NA	14 U	14 U	**190**	27 J	NA
Naphthalene	3,900	20,000	NE	NA	7 U	6.9 U	6.9 U	6.8 U	NA
Phenanthrene	170,000 [2][5]	1,700,000 [2][5]	NE	NA	20 U	20 U	20 U	280	NA
Pyrene	170,000 [2]	1,700,000 [2]	NE	NA	20 U	22 J	520	400	NA
PAH Totals (ug/kg):									
Low molecular weight PAHs	NE	NE	NE	NA	116.6	116.2	560.9	1188.8	NA
High molecular weight PAHs	NE	NE	NE	NA	143.3	153.8	3168.8	1486.7	NA
Metals (mg/kg)									
Antimony	3.1 [2]	41 [2]	7.44	0.09 U	0.31 J	0.35 J	0.25 J	0.44 J	0.086 J
Arsenic	0.39	2	6.66	**0.62**	***2.7***	***3.9***	***2.5***	***2.9***	**0.99**
Barium	1,500 [2]	19,000 [2]	207	28	51	53	53	80	180
Beryllium	16 [2]	200 [2]	0.933	0.22	0.19	0.3	0.13	0.54	0.25
Cadmium	7 [2]	81 [2]	0.57	0.056 J	0.23	0.48	0.36	0.058 J	0.13
Chromium	280	1,400	47.9	29	25	26	19	60	16
Cobalt	2.3 [2]	30 [2]	63.1	**21**	**19**	**18**	**15**	***35***	**26**
Copper	310 [2]	4,100 [2]	120	5.9 J	83 J	77 J	53	160	130
Lead	400 [3]	800 [3]	6.2	1	3.8	3.3	9.5	1.5	1.1
Mercury	2.3 [2]	31 [2]	0.067	0.005 U	0.0069 J	0.0076 J	0.0098 J	0.008 J	0.0045 U
Nickel	160 [2]	2,000 [2]	26.5	9.5	12	17	11	42	23
Selenium	39 [2]	510 [2]	1.19	0.14 U	0.21 J	0.19 J	0.13 J	0.22 J	0.13 J
Silver	39 [2]	510 [2]	NE	0.041 J	0.054 J	0.036 J	0.033 J	0.1 J	0.036 J
Vanadium	55 [2]	720 [2]	256	**160**	**110**	**110**	**110** J	**210** J	**150** J
Zinc	2,300 [2]	31,000 [2]	92	51 J	69 J	83 J	39 J	62 J	47 J
TPH DRO and GRO (mg/kg)									
Diesel Range Organics	25 [4]	NE	NE	**140**	**1,400** J	**44** J	**1,800**	**2,500**	25
Gasoline Range Organics	25 [4]	NE	NE	**45**	0.08 J	0.064 U	0.0079 U	**75**	**130**
Total TPH	25 [4]	NE	NE	**185**	**1,400.08** J	**44** J	**1,800**	**2,575**	**155**

TABLE 9-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - FUELING PIERS AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID	**Regional**	*Regional*	NAPR	74SB224	74SB225	74SB225	74SB231	74SB231	74SB231
Sample ID	**Screening**	*Screening*	Basewide	74SB224-05	74SB225-04	74SB225-05	74SB231-04	74SB231-05	74SB231-05D
Date	**Levels**	*Levels*	Background [1]	5/20/2008	5/20/2008	5/20/2008	5/20/2008	5/20/2008	5/20/2008
Depth Range (ft bgs)	**Residential**	*Industrial*		9.0-11.0	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0	9.0-11.0
	Soil	*Soil*							
Volatile Organic Compounds (ug/kg)									
2-Butanone (MEK)	2,800,000 [2]	19,000,000 [2]	NE	6.5 UJ	4.6 UJ	2.9 UJ	4.5 UJ	4.7 UJ	3.1 UJ
2-Hexanone	2,800,000 [2]	19,000,000 [2]	NE	2.5 UJ	2.2 UJ	2.1 UJ	3.1 UJ	2.6 UJ	2 UJ
4-Methyl-2-pentanone (MIBK)	530,000 [2]	5,200,000 [2]	NE	3.4 U	3 U	2.9 U	4.2 UJ	3.6 UJ	2.7 UJ
Acetone	6,100,000 [2]	61,000,000 [2]	NE	47 UJ	34 UJ	24 UJ	34 U	30 U	17 U
Benzene	1,100	5,600	NE	0.93 U	0.83 U	0.8 U	1.1 U	0.97 U	0.75 U
Carbon disulfide	67,000 [2]	300,000 [2]	NE	0.6 U	0.53 U	0.52 U	0.74 U	0.63 U	0.48 U
Chloromethane	1,700	8,400	NE	0.84 U	0.74 U	0.72 U	1 U	0.87 U	0.67 U
Ethylbenzene	5,700	29,000	NE	0.89 U	0.78 U	0.76 U	1.1 U	0.92 U	0.71 U
Iodomethane	NE	NE	NE	1.2 U	1 U	1 U	1.5 U	1.2 U	0.95 U
Styrene	650,000 [2]	3,800,000 [2]	NE	0.78 U	0.69 U	0.67 U	0.96 U	0.81 U	0.63 U
Tetrachloroethene	570	2,700	NE	0.86 U	0.76 U	0.74 U	1.1 U	0.89 U	0.69 U
Toluene	500,000 [2]	4,600,000 [2]	NE	0.93 U	0.83 U	0.8 U	1.1 U	0.97 U	0.75 U
Xylenes, Total	60,000 [2]	260,000 [2]	NE	2.7 U	2.4 U	2.3 U	3.3 U	2.8 U	2.2 U
LLPAHs (ug/kg)									
1-Methylnaphthalene	22,000	99,000	NE	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	31,000 [2]	410,000 [2]	NE	NA	NA	NA	NA	NA	NA
Acenaphthene	340,000 [2]	3,300,000 [2]	NE	NA	NA	NA	NA	NA	NA
Acenaphthylene	340,000 [2]	3,300,000 [2]	NE	NA	NA	NA	NA	NA	NA
Benzo[a]anthracene	150	2,100	NE	NA	NA	NA	NA	NA	NA
Benzo[a]pyrene	15	210	NE	NA	NA	NA	NA	NA	NA
Benzo[b]fluoranthene	150	2,100	NE	NA	NA	NA	NA	NA	NA
Benzo[g,h,i]perylene	1,700	17,000	NE	NA	NA	NA	NA	NA	NA
Chrysene	15,000	210,000	NE	NA	NA	NA	NA	NA	NA
Fluoranthene	230,000 [2]	2,200,000 [2]	NE	NA	NA	NA	NA	NA	NA
Fluorene	230,000 [2]	2,200,000 [2]	NE	NA	NA	NA	NA	NA	NA

TABLE 9-2

SUMMARY OF DETECTED RESULTS - FUELING PIERS AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID	**Regional**	*Regional*	NAPR	74SB224	74SB225	74SB225	74SB231	74SB231	74SB231
Sample ID	**Screening**	*Screening*	Basewide	74SB224-05	74SB225-04	74SB225-05	74SB231-04	74SB231-05	74SB231-05D
Date	**Levels**	*Levels*	Background [1]	5/20/2008	5/20/2008	5/20/2008	5/20/2008	5/20/2008	5/20/2008
Depth Range (ft bgs)	**Residential**	*Industrial*		9.0-11.0	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0	9.0-11.0
	Soil	*Soil*							
LLPAHs (ug/kg)									
Indeno[1,2,3-cd]pyrene	150	2,100	NE	NA	NA	NA	NA	NA	NA
Naphthalene	3,900	20,000	NE	NA	NA	NA	NA	NA	NA
Phenanthrene	170,000 [2][5]	1,700,000 [2][5]	NE	NA	NA	NA	NA	NA	NA
Pyrene	170,000 [2]	1,700,000 [2]	NE	NA	NA	NA	NA	NA	NA
PAH Totals (ug/kg):									
Low molecular weight PAHs	NE	NE	NE	NA	NA	NA	NA	NA	NA
High molecular weight PAHs	NE	NE	NE	NA	NA	NA	NA	NA	NA
Metals (mg/kg)									
Antimony	3.1 [2]	41 [2]	7.44	0.076 UJ	0.16 J	0.12 J	0.2 U	0.32 U	0.21 U
Arsenic	0.39	2	6.66	**1**	***1.7***	**0.91**	***3.9***	***5.5***	***5.4***
Barium	1,500 [2]	19,000 [2]	207	160	36	21	8.5	11	12
Beryllium	16 [2]	200 [2]	0.933	0.18	0.19	0.23	0.02 U	0.17 J	0.04 U
Cadmium	7 [2]	81 [2]	0.57	0.079 J	0.15	0.33	0.035 U	0.46	0.068 U
Chromium	280	1,400	47.9	18	19	86	1.8	6	4.7
Cobalt	2.3 [2]	30 [2]	63.1	**15**	**15**	***33***	1.1	**3.4** J	2.1 J
Copper	310 [2]	4,100 [2]	120	130	40	66	1.1 U	5.4	4.5
Lead	400 [3]	800 [3]	6.2	0.63	5.4	2.2	0.18 U	1.9 J	0.43 UJ
Mercury	2.3 [2]	31 [2]	0.067	0.0039 U	0.0039 U	0.0041 U	0.0044 U	0.0063 J	0.0045 J
Nickel	160 [2]	2,000 [2]	26.5	12	13	18	0.86	1.9	1.7
Selenium	39 [2]	510 [2]	1.19	0.12 U	0.13 U	0.14 U	0.13 U	0.25 U	0.26 U
Silver	39 [2]	510 [2]	NE	0.069 J	0.042 J	0.022 J	0.018 UJ	0.11 J	0.035 UJ
Vanadium	55 [2]	720 [2]	256	**150** J	**91** J	**150** J	2.9	30 J	15 J
Zinc	2,300 [2]	31,000 [2]	92	39 J	38 J	61 J	0.88 J	6.5 J	3.5 J
TPH DRO and GRO (mg/kg)									
Diesel Range Organics	25 [4]	NE	NE	**180**	18	1.5 U	1.6 U	16 J	4.2 J
Gasoline Range Organics	25 [4]	NE	NE	7.3	0.0072 U	0.0069 U	0.12 U	0.064 U	0.086 U
Total TPH	25 [4]	NE	NE	**187.3**	18	1.5069 U	1.72 U	16 J	4.2 J

TABLE 9-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - FUELING PIERS AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID	**Regional**	*Regional*	NAPR	74SB232	74SB232	74SB233	74SB233	74SB234	74SB234
Sample ID	**Screening**	*Screening*	Basewide	74SB232-04	74SB232-05	74SB233-04	74SB233-05	74SB234-04	74SB234-05
Date	**Levels**	*Levels*	Background [1]	5/20/2008	5/20/2008	5/20/2008	5/20/2008	5/20/2008	5/20/2008
Depth Range (ft bgs)	**Residential**	*Industrial*		7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0
	Soil	*Soil*							
Volatile Organic Compounds (ug/kg)									
2-Butanone (MEK)	2,800,000 [2]	19,000,000 [2]	NE	4.8 UJ	7.1 UJ	7.2 UJ	10 UJ	9 UJ	3 UJ
2-Hexanone	2,800,000 [2]	19,000,000 [2]	NE	2.9 UJ	2.6 UJ	3.6 UJ	3.1 UJ	1.9 UJ	2.3 UJ
4-Methyl-2-pentanone (MIBK)	530,000 [2]	5,200,000 [2]	NE	4 UJ	3.6 UJ	5 UJ	4.3 UJ	2.6 UJ	3.2 UJ
Acetone	6,100,000 [2]	61,000,000 [2]	NE	29 U	41 U	54 U	52 UJ	100 J	18 U
Benzene	1,100	5,600	NE	1.1 U	0.97 U	1.4 U	1.2 U	0.71 U	0.88 U
Carbon disulfide	67,000 [2]	300,000 [2]	NE	0.7 U	12	0.88 U	1.4 J	0.46 U	0.57 U
Chloromethane	1,700	8,400	NE	0.97 U	0.88 U	1.2 U	1.1 U	0.63 U	0.79 U
Ethylbenzene	5,700	29,000	NE	1 U	0.92 U	1.3 U	1.1 U	0.67 U	0.84 U
Iodomethane	NE	NE	NE	1.4 U	1.2 U	1.7 U	1.5 U	4.6	1.1 U
Styrene	650,000 [2]	3,800,000 [2]	NE	0.9 U	0.81 U	1.1 U	0.98 U	0.59 U	0.74 U
Tetrachloroethene	570	2,700	NE	1 U	0.9 U	1.3 U	1.1 U	0.65 U	0.81 U
Toluene	500,000 [2]	4,600,000 [2]	NE	1.1 U	0.97 U	1.4 U	1.2 U	0.71 U	0.88 U
Xylenes, Total	60,000 [2]	260,000 [2]	NE	3.2 U	2.8 U	4 U	3.4 U	2.1 U	2.6 U
LLPAHs (ug/kg)									
1-Methylnaphthalene	22,000	99,000	NE	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	31,000 [2]	410,000 [2]	NE	NA	NA	NA	NA	NA	NA
Acenaphthene	340,000 [2]	3,300,000 [2]	NE	NA	NA	NA	NA	NA	NA
Acenaphthylene	340,000 [2]	3,300,000 [2]	NE	NA	NA	NA	NA	NA	NA
Benzo[a]anthracene	150	2,100	NE	NA	NA	NA	NA	NA	NA
Benzo[a]pyrene	15	210	NE	NA	NA	NA	NA	NA	NA
Benzo[b]fluoranthene	150	2,100	NE	NA	NA	NA	NA	NA	NA
Benzo[g,h,i]perylene	1,700	17,000	NE	NA	NA	NA	NA	NA	NA
Chrysene	15,000	210,000	NE	NA	NA	NA	NA	NA	NA
Fluoranthene	230,000 [2]	2,200,000 [2]	NE	NA	NA	NA	NA	NA	NA
Fluorene	230,000 [2]	2,200,000 [2]	NE	NA	NA	NA	NA	NA	NA

TABLE 9-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - FUELING PIERS AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID	**Regional**	*Regional*	NAPR	74SB232	74SB232	74SB233	74SB233	74SB234	74SB234
Sample ID	**Screening**	*Screening*	Basewide	74SB232-04	74SB232-05	74SB233-04	74SB233-05	74SB234-04	74SB234-05
Date	**Levels**	*Levels*	Background [1]	5/20/2008	5/20/2008	5/20/2008	5/20/2008	5/20/2008	5/20/2008
Depth Range (ft bgs)	**Residential**	*Industrial*		7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0
	Soil	*Soil*							
LLPAHs (ug/kg)									
Indeno[1,2,3-cd]pyrene	150	2,100	NE	NA	NA	NA	NA	NA	NA
Naphthalene	3,900	20,000	NE	NA	NA	NA	NA	NA	NA
Phenanthrene	170,000 [2][5]	1,700,000 [2][5]	NE	NA	NA	NA	NA	NA	NA
Pyrene	170,000 [2]	1,700,000 [2]	NE	NA	NA	NA	NA	NA	NA
PAH Totals (ug/kg):									
Low molecular weight PAHs	NE	NE	NE	NA	NA	NA	NA	NA	NA
High molecular weight PAHs	NE	NE	NE	NA	NA	NA	NA	NA	NA
Metals (mg/kg)									
Antimony	3.1 [2]	41 [2]	7.44	0.21 U	0.31 U	0.25 U	0.24 U	0.086 U	0.19 U
Arsenic	0.39	2	6.66	***4.8***	***7.2***	***4.5***	***6.7***	***1.8***	***1.9***
Barium	1,500 [2]	19,000 [2]	207	8.9	8.4	11	9.8	110	87
Beryllium	16 [2]	200 [2]	0.933	0.041 U	0.045 U	0.049 U	0.047 U	0.38	0.37
Cadmium	7 [2]	81 [2]	0.57	0.071 U	0.078 U	0.084 U	0.081 U	0.27	0.078 J
Chromium	280	1,400	47.9	2.2 J	5.1	2.7	6	71	40
Cobalt	2.3 [2]	30 [2]	63.1	1.3	1.8	1.3	2.3	**27**	**22**
Copper	310 [2]	4,100 [2]	120	1.7 U	2.8 U	2.6 U	4.9 U	210	88
Lead	400 [3]	800 [3]	6.2	0.26 U	0.48 U	6.4	0.42 U	3.5	1.4
Mercury	2.3 [2]	31 [2]	0.067	0.0046 U	0.0045 U	0.0052 U	0.0053 U	0.029	0.016 J
Nickel	160 [2]	2,000 [2]	26.5	1.1	1.7	1.4	2.3	36	21
Selenium	39 [2]	510 [2]	1.19	0.28 U	0.3 U	0.33 U	0.31 U	0.54 J	0.47 J
Silver	39 [2]	510 [2]	NE	0.037 UJ	0.04 UJ	0.043 UJ	0.042 UJ	0.052 J	0.03 J
Vanadium	55 [2]	720 [2]	256	4.8	12	5.2	16	**150**	**130**
Zinc	2,300 [2]	31,000 [2]	92	1.5 U	3.5 J	2.4 J	4 J	100	90
TPH DRO and GRO (mg/kg)									
Diesel Range Organics	25 [4]	NE	NE	1.4 U	3.6 U	4.3 U	1.5 U	1.8 U	1.2
Gasoline Range Organics	25 [4]	NE	NE	0.091 U	0.08 U	0.1 U	0.081 U	0.06 U	0.059 U
Total TPH	25 [4]	NE	NE	1.491 U	3.68 U	4.4 U	1.581 U	1.86 U	1.2

TABLE 9-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - FUELING PIERS AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID	**Regional**	*Regional*	NAPR	74SB235	74SB235	74SB236	74SB236	74SB236	74SB237
Sample ID	**Screening**	*Screening*	Basewide	74SB235-04	74SB235-05	74SB236-04	74SB236-05	74SB236-05D	74SB237-04
Date	**Levels**	*Levels*	Background [1]	5/20/2008	5/20/2008	5/21/2008	5/21/2008	5/21/2008	5/21/2008
Depth Range (ft bgs)	**Residential**	*Industrial*		7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0	9.0-11.0	7.0-9.0
	Soil	*Soil*							
Volatile Organic Compounds (ug/kg)									
2-Butanone (MEK)	2,800,000 [2]	19,000,000 [2]	NE	5.4 R	5.1 UJ	3.4 UJ	4.5 UJ	11 UJ	4.6 UJ
2-Hexanone	2,800,000 [2]	19,000,000 [2]	NE	3 J	3.3 UJ	2.7 UJ	3.5 UJ	3.2 UJ	3.6 UJ
4-Methyl-2-pentanone (MIBK)	530,000 [2]	5,200,000 [2]	NE	3.2 R	4.6 UJ	3.7 UJ	4.9 UJ	4.5 UJ	5 UJ
Acetone	6,100,000 [2]	61,000,000 [2]	NE	22 R	51 U	53 U	55 U	52 UJ	46 U
Benzene	1,100	5,600	NE	0.87 R	**2.3** J	1 U	1.3 U	1.2 U	1.4 U
Carbon disulfide	67,000 [2]	300,000 [2]	NE	0.56 R	0.81 U	0.65 U	0.86 U	0.79 U	0.88 U
Chloromethane	1,700	8,400	NE	0.78 R	1.1 U	0.91 U	1.2 U	1.1 UJ	1.2 U
Ethylbenzene	5,700	29,000	NE	0.83 R	1.2 U	0.96 U	1.3 U	1.2 U	1.3 U
Iodomethane	NE	NE	NE	1.1 R	1.6 U	1.3 UJ	1.7 UJ	1.5 U	1.7 UJ
Styrene	650,000 [2]	3,800,000 [2]	NE	0.73 R	1 U	0.84 U	1.1 U	1 U	1.1 U
Tetrachloroethene	570	2,700	NE	0.8 R	1.2 U	0.93 U	1.2 U	1.1 U	1.3 U
Toluene	500,000 [2]	4,600,000 [2]	NE	0.87 R	1.3 U	1 U	1.3 U	1.2 U	1.4 U
Xylenes, Total	60,000 [2]	260,000 [2]	NE	2.5 R	3.6 U	2.9 U	3.9 U	3.6 U	3.9 U
LLPAHs (ug/kg)									
1-Methylnaphthalene	22,000	99,000	NE	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	31,000 [2]	410,000 [2]	NE	NA	NA	NA	NA	NA	NA
Acenaphthene	340,000 [2]	3,300,000 [2]	NE	NA	NA	NA	NA	NA	NA
Acenaphthylene	340,000 [2]	3,300,000 [2]	NE	NA	NA	NA	NA	NA	NA
Benzo[a]anthracene	150	2,100	NE	NA	NA	NA	NA	NA	NA
Benzo[a]pyrene	15	210	NE	NA	NA	NA	NA	NA	NA
Benzo[b]fluoranthene	150	2,100	NE	NA	NA	NA	NA	NA	NA
Benzo[g,h,i]perylene	1,700	17,000	NE	NA	NA	NA	NA	NA	NA
Chrysene	15,000	210,000	NE	NA	NA	NA	NA	NA	NA
Fluoranthene	230,000 [2]	2,200,000 [2]	NE	NA	NA	NA	NA	NA	NA
Fluorene	230,000 [2]	2,200,000 [2]	NE	NA	NA	NA	NA	NA	NA

TABLE 9-2

SUMMARY OF DETECTED RESULTS - FUELING PIERS AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	NAPR Basewide Background [1]	74SB235 74SB235-04 5/20/2008 7.0-9.0	74SB235 74SB235-05 5/20/2008 9.0-11.0	74SB236 74SB236-04 5/21/2008 7.0-9.0	74SB236 74SB236-05 5/21/2008 9.0-11.0	74SB236 74SB236-05D 5/21/2008 9.0-11.0	74SB237 74SB237-04 5/21/2008 7.0-9.0
LLPAHs (ug/kg)									
Indeno[1,2,3-cd]pyrene	150	2,100	NE	NA	NA	NA	NA	NA	NA
Naphthalene	3,900	20,000	NE	NA	NA	NA	NA	NA	NA
Phenanthrene	170,000 [2][5]	1,700,000 [2][5]	NE	NA	NA	NA	NA	NA	NA
Pyrene	170,000 [2]	1,700,000 [2]	NE	NA	NA	NA	NA	NA	NA
PAH Totals (ug/kg):									
Low molecular weight PAHs	NE	NE	NE	NA	NA	NA	NA	NA	NA
High molecular weight PAHs	NE	NE	NE	NA	NA	NA	NA	NA	NA
Metals (mg/kg)									
Antimony	3.1 [2]	41 [2]	7.44	0.23 U	0.32 U	0.4 J	0.19 J	0.17 J	0.15 J
Arsenic	0.39	2	6.66	***3.5***	***7***	***7.2***	***2***	***2***	***2***
Barium	1,500 [2]	19,000 [2]	207	26	14	13 J	9.8 J	9.4 J	11 J
Beryllium	16 [2]	200 [2]	0.933	0.042 J	0.06 J	0.06 U	0.024 U	0.025 U	0.022 U
Cadmium	7 [2]	81 [2]	0.57	0.07 U	0.055 J	0.044 J	0.042 U	0.044 U	0.038 U
Chromium	280	1,400	47.9	7.2	17	16 J	3.7 J	4.2 J	2.6 J
Cobalt	2.3 [2]	30 [2]	63.1	**2.9**	2	1.6 J	0.62 J	0.64 J	0.54 J
Copper	310 [2]	4,100 [2]	120	11	11	8.4 J	1.4 UJ	1.6 UJ	0.71 UJ
Lead	400 [3]	800 [3]	6.2	1.2	0.74	0.76	0.41	0.33 J	0.11 J
Mercury	2.3 [2]	31 [2]	0.067	0.0046 U	0.0063 U	0.0053 J	0.0051 U	0.0052 U	0.0047 U
Nickel	160 [2]	2,000 [2]	26.5	3.1	5.1	5.1 J	0.97 J	1.1 J	0.66 J
Selenium	39 [2]	510 [2]	1.19	0.27 U	0.77	0.42 J	0.16 U	0.17 U	0.15 U
Silver	39 [2]	510 [2]	NE	0.036 UJ	0.026 J	0.021 J	0.022 U	0.023 U	0.02 U
Vanadium	55 [2]	720 [2]	256	18	24	30 J	5.4 J	6.1 J	2.4 J
Zinc	2,300 [2]	31,000 [2]	92	7.3 J	8.8	7.1	1.1 J	1.3 J	0.78 U
TPH DRO and GRO (mg/kg)									
Diesel Range Organics	25 [4]	NE	NE	1.5	1.7 U	3.1	2.9	1.8	0.88
Gasoline Range Organics	25 [4]	NE	NE	0.076 U	0.097 U	0.0078 U	0.0093 U	0.0092 U	0.14 UJ
Total TPH	25 [4]	NE	NE	1.5	1.797 U	3.1	2.9	1.8	0.88

TABLE 9-2

SUMMARY OF DETECTED RESULTS - FUELING PIERS AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID	**Regional**	*Regional*	NAPR	74SB237	74SB238	74SB238	74SB239	74SB239	74SB240
Sample ID	**Screening**	*Screening*	Basewide	74SB237-05	74SB238-04	74SB238-05	74SB239-04	74SB239-05	74SB240-04
Date	**Levels**	*Levels*	Background [1]	5/21/2008	5/21/2008	5/21/2008	5/21/2008	5/21/2008	5/21/2008
Depth Range (ft bgs)	**Residential**	*Industrial*		9.0-11.0	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0	7.0-9.0
	Soil	*Soil*							
Volatile Organic Compounds (ug/kg)									
2-Butanone (MEK)	2,800,000 [2]	19,000,000 [2]	NE	11 UJ	3.9 UJ	39 J	16 UJ	21 UJ	11 UJ
2-Hexanone	2,800,000 [2]	19,000,000 [2]	NE	3.8 UJ	3 UJ	2.9 UJ	2.7 UJ	3.6 UJ	2.3 UJ
4-Methyl-2-pentanone (MIBK)	530,000 [2]	5,200,000 [2]	NE	5.3 UJ	4.2 UJ	4 UJ	3.7 UJ	5 UJ	3.1 UJ
Acetone	6,100,000 [2]	61,000,000 [2]	NE	56 U	42 U	170	97 U	150 U	65 U
Benzene	1,100	5,600	NE	1.4 U	1.1 U	1.1 U	1 U	1.3 U	0.85 U
Carbon disulfide	67,000 [2]	300,000 [2]	NE	3.8 J	0.73 U	7.2	0.65 U	13	1.8 J
Chloromethane	1,700	8,400	NE	1.3 U	1 U	0.98 U	0.91 U	1.2 U	0.76 U
Ethylbenzene	5,700	29,000	NE	1.4 U	1.1 U	1 U	0.96 U	1.3 U	0.8 U
Iodomethane	NE	NE	NE	1.8 UJ	1.4 UJ	1.4 U	1.3 U	1.7 U	1.1 U
Styrene	650,000 [2]	3,800,000 [2]	NE	1.2 U	0.95 U	0.91 U	0.84 U	1.1 U	0.71 U
Tetrachloroethene	570	2,700	NE	1.3 U	1 U	1 U	0.93 U	1.2 U	0.78 U
Toluene	500,000 [2]	4,600,000 [2]	NE	1.4 U	1.1 J	1.1 U	1 U	1.3 U	0.85 U
Xylenes, Total	60,000 [2]	260,000 [2]	NE	4.2 U	3.3 U	3.2 U	2.9 U	3.9 U	2.5 U
LLPAHs (ug/kg)									
1-Methylnaphthalene	22,000	99,000	NE	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	31,000 [2]	410,000 [2]	NE	NA	NA	NA	NA	NA	NA
Acenaphthene	340,000 [2]	3,300,000 [2]	NE	NA	NA	NA	NA	NA	NA
Acenaphthylene	340,000 [2]	3,300,000 [2]	NE	NA	NA	NA	NA	NA	NA
Benzo[a]anthracene	150	2,100	NE	NA	NA	NA	NA	NA	NA
Benzo[a]pyrene	15	210	NE	NA	NA	NA	NA	NA	NA
Benzo[b]fluoranthene	150	2,100	NE	NA	NA	NA	NA	NA	NA
Benzo[g,h,i]perylene	1,700	17,000	NE	NA	NA	NA	NA	NA	NA
Chrysene	15,000	210,000	NE	NA	NA	NA	NA	NA	NA
Fluoranthene	230,000 [2]	2,200,000 [2]	NE	NA	NA	NA	NA	NA	NA
Fluorene	230,000 [2]	2,200,000 [2]	NE	NA	NA	NA	NA	NA	NA

TABLE 9-2

SUMMARY OF DETECTED RESULTS - FUELING PIERS AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	NAPR Basewide Background [1]	74SB237 74SB237-05 5/21/2008 9.0-11.0	74SB238 74SB238-04 5/21/2008 7.0-9.0	74SB238 74SB238-05 5/21/2008 9.0-11.0	74SB239 74SB239-04 5/21/2008 7.0-9.0	74SB239 74SB239-05 5/21/2008 9.0-11.0	74SB240 74SB240-04 5/21/2008 7.0-9.0
LLPAHs (ug/kg)									
Indeno[1,2,3-cd]pyrene	150	2,100	NE	NA	NA	NA	NA	NA	NA
Naphthalene	3,900	20,000	NE	NA	NA	NA	NA	NA	NA
Phenanthrene	170,000 [2][5]	1,700,000 [2][5]	NE	NA	NA	NA	NA	NA	NA
Pyrene	170,000 [2]	1,700,000 [2]	NE	NA	NA	NA	NA	NA	NA
PAH Totals (ug/kg):									
Low molecular weight PAHs	NE	NE	NE	NA	NA	NA	NA	NA	NA
High molecular weight PAHs	NE	NE	NE	NA	NA	NA	NA	NA	NA
Metals (mg/kg)									
Antimony	3.1 [2]	41 [2]	7.44	0.18 J	0.25 J	0.23 J	0.19 J	0.39 J	0.24 J
Arsenic	0.39	2	6.66	***2.3***	***2.3***	***3.4***	***2.8***	***6.7***	***2.5***
Barium	1,500 [2]	19,000 [2]	207	11 J	18 J	19 J	12 J	13 J	20 J
Beryllium	16 [2]	200 [2]	0.933	0.026 U	0.044 J	0.039 U	0.049 U	0.062 U	0.069 U
Cadmium	7 [2]	81 [2]	0.57	0.044 U	0.042 J	0.063 J	0.078 J	0.092 J	0.088 J
Chromium	280	1,400	47.9	3.2 J	10 J	9.5 J	12 J	17 J	9.2 J
Cobalt	2.3 [2]	30 [2]	63.1	0.69 J	2.2 J	**2.9** J	1.4 J	1.8 J	**4.9** J
Copper	310 [2]	4,100 [2]	120	1.5 UJ	11 J	13 J	6.9 J	11 J	42 J
Lead	400 [3]	800 [3]	6.2	0.57	1.1	2	0.47	0.76	4.2
Mercury	2.3 [2]	31 [2]	0.067	0.006 U	0.0054 J	0.0064 J	0.0054 J	0.0062 U	0.0064 J
Nickel	160 [2]	2,000 [2]	26.5	0.75 J	3.3 J	3.2 J	3.6 J	5.9 J	6.1 J
Selenium	39 [2]	510 [2]	1.19	0.17 U	0.25 J	0.25 J	0.65 J	0.82	0.21 J
Silver	39 [2]	510 [2]	NE	0.023 U	0.019 U	0.019 U	0.031 J	0.028 J	0.027 J
Vanadium	55 [2]	720 [2]	256	4.1 J	23 J	28 J	15 J	32 J	40 J
Zinc	2,300 [2]	31,000 [2]	92	1.5 J	9.3	11	5.5	9.3	20
TPH DRO and GRO (mg/kg)									
Diesel Range Organics	25 [4]	NE	NE	1.7	11	14	8.3	9.2	25
Gasoline Range Organics	25 [4]	NE	NE	0.011 U	0.0074 U	0.035 J	0.0094 U	0.011 U	0.0076 U
Total TPH	25 [4]	NE	NE	1.7	11	14.035 J	8.3	9.2	25

TABLE 9-2

SUMMARY OF DETECTED RESULTS - FUELING PIERS AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	NAPR Basewide Background [1]	74SB240 74SB240-05 5/21/2008 9.0-11.0	74SB241 74SB241-04D 5/21/2008 7.0-9.0	74SB241 74SB241-04 5/21/2008 7.0-9.0	74SB241 74SB241-05 5/21/2008 9.0-11.0	74SB245 74SB245-03 5/21/2008 5.0-7.0	74SB245 74SB245-05 5/21/2008 9.0-11.0
Volatile Organic Compounds (ug/kg)									
2-Butanone (MEK)	2,800,000 [2]	19,000,000 [2]	NE	14 UJ	16 UJ	7.6 UJ	11 UJ	10 UJ	6.2 UJ
2-Hexanone	2,800,000 [2]	19,000,000 [2]	NE	2.9 UJ	3 UJ	2.9 UJ	2.9 UJ	3.4 UJ	2.3 UJ
4-Methyl-2-pentanone (MIBK)	530,000 [2]	5,200,000 [2]	NE	4 UJ	4.1 UJ	4 UJ	4 UJ	4.7 UJ	3.2 UJ
Acetone	6,100,000 [2]	61,000,000 [2]	NE	60 U	78 U	51 U	58 U	76 U	47 U
Benzene	1,100	5,600	NE	1.1 U	1.1 U	1.1 U	1.1 U	1.3 U	0.88 U
Carbon disulfide	67,000 [2]	300,000 [2]	NE	4.3 J	0.73 U	0.7 U	4 J	1.4 J	0.7 J
Chloromethane	1,700	8,400	NE	0.98 U	1 U	0.97 U	0.99 U	1.1 U	0.79 U
Ethylbenzene	5,700	29,000	NE	1 U	1.1 U	1 U	1 U	1.2 U	0.83 U
Iodomethane	NE	NE	NE	1.4 U	1.4 U	1.4 U	1.4 U	1.6 U	1.2 J
Styrene	650,000 [2]	3,800,000 [2]	NE	0.91 U	0.94 U	0.9 U	0.92 U	1.1 U	0.73 U
Tetrachloroethene	570	2,700	NE	1 U	1 U	1 U	1 U	1.2 U	0.81 U
Toluene	500,000 [2]	4,600,000 [2]	NE	1.1 U	1.1 U	1.1 U	1.1 U	1.3 U	0.88 U
Xylenes, Total	60,000 [2]	260,000 [2]	NE	3.2 U	3.3 U	3.1 U	3.2 U	3.7 U	2.6 U
LLPAHs (ug/kg)									
1-Methylnaphthalene	22,000	99,000	NE	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	31,000 [2]	410,000 [2]	NE	NA	NA	NA	NA	NA	NA
Acenaphthene	340,000 [2]	3,300,000 [2]	NE	NA	NA	NA	NA	NA	NA
Acenaphthylene	340,000 [2]	3,300,000 [2]	NE	NA	NA	NA	NA	NA	NA
Benzo[a]anthracene	150	2,100	NE	NA	NA	NA	NA	NA	NA
Benzo[a]pyrene	15	210	NE	NA	NA	NA	NA	NA	NA
Benzo[b]fluoranthene	150	2,100	NE	NA	NA	NA	NA	NA	NA
Benzo[g,h,i]perylene	1,700	17,000	NE	NA	NA	NA	NA	NA	NA
Chrysene	15,000	210,000	NE	NA	NA	NA	NA	NA	NA
Fluoranthene	230,000 [2]	2,200,000 [2]	NE	NA	NA	NA	NA	NA	NA
Fluorene	230,000 [2]	2,200,000 [2]	NE	NA	NA	NA	NA	NA	NA

TABLE 9-2

SUMMARY OF DETECTED RESULTS - FUELING PIERS AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	NAPR Basewide Background [1]	74SB240 74SB240-05 5/21/2008 9.0-11.0	74SB241 74SB241-04D 5/21/2008 7.0-9.0	74SB241 74SB241-04 5/21/2008 7.0-9.0	74SB241 74SB241-05 5/21/2008 9.0-11.0	74SB245 74SB245-03 5/21/2008 5.0-7.0	74SB245 74SB245-05 5/21/2008 9.0-11.0
LLPAHs (ug/kg)									
Indeno[1,2,3-cd]pyrene	150	2,100	NE	NA	NA	NA	NA	NA	NA
Naphthalene	3,900	20,000	NE	NA	NA	NA	NA	NA	NA
Phenanthrene	170,000 [2][5]	1,700,000 [2][5]	NE	NA	NA	NA	NA	NA	NA
Pyrene	170,000 [2]	1,700,000 [2]	NE	NA	NA	NA	NA	NA	NA
PAH Totals (ug/kg):									
Low molecular weight PAHs	NE	NE	NE	NA	NA	NA	NA	NA	NA
High molecular weight PAHs	NE	NE	NE	NA	NA	NA	NA	NA	NA
Metals (mg/kg)									
Antimony	3.1 [2]	41 [2]	7.44	0.23 J	0.35 J	0.21 J	0.37 J	0.19 J	0.2 J
Arsenic	0.39	2	6.66	***2.2***	***3.7***	***3.7***	***3.1***	***2.8***	***3.5***
Barium	1,500 [2]	19,000 [2]	207	9.5 J	12	9.4 J	10	38	45
Beryllium	16 [2]	200 [2]	0.933	0.024 U	0.049 U	0.02 U	0.045 U	0.074 J	0.15 J
Cadmium	7 [2]	81 [2]	0.57	0.041 U	0.042 U	0.034 U	0.038 U	0.23	0.21
Chromium	280	1,400	47.9	3 J	9.7	3.6 J	3.8	11	16
Cobalt	2.3 [2]	30 [2]	63.1	0.62 J	1	0.57 J	0.81	**9.1**	**8.1**
Copper	310 [2]	4,100 [2]	120	1.4 UJ	4.1 U	0.89 UJ	1.4 U	64	67
Lead	400 [3]	800 [3]	6.2	0.21 J	0.5 U	0.66	0.22 U	6.3	3.4
Mercury	2.3 [2]	31 [2]	0.067	0.005 U	0.0052 U	0.0042 U	0.0051 U	0.0041 U	0.0053 J
Nickel	160 [2]	2,000 [2]	26.5	0.87 J	2.7	0.73 J	0.96	5.9	7.2
Selenium	39 [2]	510 [2]	1.19	0.17 J	0.33 U	0.13 U	0.3 U	0.28 U	0.47 J
Silver	39 [2]	510 [2]	NE	0.021 U	0.044 UJ	0.018 U	0.04 UJ	0.045 J	0.062 J
Vanadium	55 [2]	720 [2]	256	3.7 J	13	3.3 J	4.6	**63**	**68**
Zinc	2,300 [2]	31,000 [2]	92	1.2 J	5 U	0.7 U	2.6 U	42 J	46 J
TPH DRO and GRO (mg/kg)									
Diesel Range Organics	25 [4]	NE	NE	3.1	2.4	1.9	2.1	1.7	2.9
Gasoline Range Organics	25 [4]	NE	NE	0.0095 U	0.01 U	0.011 U	0.0089 U	0.029 J	0.01 U
Total TPH	25 [4]	NE	NE	3.1	2.4	1.9	2.1	1.729 J	2.9

TABLE 9-2

SUMMARY OF DETECTED RESULTS - FUELING PIERS AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID	**Regional**	*Regional*	NAPR	74SB246	74SB246	74SB246	74SB247	74SB248	74SB249
Sample ID	**Screening**	*Screening*	Basewide	74SB246-03D	74SB246-03	74SB246-05	74SB247-03	74SB248-03	74SB249-03
Date	**Levels**	*Levels*	Background [1]	5/21/2008	5/21/2008	5/21/2008	5/21/2008	5/21/2008	5/21/2008
Depth Range (ft bgs)	**Residential**	*Industrial*		5.0-7.0	5.0-7.0	9.0-11.0	5.0-7.0	5.0-7.0	5.0-7.0
	Soil	*Soil*							
Volatile Organic Compounds (ug/kg)									
2-Butanone (MEK)	2,800,000 [2]	19,000,000 [2]	NE	20 UJ	10 UJ	17 UJ	4.4 UJ	3.9 UJ	7.3 UJ
2-Hexanone	2,800,000 [2]	19,000,000 [2]	NE	11 UJ	5.1 UJ	4 UJ	2.9 UJ	3.1 UJ	3 UJ
4-Methyl-2-pentanone (MIBK)	530,000 [2]	5,200,000 [2]	NE	16 UJ	7 UJ	5.5 UJ	4 UJ	4.2 UJ	4.1 UJ
Acetone	6,100,000 [2]	61,000,000 [2]	NE	160 U	65 U	85 UJ	34 U	20 J	56 UJ
Benzene	1,100	5,600	NE	4.3 U	1.9 U	1.5 U	1.1 J	1.2 U	1.1 U
Carbon disulfide	67,000 [2]	300,000 [2]	NE	2.8 U	1.2 U	0.97 U	0.7 U	0.74 U	0.73 U
Chloromethane	1,700	8,400	NE	3.9 U	1.7 U	1.3 UJ	0.97 U	1 U	1 UJ
Ethylbenzene	5,700	29,000	NE	4.1 U	1.8 U	1.4 U	1 U	1.1 U	1.1 U
Iodomethane	NE	NE	NE	5.5 U	2.4 U	1.9 U	1.4 U	1.5 U	1.4 U
Styrene	650,000 [2]	3,800,000 [2]	NE	3.6 U	1.6 U	1.2 U	0.91 U	0.96 U	0.94 U
Tetrachloroethene	570	2,700	NE	4 U	1.8 U	1.4 U	1 U	1.1 U	1 U
Toluene	500,000 [2]	4,600,000 [2]	NE	4.3 U	1.9 U	1.5 U	1.1 U	1.2 U	1.1 U
Xylenes, Total	60,000 [2]	260,000 [2]	NE	13 U	5.5 U	4.4 U	3.2 U	3.3 U	3.3 U
LLPAHs (ug/kg)									
1-Methylnaphthalene	22,000	99,000	NE	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	31,000 [2]	410,000 [2]	NE	NA	NA	NA	NA	NA	NA
Acenaphthene	340,000 [2]	3,300,000 [2]	NE	NA	NA	NA	NA	NA	NA
Acenaphthylene	340,000 [2]	3,300,000 [2]	NE	NA	NA	NA	NA	NA	NA
Benzo[a]anthracene	150	2,100	NE	NA	NA	NA	NA	NA	NA
Benzo[a]pyrene	15	210	NE	NA	NA	NA	NA	NA	NA
Benzo[b]fluoranthene	150	2,100	NE	NA	NA	NA	NA	NA	NA
Benzo[g,h,i]perylene	1,700	17,000	NE	NA	NA	NA	NA	NA	NA
Chrysene	15,000	210,000	NE	NA	NA	NA	NA	NA	NA
Fluoranthene	230,000 [2]	2,200,000 [2]	NE	NA	NA	NA	NA	NA	NA
Fluorene	230,000 [2]	2,200,000 [2]	NE	NA	NA	NA	NA	NA	NA

TABLE 9-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - FUELING PIERS AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID	**Regional**	*Regional*	NAPR	74SB246	74SB246	74SB246	74SB247	74SB248	74SB249
Sample ID	**Screening**	*Screening*	Basewide	74SB246-03D	74SB246-03	74SB246-05	74SB247-03	74SB248-03	74SB249-03
Date	**Levels**	*Levels*	Background [1]	5/21/2008	5/21/2008	5/21/2008	5/21/2008	5/21/2008	5/21/2008
Depth Range (ft bgs)	**Residential**	*Industrial*		5.0-7.0	5.0-7.0	9.0-11.0	5.0-7.0	5.0-7.0	5.0-7.0
	Soil	*Soil*							
LLPAHs (ug/kg)									
Indeno[1,2,3-cd]pyrene	150	2,100	NE	NA	NA	NA	NA	NA	NA
Naphthalene	3,900	20,000	NE	NA	NA	NA	NA	NA	NA
Phenanthrene	170,000 [2][5]	1,700,000 [2][5]	NE	NA	NA	NA	NA	NA	NA
Pyrene	170,000 [2]	1,700,000 [2]	NE	NA	NA	NA	NA	NA	NA
PAH Totals (ug/kg):									
Low molecular weight PAHs	NE	NE	NE	NA	NA	NA	NA	NA	NA
High molecular weight PAHs	NE	NE	NE	NA	NA	NA	NA	NA	NA
Metals (mg/kg)									
Antimony	3.1 [2]	41 [2]	7.44	0.53 J	0.4 J	0.16 UJ	0.2 J	0.2 UJ	0.2 UJ
Arsenic	0.39	2	6.66	***6.9***	***4.5***	***1.8***	***3.1***	***2.9***	***3.7***
Barium	1,500 [2]	19,000 [2]	207	21	15	76	35	14	19
Beryllium	16 [2]	200 [2]	0.933	0.095 J	0.053 U	0.13 J	0.12 J	0.048 U	0.047 U
Cadmium	7 [2]	81 [2]	0.57	0.067 U	0.046 U	0.08 J	0.11 J	0.041 U	0.041 U
Chromium	280	1,400	47.9	23 R	4.4 R	27	19	5.1	6.3
Cobalt	2.3 [2]	30 [2]	63.1	**4.7** J	1.6 J	**10**	**12**	**2.5**	1.8
Copper	310 [2]	4,100 [2]	120	16	5.3 U	63	74	13	7.4
Lead	400 [3]	800 [3]	6.2	1.2 U	0.5 U	1.7	3.8	0.39 U	0.44 U
Mercury	2.3 [2]	31 [2]	0.067	0.0082 U	0.0057 U	0.0071 J	0.0044 U	0.0049 U	0.0054 U
Nickel	160 [2]	2,000 [2]	26.5	6.5	1.4	13	9.4	2.1	1.8
Selenium	39 [2]	510 [2]	1.19	0.51 U	0.35 U	0.25 U	0.3 U	0.32 U	0.31 U
Silver	39 [2]	510 [2]	NE	0.069 UJ	0.047 UJ	0.036 J	0.04 UJ	0.042 UJ	0.042 UJ
Vanadium	55 [2]	720 [2]	256	38 R	13 R	**82**	**97**	15	12
Zinc	2,300 [2]	31,000 [2]	92	17 U	4.6 U	37 J	36 J	9.7 U	5.8 U
TPH DRO and GRO (mg/kg)									
Diesel Range Organics	25 [4]	NE	NE	4.3 J	1.4 J	1.7	1.4	1.2	0.97
Gasoline Range Organics	25 [4]	NE	NE	0.032 U	0.016 U	0.058 J	0.013 U	0.089 UJ	0.012 U
Total TPH	25 [4]	NE	NE	4.3 J	1.4 J	1.758 J	1.4	1.2	0.97

TABLE 9-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - FUELING PIERS AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID	**Regional**	*Regional*	NAPR	74SB250	74SB250	74SB251	74SB251	74SB251	74SB252
Sample ID	**Screening**	*Screening*	Basewide	74SB250-03	74SB250-05	74SB251-03	74SB251-03D	74SB251-05	74SB252-03
Date	**Levels**	*Levels*	Background [1]	5/21/2008	5/21/2008	5/21/2008	5/21/2008	5/21/2008	5/21/2008
Depth Range (ft bgs)	**Residential**	*Industrial*		5.0-7.0	9.0-11.0	5.0-7.0	5.0-7.0	9.0-11.0	5.0-7.0
	Soil	*Soil*							
Volatile Organic Compounds (ug/kg)									
2-Butanone (MEK)	2,800,000 [2]	19,000,000 [2]	NE	4.7 UJ	7.8 UJ	8.6 UJ	38 J	3.2 UJ	16 UJ
2-Hexanone	2,800,000 [2]	19,000,000 [2]	NE	3 UJ	3.8 UJ	3.4 UJ	13 J	2.5 UJ	2.7 UJ
4-Methyl-2-pentanone (MIBK)	530,000 [2]	5,200,000 [2]	NE	4.1 UJ	5.3 UJ	4.7 UJ	5.6 J	3.4 UJ	3.8 UJ
Acetone	6,100,000 [2]	61,000,000 [2]	NE	36 UJ	64 UJ	69 UJ	250 J	18 J	180 J
Benzene	1,100	5,600	NE	1.1 U	1.4 U	1.3 U	1.1 U	0.93 U	1 U
Carbon disulfide	67,000 [2]	300,000 [2]	NE	0.72 U	0.93 U	0.83 U	0.7 U	0.6 U	0.67 U
Chloromethane	1,700	8,400	NE	1 UJ	1.3 UJ	1.2 UJ	0.98 U	0.84 U	0.93 U
Ethylbenzene	5,700	29,000	NE	1.1 U	1.4 U	1.2 U	1 U	0.88 U	0.98 U
Iodomethane	NE	NE	NE	1.4 U	1.8 U	3.9 J	7.3	1.2 U	1.3 U
Styrene	650,000 [2]	3,800,000 [2]	NE	0.93 U	1.2 U	1.1 U	0.91 U	0.78 U	0.86 U
Tetrachloroethene	570	2,700	NE	1 U	1.3 U	1.2 U	1 U	0.86 U	0.95 U
Toluene	500,000 [2]	4,600,000 [2]	NE	1.1 U	1.4 U	1.3 U	1.1 U	0.93 U	1 U
Xylenes, Total	60,000 [2]	260,000 [2]	NE	3.3 U	4.2 U	3.8 U	3.2 U	2.7 U	3 U
LLPAHs (ug/kg)									
1-Methylnaphthalene	22,000	99,000	NE	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	31,000 [2]	410,000 [2]	NE	NA	NA	NA	NA	NA	NA
Acenaphthene	340,000 [2]	3,300,000 [2]	NE	NA	NA	NA	NA	NA	NA
Acenaphthylene	340,000 [2]	3,300,000 [2]	NE	NA	NA	NA	NA	NA	NA
Benzo[a]anthracene	150	2,100	NE	NA	NA	NA	NA	NA	NA
Benzo[a]pyrene	15	210	NE	NA	NA	NA	NA	NA	NA
Benzo[b]fluoranthene	150	2,100	NE	NA	NA	NA	NA	NA	NA
Benzo[g,h,i]perylene	1,700	17,000	NE	NA	NA	NA	NA	NA	NA
Chrysene	15,000	210,000	NE	NA	NA	NA	NA	NA	NA
Fluoranthene	230,000 [2]	2,200,000 [2]	NE	NA	NA	NA	NA	NA	NA
Fluorene	230,000 [2]	2,200,000 [2]	NE	NA	NA	NA	NA	NA	NA

TABLE 9-2

SUMMARY OF DETECTED RESULTS - FUELING PIERS AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	NAPR Basewide Background [1]	74SB250 74SB250-03 5/21/2008 5.0-7.0	74SB250 74SB250-05 5/21/2008 9.0-11.0	74SB251 74SB251-03 5/21/2008 5.0-7.0	74SB251 74SB251-03D 5/21/2008 5.0-7.0	74SB251 74SB251-05 5/21/2008 9.0-11.0	74SB252 74SB252-03 5/21/2008 5.0-7.0
LLPAHs (ug/kg)									
Indeno[1,2,3-cd]pyrene	150	2,100	NE	NA	NA	NA	NA	NA	NA
Naphthalene	3,900	20,000	NE	NA	NA	NA	NA	NA	NA
Phenanthrene	170,000 [2][5]	1,700,000 [2][5]	NE	NA	NA	NA	NA	NA	NA
Pyrene	170,000 [2]	1,700,000 [2]	NE	NA	NA	NA	NA	NA	NA
PAH Totals (ug/kg):									
Low molecular weight PAHs	NE	NE	NE	NA	NA	NA	NA	NA	NA
High molecular weight PAHs	NE	NE	NE	NA	NA	NA	NA	NA	NA
Metals (mg/kg)									
Antimony	3.1 [2]	41 [2]	7.44	0.18 UJ	0.27 J	0.19 UJ	0.19 UJ	0.17 UJ	0.28 J
Arsenic	0.39	2	6.66	***2.8***	***5.9***	**0.99** J	**1.2** J	**0.83** J	***3.1***
Barium	1,500 [2]	19,000 [2]	207	27	16	110	110	97	41
Beryllium	16 [2]	200 [2]	0.933	0.043 U	0.088 J	0.23 J	0.22 J	0.14 J	0.14 J
Cadmium	7 [2]	81 [2]	0.57	0.087 J	0.044 U	0.05 J	0.073 J	0.083 J	0.18
Chromium	280	1,400	47.9	5.9	14	14	15	14	34
Cobalt	2.3 [2]	30 [2]	63.1	**3.8**	**2.5**	**29**	**24**	**13**	**13**
Copper	310 [2]	4,100 [2]	120	27	14	240	220	120	66
Lead	400 [3]	800 [3]	6.2	0.49 U	0.61 U	0.96	1.2	1.4	6.7
Mercury	2.3 [2]	31 [2]	0.067	0.005 U	0.0065 J	0.0047 U	0.0061 J	0.0048 U	0.0041 U
Nickel	160 [2]	2,000 [2]	26.5	2.9	4.6	12	12	10	15
Selenium	39 [2]	510 [2]	1.19	0.29 U	0.45 J	0.41 J	0.41 J	0.28 U	0.33 J
Silver	39 [2]	510 [2]	NE	0.038 UJ	0.046 UJ	0.046 J	0.071 J	0.05 J	0.054 J
Vanadium	55 [2]	720 [2]	256	24	22	**190**	**180**	**110**	**89**
Zinc	2,300 [2]	31,000 [2]	92	24 J	11 U	50 J	62 J	41 J	55 J
TPH DRO and GRO (mg/kg)									
Diesel Range Organics	25 [4]	NE	NE	0.9	1.5	1.8	1.1	18	1.2
Gasoline Range Organics	25 [4]	NE	NE	0.15 UJ	0.32 UJ	0.0084 U	0.0092 U	0.099	0.012 U
Total TPH	25 [4]	NE	NE	0.9	1.5	1.8	1.1	18.099	1.2

TABLE 9-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - FUELING PIERS AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID	**Regional**	*Regional*	NAPR	74SB253	74SB254	74SB255	74SB256	74SB256	74SB256
Sample ID	**Screening**	*Screening*	Basewide	74SB253-03	74SB254-03	74SB255-03	74SB256-03	74SB256-03D	74SB256-04
Date	**Levels**	*Levels*	Background [1]	5/21/2008	5/21/2008	5/21/2008	5/21/2008	5/21/2008	5/21/2008
Depth Range (ft bgs)	**Residential**	*Industrial*		5.0-7.0	5.0-7.0	5.0-7.0	5.0-7.0	5.0-7.0	7.0-9.0
	Soil	*Soil*							
Volatile Organic Compounds (ug/kg)									
2-Butanone (MEK)	2,800,000 [2]	19,000,000 [2]	NE	8.5 UJ	3 UJ	3 UJ	6.5 UJ	2.2 UJ	4.6 UJ
2-Hexanone	2,800,000 [2]	19,000,000 [2]	NE	2.8 UJ	2.4 UJ	2.4 UJ	1.8 UJ	1.7 UJ	2.6 UJ
4-Methyl-2-pentanone (MIBK)	530,000 [2]	5,200,000 [2]	NE	3.9 UJ	3.3 UJ	3.3 UJ	2.5 UJ	2.4 UJ	3.6 UJ
Acetone	6,100,000 [2]	61,000,000 [2]	NE	83 J	4.9 UJ	30 J	61 UJ	27 UJ	34 U
Benzene	1,100	5,600	NE	1.1 U	0.89 U	0.89 U	0.67 U	0.65 U	0.97 U
Carbon disulfide	67,000 [2]	300,000 [2]	NE	0.68 U	0.57 U	0.58 U	0.43 U	0.42 U	3.9 J
Chloromethane	1,700	8,400	NE	0.95 U	0.8 U	0.8 U	0.6 U	0.59 U	0.87 U
Ethylbenzene	5,700	29,000	NE	1 U	0.84 U	0.85 U	0.63 U	0.62 U	0.92 U
Iodomethane	NE	NE	NE	1.3 U	1.1 U	1.1 U	0.85 U	0.83 U	1.2 UJ
Styrene	650,000 [2]	3,800,000 [2]	NE	0.88 U	0.74 U	0.74 U	0.56 U	0.55 U	0.81 U
Tetrachloroethene	570	2,700	NE	0.97 U	0.82 U	0.82 U	0.62 U	0.6 U	0.9 U
Toluene	500,000 [2]	4,600,000 [2]	NE	1.1 U	0.89 U	0.89 U	0.67 U	0.65 U	0.97 U
Xylenes, Total	60,000 [2]	260,000 [2]	NE	3.1 U	2.6 U	2.6 U	1.9 U	1.9 U	2.8 U
LLPAHs (ug/kg)									
1-Methylnaphthalene	22,000	99,000	NE	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	31,000 [2]	410,000 [2]	NE	NA	NA	NA	NA	NA	NA
Acenaphthene	340,000 [2]	3,300,000 [2]	NE	NA	NA	NA	NA	NA	NA
Acenaphthylene	340,000 [2]	3,300,000 [2]	NE	NA	NA	NA	NA	NA	NA
Benzo[a]anthracene	150	2,100	NE	NA	NA	NA	NA	NA	NA
Benzo[a]pyrene	15	210	NE	NA	NA	NA	NA	NA	NA
Benzo[b]fluoranthene	150	2,100	NE	NA	NA	NA	NA	NA	NA
Benzo[g,h,i]perylene	1,700	17,000	NE	NA	NA	NA	NA	NA	NA
Chrysene	15,000	210,000	NE	NA	NA	NA	NA	NA	NA
Fluoranthene	230,000 [2]	2,200,000 [2]	NE	NA	NA	NA	NA	NA	NA
Fluorene	230,000 [2]	2,200,000 [2]	NE	NA	NA	NA	NA	NA	NA

TABLE 9-2

SUMMARY OF DETECTED RESULTS - FUELING PIERS AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID	**Regional**	*Regional*	NAPR	74SB253	74SB254	74SB255	74SB256	74SB256	74SB256
Sample ID	**Screening**	*Screening*	Basewide	74SB253-03	74SB254-03	74SB255-03	74SB256-03	74SB256-03D	74SB256-04
Date	**Levels**	*Levels*	Background [1]	5/21/2008	5/21/2008	5/21/2008	5/21/2008	5/21/2008	5/21/2008
Depth Range (ft bgs)	**Residential**	*Industrial*		5.0-7.0	5.0-7.0	5.0-7.0	5.0-7.0	5.0-7.0	7.0-9.0
	Soil	*Soil*							
LLPAHs (ug/kg)									
Indeno[1,2,3-cd]pyrene	150	2,100	NE	NA	NA	NA	NA	NA	NA
Naphthalene	3,900	20,000	NE	NA	NA	NA	NA	NA	NA
Phenanthrene	170,000 [2][5]	1,700,000 [2][5]	NE	NA	NA	NA	NA	NA	NA
Pyrene	170,000 [2]	1,700,000 [2]	NE	NA	NA	NA	NA	NA	NA
PAH Totals (ug/kg):									
Low molecular weight PAHs	NE	NE	NE	NA	NA	NA	NA	NA	NA
High molecular weight PAHs	NE	NE	NE	NA	NA	NA	NA	NA	NA
Metals (mg/kg)									
Antimony	3.1 [2]	41 [2]	7.44	0.15 UJ	0.72 J	0.17 J	0.17 U	0.2 U	0.63 U
Arsenic	0.39	2	6.66	**1.3**	***3.4***	***3.7***	**1.3**	**1.5**	***2.7***
Barium	1,500 [2]	19,000 [2]	207	72	23	42	59	43	230
Beryllium	16 [2]	200 [2]	0.933	0.2 J	0.62	0.44	0.17	0.14	0.55
Cadmium	7 [2]	81 [2]	0.57	0.31	0.15	0.2	0.16	0.15	0.086 J
Chromium	280	1,400	47.9	16	17	7.5	27	19	90
Cobalt	2.3 [2]	30 [2]	63.1	**19**	**18**	***31***	**19**	**14**	**30**
Copper	310 [2]	4,100 [2]	120	100	72	96	110	150	130
Lead	400 [3]	800 [3]	6.2	4.1	5	5.1	15	18	5
Mercury	2.3 [2]	31 [2]	0.067	0.0037 U	0.23	0.0057 J	0.0047 J	0.0052 J	0.02 J
Nickel	160 [2]	2,000 [2]	26.5	12	16	20	13	9.5	23
Selenium	39 [2]	510 [2]	1.19	0.24 U	0.24 U	0.26 U	0.13 J	0.13 J	0.66
Silver	39 [2]	510 [2]	NE	0.035 J	0.032 UJ	0.035 UJ	0.041 J	0.046 J	0.061 J
Vanadium	55 [2]	720 [2]	256	**130**	**110**	**200**	**140**	**110**	**250**
Zinc	2,300 [2]	31,000 [2]	92	93 J	76 J	110 J	61 J	50 J	59 J
TPH DRO and GRO (mg/kg)									
Diesel Range Organics	25 [4]	NE	NE	1.6	1.3	1.2	20	0.98	**1,000**
Gasoline Range Organics	25 [4]	NE	NE	0.006 U	0.0065 U	0.0069 U	0.054 J	0.065 J	0.096 U
Total TPH	25 [4]	NE	NE	1.6	1.3	1.2	20.054 J	1.045 J	**1,000**

TABLE 9-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - FUELING PIERS AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID	**Regional**	*Regional*	NAPR	74SB258	74SB258	74SB259	74SB259	74SB260	74SB260	74SB261
Sample ID	**Screening**	*Screening*	Basewide	74SB258-03	74SB258-05	74SB259-03	74SB259-04	74SB260-03	74SB260-04	74SB261-03
Date	**Levels**	*Levels*	Background [1]	5/21/2008	5/21/2008	5/21/2008	5/21/2008	5/21/2008	5/21/2008	5/21/2008
Depth Range (ft bgs)	**Residential**	*Industrial*		5.0-7.0	9.0-11.0	5.0-7.0	7.0-9.0	5.0-7.0	7.0-9.0	5.0-7.0
	Soil	*Soil*								
Volatile Organic Compounds (ug/kg)										
2-Butanone (MEK)	2,800,000 [2]	19,000,000 [2]	NE	8 UJ	3.5 UJ	7.4 UJ	10 UJ	8.1 UJ	6.7 UJ	2.8 UJ
2-Hexanone	2,800,000 [2]	19,000,000 [2]	NE	1.7 UJ	2 UJ	2.1 UJ	4.3 UJ	4.8 J	2.3 UJ	2.2 UJ
4-Methyl-2-pentanone (MIBK)	530,000 [2]	5,200,000 [2]	NE	2.4 UJ	2.8 UJ	2.9 UJ	6 UJ	3.5 J	3.1 UJ	3 UJ
Acetone	6,100,000 [2]	61,000,000 [2]	NE	47 U	31 U	46 U	74 U	33 UJ	58 U	75 U
Benzene	1,100	5,600	NE	0.65 U	0.75 U	0.79 U	1.6 U	0.8 U	0.86 U	0.82 U
Carbon disulfide	67,000 [2]	300,000 [2]	NE	0.42 U	0.48 U	0.51 U	1 U	0.52 U	0.74 J	0.53 U
Chloromethane	1,700	8,400	NE	0.59 U	0.67 U	0.71 U	1.5 U	0.72 UJ	0.77 U	0.73 U
Ethylbenzene	5,700	29,000	NE	0.62 U	0.71 U	0.75 U	1.5 U	0.76 U	0.81 U	0.78 U
Iodomethane	NE	NE	NE	0.9 U	0.95 UJ	1 UJ	2.1 UJ	1 U	1.1 UJ	1 UJ
Styrene	650,000 [2]	3,800,000 [2]	NE	0.55 U	0.63 U	0.66 U	1.4 U	0.67 U	0.72 U	0.68 U
Tetrachloroethene	570	2,700	NE	0.6 U	0.69 U	0.73 U	1.5 U	0.74 U	0.79 U	0.75 U
Toluene	500,000 [2]	4,600,000 [2]	NE	0.65 U	0.75 U	0.79 U	1.6 U	0.8 U	0.86 U	0.96 J
Xylenes, Total	60,000 [2]	260,000 [2]	NE	1.9 U	2.2 U	2.3 U	4.7 U	2.3 U	2.5 U	2.4 U
LLPAHs (ug/kg)										
1-Methylnaphthalene	22,000	99,000	NE	NA	NA	NA	NA	NA	71 U	NA
2-Methylnaphthalene	31,000 [2]	410,000 [2]	NE	NA	NA	NA	NA	NA	100 U	NA
Acenaphthene	340,000 [2]	3,300,000 [2]	NE	NA	NA	NA	NA	NA	34 U	NA
Acenaphthylene	340,000 [2]	3,300,000 [2]	NE	NA	NA	NA	NA	NA	100 U	NA
Benzo[a]anthracene	150	2,100	NE	NA	NA	NA	NA	NA	100 U	NA
Benzo[a]pyrene	15	210	NE	NA	NA	NA	NA	NA	39 U	NA
Benzo[b]fluoranthene	150	2,100	NE	NA	NA	NA	NA	NA	45 U	NA
Benzo[g,h,i]perylene	1,700	17,000	NE	NA	NA	NA	NA	NA	100 U	NA
Chrysene	15,000	210,000	NE	NA	NA	NA	NA	NA	36 U	NA
Fluoranthene	230,000 [2]	2,200,000 [2]	NE	NA	NA	NA	NA	NA	100 U	NA
Fluorene	230,000 [2]	2,200,000 [2]	NE	NA	NA	NA	NA	NA	45 U	NA

TABLE 9-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - FUELING PIERS AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID	**Regional**	*Regional*	NAPR	74SB258	74SB258	74SB259	74SB259	74SB260	74SB260	74SB261
Sample ID	**Screening**	*Screening*	Basewide	74SB258-03	74SB258-05	74SB259-03	74SB259-04	74SB260-03	74SB260-04	74SB261-03
Date	**Levels**	*Levels*	Background [1]	5/21/2008	5/21/2008	5/21/2008	5/21/2008	5/21/2008	5/21/2008	5/21/2008
Depth Range (ft bgs)	**Residential**	*Industrial*		5.0-7.0	9.0-11.0	5.0-7.0	7.0-9.0	5.0-7.0	7.0-9.0	5.0-7.0
	Soil	*Soil*								
LLPAHs (ug/kg)										
Indeno[1,2,3-cd]pyrene	150	2,100	NE	NA	NA	NA	NA	NA	71 U	NA
Naphthalene	3,900	20,000	NE	NA	NA	NA	NA	NA	200 J	NA
Phenanthrene	170,000 [2][5]	1,700,000 [2][5]	NE	NA	NA	NA	NA	NA	100 U	NA
Pyrene	170,000 [2]	1,700,000 [2]	NE	NA	NA	NA	NA	NA	100 U	NA
PAH Totals (ug/kg):										
Low molecular weight PAHs	NE	NE	NE	NA	NA	NA	NA	NA	750	NA
High molecular weight PAHs	NE	NE	NE	NA	NA	NA	NA	NA	685	NA
Metals (mg/kg)										
Antimony	3.1 [2]	41 [2]	7.44	0.16 U	0.078 U	0.24 U	1.2	0.3 J	0.42 J	0.27 J
Arsenic	0.39	2	6.66	***2.5***	**1.2**	***2.4***	**1.5**	***2.2***	**1.5**	***4***
Barium	1,500 [2]	19,000 [2]	207	41	48	23	28 J	47 J	110 J	19 J
Beryllium	16 [2]	200 [2]	0.933	0.11	0.2	0.068 J	0.34	0.15	0.32	0.038 U
Cadmium	7 [2]	81 [2]	0.57	0.1	1.6	0.077 J	0.2	0.12	0.12	0.062 J
Chromium	280	1,400	47.9	51	18	44	32 J	39 J	39 J	21 J
Cobalt	2.3 [2]	30 [2]	63.1	**17**	**20**	**14**	**23** J	**17** J	**29** J	**5.5** J
Copper	310 [2]	4,100 [2]	120	56	100	32	66 J	**350** J	140 J	17 J
Lead	400 [3]	800 [3]	6.2	2.3	1	1.6	24	8.7	4.5	0.72
Mercury	2.3 [2]	31 [2]	0.067	0.012 J	0.0039 U	0.016 J	0.022	0.013 J	0.0073 J	0.0067 J
Nickel	160 [2]	2,000 [2]	26.5	23	11	16	19 J	15 J	24 J	7.1 J
Selenium	39 [2]	510 [2]	1.19	0.12 J	0.12 U	0.12 U	0.12 U	0.14 J	0.26 J	0.14 J
Silver	39 [2]	510 [2]	NE	0.035 J	0.07 J	0.021 J	0.056 J	0.034 J	0.037 J	0.018 U
Vanadium	55 [2]	720 [2]	256	**110**	**200**	**92**	**120** J	**110** J	**170** J	40 J
Zinc	2,300 [2]	31,000 [2]	92	35 J	73 J	22 J	100	41	71	10 J
TPH DRO and GRO (mg/kg)										
Diesel Range Organics	25 [4]	NE	NE	**37**	**96**	1.3	17	25	**150**	**32** J
Gasoline Range Organics	25 [4]	NE	NE	0.056 U	0.06 U	0.067 U	0.01 U	0.018 J	0.044 J	0.076 UJ
Total TPH	25 [4]	NE	NE	**37**	**96**	1.3	17	**25.018** J	**150.044** J	**32** J

TABLE 9-2

SUMMARY OF DETECTED RESULTS - FUELING PIERS AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date Depth Range (ft bgs)	**Regional Screening Levels Residential Soil**	*Regional Screening Levels Industrial Soil*	NAPR Basewide Background [1]	74SB261 74SB261-03D 5/21/2008 5.0-7.0	74SB262 74SB262-03 5/21/2008 5.0-7.0	74SB263 74SB263-03 5/21/2008 5.0-7.0	74SB263 74SB263-04 5/21/2008 7.0-9.0	74SB264 74SB264-03 5/21/2008 5.0-7.0	74SB264 74SB264-04 5/21/2008 7.0-9.0
Volatile Organic Compounds (ug/kg)									
2-Butanone (MEK)	2,800,000 [2]	19,000,000 [2]	NE	170 U	8.2 UJ	8.7 UJ	8 UJ	4.3 UJ	25 UJ
2-Hexanone	2,800,000 [2]	19,000,000 [2]	NE	88 UJ	2.8 UJ	2.4 UJ	2.2 UJ	2.8 UJ	2.8 UJ
4-Methyl-2-pentanone (MIBK)	530,000 [2]	5,200,000 [2]	NE	120 U	3.9 UJ	3.4 UJ	3 UJ	3.9 UJ	3.9 UJ
Acetone	6,100,000 [2]	61,000,000 [2]	NE	180 UJ	44 UJ	61 U	69 UJ	46 UJ	160 J
Benzene	1,100	5,600	NE	33 U	1.1 U	0.92 U	0.82 U	1.1 U	1.1 U
Carbon disulfide	67,000 [2]	300,000 [2]	NE	21 U	0.69 U	0.59 U	0.53 U	4.4 J	0.75 J
Chloromethane	1,700	8,400	NE	30 U	0.96 UJ	0.82 U	0.74 U	0.94 U	0.95 U
Ethylbenzene	5,700	29,000	NE	31 U	1 U	0.87 U	0.78 U	1 U	1 U
Iodomethane	NE	NE	NE	42 U	1.3 U	1.2 UJ	1 U	1.3 U	1.3 U
Styrene	650,000 [2]	3,800,000 [2]	NE	28 U	0.89 U	0.77 U	0.69 U	0.88 U	0.89 U
Tetrachloroethene	570	2,700	NE	30 U	0.98 U	0.85 U	0.76 U	0.97 U	0.98 U
Toluene	500,000 [2]	4,600,000 [2]	NE	43 U	1.1 U	0.92 U	0.82 U	1.1 U	1.1 U
Xylenes, Total	60,000 [2]	260,000 [2]	NE	96 U	3.1 U	2.7 U	2.4 U	3.1 U	3.1 U
LLPAHs (ug/kg)									
1-Methylnaphthalene	22,000	99,000	NE	NA	NA	NA	NA	NA	2,400
2-Methylnaphthalene	31,000 [2]	410,000 [2]	NE	NA	NA	NA	NA	NA	1,700
Acenaphthene	340,000 [2]	3,300,000 [2]	NE	NA	NA	NA	NA	NA	7.7 U
Acenaphthylene	340,000 [2]	3,300,000 [2]	NE	NA	NA	NA	NA	NA	23 U
Benzo[a]anthracene	150	2,100	NE	NA	NA	NA	NA	NA	23 U
Benzo[a]pyrene	15	210	NE	NA	NA	NA	NA	NA	8.9 U
Benzo[b]fluoranthene	150	2,100	NE	NA	NA	NA	NA	NA	10 U
Benzo[g,h,i]perylene	1,700	17,000	NE	NA	NA	NA	NA	NA	23 U
Chrysene	15,000	210,000	NE	NA	NA	NA	NA	NA	8.2 U
Fluoranthene	230,000 [2]	2,200,000 [2]	NE	NA	NA	NA	NA	NA	60 J
Fluorene	230,000 [2]	2,200,000 [2]	NE	NA	NA	NA	NA	NA	61 J

TABLE 9-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - FUELING PIERS AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID	**Regional**	*Regional*	NAPR	74SB261	74SB262	74SB263	74SB263	74SB264	74SB264
Sample ID	**Screening**	*Screening*	Basewide	74SB261-03D	74SB262-03	74SB263-03	74SB263-04	74SB264-03	74SB264-04
Date	**Levels**	*Levels*	Background [1]	5/21/2008	5/21/2008	5/21/2008	5/21/2008	5/21/2008	5/21/2008
Depth Range (ft bgs)	**Residential**	*Industrial*		5.0-7.0	5.0-7.0	5.0-7.0	7.0-9.0	5.0-7.0	7.0-9.0
	Soil	*Soil*							
LLPAHs (ug/kg)									
Indeno[1,2,3-cd]pyrene	150	2,100	NE	NA	NA	NA	NA	NA	16 U
Naphthalene	3,900	20,000	NE	NA	NA	NA	NA	NA	8.1 U
Phenanthrene	170,000 [2][5]	1,700,000 [2][5]	NE	NA	NA	NA	NA	NA	80 J
Pyrene	170,000 [2]	1,700,000 [2]	NE	NA	NA	NA	NA	NA	77 J
PAH Totals (ug/kg):									
Low molecular weight PAHs	NE	NE	NE	NA	NA	NA	NA	NA	4302.8
High molecular weight PAHs	NE	NE	NE	NA	NA	NA	NA	NA	247
Metals (mg/kg)									
Antimony	3.1 [2]	41 [2]	7.44	0.3 J	0.26 J	0.4 U	0.17 U	0.5 U	0.4 U
Arsenic	0.39	2	6.66	***4.3***	***3.2***	***6.1***	**0.98**	***2.9***	***3.5***
Barium	1,500 [2]	19,000 [2]	207	19 J	73 J	23	7.3	40	71
Beryllium	16 [2]	200 [2]	0.933	0.052 U	0.34	0.076 J	0.2	0.18	0.22
Cadmium	7 [2]	81 [2]	0.57	0.17	0.29	0.08 J	1.4	0.13	0.15
Chromium	280	1,400	47.9	28 J	99 J	16	25	27	48
Cobalt	2.3 [2]	30 [2]	63.1	**7.1** J	**24** J	**6.9**	**23**	**16**	**26**
Copper	310 [2]	4,100 [2]	120	15 J	64 J	18	1.7 J	52	98
Lead	400 [3]	800 [3]	6.2	0.83	3.9	1.6	13	3.2	8.6
Mercury	2.3 [2]	31 [2]	0.067	0.0058 J	0.0085 J	0.011 J	0.012 J	0.017 J	0.0083 J
Nickel	160 [2]	2,000 [2]	26.5	9.9 J	29 J	6.5	22	13	21
Selenium	39 [2]	510 [2]	1.19	0.17 J	0.5 J	0.17 J	0.12 U	0.2 J	0.25 J
Silver	39 [2]	510 [2]	NE	0.021 J	0.019 U	0.029 J	0.11 J	0.032 J	0.051 J
Vanadium	55 [2]	720 [2]	256	53 J	**300** J	44	**110**	**120**	**160**
Zinc	2,300 [2]	31,000 [2]	92	16 J	56	14 J	120 J	36 J	61 J
TPH DRO and GRO (mg/kg)									
Diesel Range Organics	25 [4]	NE	NE	**370** J	13	1	**29**	2.4	1.4
Gasoline Range Organics	25 [4]	NE	NE	0.0073 U	0.098	0.07 U	0.077 U	0.067 U	**53**
Total TPH	25 [4]	NE	NE	**370** J	13.098	1	**29**	2.4	**54.4**

TABLE 9-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - FUELING PIERS AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID	**Regional**	*Regional*	NAPR	74SB265	74SB265	74SB265	74SB266	74SB267	74SB267
Sample ID	**Screening**	*Screening*	Basewide	74SB265-03	74SB265-03D	74SB265-04	74SB266-03	74SB267-02	74SB267-03
Date	**Levels**	*Levels*	Background [1]	5/20/2008	5/20/2008	5/20/2008	5/20/2008	5/20/2008	5/20/2008
Depth Range (ft bgs)	**Residential**	*Industrial*		5.0-7.0	5.0-7.0	7.0-9.0	5.0-7.0	3.0-5.0	5.0-7.0
	Soil	*Soil*							
Volatile Organic Compounds (ug/kg)									
2-Butanone (MEK)	2,800,000 [2]	19,000,000 [2]	NE	9.5 UJ	1,100 U	2,200 U	7.5 UJ	16 UJ	100 U
2-Hexanone	2,800,000 [2]	19,000,000 [2]	NE	2.1 UJ	870 UJ	1,700 UJ	2.6 UJ	2.4 UJ	81 UJ
4-Methyl-2-pentanone (MIBK)	530,000 [2]	5,200,000 [2]	NE	2.9 UJ	1,200 U	2,400 R	3.7 UJ	3.4 UJ	110 UJ
Acetone	6,100,000 [2]	61,000,000 [2]	NE	110 J	1,800 UJ	3,700 UJ	73 UJ	110 UJ	270 U
Benzene	1,100	5,600	NE	**1.2** J	330 U	660 U	1 U	0.92 U	30 U
Carbon disulfide	67,000 [2]	300,000 [2]	NE	1.3 J	210 U	420 U	0.64 U	0.59 U	20 U
Chloromethane	1,700	8,400	NE	0.71 U	290 U	590 U	0.89 U	0.83 U	27 U
Ethylbenzene	5,700	29,000	NE	0.75 U	310 U	620 U	0.94 U	0.87 U	54 J
Iodomethane	NE	NE	NE	1 U	410 U	830 U	1.3 U	1.2 U	39 U
Styrene	650,000 [2]	3,800,000 [2]	NE	0.66 U	270 U	550 U	0.83 U	0.77 U	25 U
Tetrachloroethene	570	2,700	NE	0.73 U	300 U	610 U	0.92 U	0.85 U	28 U
Toluene	500,000 [2]	4,600,000 [2]	NE	0.79 U	330 U	660 U	1 U	0.92 U	60 J
Xylenes, Total	60,000 [2]	260,000 [2]	NE	2.3 U	950 U	1,900 U	2.9 U	2.7 U	480
LLPAHs (ug/kg)									
1-Methylnaphthalene	22,000	99,000	NE	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	31,000 [2]	410,000 [2]	NE	NA	NA	NA	NA	NA	NA
Acenaphthene	340,000 [2]	3,300,000 [2]	NE	NA	NA	NA	NA	NA	NA
Acenaphthylene	340,000 [2]	3,300,000 [2]	NE	NA	NA	NA	NA	NA	NA
Benzo[a]anthracene	150	2,100	NE	NA	NA	NA	NA	NA	NA
Benzo[a]pyrene	15	210	NE	NA	NA	NA	NA	NA	NA
Benzo[b]fluoranthene	150	2,100	NE	NA	NA	NA	NA	NA	NA
Benzo[g,h,i]perylene	1,700	17,000	NE	NA	NA	NA	NA	NA	NA
Chrysene	15,000	210,000	NE	NA	NA	NA	NA	NA	NA
Fluoranthene	230,000 [2]	2,200,000 [2]	NE	NA	NA	NA	NA	NA	NA
Fluorene	230,000 [2]	2,200,000 [2]	NE	NA	NA	NA	NA	NA	NA

TABLE 9-2

SUMMARY OF DETECTED RESULTS - FUELING PIERS AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID	**Regional**	*Regional*	NAPR	74SB265	74SB265	74SB265	74SB266	74SB267	74SB267
Sample ID	**Screening**	*Screening*	Basewide	74SB265-03	74SB265-03D	74SB265-04	74SB266-03	74SB267-02	74SB267-03
Date	**Levels**	*Levels*	Background [1]	5/20/2008	5/20/2008	5/20/2008	5/20/2008	5/20/2008	5/20/2008
Depth Range (ft bgs)	**Residential**	*Industrial*		5.0-7.0	5.0-7.0	7.0-9.0	5.0-7.0	3.0-5.0	5.0-7.0
	Soil	*Soil*							
LLPAHs (ug/kg)									
Indeno[1,2,3-cd]pyrene	150	2,100	NE	NA	NA	NA	NA	NA	NA
Naphthalene	3,900	20,000	NE	NA	NA	NA	NA	NA	NA
Phenanthrene	170,000 [2][5]	1,700,000 [2][5]	NE	NA	NA	NA	NA	NA	NA
Pyrene	170,000 [2]	1,700,000 [2]	NE	NA	NA	NA	NA	NA	NA
PAH Totals (ug/kg):									
Low molecular weight PAHs	NE	NE	NE	NA	NA	NA	NA	NA	NA
High molecular weight PAHs	NE	NE	NE	NA	NA	NA	NA	NA	NA
Metals (mg/kg)									
Antimony	3.1 [2]	41 [2]	7.44	0.49 U	0.41 U	0.51 U	0.15 U	0.58	0.21 U
Arsenic	0.39	2	6.66	***2.2***	***2.1***	***2.7***	***2.1***	***2.8***	***1.9***
Barium	1,500 [2]	19,000 [2]	207	57	50	47	27	58	88
Beryllium	16 [2]	200 [2]	0.933	0.19	0.19	0.17	0.062 J	0.23	0.4
Cadmium	7 [2]	81 [2]	0.57	0.17	0.13	0.16	0.078 J	0.18	0.09 J
Chromium	280	1,400	47.9	32	38	44	58	56	95
Cobalt	2.3 [2]	30 [2]	63.1	**18**	**18**	**17**	**11**	**19**	***35***
Copper	310 [2]	4,100 [2]	120	55	60	51	42	58	81
Lead	400 [3]	800 [3]	6.2	8.6 J	4.6 J	7.4	1.6	6.6	5.2
Mercury	2.3 [2]	31 [2]	0.067	0.01 J	0.011 J	0.013 J	0.008 J	0.006 J	0.013 J
Nickel	160 [2]	2,000 [2]	26.5	12	13	15	13	19	27
Selenium	39 [2]	510 [2]	1.19	0.22 J	0.21 J	0.23 J	0.13 U	0.26 J	0.37 J
Silver	39 [2]	510 [2]	NE	0.055 J	0.047 J	0.044 J	0.038 J	0.036 J	0.036 J
Vanadium	55 [2]	720 [2]	256	**120**	**120**	**120**	**89**	**110**	**170**
Zinc	2,300 [2]	31,000 [2]	92	46 J	42 J	39 J	26 J	51 J	63 J
TPH DRO and GRO (mg/kg)									
Diesel Range Organics	25 [4]	NE	NE	12 J	**290** J	**1,100**	22	**44**	**400**
Gasoline Range Organics	25 [4]	NE	NE	**33** J	**94** J	**180**	0.43	1.7	**120**
Total TPH	25 [4]	NE	NE	**45** J	**384** J	**1,280**	22.43	**45.7**	**520**

TABLE 9-2

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - FUELING PIERS AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Notes/Qualifiers:

J - Estimated: The analyte was positively identified; the quantitation is an estimation
U - Undetected at the Limit of Detection.
UJ - Reported quantitation limit is qualified as estimated
R - Data is rejected and not usable
NE - Not Established
NA - Not Analyzed
ft bgs - feet below ground surface
mg/kg - miligrams per kilogram
ug/kg - micrograms per kilogram

DRO - Diesel Range Organics
GRO - Gasoline Range Organics
TPH - Total Petroleum Hydrocarbons
LLPAH - Low-level Polynuclear Aromatic Hydrocarbon

NAPR - Naval Activity Puerto Rico
USEPA - United States Environmental Protection Agency

(1) NAPR basewide background surface soil screening value (upper limit of the means concentration [mean plus two standard deviations]) for Subsurface Soil Background Fine Sand/Silt Table 3-7 (Baker, 2008)

(2) Noncarcinogenic Regional Screening Levels based on a target hazard quotient of 0.1 for conservative screening purposes

(3) USEPA Action Level for lead in soils

(4) Screening level for TPH is 25% of PREQB soil criterion, as proposed in the approved Work Plan dated 12/6/07

(5) Pyrene used as a surrogate for screening purposes.

TABLE 9-2

SUMMARY OF DETECTED RESULTS - FUELING PIERS AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Table References:

Baker Environmental, Inc, (2008). Revised Final II Summary Report for Environmental Background Concentrations of Inorganic Compounds, Naval Activity Puerto Rico, Ceiba, Puerto Rico. February 29, 2008.

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

Efroymson, R.A., M.E. Will, G.W. Suter II, and A.C. Wooten. 1997b. Toxicological Benchmarks for Screening Contaminants of Potential Concern for Effects on Terrestrial Plants: 1997 Revisions. Oak Ridge National Laboratory, Oak Ridge, TN. ES/ER/TM-85/R3

TABLE 9-3

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - FUELING PIERS AREA - GROUNDWATER
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date	**Regional Tap Water Screening Levels**	*USEPA MCLs*	Selected Ecological Surface Water Screening Values	NAPR Basewide Background [1]	74SB256 74GW256 5/30/2008	74SB236 74GW236 5/31/2008	74SB246 74GW246 5/31/2008	MW02 74GWMW2-2-VP56 5/29/2008
Volatile Organic Compounds (ug/L)								
Carbon disulfide	100 [2]	NE	15 [4][5]	NE	6.2 J	0.66 J	0.17 U	0.17 U
LLPAHs (ug/L)								
Benzo[a]anthracene	0.029	NE	0.025 [5][6]	NE	0.25 U	0.025 U	**0.036** J	0.025 U
Chrysene	2.9	NE	10 [7]	NE	0.27 U	0.027 U	0.086 J	0.027 U
Fluoranthene	150 [2]	NE	11 [8]	NE	0.49 U	0.049 U	0.073 J	0.049 U
Total Metals (ug/L)								
Arsenic	0.045	10	36 [9]	18.89	***12***	**5.8**	1.5 U	1.1 U
Barium	730 [2]	2,000	16,667 [10]	686	290	3.9 J	120	30
Cadmium	1.8 [2]	5.0	8.85 [11]	16.62	0.12 U	0.12 U	0.18 J	0.12 U
Chromium	5,500 [2]	NE	50.4 [12]	162.41	9.6 J	2.2 U	3.6 U	0.6 U
Cobalt	1 [2]	NE	45 [13]	633.21	**7.6**	0.45 U	**5.6**	0.76 R
Copper	150 [2]	1,300	3.73 [11]	324	9.3	1.2 U	13	2.3 U
Nickel	73 [2]	NE	8.28 [11]	95.7	8.2	1.8	2.8	0.67 J
Selenium	18 [2]	50	71.1 [11]	29.88	2.9	0.89 J	0.87 J	0.6 U
Silver	18 [2]	NE	0.23 [14]	18.31	0.2 J	0.09 U	0.09 U	0.09 U
Tin	2,200 [2]	NE	180 [5][6]	9.35	2.1 J	0.9 U	0.9 U	0.9 U
Vanadium	26 [2]	NE	12 [5][6]	484.66	**31**	5.8	**29**	2.2 U
Zinc	1,100 [2]	NE	85.6 [11]	547.53	17 J	6.5 U	12 J	6.5 U

TABLE 9-3

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - FUELING PIERS AREA - GROUNDWATER
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date	**Regional Tap Water Screening Levels**	*USEPA MCLs*	Selected Ecological Surface Water Screening Values	NAPR Basewide Background [1]	74SB256 74GW256 5/30/2008	74SB236 74GW236 5/31/2008	74SB246 74GW246 5/31/2008	MW02 74GWMW2-2-VP56 5/29/2008
Dissolved Metals (ug/L)								
Arsenic	0.045	10	36 [15]	14.03	**9.7**	**6.3**	1.7 U	0.83 U
Barium	730 [2]	2,000	16,667 [10][16]	260	300	3.3 J	110	31
Cadmium	1.8 [2]	5.0	8.8 [17]	36.42	0.12 U	0.12 U	0.22 J	0.12 U
Chromium	5,500 [2]	NE	50.0 [18]	6.5	4.5 J	0.6 U	0.6 U	1.5 J
Cobalt	1.1	NE	45 [13][16]	580.5	**3.2**	1	**5.1**	1.8 R
Nickel	73	NE	8.2 [17]	84.1	4.8	1.4	2	1.2
Selenium	18 [2]	50	71 [17]	23.92	2.1 J	1 J	1 J	0.6 U
Tin	2,200 [2]	NE	180 [5][6][16]	NE	1.3 J	0.9 U	0.9 U	0.9 U
Vanadium	26 [2]	NE	12 [5][6][16]	20.96	15	5.8	23	0.95 U
Zinc	1,100 [2]	NE	81 [19]	360.64	12 J	6.5 U	8 J	6.5 U
TPH DRO and GRO (mg/L)								
Diesel Range Organics	12.5 [3]	NE	NE	NE	1.8	0.1	0.32	7.7
Gasoline Range Organics	12.5 [3]	NE	NE	NE	0.012 U	0.012 U	0.012 U	0.091
Total TPH	12.5 [3]	NE	NE	NE	1.8	0.1	0.32	7.791

TABLE 9-3

SUMMARY OF DETECTED RESULTS - FUELING PIERS AREA - GROUNDWATER
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date	**Regional Tap Water Screening Levels**	*USEPA MCLs*	Selected Ecological Surface Water Screening Values	NAPR Basewide Background [1]	UGW12 74GW12-VP-56 5/29/2008	UGW12 74GW12-VP-56D 5/29/2008	GW04 74GW04VP24 5/29/2008
Volatile Organic Compounds (ug/L)							
Carbon disulfide	100 [2]	NE	15 [4][5]	NE	0.17 U	0.17 U	0.28 J
LLPAHs (ug/L)							
Benzo[a]anthracene	0.029	NE	0.025 [5][6]	NE	0.25 R	0.025 U	0.25 U
Chrysene	2.9	NE	10 [7]	NE	0.27 R	0.027 U	0.27 U
Fluoranthene	150 [2]	NE	11 [8]	NE	0.49 R	0.049 U	0.49 U
Total Metals (ug/L)							
Arsenic	0.045	10	36 [9]	18.89	**2.7**	2.5 U	**7.3**
Barium	730 [2]	2,000	16,667 [10]	686	11	12	73
Cadmium	1.8 [2]	5.0	8.85 [11]	16.62	0.12 U	0.12 U	0.12 U
Chromium	5,500 [2]	NE	50.4 [12]	162.41	0.6 U	0.6 U	0.6 U
Cobalt	1 [2]	NE	45 [13]	633.21	0.65 J	0.71 R	1.2 R
Copper	150 [2]	1,300	3.73 [11]	324	2.3 U	1.8 U	4.4 U
Nickel	73 [2]	NE	8.28 [11]	95.7	0.48 J	0.47 J	1.7
Selenium	18 [2]	50	71.1 [11]	29.88	0.6 U	0.6 U	0.76 J
Silver	18 [2]	NE	0.23 [14]	18.31	0.09 U	0.09 U	0.09 U
Tin	2,200 [2]	NE	180 [5][6]	9.35	0.9 U	0.9 U	0.9 U
Vanadium	26 [2]	NE	12 [5][6]	484.66	2.1 U	2.1 U	**34**
Zinc	1,100 [2]	NE	85.6 [11]	547.53	6.5 U	6.5 U	13 J

TABLE 9-3

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - FUELING PIERS AREA - GROUNDWATER
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Site ID Sample ID Date	**Regional Tap Water Screening Levels**	*USEPA MCLs*	Selected Ecological Surface Water Screening Values	NAPR Basewide Background [1]	UGW12 74GW12-VP-56 5/29/2008	UGW12 74GW12-VP-56D 5/29/2008	GW04 74GW04VP24 5/29/2008
Dissolved Metals (ug/L)							
Arsenic	0.045	10	36 [15]	14.03	2.2 U	2 U	**5.6**
Barium	730 [2]	2,000	16,667 [10][16]	260	12	13	85
Cadmium	1.8 [2]	5.0	8.8 [17]	36.42	0.12 U	0.12 U	0.12 U
Chromium	5,500 [2]	NE	50.0 [18]	6.5	0.6 U	0.7 J	0.66 J
Cobalt	1.1	NE	45 [13][16]	580.5	0.82 J	1.1 R	3 R
Nickel	73	NE	8.2 [17]	84.1	0.68 J	0.52 J	1.9
Selenium	18 [2]	50	71 [17]	23.92	0.6 U	0.6 U	0.62 J
Tin	2,200 [2]	NE	180 [5][6][16]	NE	0.9 U	0.9 U	0.9 U
Vanadium	26 [2]	NE	12 [5][6][16]	20.96	0.9 U	0.94 U	**37**
Zinc	1,100 [2]	NE	81 [19]	360.64	8.1 J	6.5 U	6.5 U
TPH DRO and GRO (mg/L)							
Diesel Range Organics	12.5 [3]	NE	NE	NE	5.2	4.6	8.1
Gasoline Range Organics	12.5 [3]	NE	NE	NE	0.14	0.11	0.075
Total TPH	12.5 [3]	NE	NE	NE	5.34	4.71	8.175

TABLE 9-3

Revised: March 26, 2010

SUMMARY OF DETECTED RESULTS - FUELING PIERS AREA - GROUNDWATER
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Notes/Qualifiers:

U - Not detected
J - Analyte present - Reported value is estimated
R -Rejected data; not usable
NE - Not Established
mg/l - milligram per liter
ug/l - microgram per liter

DRO - Diesel Range Organics
GRO - Gasoline Range Organics
TPH - Total Petroleum Hydrocarbons
LLPAH - Low-level Polynuclear Aromatic Hydrocarbon

NAPR - Naval Activity Puerto Rico
USEPA - United States Environmental Protection Agency

(1) NAPR Basewide Groundwater Background - Upper Limit of Means (Mean + 2 standard deviations) Revised Final Summary Report for Environmental Background Concentrations of Inorganic Compounds, Naval Activity Puerto Rico, Ceiba, PR, Baker Environmental (Baker, 2008)

(2) Noncarcinogenic Regional Screening Levels based on a target hazard quotient of 0.1 for conservative screening purposes

(3) Screening level for TPH is 25% of PREQB groundwater criterion, as proposed in the approved Work Plan dated 12/6/07

(4) The safety factors applied to acute endpoints (i.e., LC_{50}, EC_{50}, NOEC, and LOEL values) and chronic endpoints (i.e., LOELs) are those recommended by Wentsel et al. (1996).

(5) USEPA Region 5 ecological screening level [USEPA 2003]

(6) The chemical lacks a marine/estuarine surface water screening value/literature-based toxicity value. The value shown is a freshwater screening value/toxicity value.

(7) Acute value (LC50) with a safety factor of 100 [USEPA 2004]

(8) Final Chronic Value [USEPA 1996]

(9) Total recoverable Criteria Continuous Concentration for trivalent arsenic [USEPA 2009]

(10) Minimum acute value (96-hr NOEC for Cyprinodon variegatus [sheepshead minnow]) with a safety factor of 30 [USEPA 2007]

(11) Total recoverable Criteria Continuous Concentration [USEPA 2009]

(12) Total recoverable Criteria Continuous Concentration for hexavalent chromium [USEPA 2009]

(13) Minimum acute value (96-hr LC50 for Nitocra spinipes [Harpacticoid copepod]) with a safety factor of 100 [USEPA 2007]

(14) USEPA Region 4 chronic screening value [USEPA 2001]

(15) Dissolved Criteria Continuous Concentration for trivalent arsenic [USEPA 2009]

(16) The chemical lacks a screening value expressed as a dissolved concentration. The value shown is expressed as a total recoverable concentration.

(17) Dissolved Criteria Continuous Concentration [USEPA 2009]

(18) Dissolved Criteria Continuous Concentration for hexavalent chromium [USEPA 2009]

(19) Dissolved Criteria Continuous Concentration/Puerto Rico Water Quality Standard [USEPA 2009/PREQB 2003]

SUMMARY OF DETECTED RESULTS - FUELING PIERS AREA - GROUNDWATER
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION
NAPR, CEIBA, PR

Table References:

Puerto Rico Environmental Quality Board (PREQB). Puerto Rico Water Quality Standards Regulation, as Amended, on March 2003. Resolution Number R-03-5.

USEPA. 2009. National Recommended Water Quality Criteria. Office of Water and Office of Science and Technology, Washington, D.C. http://www.epa.gov/waterscience/criteria/wqctable/.

USEPA. 2007. ECOTOX User Guide: Ecotoxicology Database System. Version 4.0. http:/www.epa.gov/ecotox/. Accessed May 14, 2003, July 2, 2008, January 8, 2009, April 1, 2009, and August 28, 2009.

USEPA. 2004. Superfund Chemical Data Matrix. http://www.epa.gov/superfund/sites/npl/hrsres/tools/scdm.htm.

USEPA. 2003. USEPA Region 5 Ecological Screening Levels Table. http://www.epa.gov/reg5rcra/ca/ESL.pdf.

USEPA. 2001. Region 4 Ecological Risk Assessment Bulletins - Supplement to RQGS. Waste Management Division, Atlanta, GA. http://www.epa.gov/region04/waste/ots/ecolbul.htm.

USEPA. 1996. Ecotox Thresholds. Eco Update, Volume 3, Number 2. Office of Solid Waste and Emergency Response, Washington, D.C. EPA/F-95/038.

FIGURES

K:_SOUTHNAVFAC\111626 DO2\Task 16 - 74 Phase I of CMS Inv\cad\final\111626_74CMS_base_01.DWG

4 0 2 4 8

1 inch = 4 miles

Baker

FIGURE 2-1
NAPR LOCATION MAP
SWMU 74-FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION REPORT

SOURCE: METRODATA, INC., 1999.

NAVAL ACTIVITY PUERTO RICO

K:_SOUTHNAVFAC\111626 DO2\Task 16 – 74 Phase I of CMS Inv\cad\final\111626_74CMS_base_02.DWG

LEGEND

– SWMUs

– AREA TO WHICH THIS INVESTIGATION PERTAINS

AOC D – AOCs

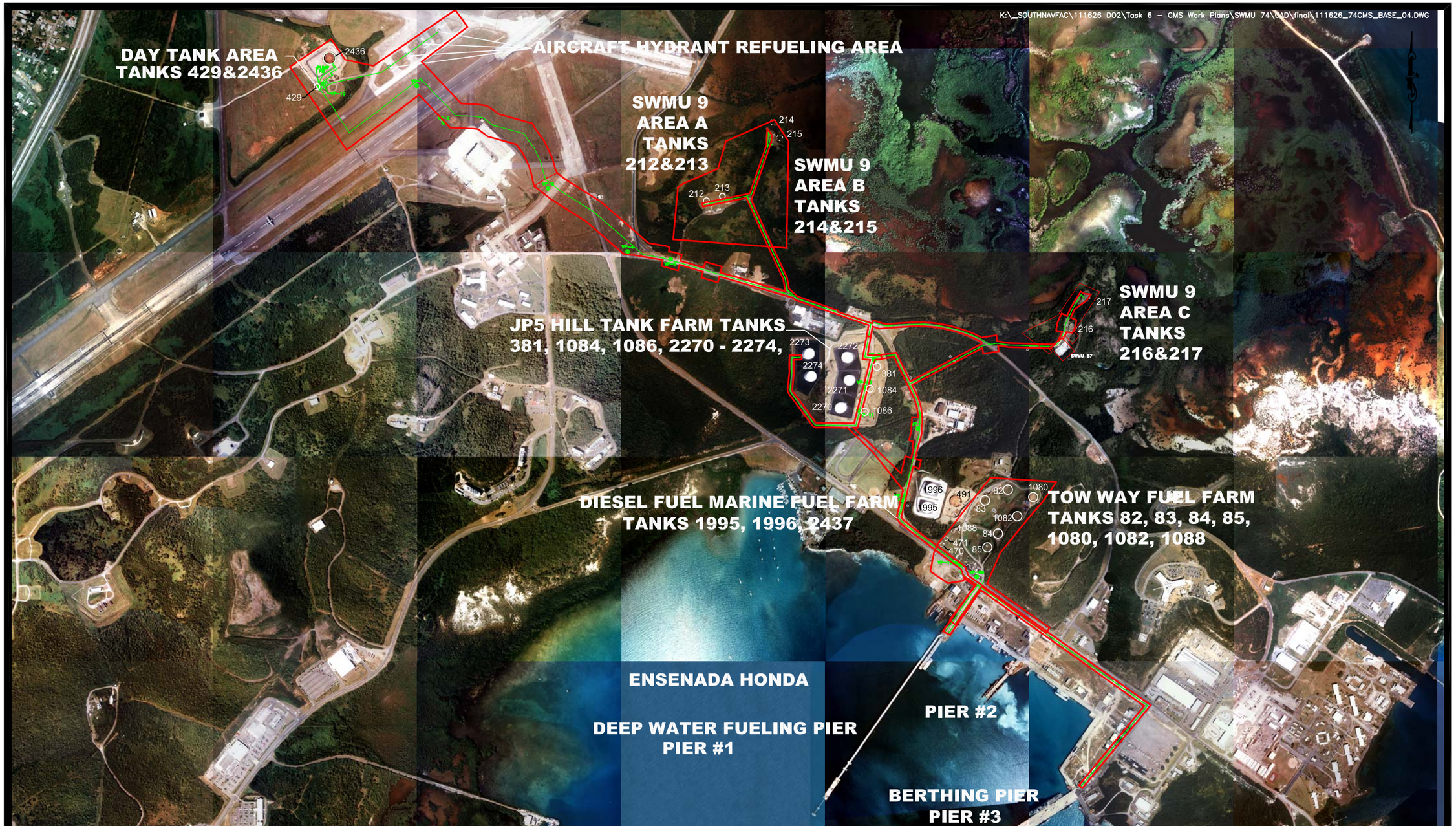
SOURCE: GEO–MARINE, INC., SEPTEMBER 6, 2000.

3000 0 1500 3000

1 inch = 3000 ft.

FIGURE 2–2
SWMU/AOC LOCATION MAP
SWMU 74–FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION REPORT

NAVAL ACTIVITY PUERTO RICO



1200 0 600 1200
1 inch = 1200 ft.

Baker

SOURCE: GEO-MARINE, INC., SEPTEMBER 6, 2000

LEGEND

—SWMU BOUNDARY

NOTE

SWMU 74 INCLUDES THE FUEL PIPELINES AND HYDRANT PITS.
SWMU 74 DOES NOT INCLUDE THE FUEL FARMS OR TANKS.

FIGURE 2-3
SWMU 74 LOCATION
SWMU 74-FUEL PIPELINES AND
HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION REPORT
NAVAL ACTIVITY PUERTO RICO

1200 0 600 1200
1 inch = 1200 ft.

Baker

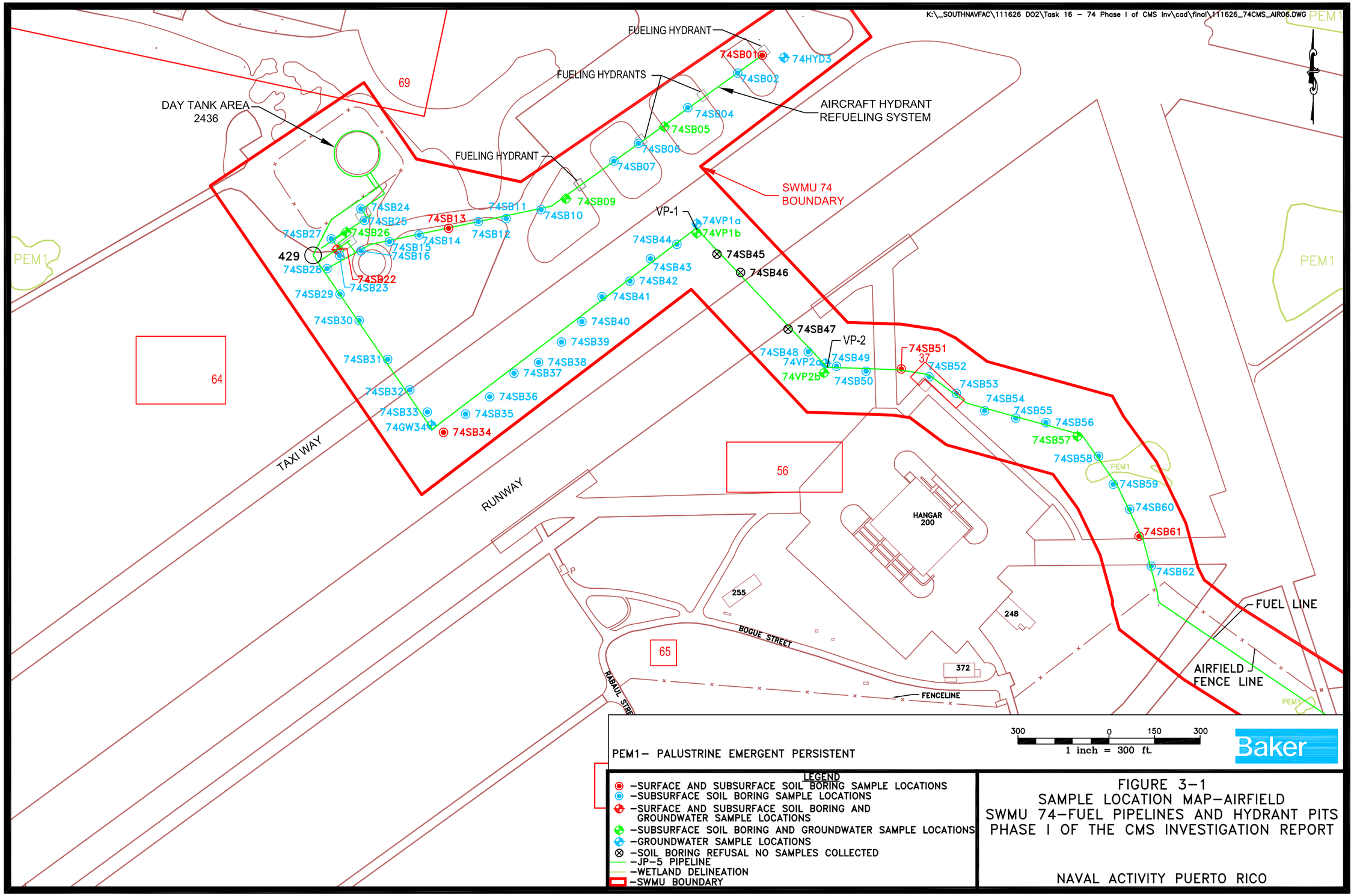
SOURCE: GEO–MARINE, INC., SEPTEMBER 6, 2000

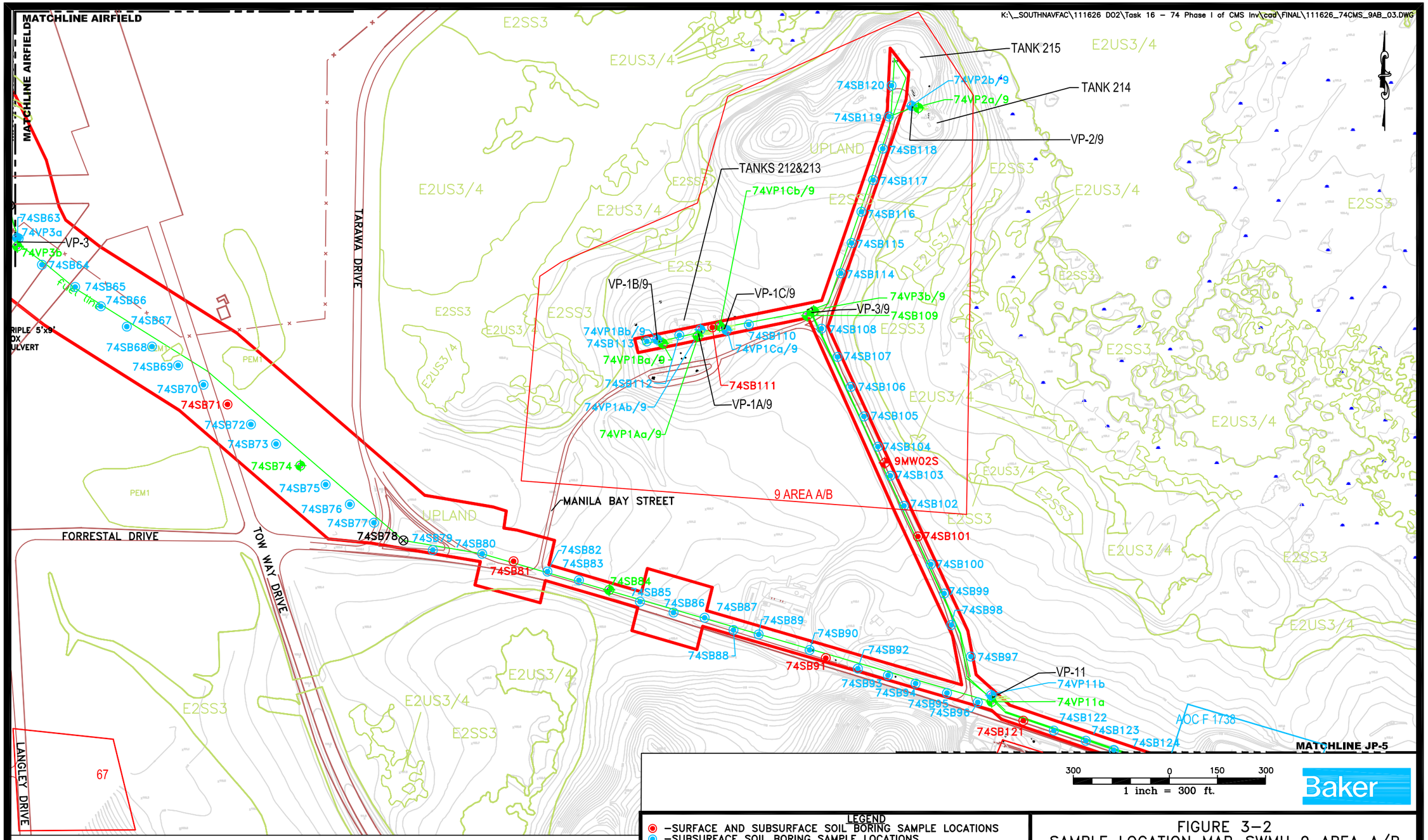
LEGEND

–SWMU BOUNDARY

–GEOGRAPHIC AREAS IN THE PHASE I CMS INVESTIGATION REPORT

FIGURE 2–4
INDEX MAP OF SWMU 74 AREAS
SWMU 74–FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION REPORT
NAVAL ACTIVITY PUERTO RICO


K:_SOUTHNAVFAC\111626 D02\Task 16 – 74 Phase I of CMS Inv\cad\final\111626_74CMS_AIR06.DWG
FUELING HYDRANT
FUELING HYDRANTS
AIRCRAFT HYDRANT REFUELING SYSTEM
DAY TANK AREA 2436
FUELING HYDRANT
SWMU 74 BOUNDARY
74SB01
74HYD3
74SB02
74SB04
74SB05
74SB06
74SB07
74SB09
74SB10
74SB11
74SB12
74SB13
74SB14
74SB15
74SB16
74SB22
74SB23
74SB24
74SB25
74SB26
74SB27
74SB28
74SB29
74SB30
74SB31
74SB32
74SB33
74GW34
74SB34
74SB35
74SB36
74SB37
74SB38
74SB39
74SB40
74SB41
74SB42
74SB43
74SB44
74SB45
74SB46
74SB47
74SB48
74SB49
74SB50
74SB51
74SB52
74SB53
74SB54
74SB55
74SB56
74SB57
74SB58
74SB59
74SB60
74SB61
74SB62
VP-1
74VP1a
74VP1b
VP-2
74VP2a
74VP2b
429
37
69
64
56
65
255
248
372
HANGAR 200
PEM1
TAXI WAY
RUNWAY
BOGUE STREET
RABAUL STREET
FENCELINE
FUEL LINE
AIRFIELD FENCE LINE
300 0 150 300
1 inch = 300 ft.
Baker
PEM1– PALUSTRINE EMERGENT PERSISTENT
LEGEND
–SURFACE AND SUBSURFACE SOIL BORING SAMPLE LOCATIONS
–SUBSURFACE SOIL BORING SAMPLE LOCATIONS
–SURFACE AND SUBSURFACE SOIL BORING AND GROUNDWATER SAMPLE LOCATIONS
–SUBSURFACE SOIL BORING AND GROUNDWATER SAMPLE LOCATIONS
–GROUNDWATER SAMPLE LOCATIONS
–SOIL BORING REFUSAL NO SAMPLES COLLECTED
–JP–5 PIPELINE
–WETLAND DELINEATION
–SWMU BOUNDARY
FIGURE 3–1
SAMPLE LOCATION MAP–AIRFIELD
SWMU 74–FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION REPORT
NAVAL ACTIVITY PUERTO RICO



NOTES:

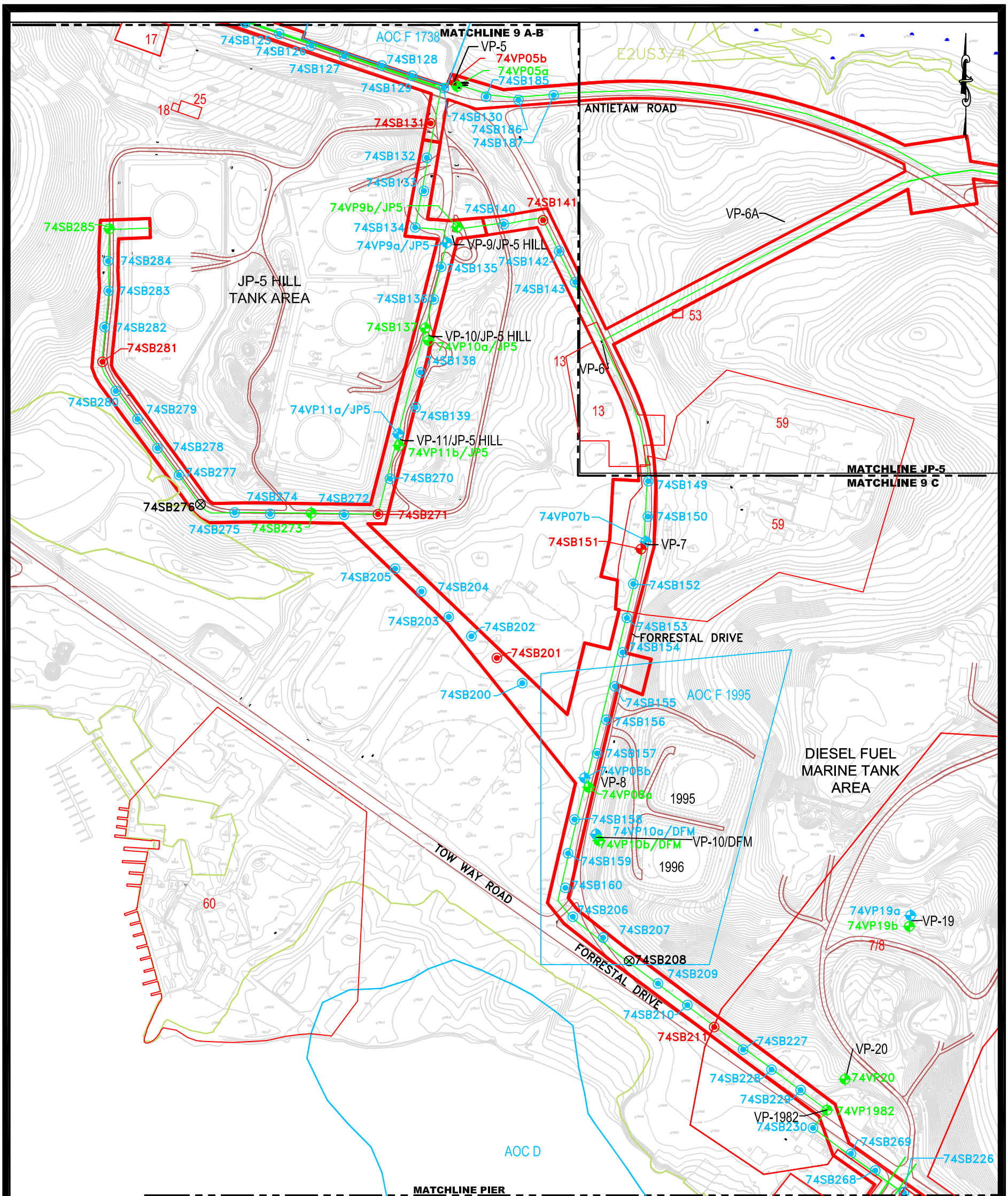
UPLAND	–UPLAND
E2US3/4	–ESTUARINE INTERTIDAL UNCONSOLIDATED SHORE MUD/ORGANIC
E2SS3	–ESTUARINE INTERTIDAL SCRUB–SHRUB BROAD LEAVED EVERG
PEM1	–PALUSTRINE EMERGENT PERSISTENT

LEGEND

- –SURFACE AND SUBSURFACE SOIL BORING SAMPLE LOCATIONS
- –SUBSURFACE SOIL BORING SAMPLE LOCATIONS
- –SURFACE AND SUBSURFACE SOIL BORING AND GROUNDWATER SAMPLE LOCATIONS
- –SUBSURFACE SOIL BORING AND GROUNDWATER SAMPLE LOCATIONS
- –GROUNDWATER SAMPLE LOCATIONS
- –SOIL BORING REFUSAL NO SAMPLES COLLECTED
- –JP–5 PIPELINE
- –WETLAND DELINEATION
- –SWMU BOUNDARY

FIGURE 3–2
SAMPLE LOCATION MAP–SWMU 9 AREA A/B
SWMU 74–FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION REPORT

NAVAL ACTIVITY PUERTO RICO



NOTES:
E2US3/4– ESTUARINE INTERTIDAL UNCON
SOLIDATED SHORE MUD/ORGANIC

300 0 150 300
1 inch = 300 ft.

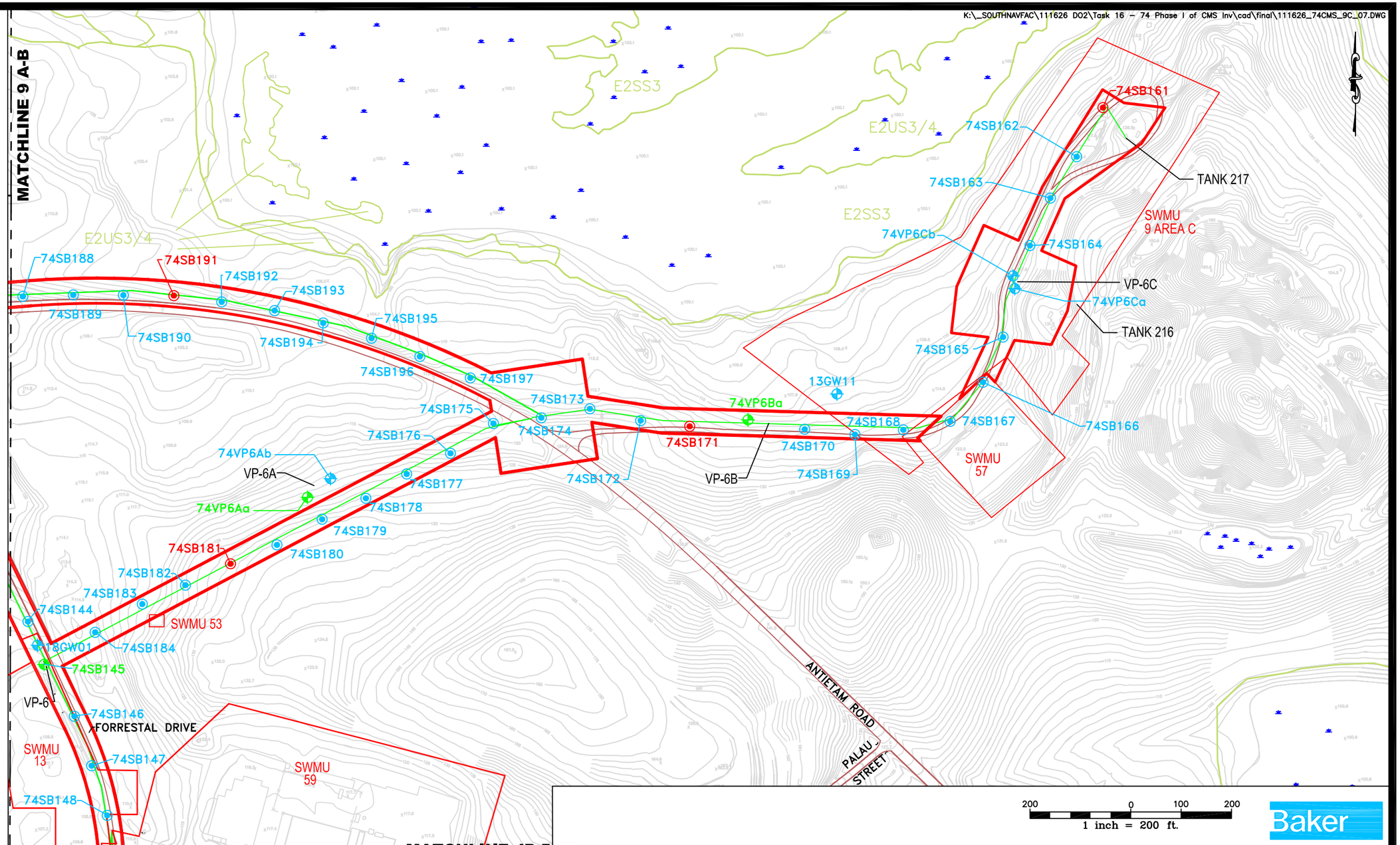
K:_SOUTHNAVFAC\111626 D02\Task 16 – 74 Phase I of CMS Inv\cad\final\111626_74CMS_JP5_01.DWG

Baker

LEGEND
- –SURFACE AND SUBSURFACE SOIL BORING SAMPLE LOCATIONS
- –SUBSURFACE SOIL BORING SAMPLE LOCATIONS
- –SURFACE AND SUBSURFACE SOIL BORING AND GROUNDWATER SAMPLE LOCATIONS
- –SUBSURFACE SOIL BORING AND GROUNDWATER SAMPLE LOCATIONS
- –GROUNDWATER SAMPLE LOCATIONS
- –SOIL BORING REFUSAL NO SAMPLES COLLECTED
- –JP–5 PIPELINE
- –WETLAND DELINEATION
- –SWMU BOUNDARY

FIGURE 3–3
SAMPLE LOCATION MAP–JP–5 HILL AND DFM AREA
SWMU 74–FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION REPORT

NAVAL ACTIVITY PUERTO RICO



LEGEND

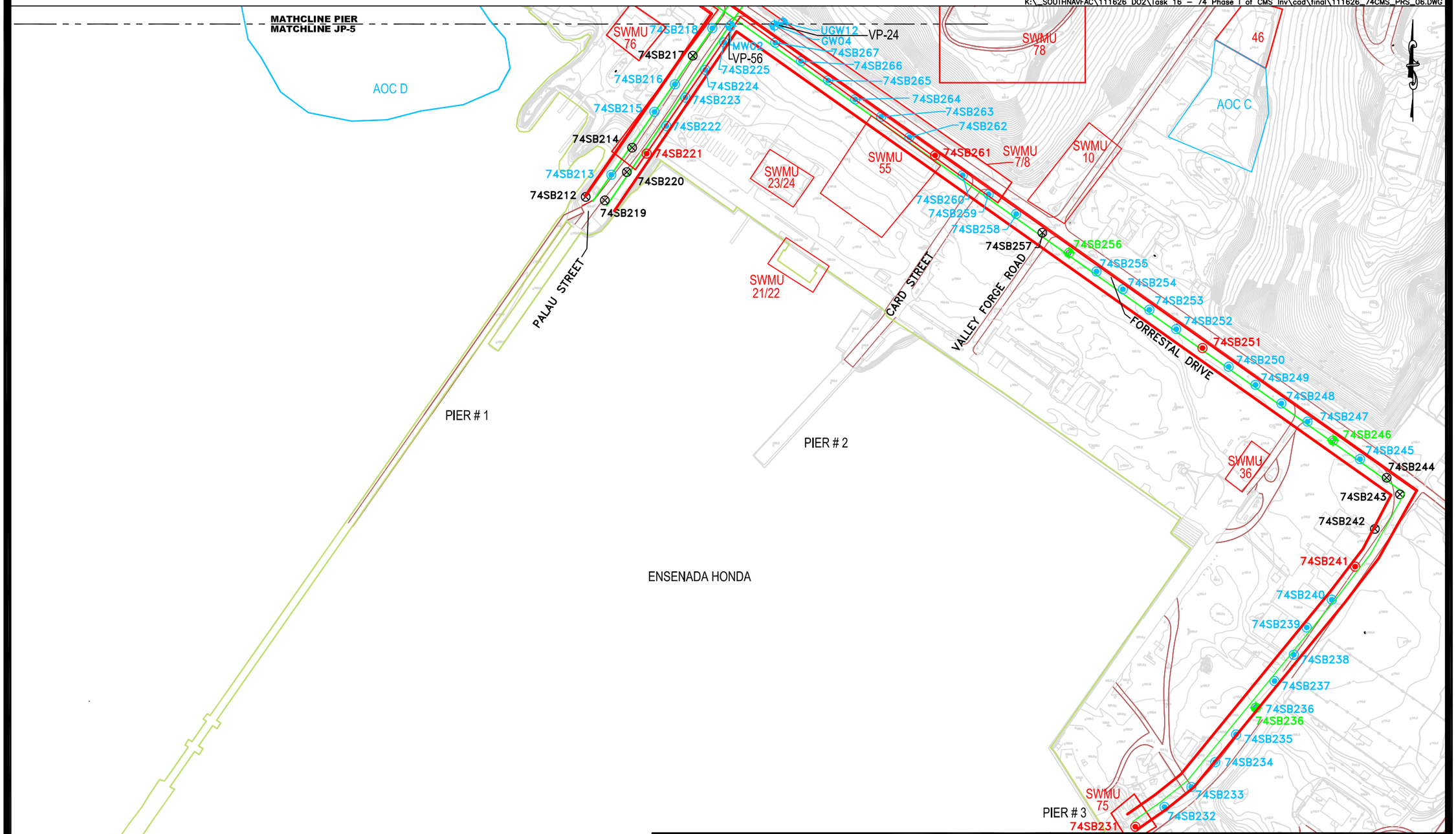
- –SURFACE AND SUBSURFACE SOIL BORING SAMPLE LOCATIONS
- –SUBSURFACE SOIL BORING SAMPLE LOCATIONS
- –SUBSURFACE SOIL BORING AND GROUNDWATER SAMPLE LOCATIONS
- –GROUNDWATER SAMPLE LOCATIONS
- –JP-5 PIPELINE
- –WETLAND DELINEATION
- –SWMU BOUNDARY

NOTES:
E2US3/4 –ESTUARINE INTERTIDAL UNCON SOLIDATED SHORE MUD/ORGANIC
E2SS3 –ESTUARINE INTERTIDAL SCRUB–SHRUB BROAD LEAVED EVERG

FIGURE 3–4
SAMPLE LOCATION MAP–SWMU 9 AREA C
SWMU 74–FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION REPORT

NAVAL ACTIVITY PUERTO RICO

K:_SOUTHNAVFAC\111626 DO2\Task 16 - 74 Phase I of CMS Inv\cad\final\111626_74CMS_PRS_06.DWG

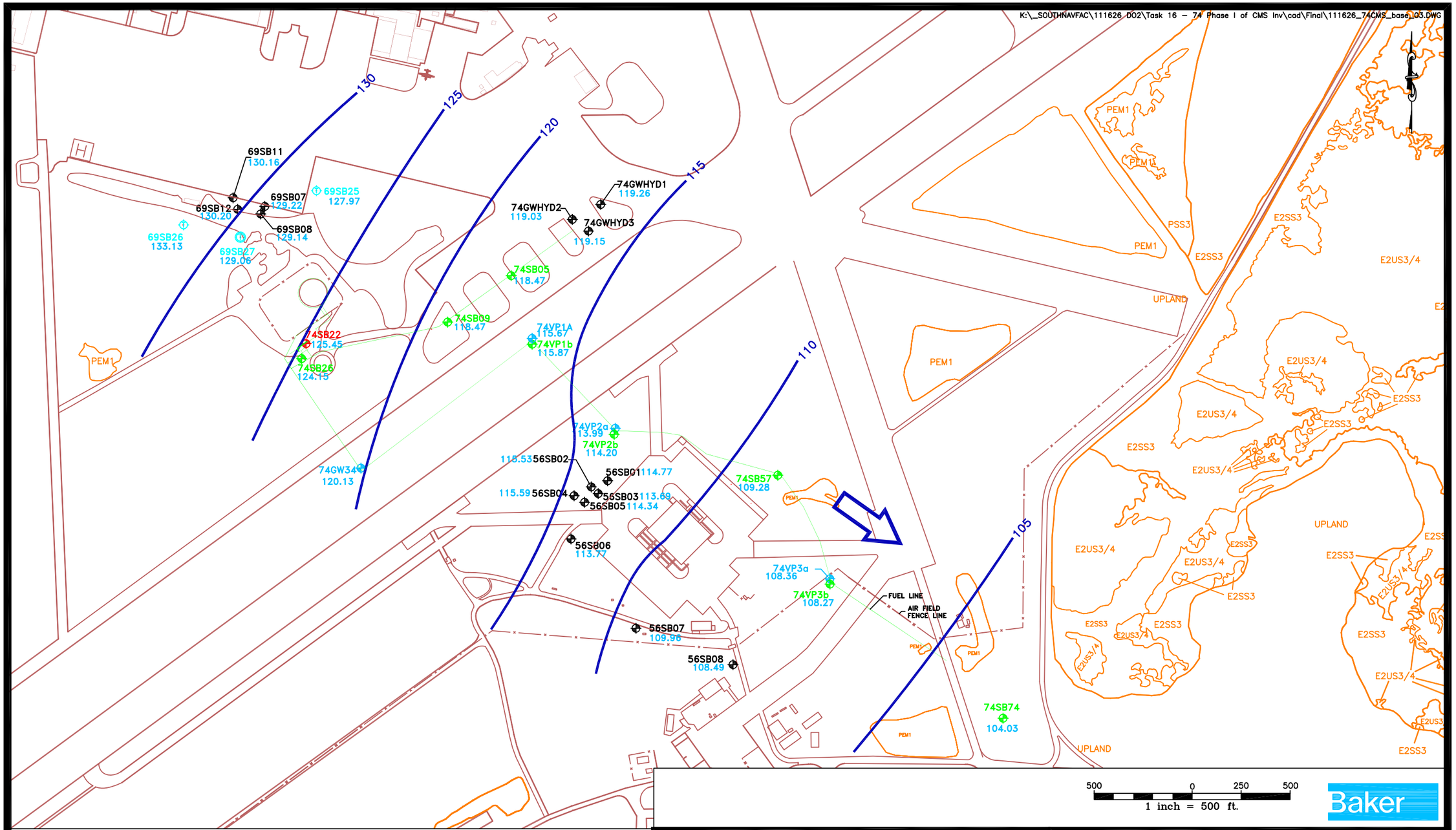


LEGEND

- SURFACE AND SUBSURFACE SOIL BORING SAMPLE LOCATIONS
- SUBSURFACE SOIL BORING SAMPLE LOCATIONS
- SUBSURFACE SOIL BORING AND GROUNDWATER SAMPLE LOCATIONS
- GROUNDWATER SAMPLE LOCATIONS
- SOIL BORING REFUSAL NO SAMPLES COLLECTED
- JP-5 PIPELINE
- WETLAND DELINEATION
- SWMU BOUNDARY

FIGURE 3-5
SAMPLE LOCATION MAP-FUELING PIERS AREA
SWMU 74-FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION REPORT

NAVAL ACTIVITY PUERTO RICO

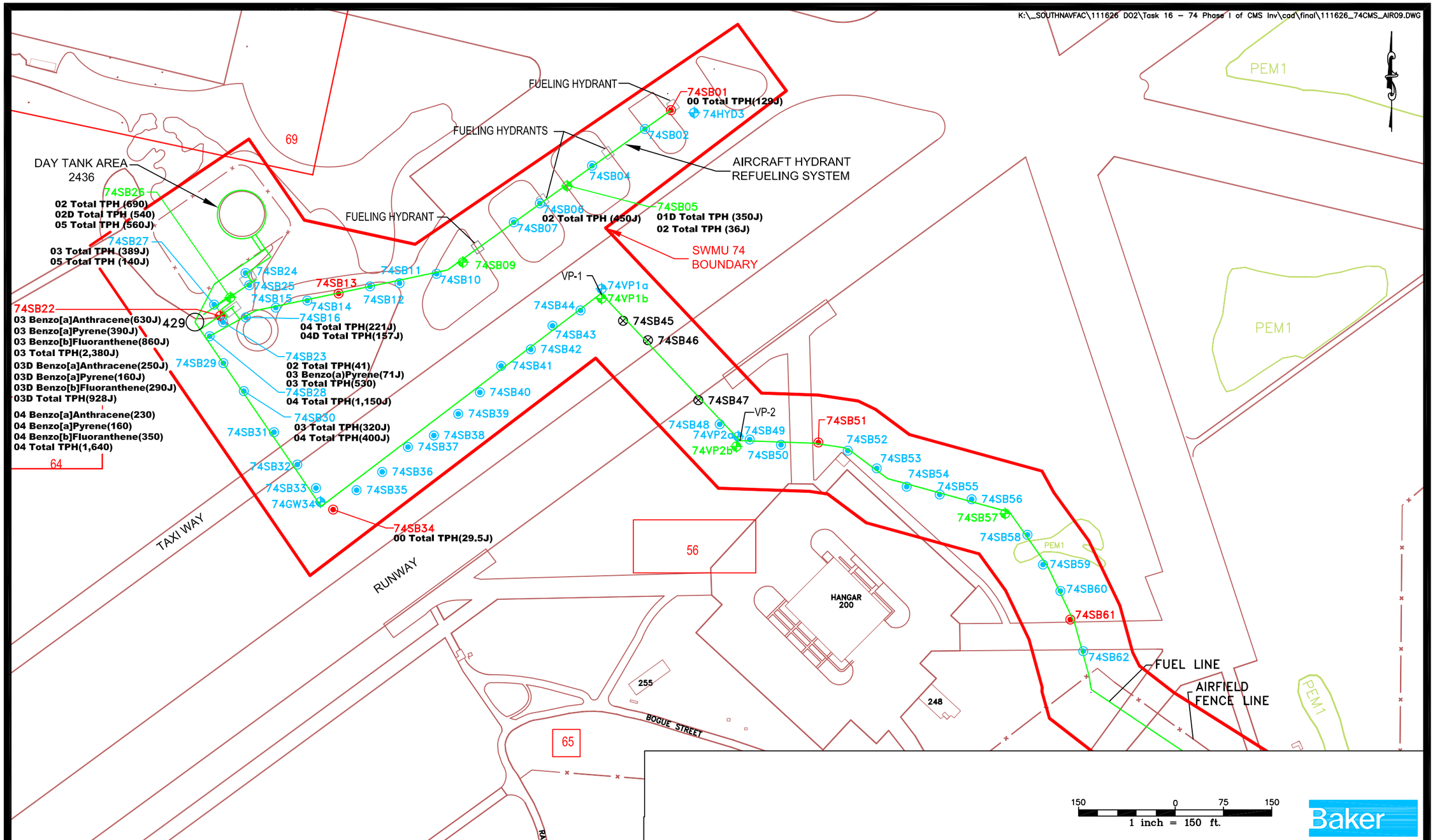


GROUNDWATER LEGEND
—ESTIMATED GROUNDWATER CONTOUR, FEET
—GROUNDWATER FLOW DIRECTION
ALL ELEVATIONS SHOWN ARE MEAN SEA LEVEL PLUS 100 FEET
DEPTH TO WATER MEASURED ON JULY 22, 2008

LEGEND
—CMS INVESTIGATION SOIL BORING AND GROUNDWATER SAMPLE LOCATIONS
—SURFACE AND SUBSURFACE SOIL BORING AND GROUNDWATER SAMPLE LOCATIONS
—SUBSURFACE SOIL BORING AND GROUNDWATER SAMPLE LOCATIONS
—GROUNDWATER SAMPLE LOCATIONS
108.49 —GROUNDWATER ELEVATION

FIGURE 3-6
REGIONAL GROUNDWATER CONTOUR MAP-AIRFIELD
SWMU 74-FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION REPORT

NAVAL ACTIVITY PUERTO RICO



NOTES/QUALIFIERS:
J – ESTIMATED VALUE
TPH – REPORTED IN mg/kg
PAHs – REPORTED IN ug/kg
THE SAMPLE DEPTH DESIGNATION (I.E., 03, 04, ETC.) PRECEDES THE DETECTED ANALYTE NAME, THE DETECTED CONCENTRATION IS SHOWN IN PARENTHESIS AFTER CONSTITUENT NAME.

LEGEND
- –SURFACE AND SUBSURFACE SOIL BORING SAMPLE LOCATIONS
- –SUBSURFACE SOIL BORING SAMPLE LOCATIONS
- –SURFACE AND SUBSURFACE SOIL BORING AND GROUNDWATER SAMPLE LOCATIONS
- –SUBSURFACE SOIL BORING AND GROUNDWATER SAMPLE LOCATIONS
- –GROUNDWATER SAMPLE LOCATIONS
- –SOIL BORING REFUSAL NO SAMPLES COLLECTED
- –JP–5 PIPELINE
- –WETLAND DELINEATION
- –SWMU BOUNDARY

FIGURE 5–1
ORGANIC EXCEEDANCES OF BACKGROUND AND SCREENING CRITERA IN SOIL–AIRFIELD SWMU 74–FUEL PIPELINES AND HYDRANT PITS PHASE I OF THE CMS INVESTIGATION REPORT

NAVAL ACTIVITY PUERTO RICO

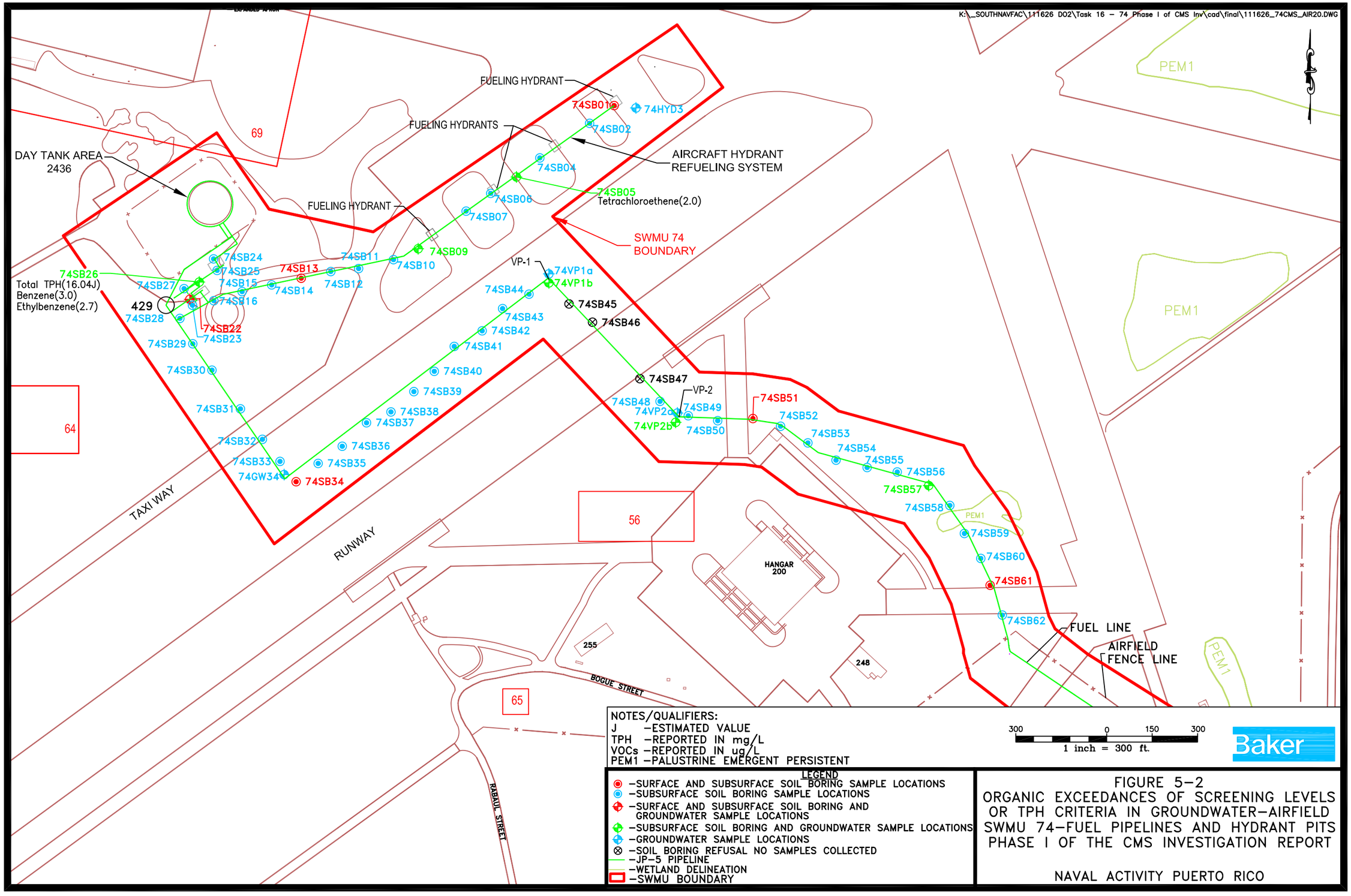
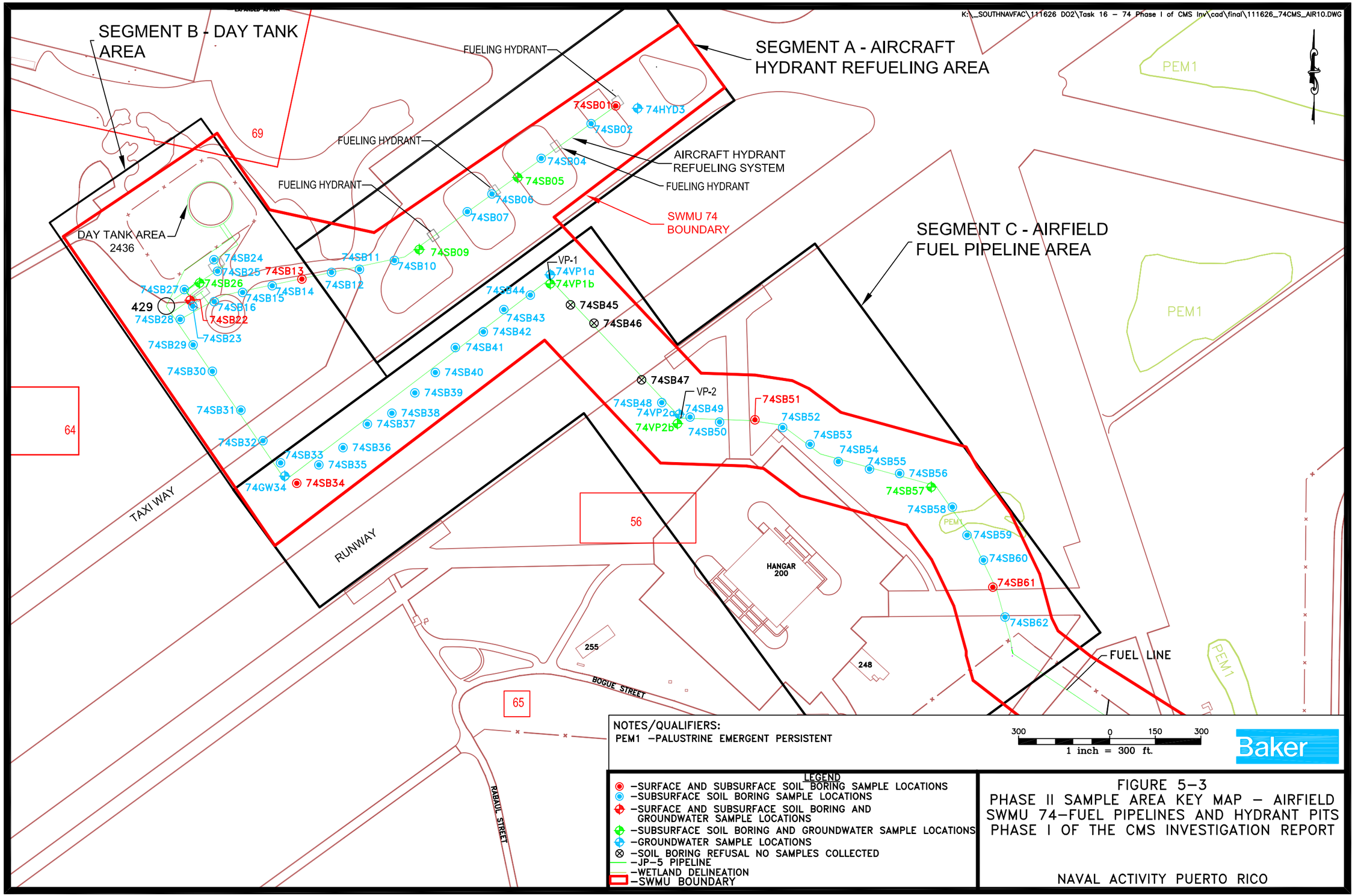


FIGURE 5–2
ORGANIC EXCEEDANCES OF SCREENING LEVELS OR TPH CRITERIA IN GROUNDWATER–AIRFIELD SWMU 74–FUEL PIPELINES AND HYDRANT PITS PHASE I OF THE CMS INVESTIGATION REPORT

NAVAL ACTIVITY PUERTO RICO


K:_SOUTHNAVFAC\111626 DO2\Task 16 – 74 Phase I of CMS Inv\cad\final\111626_74CMS_AIR10.DWG
SEGMENT B - DAY TANK AREA
SEGMENT A - AIRCRAFT HYDRANT REFUELING AREA
SEGMENT C - AIRFIELD FUEL PIPELINE AREA
FUELING HYDRANT
AIRCRAFT HYDRANT REFUELING SYSTEM
SWMU 74 BOUNDARY
DAY TANK AREA 2436
429
69
64
65
56
255
248
HANGAR 200
TAXI WAY
RUNWAY
BOGUE STREET
RABAUL STREET
FUEL LINE
PEM1
74SB01
74HYD3
74SB02
74SB04
74SB05
74SB06
74SB07
74SB09
74SB10
74SB11
74SB12
74SB13
74SB14
74SB15
74SB16
74SB22
74SB23
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74SB35
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74SB37
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74SB40
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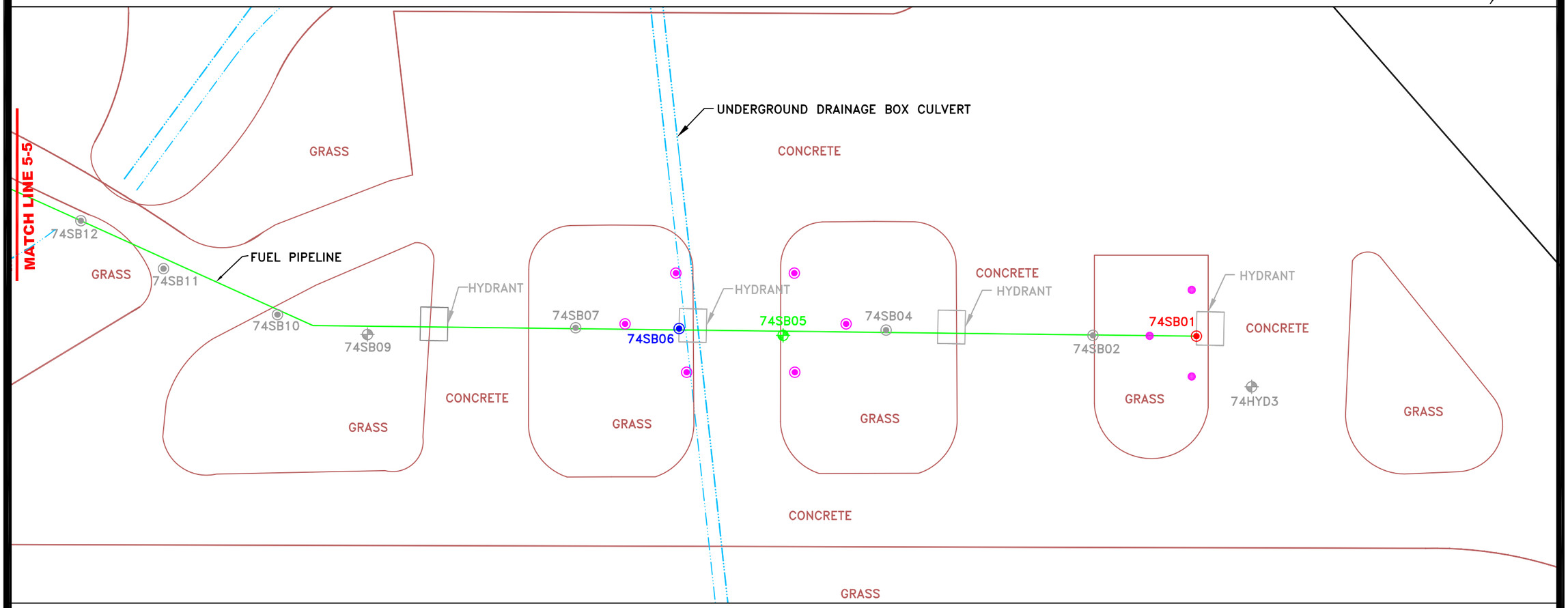
74SB50
74SB51
74SB52
74SB53
74SB54
74SB55
74SB56
74SB57
74SB58
74SB59
74SB60
74SB61
74SB62
74GW34
VP-1
74VP1a
74VP1b
VP-2
74VP2a
74VP2b
NOTES/QUALIFIERS:
PEM1 –PALUSTRINE EMERGENT PERSISTENT
300 0 150 300
1 inch = 300 ft.
Baker
LEGEND
–SURFACE AND SUBSURFACE SOIL BORING SAMPLE LOCATIONS
–SUBSURFACE SOIL BORING SAMPLE LOCATIONS
–SURFACE AND SUBSURFACE SOIL BORING AND GROUNDWATER SAMPLE LOCATIONS
–SUBSURFACE SOIL BORING AND GROUNDWATER SAMPLE LOCATIONS
–GROUNDWATER SAMPLE LOCATIONS
–SOIL BORING REFUSAL NO SAMPLES COLLECTED
–JP–5 PIPELINE
–WETLAND DELINEATION
–SWMU BOUNDARY
FIGURE 5–3
PHASE II SAMPLE AREA KEY MAP – AIRFIELD
SWMU 74–FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION REPORT
NAVAL ACTIVITY PUERTO RICO

K:_SOUTHNAVFAC\111626 DO2\Task 16 – 74 Phase I of CMS Inv\cad\Final\111626_74CMS_AIR11.DWG



SEGMENT A – AIRCRAFT HYDRANT REFUELING AREA

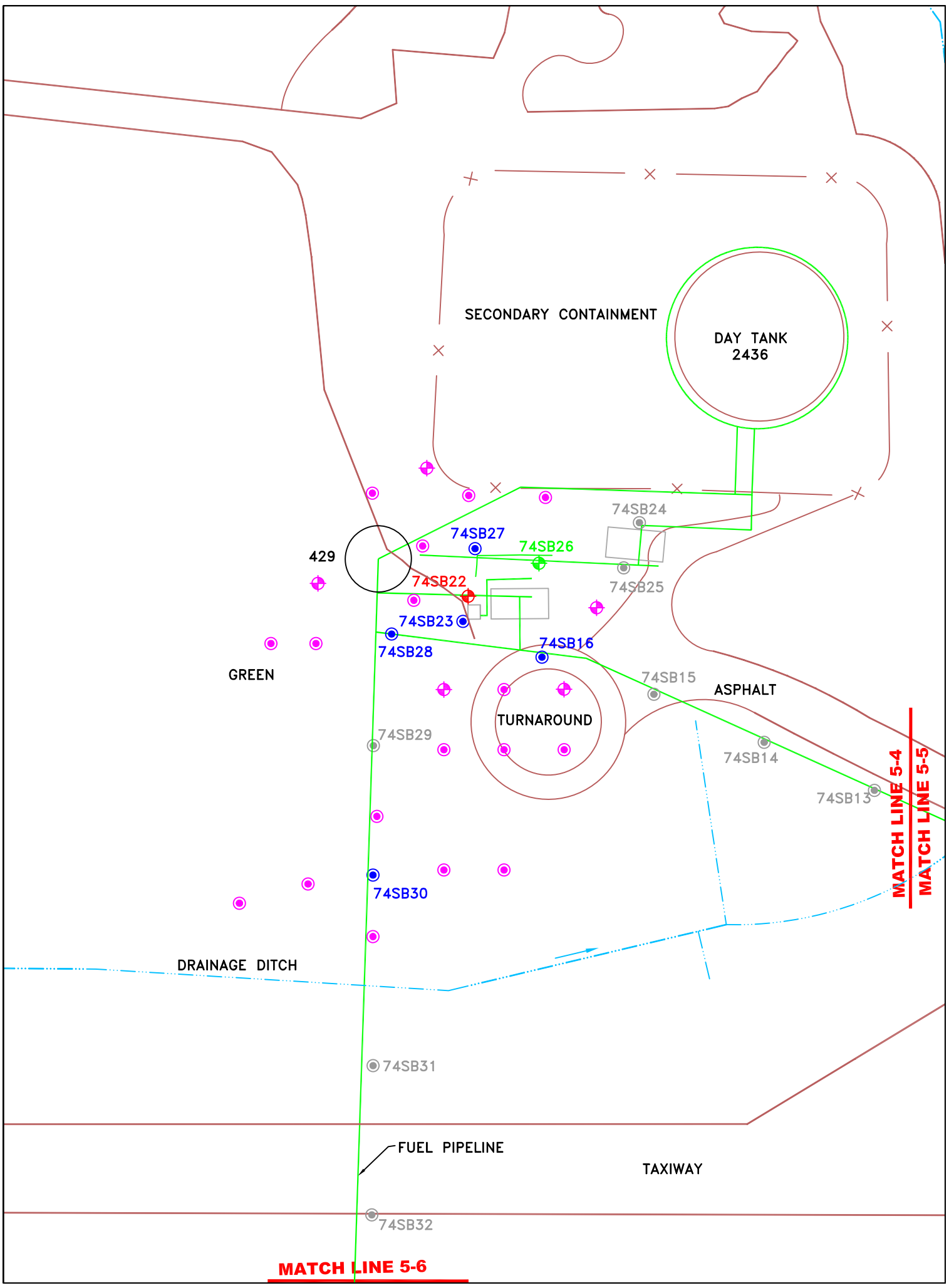
100 0 50 100
1 inch = 100 ft.

Baker

LEGEND
- –SURFACE AND SUBSURFACE SOIL BORING SAMPLE LOCATIONS
- –SUBSURFACE SOIL BORING SAMPLE LOCATIONS
- –SUBSURFACE SOIL BORING AND GROUNDWATER SAMPLE LOCATIONS
- –GROUNDWATER SAMPLE LOCATIONS
- –PROPOSED SURFACE AND SHALLOW SUBSURFACE BORING SAMPLE LOCATIONS
- –PROPOSED SURFACE AND SUBSURFACE SOIL BORING SAMPLE LOCATIONS
- –JP–5 PIPELINE
- –DRAINAGE DITCH

FIGURE 5–4
PHASE II PROPOSED SAMPLE LOCATIONS
SEGMENT A – AIRCRAFT HYDRANT REFUELING AREA
AIRFIELD
SWMU 74–FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION REPORT
NAVAL ACTIVITY PUERTO RICO

K:_SOUTHNAVFAC\111626 DO2\Task 16 – 74 Phase I of CMS Inv\cad\final\111626_74CMS_AIR11.DWG



SEGMENT B – DAY TANK AREA

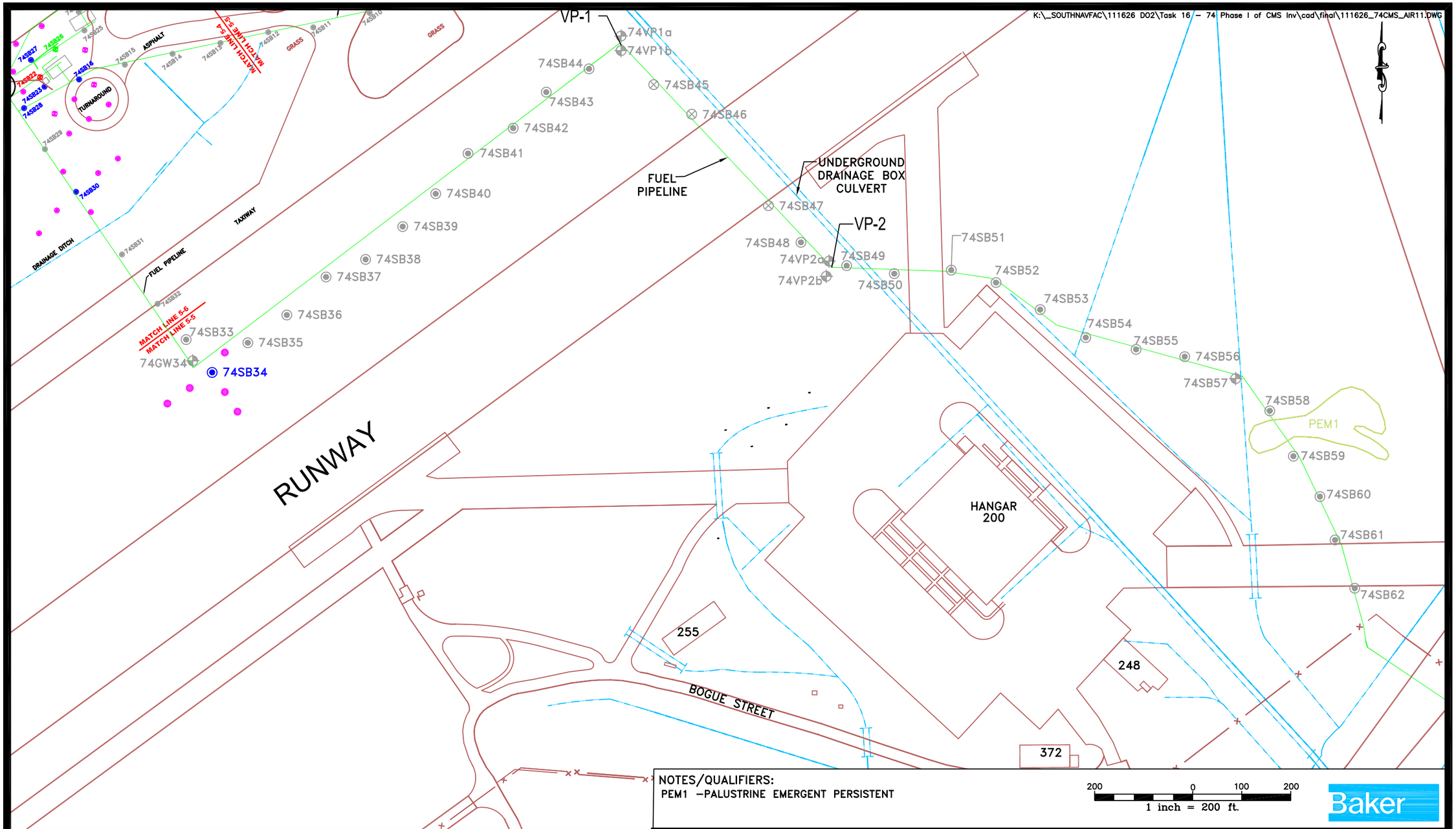
100 0 50 100
1 inch = 100 ft.

Baker

LEGEND
- –SURFACE AND SUBSURFACE SOIL BORING SAMPLE LOCATIONS
- –SUBSURFACE SOIL BORING SAMPLE LOCATIONS
- –SURFACE AND SUBSURFACE SOIL BORING AND GROUNDWATER SAMPLE LOCATIONS
- –SUBSURFACE SOIL BORING AND GROUNDWATER SAMPLE LOCATIONS
- –PROPOSED SURFACE AND SUBSURFACE SOIL BORING SAMPLE LOCATIONS
- –PROPOSED SURFACE AND SUBSURFACE SOIL BORING AND GROUNDWATER SAMPLE LOCATIONS
- –JP–5 PIPELINE
- –DRAINAGE DITCH
- –FENCE LINE

FIGURE 5–5
PHASE II PROPOSED SAMPLE LOCATIONS
SEGMENT B – DAY TANK AREA – AIRFIELD
SWMU 74–FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION REPORT

NAVAL ACTIVITY PUERTO RICO



NOTES/QUALIFIERS:
PEM1 –PALUSTRINE EMERGENT PERSISTENT

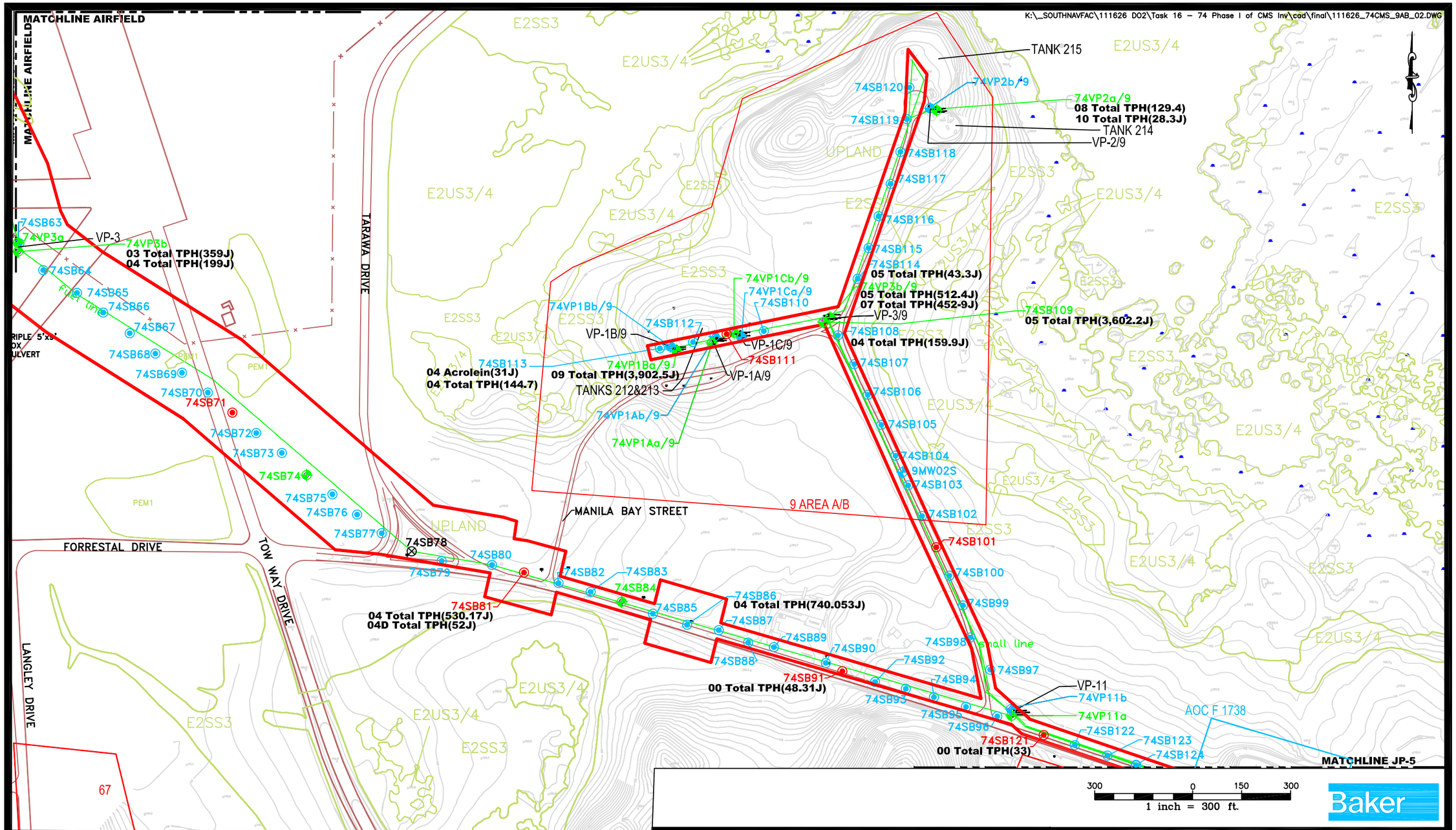
200 0 100 200
1 inch = 200 ft.

Baker

SEGMENT C – AIRFIELD FUEL PIPELINE AREA

LEGEND
- –SURFACE AND SUBSURFACE SOIL BORING SAMPLE LOCATIONS
- –SUBSURFACE SOIL BORING SAMPLE LOCATIONS
- –SURFACE AND SUBSURFACE SOIL BORING AND GROUNDWATER SAMPLE LOCATIONS
- –SUBSURFACE SOIL BORING AND GROUNDWATER SAMPLE LOCATIONS
- –GROUNDWATER SAMPLE LOCATIONS
- –SOIL BORING REFUSAL NO SAMPLES COLLECTED
- –PROPOSED SURFACE SOIL BORING SAMPLE LOCATIONS
- –PROPOSED SURFACE AND SUBSURFACE SOIL BORING SAMPLE LOCATIONS
- –JP-5 PIPELINE
- –DRAINAGE DITCH
- –FENCE LINE

FIGURE 5-6
PHASE II PROPOSED SAMPLE LOCATIONS
SEGMENT C – AIRFIELD FUEL PIPELINE AREA
AIRFIELD
SWMU 74-FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION REPORT
NAVAL ACTIVITY PUERTO RICO



NOTES/QUALIFIERS:

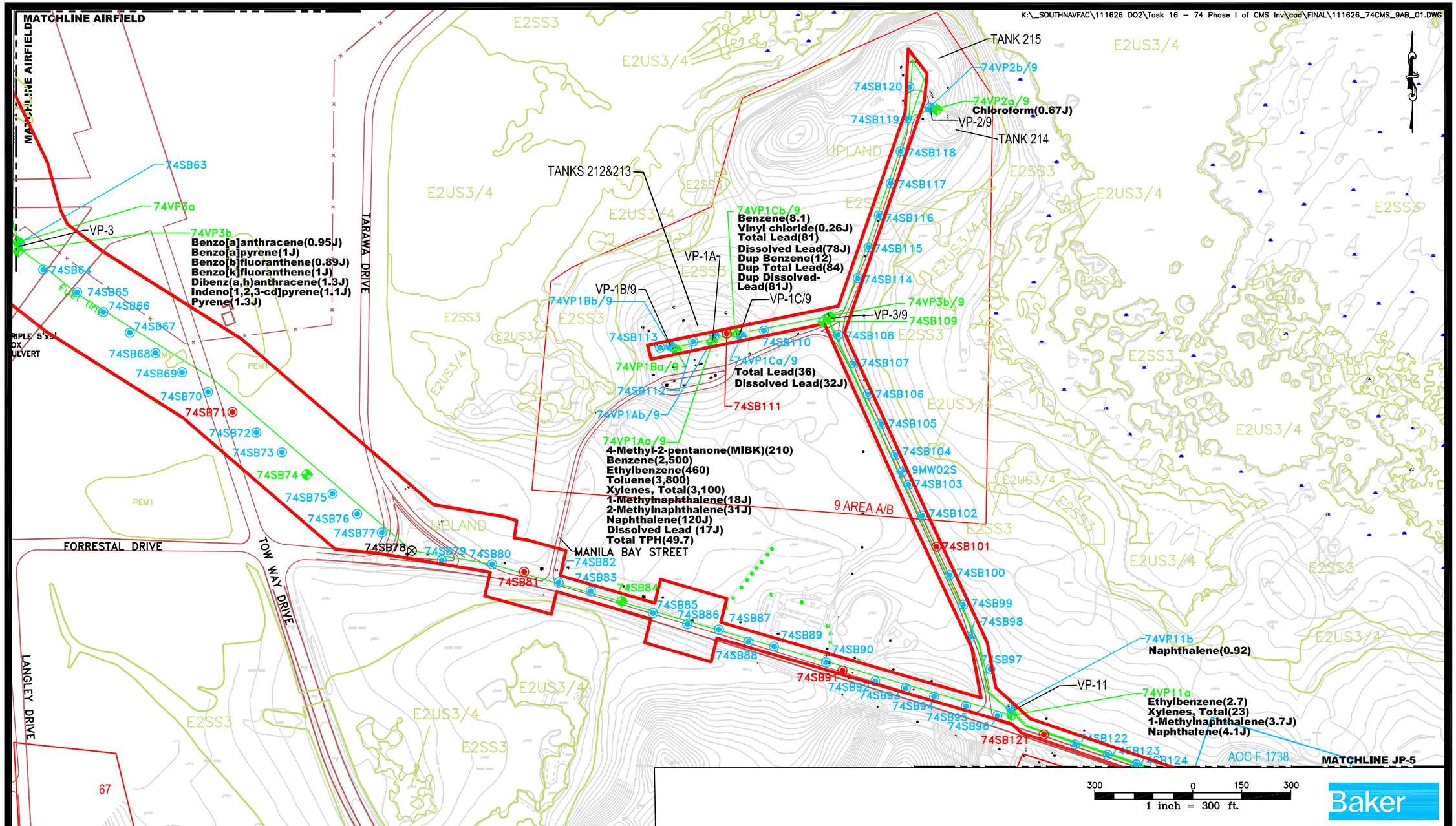
J	–ESTIMATED VALUE
TPH	–REPORTED IN mg/kg
VOCs	–REPORTED IN ug/kg
UPLAND	–UPLAND
E2US3/4	–ESTUARINE INTERTIDAL UNCONSOLIDATED SHORE MUD/ORGANIC
E2SS3	–ESTUARINE INTERTIDAL SCRUB–SHRUB BROAD LEAVED EVERG
PEM1	–PALUSTRINE EMERGENT PERSISTENT

THE SAMPLE DEPTH DESIGNATION (I.E., 03, 04, ETC.) PRECEDES THE DETECTED ANALYTE NAME, THE DETECTED CONCENTRATION IS SHOWN IN PARENTHESIS AFTER CONSTITUENT NAME.

LEGEND

- –SURFACE AND SUBSURFACE SOIL BORING SAMPLE LOCATIONS
- –SUBSURFACE SOIL BORING SAMPLE LOCATIONS
- –SURFACE AND SUBSURFACE SOIL BORING AND GROUNDWATER SAMPLE LOCATIONS
- –SUBSURFACE SOIL BORING AND GROUNDWATER SAMPLE LOCATIONS
- –GROUNDWATER SAMPLE LOCATIONS
- –SOIL BORING REFUSAL NO SAMPLES COLLECTED
- –JP–5 PIPELINE
- –WETLAND DELINEATION
- –SWMU BOUNDARY

FIGURE 6–1
ORGANIC EXCEEDANCES OF BACKGROUND AND SCREENING CRITERIA IN SOIL
SWMU 9 AREA A/B
SWMU 74–FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION REPORT
NAVAL ACTIVITY PUERTO RICO



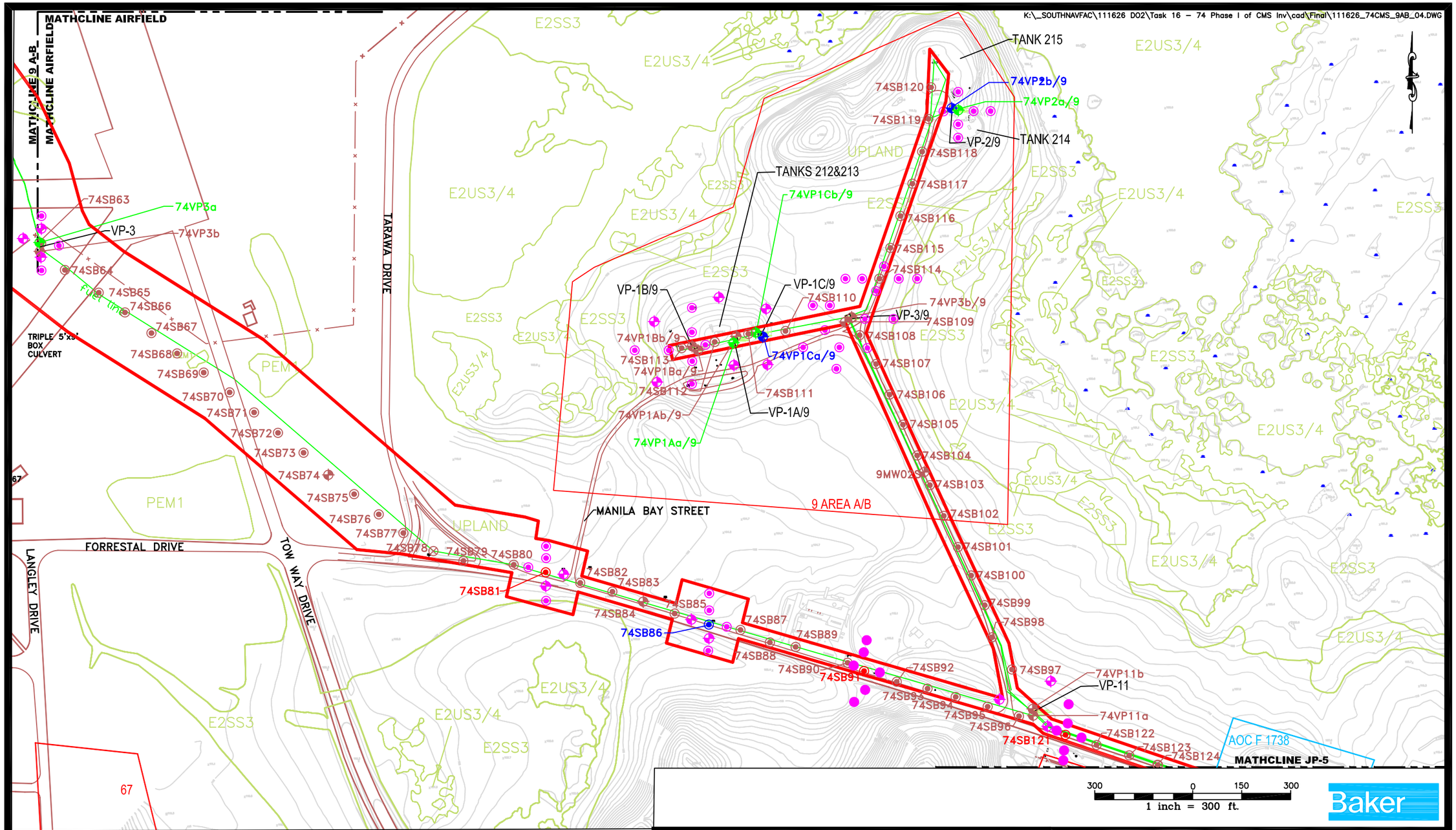
NOTES/QUALIFIERS:

J	–ESTIMATED VALUE
TPH	–REPORTED IN mg/L
PAHs	–REPORTED IN ug/L
VOCs	–REPORTED IN ug/L
UPLAND	–UPLAND
E2US3/4	–ESTUARINE INTERTIDAL UNCONSOLIDATED SHORE MUD/ORGANIC
E2SS3	–ESTUARINE INTERTIDAL SCRUB–SHRUB BROAD LEAVED EVERG
PEM	–PALUSTRINE EMERGENT PERSISTENT

LEGEND

- –SURFACE AND SUBSURFACE SOIL BORING SAMPLE LOCATIONS
- –SUBSURFACE SOIL BORING SAMPLE LOCATIONS
- –SURFACE AND SUBSURFACE SOIL BORING AND GROUNDWATER SAMPLE LOCATIONS
- –SUBSURFACE SOIL BORING AND GROUNDWATER SAMPLE LOCATIONS
- –GROUNDWATER SAMPLE LOCATIONS
- –SOIL BORING REFUSAL NO SAMPLES COLLECTED
- –JP–5 PIPELINE
- –WETLAND DELINEATION
- –SWMU BOUNDARY

FIGURE 6–2
ORGANIC EXCEEDANCES OF BACKGROUND AND SCREENING CRITERIA AND SELECTED INORGANIC COMPOUNDS IN GROUNDWATER
SWMU 9 AREA A/B
SWMU 74–FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION REPORT
NAVAL ACTIVITY PUERTO RICO

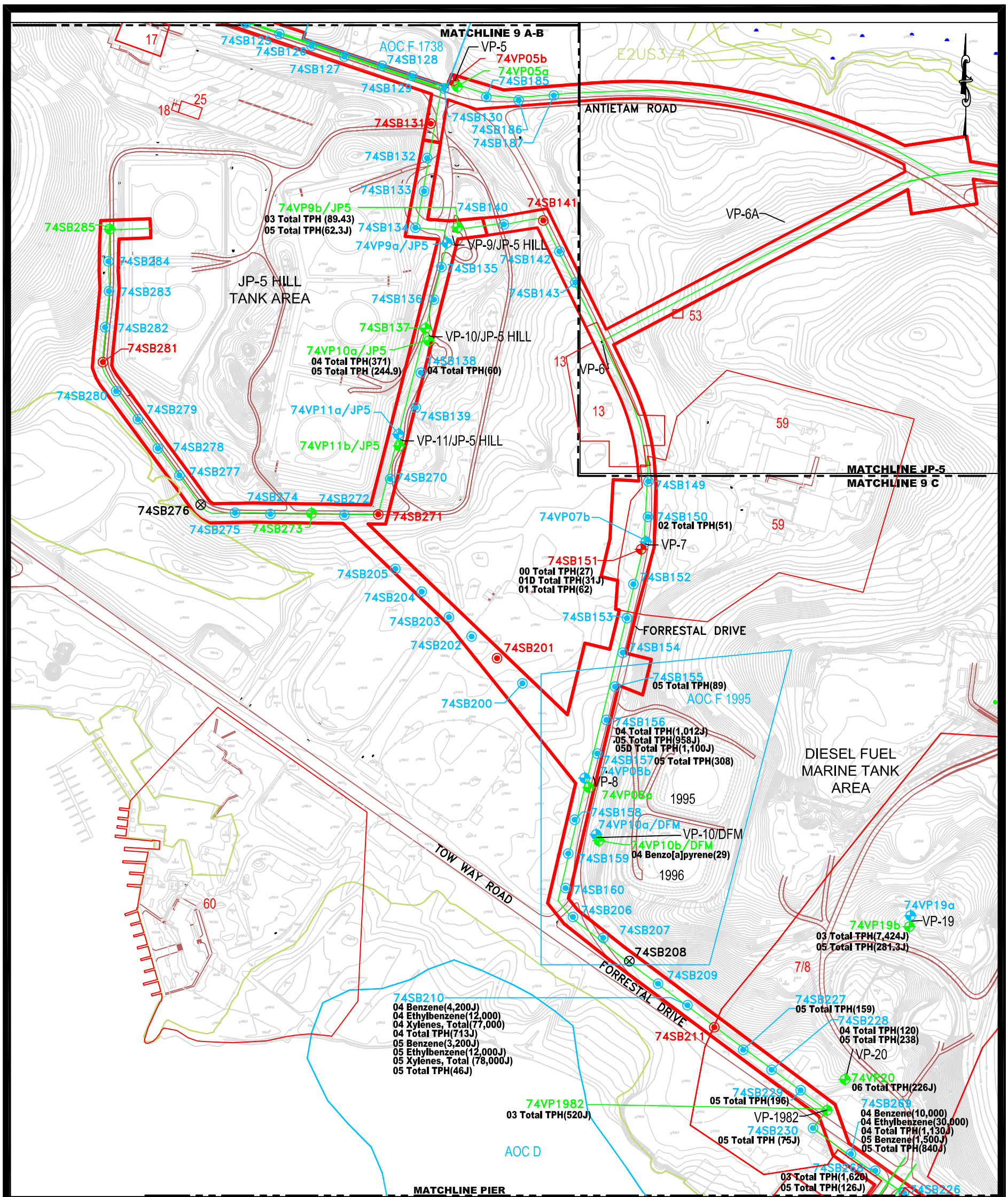


NOTES:
UPLAND –UPLAND
E2US3/4 –ESTUARINE INTERTIDAL UNCONSOLIDATED SHORE MUD/ORGANIC
E2SS3 –ESTUARINE INTERTIDAL SCRUB–SHRUB BROAD LEAVED EVERG
PEM1 –PALUSTRINE EMERGENT PERSISTENT

–SURFACE AND SUBSURFACE SOIL BORING SAMPLE LOCATIONS
–SUBSURFACE SOIL BORING SAMPLE LOCATIONS
–SURFACE AND SUBSURFACE SOIL BORING AND GROUNDWATER SAMPLE LOCATIONS
–SUBSURFACE SOIL BORING AND GROUNDWATER SAMPLE LOCATIONS
–GROUNDWATER SAMPLE LOCATIONS
–SOIL BORING REFUSAL NO SAMPLES COLLECTED
–PROPOSED SURFACE AND SHALLOW SUBSURFACE SOIL BORING SAMPLE LOCATIONS
–PROPOSED SURFACE AND SUBSURFACE SOIL BORING SAMPLE LOCATIONS
–PROPOSED SURFACE AND SUBSURFACE SOIL BORING AND GROUNDWATER SAMPLE LOCATIONS

FIGURE 6–3
PHASE II PROPOSED SAMPLE LOCATIONS
SWMU 9 AREA A/B
SWMU 74–FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION REPORT

NAVAL ACTIVITY PUERTO RICO



NOTES/QUALIFIERS:

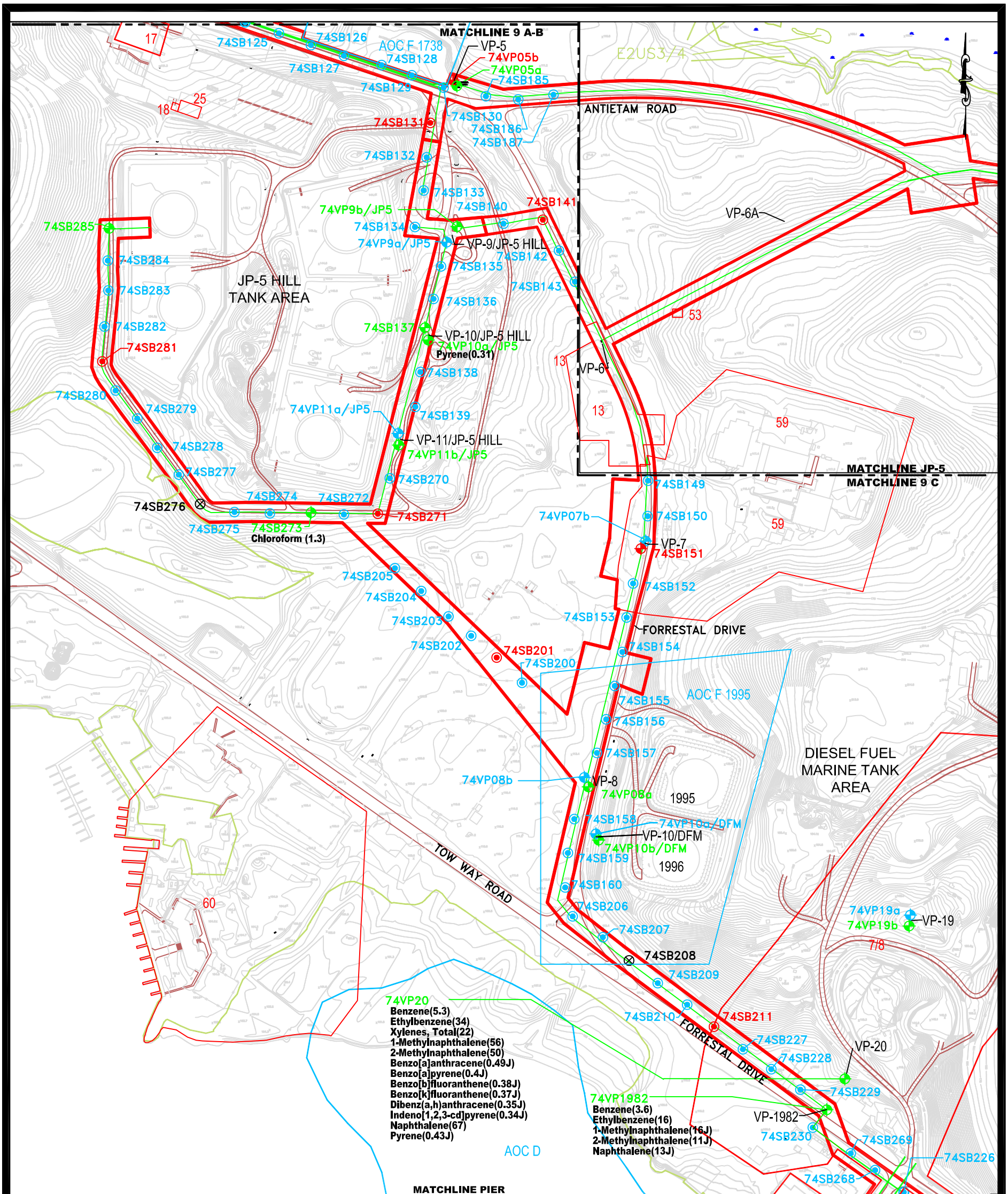
J	–ESTIMATED VALUE
TPH	–REPORTED IN mg/kg
PAHs	–REPORTED IN ug/kg
VOCs	–REPORTED IN ug/kg
E2US3/4	–ESTUARINE INTERTIDAL UNCONSOLIDATED SHORE MUD/ORGANIC

THE SAMPLE DEPTH DESIGNATION (I.E., 03, 04, ETC.) PRECEDES THE DETECTED ANALYTE NAME, THE DETECTED CONCENTRATION IS SHOWN IN PARENTHESIS AFTER CONSTITUENT NAME.

LEGEND

- –SURFACE AND SUBSURFACE SOIL BORING SAMPLE LOCATIONS
- –SUBSURFACE SOIL BORING SAMPLE LOCATIONS
- –SURFACE AND SUBSURFACE SOIL BORING AND GROUNDWATER SAMPLE LOCATIONS
- –SUBSURFACE SOIL BORING AND GROUNDWATER SAMPLE LOCATIONS
- –GROUNDWATER SAMPLE LOCATIONS
- –SOIL BORING REFUSAL NO SAMPLES COLLECTED
- –JP–5 PIPELINE
- –WETLAND DELINEATION
- –SWMU BOUNDARY

FIGURE 7–1
ORGANIC EXCEEDANCES OF BACKGROUND AND SCREENING CRITERIA AND TPH EXCEEDANCES OF CRITERIA IN SOIL – JP–5 HILL AND DFM AREA
SWMU 74–FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION REPORT
NAVAL ACTIVITY PUERTO RICO



NOTES/QUALIFIERS:

J –ESTIMATED VALUE
LLPAHs –REPORTED IN ug/L
VOCs –REPORTED IN ug/L
E2US3/4 –ESTUARINE INTERTIDAL UNCONSOLIDATED SHORE MUD/ORGANIC

300 0 150 300
1 inch = 300 ft.

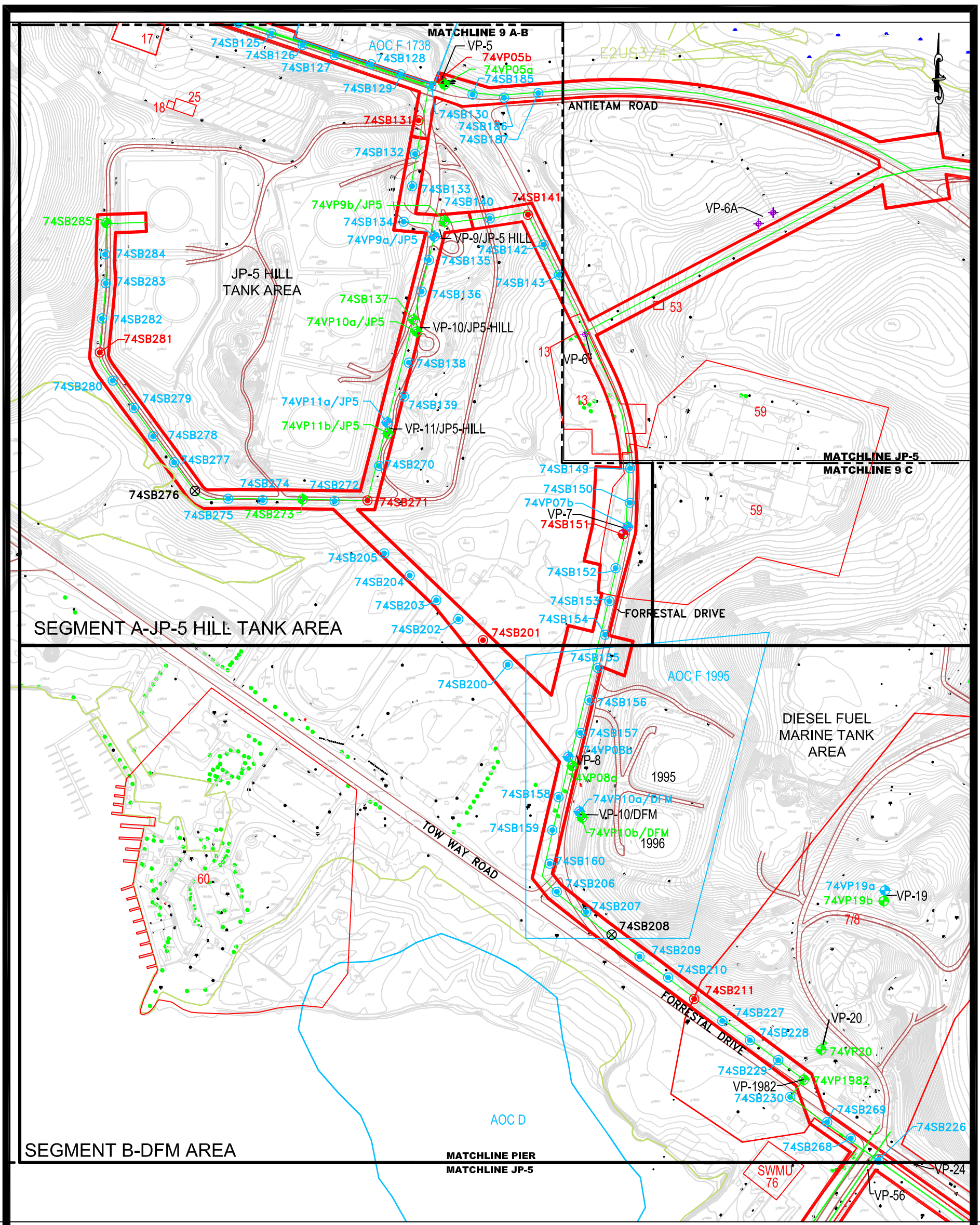
K:_SOUTHNAVFAC\111626 D02\Task 16 – 74 Phase I of CMS Inv\cad\final\111626_74CMS_JP5_04.DWG

Baker

LEGEND

- –SURFACE AND SUBSURFACE SOIL BORING SAMPLE LOCATIONS
- –SUBSURFACE SOIL BORING SAMPLE LOCATIONS
- –SURFACE AND SUBSURFACE SOIL BORING AND GROUNDWATER SAMPLE LOCATIONS
- –SUBSURFACE SOIL BORING AND GROUNDWATER SAMPLE LOCATIONS
- –GROUNDWATER SAMPLE LOCATIONS
- –SOIL BORING REFUSAL NO SAMPLES COLLECTED
- –JP–5 PIPELINE
- –WETLAND DELINEATION
- –SWMU BOUNDARY

FIGURE 7–2
ORGANIC EXCEEDANCES OF BACKGROUND AND SCREENING CRITERIA IN GROUNDWATER
JP–5 HILL AND DFM AREA
SWMU 74–FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION REPORT
NAVAL ACTIVITY PUERTO RICO



NOTES:
E2US3/4– ESTUARINE INTERTIDAL UNCONSOLIDATED SHORE MUD/ORGANIC

K:_SOUTHNAVFAC\111626 DO2\Task 16 – 74 Phase I of CMS Inv\cad\final\111626_74CMS_JP5_05.DWG

300 0 150 300
1 inch = 300 ft.

Baker

LEGEND
- –SURFACE AND SUBSURFACE SOIL BORING SAMPLE LOCATIONS
- –SUBSURFACE SOIL BORING SAMPLE LOCATIONS
- –SURFACE AND SUBSURFACE SOIL BORING AND GROUNDWATER SAMPLE LOCATIONS
- –SUBSURFACE SOIL BORING AND GROUNDWATER SAMPLE LOCATIONS
- –GROUNDWATER SAMPLE LOCATIONS
- –SOIL BORING REFUSAL NO SAMPLES COLLECTED
- –JP–5 PIPELINE
- –WETLAND DELINEATION
- –SWMU BOUNDARY

FIGURE 7–3
PHASE II SAMPLE AREA KEY MAP
JP–5 HILL AND DFM AREA
SWMU 74–FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION REPORT

NAVAL ACTIVITY PUERTO RICO

NOTES:
E2US3/4 –ESTUARINE INTERTIDAL UNCONSOLIDATED SHORE MUD/ORGANIC
UPLAND –UPLAND

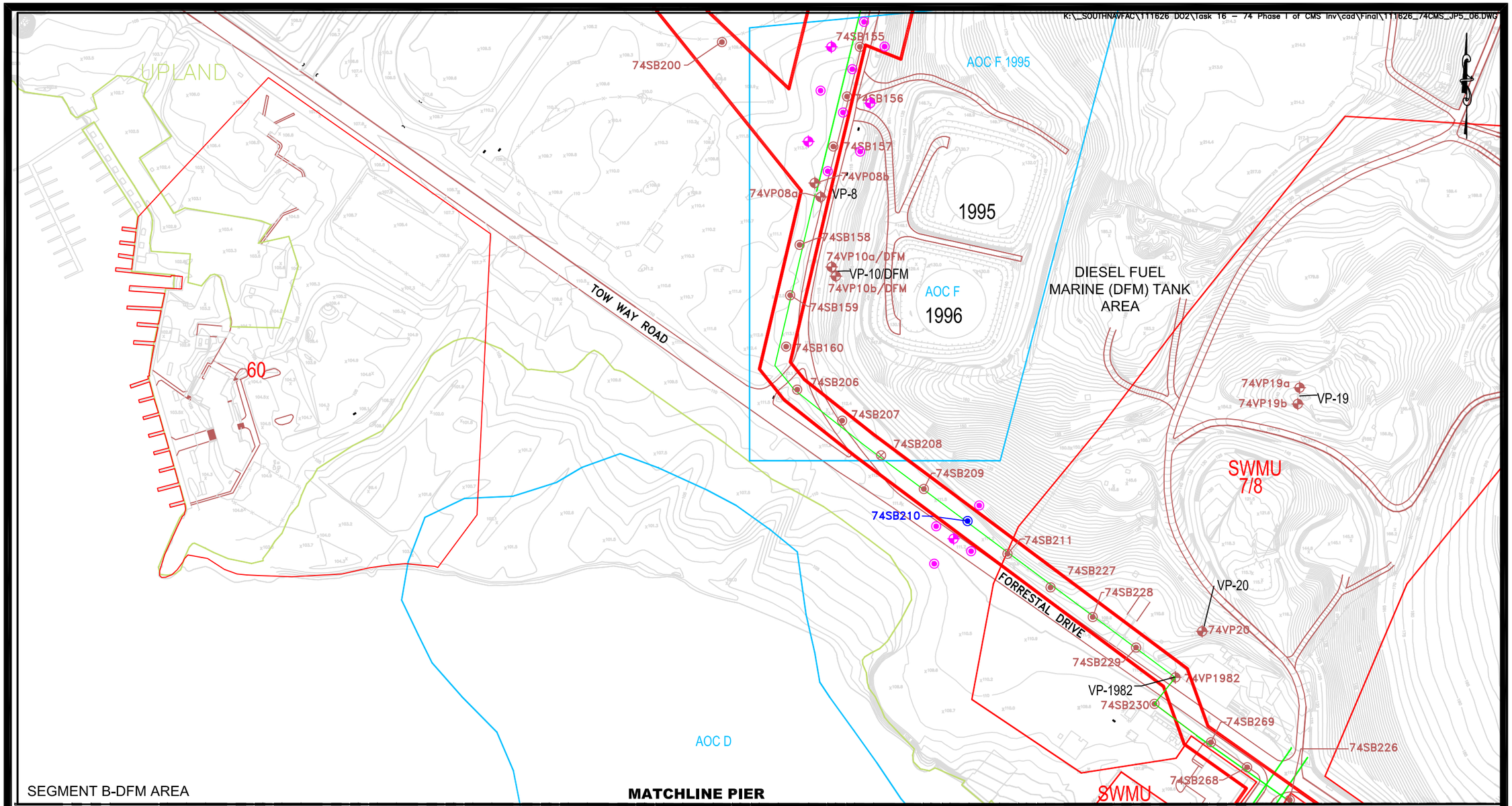
200 0 100 200
1 inch = 200 ft.

K:_SOUTHNAVFAC\111626 D02\Task 16 – 74 Phase I of CMS Inv\cad\Final\111626_74CMS_JP5_06.DWG

Baker

–SURFACE AND SUBSURFACE SOIL BORING SAMPLE LOCATIONS
–SUBSURFACE SOIL BORING SAMPLE LOCATIONS
–SURFACE AND SUBSURFACE SOIL BORING AND GROUNDWATER SAMPLE LOCATIONS
–SUBSURFACE SOIL BORING AND GROUNDWATER SAMPLE LOCATIONS
–GROUNDWATER SAMPLE LOCATIONS
–SOIL BORING REFUSAL NO SAMPLES COLLECTED
–PROPOSED SURFACE AND SUBSURFACE SOIL BORING SAMPLE LOCATIONS
–PROPOSED SURFACE AND SUBSURFACE SOIL BORING AND GROUNDWATER SAMPLE LOCATIONS
–JP–5 PIPELINE –WETLAND DELINEATION –SWMU BOUNDARY

FIGURE 7–4
PHASE II PROPOSED SAMPLE LOCATIONS
SEGMENT A – JP–5 HILL TANK AREA
JP–5 HILL AND DFM AREA
SWMU 74–FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION REPORT
NAVAL ACTIVITY PUERTO RICO



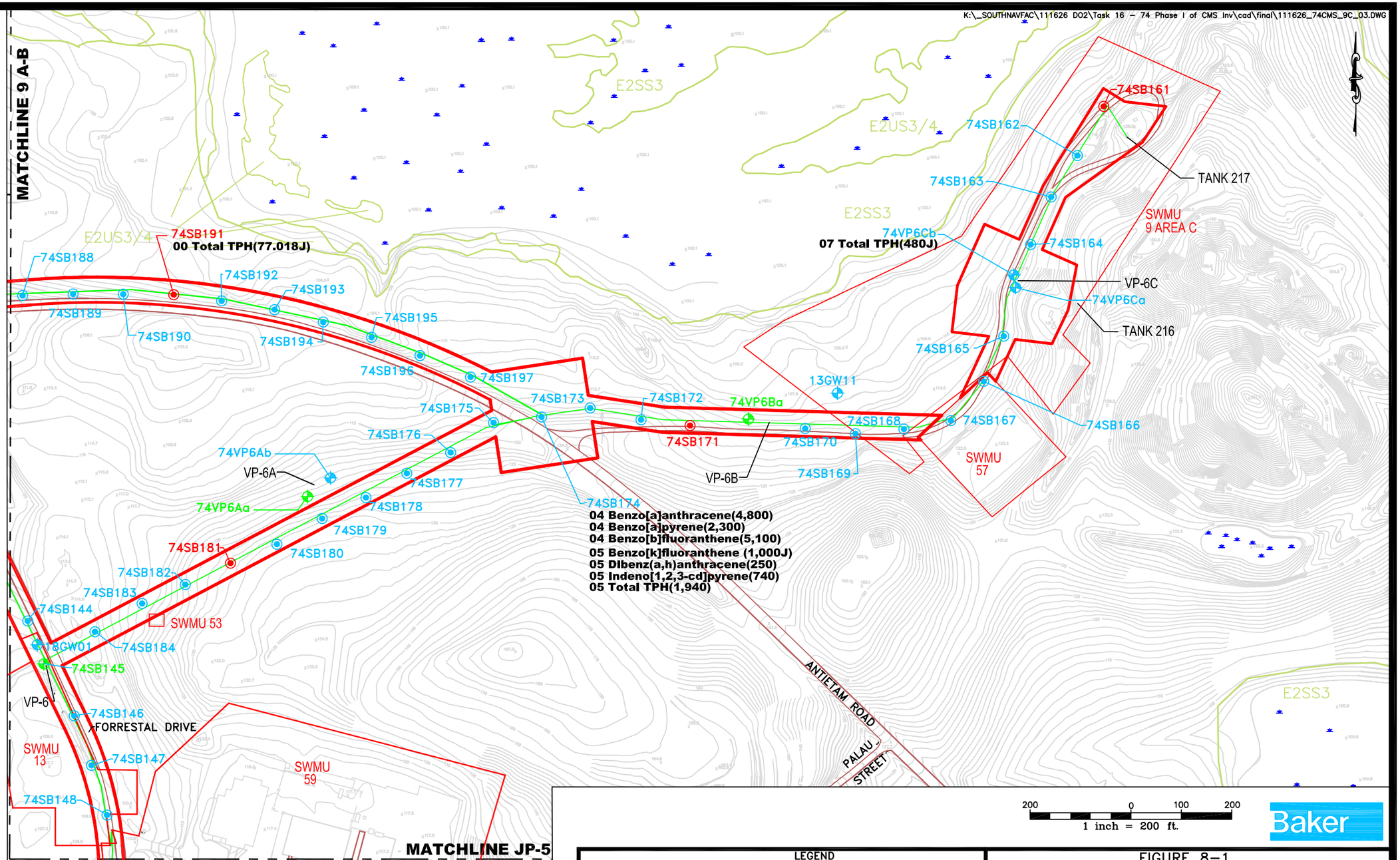
200 0 100 200
1 inch = 200 ft.

Baker

- –SURFACE AND SUBSURFACE SOIL BORING SAMPLE LOCATIONS
- –SUBSURFACE SOIL BORING SAMPLE LOCATIONS
- –SURFACE AND SUBSURFACE SOIL BORING AND GROUNDWATER SAMPLE LOCATIONS
- –SUBSURFACE SOIL BORING AND GROUNDWATER SAMPLE LOCATIONS
- –GROUNDWATER SAMPLE LOCATIONS
- –SOIL BORING REFUSAL NO SAMPLES COLLECTED
- –PROPOSED SURFACE AND SUBSURFACE SOIL BORING SAMPLE LOCATIONS
- –PROPOSED SURFACE AND SUBSURFACE SOIL BORING AND GROUNDWATER SAMPLE LOCATIONS
- –JP–5 PIPELINE
- –WETLAND DELINEATION
- –SWMU BOUNDARY

FIGURE 7–5
PHASE II PROPOSED SAMPLE LOCATIONS
SEGMENT B – DFM AREA
JP–5 HILL AND DFM AREA
SWMU 74–FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION REPORT

NAVAL ACTIVITY PUERTO RICO



NOTES/QUALIFIERS:

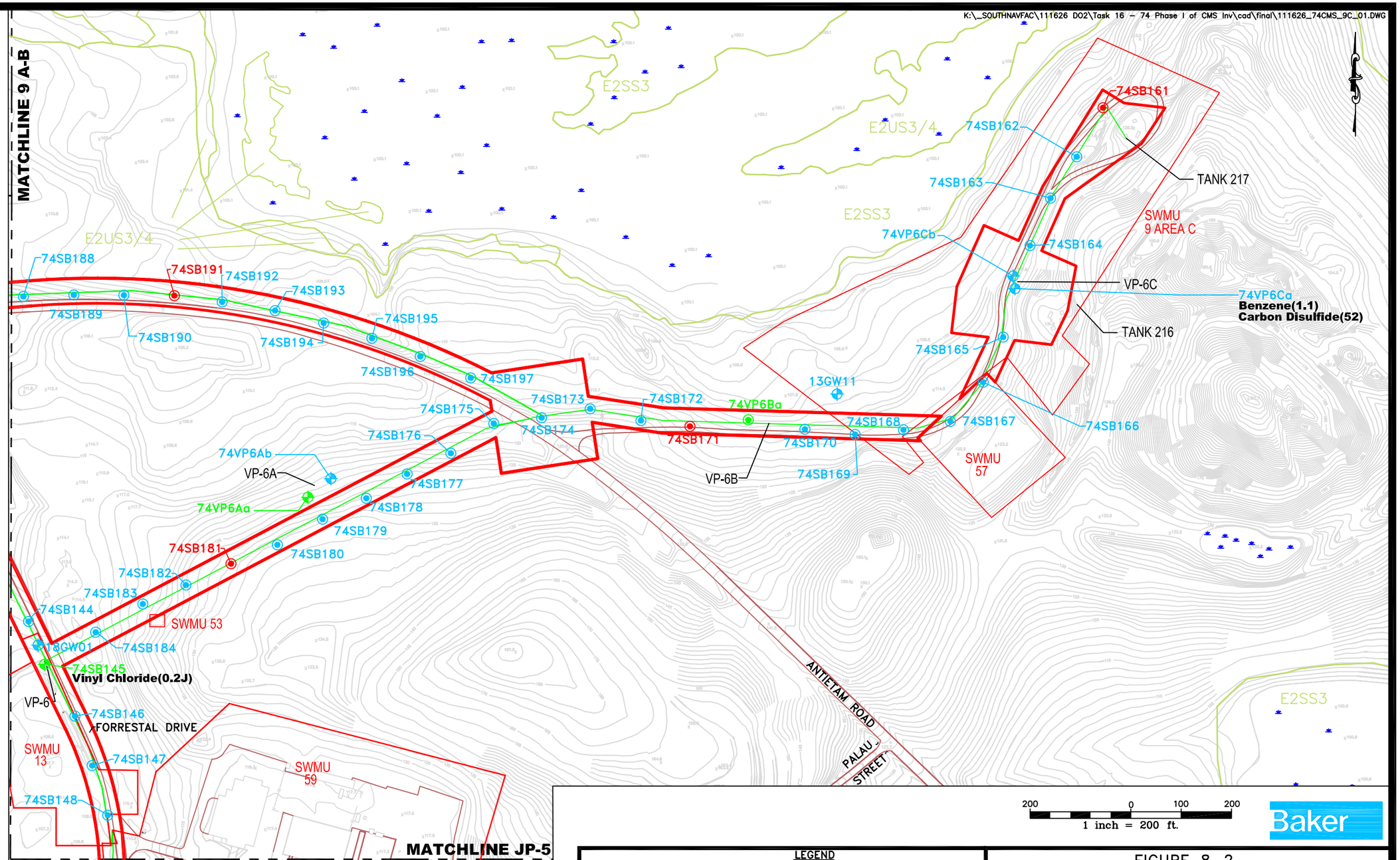
J	–ESTIMATED VALUE
TPH	–REPORTED IN mg/kg
PAHs	–REPORTED IN ug/kg
E2US3/4	–ESTUARINE INTERTIDAL UNCONSOLIDATED SHORE MUD/ORGANIC
E2SS3	–ESTUARINE INTERTIDAL SCRUB–SHRUB BROAD LEAVED EVERG

THE SAMPLE DEPTH DESIGNATION (I.E., 03, 04, ETC.) PRECEDES THE DETECTED ANALYTE NAME, THE DETECTED CONCENTRATION IS SHOWN IN PARENTHESIS AFTER CONSTITUENT NAME.

LEGEND

- –SURFACE AND SUBSURFACE SOIL BORING SAMPLE LOCATIONS
- –SUBSURFACE SOIL BORING SAMPLE LOCATIONS
- –SUBSURFACE SOIL BORING AND GROUNDWATER SAMPLE LOCATIONS
- –GROUNDWATER SAMPLE LOCATIONS
- –JP–5 PIPELINE
- –WETLAND DELINEATION
- –SWMU BOUNDARY

FIGURE 8–1
ORGANIC EXCEEDANCES OF BACKGROUND AND SCREENING CRITERIA AND TPH EXCEEDANCES OF CRITERIA IN SOIL
SWMU 9 AREA C
SWMU 74–FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION REPORT
NAVAL ACTIVITY PUERTO RICO



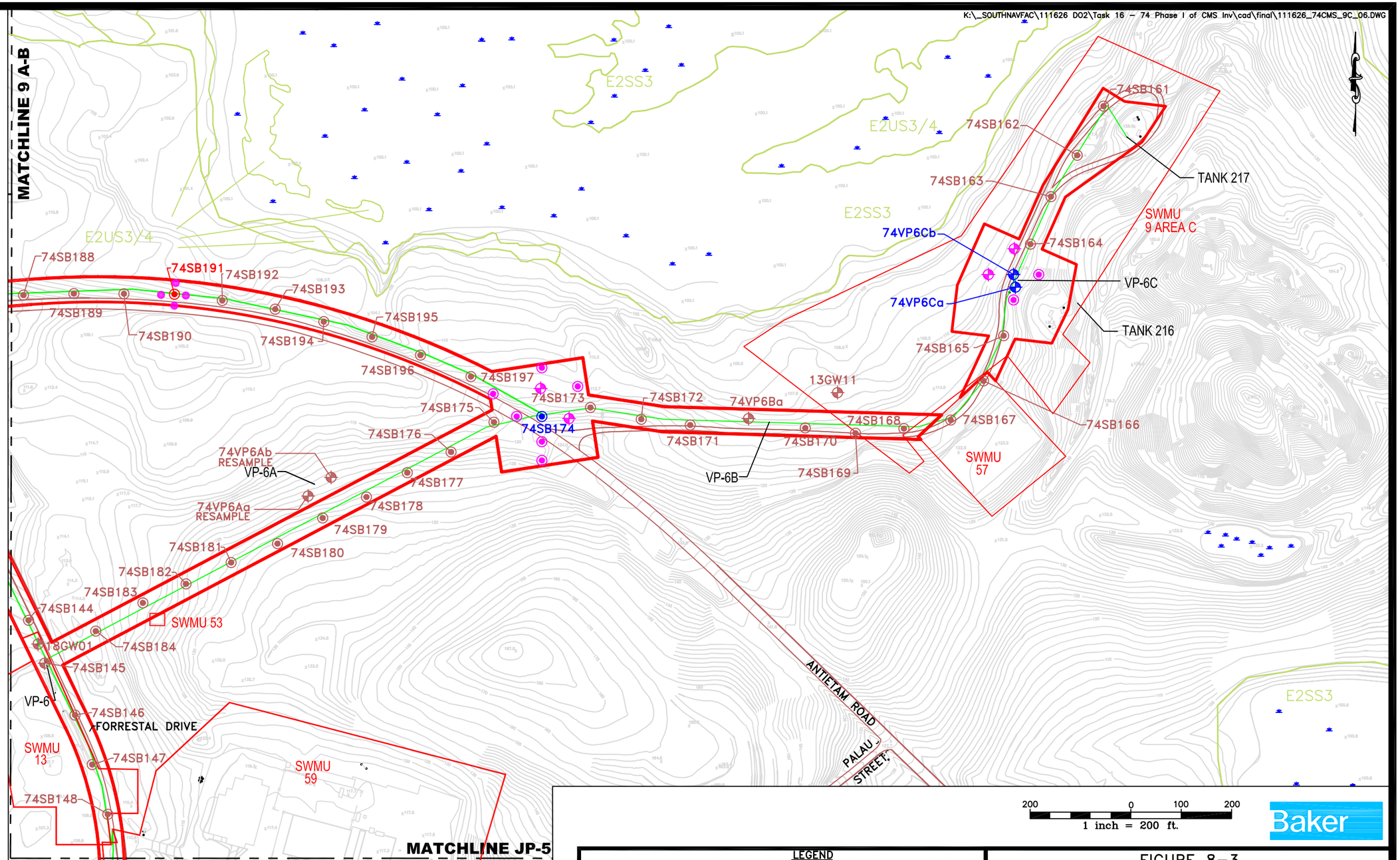
NOTES/QUALIFIERS:

J	–ESTIMATED VALUE
VOCs	–REPORTED IN ug/L
E2US3/4	–ESTUARINE INTERTIDAL UNCONSOLIDATED SHORE MUD/ORGANIC
E2SS3	–ESTUARINE INTERTIDAL SCRUB–SHRUB BROAD LEAVED EVERG

LEGEND

- –SURFACE AND SUBSURFACE SOIL BORING SAMPLE LOCATIONS
- –SUBSURFACE SOIL BORING SAMPLE LOCATIONS
- –SUBSURFACE SOIL BORING AND GROUNDWATER SAMPLE LOCATIONS
- –GROUNDWATER SAMPLE LOCATIONS
- –JP–5 PIPELINE
- –WETLAND DELINEATION
- –SWMU BOUNDARY

FIGURE 8–2
ORGANIC EXCEEDANCES OF BACKGROUND AND SCREENING CRITERIA IN GROUNDWATER
SWMU 9 AREA C
SWMU 74–FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION REPORT
NAVAL ACTIVITY PUERTO RICO



LEGEND

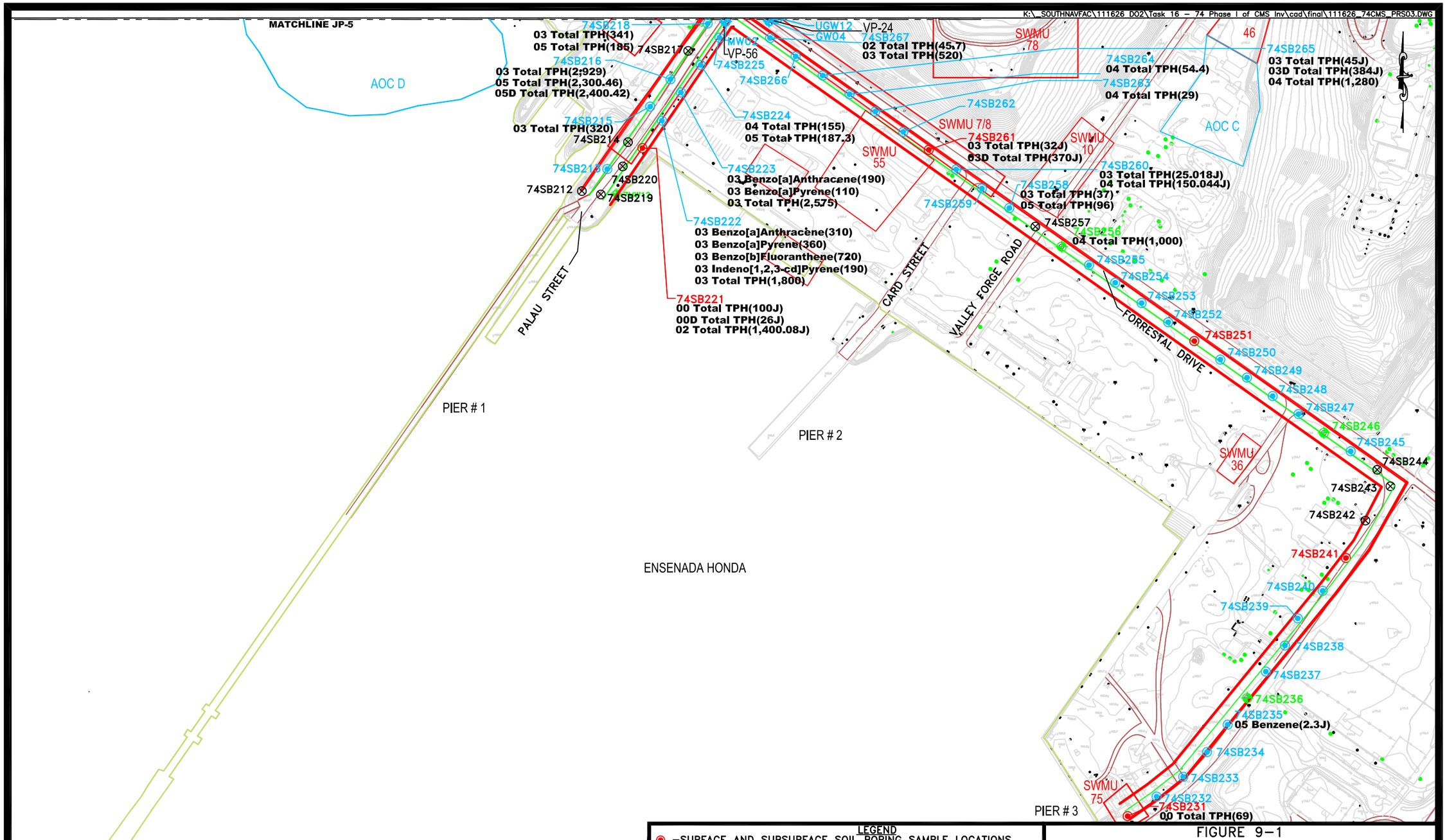
- –SURFACE AND SUBSURFACE SOIL BORING SAMPLE LOCATIONS
- –SUBSURFACE SOIL BORING SAMPLE LOCATIONS
- –SUBSURFACE SOIL BORING AND GROUNDWATER SAMPLE LOCATIONS
- –GROUNDWATER SAMPLE LOCATIONS
- –PROPOSED SURFACE AND SHALLOW SUBSURFACE SOIL BORING SAMPLE LOCATIONS
- –PROPOSED SURFACE AND SUBSURFACE SOIL BORING SAMPLE LOCATIONS
- –PROPOSED SURFACE AND SUBSURFACE SOIL BORING AND GROUNDWATER SAMPLE LOCATIONS
- –WETLAND DELINEATION
- –JP–5 PIPELINE
- –SWMU BOUNDARY

NOTES:

E2US3/4 –ESTUARINE INTERTIDAL UNCONSOLIDATED SHORE MUD/ORGANIC
E2SS3 –ESTUARINE INTERTIDAL SCRUB–SHRUB BROAD LEAVED EVERG

FIGURE 8–3
PHASE II PROPOSED SAMPLE LOCATIONS
SWMU 9 AREA C
SWMU 74–FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION REPORT

NAVAL ACTIVITY PUERTO RICO



NOTES/QUALIFIERS:
J – ESTIMATED VALUE
TPH – REPORTED IN mg/kg
PAHs – REPORTED IN ug/kg

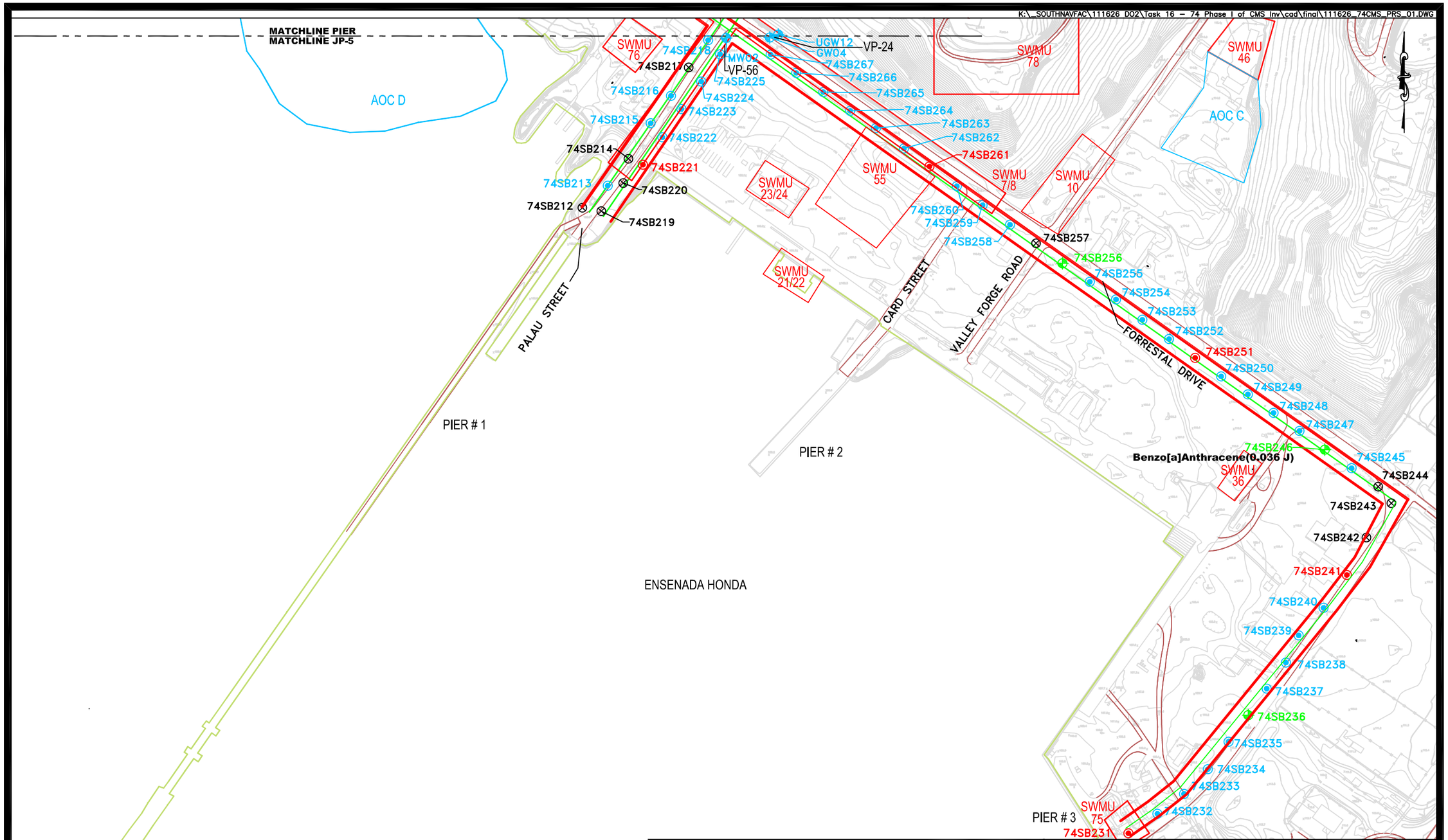
300 0 150 300
1 inch = 300 ft.

Baker

THE SAMPLE DEPTH DESIGNATION (I.E., 03, 04, EXC.) PRECEDES THE DETECTED ANALYTE NAME, THE DETECTED CONCENTRATIONS IS SHOWN IN PARENTHESIS AFTER ANALYTE NAME.

LEGEND
–SURFACE AND SUBSURFACE SOIL BORING SAMPLE LOCATIONS
–SUBSURFACE SOIL BORING SAMPLE LOCATIONS
–SUBSURFACE SOIL BORING AND GROUNDWATER SAMPLE LOCATIONS
–GROUNDWATER SAMPLE LOCATIONS
–SOIL BORING REFUSAL NO SAMPLES COLLECTED
–JP–5 PIPELINE
–WETLAND DELINEATION
–SWMU BOUNDARY

FIGURE 9–1
ORGANIC EXCEEDANCES OF BACKGROUND AND SCREENING CRITERA AND TPH EXCEEDANCES OF CRITERIA IN SOIL
FUELING PIERS AREA
SWMU 74–FUEL PIPELINES, AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION REPORT
NAVAL ACTIVITY PUERTO RICO



QUALIFIERS:
J – ESTIMATED VALUE
PAHs – REPORTED IN ug/kg

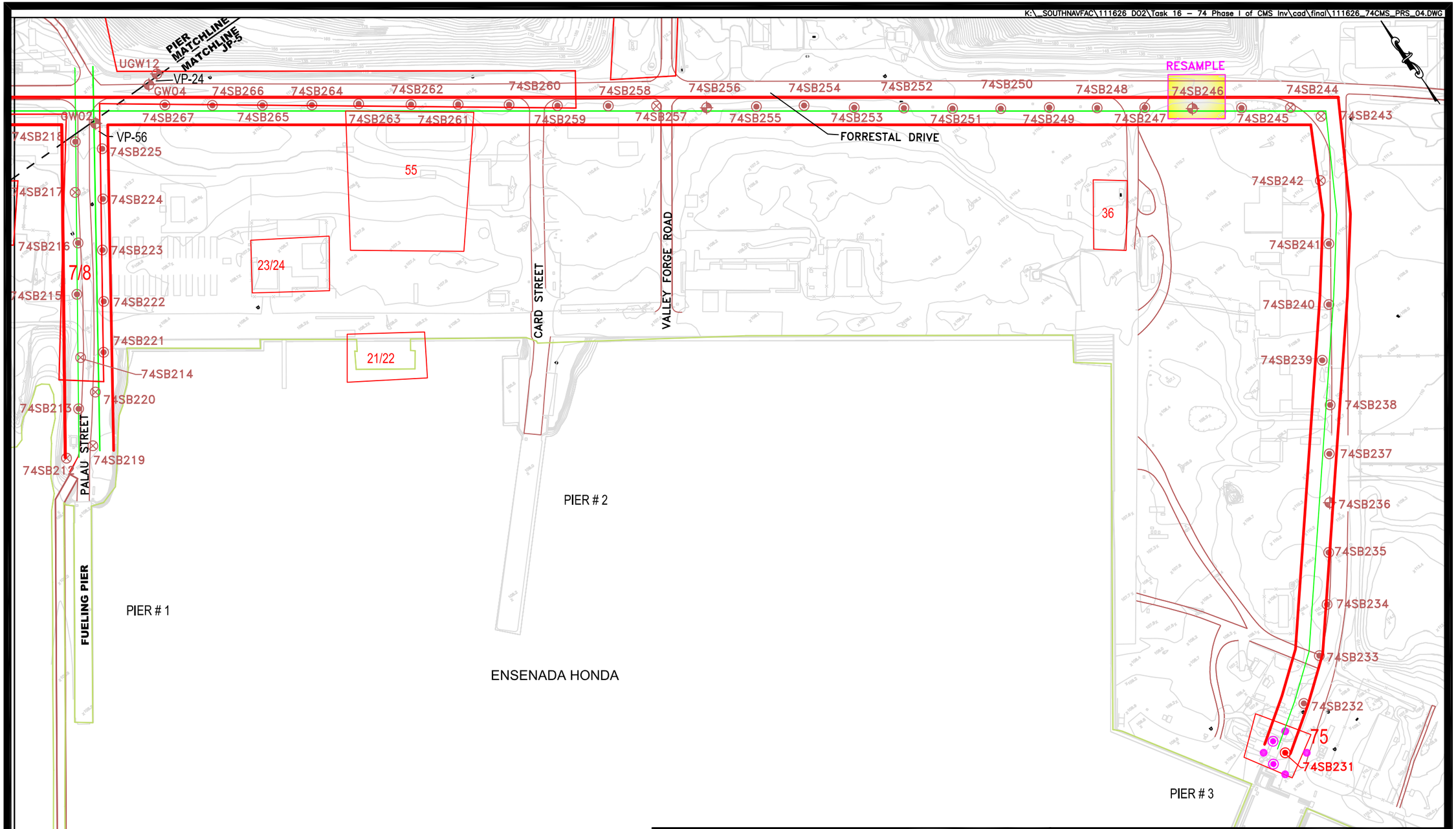
300 0 150 300
1 inch = 300 ft.

Baker

LEGEND
- –SURFACE AND SUBSURFACE SOIL BORING SAMPLE LOCATIONS
- –SUBSURFACE SOIL BORING SAMPLE LOCATIONS
- –SUBSURFACE SOIL BORING AND GROUNDWATER SAMPLE LOCATIONS
- –GROUNDWATER SAMPLE LOCATIONS
- –SOIL BORING REFUSAL NO SAMPLES COLLECTED
- –JP-5 PIPELINE
- –WETLAND DELINEATION
- –SWMU BOUNDARY

FIGURE 9-2
ORGANIC EXCEEDANCES OF BACKGROUND AND SCREENING CRITERA IN GROUNDWATER
FUELING PIERS AREA
SWMU 74-FUEL PIPELINES, AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION REPORT
NAVAL ACTIVITY PUERTO RICO

K:_SOUTHNAVFAC\111626 DO2\Task 16 – 74 Phase I of CMS Inv\cad\final\111626_74CMS_PRS_04.DWG



LEGEND

- –SURFACE AND SUBSURFACE SOIL BORING SAMPLE LOCATIONS
- –SUBSURFACE SOIL BORING SAMPLE LOCATIONS
- –SUBSURFACE SOIL BORING AND GROUNDWATER SAMPLE LOCATIONS
- –GROUNDWATER SAMPLE LOCATIONS
- –SOIL BORING REFUSAL NO SAMPLES COLLECTED
- –PROPOSED SURFACE AND SHALLOW SUBSURFACE SOIL BORING SAMPLE LOCATIONS
- –PROPOSED SURFACE AND SUBSURFACE SOIL BORING SAMPLE LOCATIONS
- –WETLAND DELINEATION
- –JP–5 PIPELINE
- –SWMU BOUNDARY

FIGURE 9–3
PHASE II PROPOSED SAMPLE LOCATIONS
FUELING PIERS AREA
SWMU 74–FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION REPORT

NAVAL ACTIVITY PUERTO RICO

1200 0 600 1200

1 inch = 1200 ft.

Baker

SOURCE: GEO-MARINE, INC., SEPTEMBER 6, 2000

LEGEND

- PHASE II INVESTIGATION AREA
- SWMU BOUNDARY
- GEOGRAPHIC AREAS IN THE PHASE I CMS INVESTIGATION REPORT

FIGURE 10-1
SWMU 74 PHASE II INVESTIGATION AREAS
SWMU 74-FUEL PIPELINES AND
HYDRANT PITS
PHASE I OF THE CMS INVESTIGATION REPORT
NAVAL ACTIVITY PUERTO RICO

APPENDIX A
FIELD ACTIVITIES

Field Log Book Notes

Field Scientist- Adam Gailey

(1) May 2, 2008

Arrive at NAPR 0700

0815 FB01 Lab Grade DI H_2O Volatiles, SVOC's, Metals and Pro/Gro.

0820 ER05 Ground H_2O Tubing for VOC's, SVOC's + Metals.

0850 FB02 from Potable H_2O from Drillers water tank - VOC's, SVOC's, Metals and Pro/Gro.

(0930 - 1245)
Fuel Pipeline was Field Verified Using Mapping Grade Diff. GPS. Proposed Boring Locations were then flagged at approx. 5-6' offsets from the pipeline.

1330 - Prepare and Pack Coolers for FedEx shipment.

1700 Depart NAPR.

ADG

WEATHER: Clouds and Slight Breeze Mid 80's.

(2) May 3, 2008

Arrive at NAPR Approx. 0645

Prepare for field - Depart DPW at 0745.

0930 - Continue with field verifying fuel line at Sumu 74 using DGPS. Entire Airfield flagged and GPS'd.

(to SB #62 at fence line)

Depart NAPR 1930.

WEATHER: Cloudy Scattered
Mid 80's

May 4, 2008

(3)

Arrive at NUPR 0630.

GPS Fuel line from flags
#63 to #110.

Download GPS Data.

Depart NAPR 1330.

ADG.

WEATHER: Mostly Sunny
Mid 80's

May 5, 2008

Arrive at NAPR at 0630.

Prep to continue flagging
soil boring locations along
fuel line.

(4)

ADG
5/5/08

(5)

6/13/08

(6)

Weather: Partly Cloudy
Mid 80's

May 13, 2008

Arrive at NAPR 0645. Begin prepping for 2nd field Season.

- Well Development -

- 74GWUP3A -

Start Pumping: 0857
Stop Pumping: 0906

Static Water Level - 9.92
Total Depth - 18.43

1st gallon	pH	Temp	Cond	DO	Turb
	7.79	28.05	2.018	3.27	9.09

Well pumped Dry. No odors.

- 74GWUP3b -

Start Pump: 0920
Stop pumping: 0928

Static Water Level - 6.49
Total Depth - 16.10

1st gallon	pH	Temp	Cond	DO	Turb
	7.84	28.29	1.969	3.54	12.9

Very faint Petroleum odor. Clear.

2nd 1/2 gallon	pH	Temp	Cond	DO	Turb
Purged Dry.	7.89	28.23	1.978	3.90	25.9

(7)

Start Pump: 0946
Stop Pump: 0962

74GWUP 11A

Static Water Level - 15.23
Total Depth - 19.92

1st gallon	pH	Temp	Cond	DO	Turb
	6.92	29.02	4.989	3.14	14.2

Pumped Dry.
Only 1/2 gallon pumped. Clear.
Faint odor of Petroleum.

74GWUP 11b

Start: 1005
Stop:

Static Water Level - 16.20
Total Depth - 32.20

1st gallon	pH	Temp	Cond	DO	Turb
	6.30	29.0	17.5	3.45	142

Somewhat turbid but Clearing. No Petroleum odors.

2nd gallon	pH	Temp	Cond	DO	Turb
	6.48	28.80	14.0	3.47	27.4

Clearing. No odor.

3rd gallon	pH	Temp	Cond	DO	Turb
	6.59	29.43	14.40	3.70	24.4

No odor. Pumped dry.

(8)

Start: 1040
Stop: 1048

74GWUP1Ca

Static Water Level - 17.13
Total Depth - 23.75

1st gallon	pH	Temp	Cond	DO	Turb
	7.72	29.30	1.383	3.55	5.57

Clear. No odor.

2nd gallon	pH	Temp	Cond	DO	Turb

Pumped. Dry. 1 gallon.

74GWUP1Cb

Static Water Level - 14.24
Total Depth - 24.10

1st gallon	pH	Temp	Cond	DO	Turb
	7.45	28.90	1.650	3.74	27.4

Slight fuel odor. Clear.

2nd gallon	pH	Temp	Cond	DO	Turb
	7.56	28.6	1.75	3.30	19.8

Pumped Dry. Slight odor. - Petroleum.

(9)

Collect Rinsate from acetate liner at 1500 hrs.
Parameters include:
App. IX VOC.
DRO
GRO
ICPAH
Metals

Depart NAPR at 1730.

APG

(10)

Wednesday, May 14, 2008

Arrive at NAPR @ 0630.
Prepare for date field events.

Collect ER 12 from Ground Water Sampling Tubing at 0705.

Groundwater sampling and Fed ex prep for shipment.

Depart NAPR. 1700.

Weather:
Sunny and HOT
Mid to upper 80's

Thursday May 15, 2008

Arrive at NAPR 0630.
Flag Soil Boring Locations 161 to #173 - areas near Tank 216 and 217 SWMU 9.

Groundwater Sampling

GW VP 11A.
Static Water Level - 16.97
Sample time at 1107

Back to Public Works to prep for Day's fed-ex shipment. Stake fuel line + GPS flags 161 to 174

Collect Equipment Rinsate for Acetate Core Liner at 1430.

Depart NAPR 1700

MCG.

May 16, 2008

Arrive at NAPR 0640.

Prepare for day's field events.

Collect Equipment Rinsate from GW Collection Sampling Tubing at 0730.

Flag fuel line and Boring Locations

Prep Coolers for Fed-ex shipment.

Depart NAPR 1700.

MCG.

(13) May 17, 2008

Arrive at NAPR 0830.

Continue flagging test line. #190 - #205

Prepare coolers for upcoming shipment.

Sample 74GW84 at 1505.

Collect 74ER15 at 0700.

Depart NAPR at 1700.

APK.

(14) May 18, 2008

Arrive at NAPR at 0645.

Collect 74ER16 at 0730.

Sample 27 - static water levels.

27GW08 - 2.0 ft.
27GW04 - 3.20 ft.
27GW05 - 1.80 ft.
27GW06 - 1.50 ft.
27GW07 - 4.35 ft.

74GWUP11b / JP5 Hill -
static - no water
Total - 22.82

74GWUP11A / JP5 Hill
static - 21.8
Total - 21.85

74GWUP10A / JP5 Hill
static - 13.70
Total - 22.60

over

Dew,

(15)

- Purge -

1032

pH	Temp	Cond	Do	Turb
7.03	27.79	1.108	3.48	95.0

Slight Petroleum odor. approx ¾ gallon pumped. Clearing.

1039

pH	Temp	Cond	Do	Turb
7.02	27.79	1.145	3.52	52.6

Slight Petro odor. 1 gal. Pumped Clearing.

1043

pH	Temp	Cond	Do	Turb
6.98	27.68	1.171	3.59	49.8

Slight Petro odor. 1 gal. Pumped

1048

pH	Temp	Cond	Do	Turb
6.97	27.63	1.056	3.52	46.2

Slight Petro odor. 1 gal Pumped

1056

pH	Temp	Cond	Do	Turb
6.97	27.88	1.170	3.57	47.8

½ gal Pumped - DRY

(16)

74 GW UP 10b / JP5 Hill
Static - — Dry
Total - 22.60

74 GW UP 9a / JP5 Hill
Static - - Dry
Total - 23.0

74 GW UP 9b / JP5 Hill
Static - — Dry
Total - 23.60

74 GW UP 05b -
Static - — Dry
Total - 22.40

74 GW UP 05a
Static - 24.79
Total - 25.20
Pumped Dry. Little water - Readings not Taken.

74 GW 145
Static - 22.15 - Trace of Water
Total - 22.15

74GW UP06 - Existing Well

Static - 9.60
Total - 30.00

Purge

	pH	Temp	Cond	DO	Turb
1150	7.21	30.17	7.699	4.21	7.20

1 gal pumped. organic odor.

	pH	Temp	Cond	DO	Turb
1200	7.23	30.09	7.697	4.28	9.09

1 gal pumped. No odor.

	pH	Temp	Cond	DO	Turb
1205	7.19	30.17	7.659	4.22	8.70

Start Sampling : 1230
VOC - X
GRO - X
DRO - X
Metals - X

74GW UP08b

Static - 25.61
Total - 25.75

74GW UP08a

Static - 26.25
Total - 26.70

74GW UP10a / DFM

Static - 17.62
Total - 23.72

Sampling at 1345
VOC - X
DRO - X
GRO - X
METALS - X
PAH - X

74GW UP10b / DFM

Static - [illegible] - Dry
Total - [illegible] 21.3

Depart MAPR 1500.

[illegible]

(19)

May 19, 2008

Arrive at NAPR at 0645.

Prepare for daily field events.

Collect ER 17 at 0715.
Acetate Core Liner.

Flag additional fuel line areas starting with #268 and ending at # 269.

ADG.

(20)

May 20, 2008

Arrive at NAPR 0645.

Prep for fieldwork.

Collect ER 18 at 710.

Small 25

25GW05 - 9.85
25GW06 - 9.25
25GW07 4.30
25GW08 - 6.50

74GWVP6Cb

Static - 19.90
Total - 22.45

Sample time 1105.
VOC - ✓
GRO - ✓
Metals - ✓
DRO - ✓

74GWUP6A

Static - 20.70
Total - 22.65

Sample Time: 1135

VOC - X
GRO - X
MET - X
DRO - X

74GWUPB

Static - 15.43
Total - 17.45

GPS RTK Survey at Various MNA Sites at Bundy Area.

Depart UAPR 1200 hrs.

TDA.

May 21, 2008

WEATHER:
Mostly Sunny - High Mid 80's.

Arrive at UAPR 0640.

Collect ER 19 at 0720.

Flag remaining fuel line at JP-5 Hill. #270 to #285

7/22/08

	STATIC WATERLEVEL	TD
69GW25	10.65	21.28
69GW07	11.55	18.61
69GW08	10.68	19.05
69GW12	11.88	—
69GW11	14.28	—
69GW26	13.17	—
69GW27	14.38	—
56GW03	3.94	—
56GW01	3.10	—
56GW02	3.08	—
56GW04	2.66	—
56GW05	5.77	—
56GW06	3.28	—
56GW07	6.67	—
74GW 0845	10.78	—
74GW05	8.66	—
74GW22	11.61	—
74GW26	13.00	—
74GW34	9.00	—
74GWVP01A	10.75	—
74GWVP01B	10.35	—
74GWVP02A	10.08	—
74GWVP02B	9.70	—
74GW57	6.05	

WELL	TIME	SWL		
Airfield 1	1127	5.92		
Airfield 2	1129	5.93		
Airfield 3	1207	5.33		
61GW01	1235	8.29		
61GW02	1228	8.57		
61GW03	1233	3.75		
61GW04	1230	7.45		
61GW05	1237	6.20		
61GW06	1239	8.57		TD 20.20
71GW04		1310		18.55
71GW05	1308	15.10	Dry/TD 15.10	
71GW06	1305	7.18		
71GW08	1313	4.46		
56GW08	1325	6.20		
74GWVP3A	1327	6.58	No Lock	
74GWVP3B	1328	7.00	No Lock	
74GW74	1332	9.86		
74GW84	1335	9.05		
74GWVP11A	1337	15.18		
74GWVP11B	1339	17.10		
74GWVP1Ba/9	1345	19.07	Sample Tubing Left	
74GWVP1Bb/9	1346	17.95		
74GWVP1Ab/9	1348	18.90		
74GWVP1Aa/9	1349	18.75		
74GWVP1Cb/9	1351	17.60		
74GWPP1Ca	1353	17.00		

WELL	SWL	TD	TIME	
74GWVP3a/9	13.67		1356	NO LOCK
74GWVP3b/9	13.85		1358	
74GWVP 2[illegible]/9	20.70		1400	NO LOCK
74GWVP2[illegible]/9	20.60		1401	NO LOCK
74GW9MW02S	11.90		1405	NO LOCK
74GWVP05A	24.12	25.00	1413	
74GWVP05B	22.15		1415	
74GWVP9b/J5	21.69		1420	NO LOCK
74GWVP9a/J5	22.55		1422	NO LOCK
74GWVP10b/J5	22.20	22.60	1425	NO LOCK
74GWVP10a/J5	13.00		1427	NO LOCK
74GWVP11a/J5	21.48		1430	NO LOCK
74GWVP11b/J5	22.42		1432	NO LOCK
74GW 273	16.30		1434	NO LOCK
74GW 285	—	23.15	1438	NO LOCK
74GWVP6cb	20.17		1455	NO LOCK
74GWVP6ca	20.92		1456	NO LOCK
74GWVP6Ba	15.30		1500	NO LOCK
74GWVP6Bb	16.10		1502	NO LOCK
74GWVP6Ab	—	18.75	1505	NO LOCK
74GWVP6Aa	24.35	24.40	1507	NO LOCK
74GW145	11.30		1510	
74GWVP0[illegible]	10.37		1512	NO LOCK
[illegible] 74GW151	7.33		1529	
74GWVP01[illegible]	7.17		1531	

Well	SWL	TD	TIME	
74GWVP08b	14.41		1537	
74GWVP08a	14.81		1539	
74GWVP10a DFM.	17.57		1542	
74GWVP10b DFM	19.70	21.00	1544	
74 UGW5	13.32	ex-well	1601	NO LOCK
74MW2	12.07	ex-well	1603	NO LOCK
74GW256	12.00		1607	
74GWVP198a	9.20		1609	
74GW246	9.50		1612	
74GW236	11.87		1617	
74VP19B	11.40		1719	TUBING NO LOCK
74VP19A	—	17.70	1721	NO LOCK

88° Sunny

(39)

7/23

Sample Log

WELL	Collected	TIME
74GWVP19B	Metals (T/D), DRO	0807
74GWVP054	Metals (T/D)	0829
74GWVP09B - JPS FILL	VOC, GRO, ½ Metal Total	0900
74GWVP11A - JPS FILL	DRY - Both A&B	0927
74 GW 26	Metals (D)	1058

7/22/08

	STATIC WATERLEVEL	TD
69GW25	10.65	21.28
69GW07	11.55	18.61
69GW08	10.68	19.05
69GW12	11.88	—
69GW11	14.28	—
69GW26	13.17	—
69GW27	14.38	—
56GW03	3.94	—
56GW01	3.10	—
56GW02	3.08	—
56GW04	2.66	—
56GW05	5.77	—
56GW06	3.28	—
56GW07	6.67	—
74GW [illegible] 0845	10.78	—
74GW05	8.66	—
74GW22	11.61	—
74GW26	13.00	—
74GW34	9.00	—
74GWVP01A	10.75	—
74GWVP01B	10.35	—
74GWVP02A	10.08	—
74GWVP02B	9.70	—
74GW57	6.05	

WELL	TIME	SWL	
Airfield 1	1127	5.92	
Airfield 2	1129	5.93	
Airfield 3	1207	5.33	
61GW01	1235	8.29	
61GW02	1228	8.37	
61GW03	1233	3.75	
61GW04	1230	7.45	
61GW05	1237	6.20	
61GW06	1239	8.57	
71GW04	[illegible]	[illegible] 1310	TD 20.20 18.55
71GW05	1308	15.10	Dry/TD 15.10
71GW06	1305	7.18	
71GW08	1313	4.46	
56GW08	1325	6.20	
74GWVP3A 9	1327	6.58	NO LOCK
74GWVP3B 9	1328	7.00	NO LOCK
74GW74	1332	9.86	
74GW84	1335	9.05	
74GWVP11A	1337	15.18	
74GWVP11B	1339	17.10	
74GWVP1Ba/9	1345	19.07	Sample Tubing Left
74GWVP1Bb/9	1346	17.95	
74GWVP1Ab/9	1348	18.90	
74GWVP1Aa/9	1349	18.75	
74GWVP1Cb/9	1351	17.60	
74GWVP1Ca	1353	17.00	

WELL	SWL	TD	TIME	
74GWVP3a/9	13.67		1356	NO LOCK
74GWVP3b/9	13.85		1358	
74GWVP2b/9	20.70		1400	NO LOCK
74GWVP2a/9	20.60		1401	NO LOCK
74GW9MW02S	11.90		1405	NO LOCK
74GWVP05A	24.12	25.00	1413	
74GWVP05B	22.15		1415	
74GWVP9b/J5	21.69		1420	NO LOCK
74GWVP9a/J5	22.55		1422	NO LOCK
74GWVP10b/J5	22.20	22.60	1425	NO LOCK
74GWVP10a/J5	13.00		1427	NO LOCK
74GWVP11a/J5	21.48		1430	NO LOCK
74GWVP11b/J5	22.42		1432	NO LOCK
74GW 273	16.30		1434	NO LOCK
74GW 285	—	23.15	1438	NO LOCK
74GWVP6cb	20.17		1455	NO LOCK
74GWVP6ca	20.92		1456	NO LOCK
74GWVP6Ba	15.30		1500	NO LOCK
74GWVP6Bb	16.10		1502	NO LOCK
74GWVP6Ab	—	18.75	1505	NO LOCK
74GWVP6Aa	24.35	24.40	1507	NO LOCK
74GW145	11.30		1510	
74GWVP0[illegible]	10.37		1512	NO LOCK
74GW151	7.33		1529	
74GWVP07A	7.17		1531	

Well	SWL	TD	TIME	
74GWVP08b	14.41		1537	
74GWVP08a	14.81		1539	
74GWVP10a DFM.	17.57		1542	
74GWVP10b DFM	19.70	21.00	1544	
74 UGW5	13.32	ex-well	1601	No Lock
74MW2	12.07	ex-well	1603	No Lock
74GW256	12.00		1607	
74GWVP1982	9.20		1609	
74GW246	9.50		1612	
74GW236	11.87		1617	
74VP19B	11.40		1719	TUBING NO LOCK
74VP19A	—	17.70	1721	NO LOCK

88° Sunny

7/23

Sample Log

WELL	Collected	TIME
74GWVP19B	Metals (T/D), DRO	0807
74GWVP054	Metals (T/D)	0829
74GWVP09B - JPS FALL	VOC, GRO, ½ Metal Total	0900
74GWVP11A - JPS FALL	DRY — BOTH PAIRS	0927
74 GW 26	Metals (D)	1058

7/23

ID	TIME	Photo #	Surface Type
WP1	1352	15	Floor (linoleum tile)
WP2	1403	16	Table (wood office desk)
WP3	1416	17	Desk (wood)
WP4	1432	18	Plastic computer chair mat
WP5	1439	19	Top of file cabinet metal
WP6	1448	20	Linoleum Tile Floor
WP7	1455	21	Linoleum Tile Floor
WP8	1508	22	Top of metal file cabinet
WP9	1516	23	Desk (plastic top)
WP10	1525	24	Top of metal file cabinet
WP9	1516	23	Desk (plastic top)
WP11	1559	25	Linoleum floor
7/24			
WP12	0721	26	Linoleum floor
WP13	0730	27	Plastic top wood desk
WP14	0738	28	Linoleum floor
WP15	0750	29	Plastic floor mat
WP16	0800	30	Linoleum floor
WP17	0805	31	Mahogany desk
WP18	0813	32	Linoleum floor
WP19	0824	33	Linoleum floor
WP20	0830	34	Desk top
WP21	0840	35	Counter
WP22	0850	36	Linoleum floor
BG1	0923	37	linoleum floor
BG2	0940	38	linoleum floor

Geologist – Joe Burawa

JHB

On-site 6:00
Prep sampling supplies
Team Meeting
VFA on-site airfield 7:00am

JHB

(24) 745B27

0-4'
4' Rec
<1 PID

Silty clay, med to dark brow
damp, med stiff

rocks throughout @ 3'
becomes sandy clay, dark
brown

4-8'
4' Rec
PID
@ 6.2 75
@ 7.0 149
@ 7.7' 232
@ 5 <1

light
4.5' Silty clay reddish brown
damp, softer, hydrocarbon
impact @ 6.2'

sandy clay
@ 8.5' become dark red and
blue gray clay intermixed

8-12'
4' Rec.
PID
>200
unfil 11.5
wet 20

damp clay is stiff
sandy clay soft, moist @
11.5'

JHB

5/3/08 (25)

Cloudy
80°

Samples collected

745B27-03 835
745B27-05 845

JHB

745B26

0-4'	Silty clay dark brown,
3' Rec	some gravel, stiff, damp
<1 to 3.5	
@ 3.5 60ppm	@ 2.5' Becomes dark gray
	soft, damp, less gravel
4-8'	@ 4' clay, stiff, med gray
4' Rec	damp
> 200ppm	becomes light brown and red
	mod soft, damp, plastic
	silty clay
	↓
8-12'	some @ above some sand
4' Rec	
> 300	some blue gray clay @
@ 7.5' 533	11' ↓
ppm	
12-16'	silty clay, some sand
4' Rec.	mod stiff damp to moist
100-150	
throughout	

JHB

Samples collected

745B26-02
745B26-02 D
745B26-05

Install well
10' Prepack Screen 1.5" Dia.
TD. 20'

JHB

745B25

0-4
2.3' Rec
<1 ppm

Silty clay, dark brown, damp, stiff, rocks
Lighter brown @ 1.5' dry

cobble pushed @ 5.2'

4-8'
1.2' Rec
<1 ppm

light brown sandy clay, mod. stiff, damp pebbles throughout

8-12'
4' Rec.
<1 ppm

Dark red sandy clay and light brown silty clay
some light blue clay throughout
stiff, plastic, damp
fine-grained sand

JHB

Samples Collected

745B25-04
745B25-05

JHB

745B24 ~~2~~

0-4'
3.2' Rec
<1 ppm

Silty clay dark brown, damp
mod stiff to 0.8'
gravel from 0.8 to 1.5'
then silty clay, some sand
dark brown, stiff, damp to dry
pebbles

4-8'
3.6' Rec
<1 ppm

Brown sand, @ 4.7' loose
damp to moist to 6.2'
well sorted
6.2 to 8.4' silty clay

8-12'
4' Rec.
<1 ppm

soft, gray brown, damp
@ 8.4 Light brown silty clay
very stiff, damp, trace sand

becomes red and light blue gray
clay @ 11'

JHB

Samples Collected

745B24 - 03
745B24 - 05

JHB

745B23 (mapped 22)

0-4' 2.7' Rec <1 ppm	Silty Clay, med brown Mod soft, damp. roots, @ 0.8' light brown, silty clay some sand and rocks, damp to moist
4-8' 2.7' Rec 5 ppm 3.5 to 5 40 ppm 4'	@ 4.5' becomes gray brown soft, moist clay with silt
	Same light blue clay with sandy clay @ 6.5' moist to damp
8-12' 4' Rec.	Mod soft
>200 ppm @ 8.5 50 ppm in clay below	Light blue and med brown clay some silt @ 8.5' wet

JHB

Samples collected

745B23 - 02
745B23 - 03

JHB

745B22 (mapped 23)

0-4'
3.4' Rec
<1ppm

Silty clay, dark brown, mod stiff damp
becomes med brown silty clay with sand, damp stiff gravel.

4-8'
4' Rec.
7200

c 4.5 med brown clay, soft damp to moist, hydrocarbon staining some sand
8.5' Sandy clay mod soft damp to moist

8-12'
4'
> 300

some light blue clay c cobb soft

12-16'
4'
>300

some sandy clay with light blue clay some silt, soft damp to moist

JHB

Samples collected

745B22-00
745B22-03
745B22-03 D
745B22-03 MS
745B22-03 MSD
745B22-04

Install 1.5" prepacked well to total Depth of 16.0'

JHB

74SB62

0-4' Topsoil sandy loam @ 0-2"
2.3' Rec silty clay, med brown, damp
<1ppm med stiff cobble @ 1.1'

4-8' sand and clay from 1.2 to 5' wet from 3.5 to 5 perched
3.2 Rec green color, med soft some gravel
<1ppm @ 5' med dark brown sandy clay, med soft damp

8-10' 8' Sandy clay, soft, saturated, green and brown
Refusal
1.4' Rec. refusal @ 10'
<1ppm

JHB

Sampled

74SB62-03

JHB

745B61

0-4'
3.4' Rec
<1 0-3
3-4' 80ppm

Topsoil top 2"
then sandy clay and gravel
to 1.6' damp to dry, med
hard, light brown, rocks
1.6 to 3 sand and pebbles lt.
green, loose, dry then 3.5

4-8'
4' Rec.
5-10 ppm

silty clay soft dark brown
and gray
c 4. wet to approx 5'
then moist silty clay
dark brown, soft
plastic and med gray

8-12'
2.8' Rec
<1 ppm

↓

JHB

Samples collected

745B61-00
745B61-03
745B61-04
745B61-04D

JHB

745860

0-4'
2.4' Rec
<1 ppm

Brown silty clay, damp, mod soft pebbles

becomes med brown @ 1.5'

4-8'
4' Rec
<1 ppm

@ 4.5 clay some silt tan and red, stiff hard, damp

@ 6.5' DARK brown silty clay with some sand, soft damp

8-12'
2.2' Rec.
<1 ppm

JHB

Samples collected

745860-04 1510
745860-05 1515

JHB

745B59

0-4'
3.0' Rec
<1 ppm

Sandy clay, moist, soft to 0.6'
H.
reddish brown, silty clay
mod soft, damp.

4-8'
3.5' Rec
<1 ppm

become dark brown @ 4.5' mod soft to soft
damp to moist,

8-12'
2.1' Rec.
<1 ppm

becomes lighter brown
same sand @ 9.0'

JHB

Samples collected

745B59-04
745B59-05

JHB

745B58

0-4' 3.9' Rec <1 ppm	Top soil top 2" light brown and red silty clay, some sand and pebbles, damp, mod hard @ 4.2' becomes dark brown
4-8' 3.4' Rec <1 ppm	sandy clay, soft, damp to moist
8-12' 3.8' Rec <1 ppm	@ 9.5' clayey sand, med to dark brown, wet, soft then 11' tan and red silty clay mod, stiff, damp trace light blue clay throughout

JHB

Samples collected

745B58-03	5-7	1545
745B58-04	7-9	1555

Clean-up JPA offsite @ 1700
Prep sample bottles and ice for storage over weekend.

Offsite @ 18:45

JHB

JHB

5/4/08
Sunny 85°

On-site 615 am
Prep for sampling and fieldwork

JFA - on-site @ 7:00 (airfield)

Install GW well @ 74SB09
@ end of refueler pads

1.5" Geoprobe Prepack to 16' BGS
10' Screen
Sand to 5'
Bentonite to top
Push Protective casing and
cement pad.
Finish @ 1030.

JFA Mob. to 74GW22 & 74GW26
and install protective casings
and concrete aprons.

JHB

JHB

JHB

JHB

Sunny 85°

On-site 620
JFA on-site 6:30 airfield
breakdown decon pad and mob
to Base side.

Prep for drilling & sampling
Begin drilling @ 835

JHB

745B97

0-4'
3.3' Rec.
<1 ppm

Topsoil Dark brown, soft
dry.
Gravel from 0.5' to 1.3'
gray, loose, dry

4-8'
4' Rec.
<1 ppm

@ 1.3 red and tan silty
clay, mud hard, stiff
damp

silty clay with some sand
at 4.5 light brown, stiff, damp

8-12'
4' Rec.
<1 ppm

becomes more plastic @ 9'
damp

JHB

Samples collected

745B97-03
745B97-04

JHB

745B98

0-4'
3.4' Rec
<1 ppm

Topsoil dark brown soft to 0.2'
then sand and gravel
lt gray loose dry to 3.1

4-8'
4' Rec.
<1 ppm

Dark brown sandy clay from 3.1 to 3.5 very hard
dry
red and tan silty clay
@ 3.5' mod hard stiff
some sand damp
@ 8.5 become med brown

8-12'
4' Rec.
<1 ppm

and tan silty clay
mod. soft, damp, plastic

JHB

Samples collected

745B98-03
745B98-04

JHB

745B99

0-4'	Topsoil dark brown soft
2.5' Rec	damp to 0.5'
<1 ppm	then gravel, loose, dry
	large rocks @ 3.5'
4-8'	tan and red silty clay
4.0' Rec	@ 4.6 mod hard, stiff
<1 ppm	
	becomes sandy clay and
8-12'	clay @ 8.5' clay is light
3.7' Rec.	gray to white the sandy clay
<1 ppm	is maroon red damp to most
	soft than above.

JHB

Samples Collected

745B99-03
745B99-04

JHB

74SB100

0-4'
0.5' Rec
<1ppm

Topsoil to 0.7' dark brown
soft, damp
then gravel and some sand

4-8'
4' Rec.
<1ppm

5' @ tan/red silty clay
mod hard to hard, damp
trace of sand

8-12'
0.5' Rec
<1ppm

become lighter in color @ 8'
tan and mod brown, damp
little softer.

JHB

Samples Collected @

74SB100 - 03
74SB100 - 04

JHB

745B101 -

0-4'
2.2' Rec.
<1ppm

Topsoil first 2"
then gravel 2" to 0.5'
then sand and some clay to 2'
2.1 light gray gravel, loose, dry to 4.2'

4-8'
3.8' Rec.
<1ppm

@4.2 tan and red silty clay with some sand. mod. hard

@7.5 dark red silty clay with some white clay, damp, damp plastic, mod soft

8-12'
4' Rec.
<1ppm

JHB

Samples collected

745B101-00
745B101-03
745B101-03D
745B101-03 MS
745B101-03 MSD
745B101-04

JHB

745B102

0-4'
3' Rec.
<1ppm

Sand and gravel
grayish brown, damp to dry
med-grained sand, some silt
to 5'.
then red and gold silty
clay, small pebbles

4-8'
4' Rec.
<1ppm

tight, mod hard, damp

@ 7.5' light gray clay
mixed with burnt red
sandy clay, damp, very

8-12'
4' Rec.
<1ppm

stiff, dark purple nodules
in sandy clay

JHB

Samples Collected

745B102-04
745B102-05

JHB

745B103

0-4'
2.9' Rec.
<1 ppm

Sand and gravel to 4.8'
grayish brown, damp to
dry, loose, rocks

4.8 gold and red silty clay
mod hard, some sand
damp

4-8'
3.6' Rec
<1 ppm

8.1 light gray clay and
maroon sandy clay, plastic
~~damp~~ to moist, mod soft, some
mottling

8-12'
3.2' Rec.
<1 ppm

JHB

Samples collected

745B103-03
745B103-04

Oil filter leaking off Geoprobe
UPA off site 1230 to 3 to fix
drilling again at 3 pm

JHB

745B104

0-4'
3.1' Rec
<1ppm

Topsoil 4" at top
med brown, damp silt Loam
@ 0.3' Sand and gravel
loose dry until 2'

4-8'
2.8' Rec
<1ppm

@7' red and white clay
white clay with maroon
sandy clay, med soft to
soft, damp to moist,
some pebbles

8-12'
3.6' Rec
<1ppm

JHB

Samples collected

745B104-03
745B104-04

JHB

74SB105

0-4'	Topsoil to 0.5' brown
2.1' Rec	soft damp
<1ppm	0.5 sand and gravel
	dry, loose, rocks, to
	approx 6' then brown
4-8'	silty clay, damp,
3.5' Rec.	became stained black (MN)
<1ppm	to 7' then red/brown
	silty clay, mod hard, damp
8-12'	@ approx 8.5' red (maroon) sandy clay
1.8' Rec.	with light gray clay
<1ppm	soft, moist

JHB

Samples collected

74SB105-03
74SB105-04

JHB

74SB106-

0-4' Topsoil to 0.5' Silt loam
2' Rec Brown, soft, damp
<1ppm

0.5' Sand and gravel, loose, dry
shell layer from 0.8 to 1.2'
4-8' then sand and gravel again
0.6' Rec.
<1ppm

Approx 7' Maroon sandy clay
and white/lt. gray clay
8-12' soft, damp, some silt
3' Rec.
<1ppm

JHB

Samples collected

74SB106-01
74SB106-04

Process sample at public works
JFA off-site 4:30

off-site 6:20pm

JHB

JHB

on-site 630
JFA on-site 720
prep for sampling, meeting for
duplicate sampling at 74

JHB

745B107

0-4'
2.7' Rec
<1 ppm

Topsoil dark brown silt loam, soft, damp
Brown sand @ 0.3' with gravel, loose, dry
@ 1.3 Gray sand and gravel loose, dry

4-8'
4' Rec.
<1 ppm

@ 4.4 reddish brown silty clay with light brown sandy clay mod stiff and hard damp to dry

8-12'
4' Rec.
<1 ppm

@ 7.2' become white/lt gray clay mixed with maroon clay dry to moist, stiff, swells in tube

JHB

Samples collected:

745B107-03
745B107-03D
745B107-05

JHB

74SB108

0-4'	Topsoil, silt loam, brown, damp
3.8' Rec	to 0.2'
<1 ppm	Brown sand and gravel to 1.5'
	loose, dry
	light brown silty clay from 1.5 to 1.9
	then sand and gravel to 2.5'
4-8'	dark brown sandy clay from 2.5
4' Rec.	to 4.3
<1 ppm	light brown and reddish brown
	silty clay, damp, stiff to 7.2'
	light gray and maroon clay, damp
8-12'	to moist, softer, some sand
4 Rec.	
<1 ppm	

JHB

Samples collected

74SB108-03
74SB108-04

56GW06	slug test	I	2.91
		TD.	18.41
56GW07	slug test	I	6.49
		TD	18.44

- Clean up airfield site with bobcat remove drums, liners, label wells and survey

JHB

745B109

0-4'	Topsoil to 0.6' brown
3.5' Rec	soft, damp. Sand and gravel
<1 ppm	from 0.6 to 1.4'
	then brown silty clay, some
	sand, rocks, damp.
4-8'	transitions into white and red
4' Rec	clay, mod hard, damp, some
<1 ppm	silt.
	@ 8.5' becomes light gray and
8-12'	maroon clay, very plastic, damp
4' Rec.	
<1 ppm	

JHB

Samples Collected

745B109 - 04
745B109 - 05

JHB

745B110

0-4'
4' Rec

Silt Loam to 0.9' mod hard dark brown, damp
from 0.9 to 3.1' Lean brown clay, mod hard and stiff damp

4-8'
4' Rec.

@ 3.2 clayey sand, mod soft to soft, light brown, fine to med. grained sand.

8-12'
4' Rec.

higher clay content (sandy clay) from 7.5 to 9 and then 10.3 to 12, damp, soft
pebbles throughout, occasional stone.

JHB

Samples collected

745B110 -04
745B110 -05

JHB

JHB

on-site 6:20

Drillers grab sand and gravel at airfield and bring over
c ppeline @ 7:40am
start drilling

JHB

745B111

0-4'
2.6' Rec.
<1ppm

silt loam mixed with sand
dark brown, mod soft damp
to 1.1'
1.1 to 1.6 sand with stones
loose, dry, soft

4-8'
2.9' Rec.
<1ppm

@ 1.6 sandy clay, some
pebbles, mod hard, damp
light brown

silty clay @ approx. 9.3' becomes

8-12'
3.1' Rec.
>8500 ppm
@11.5
5-10 above

more reddish in color, damp
mod hard, some sand
@ 11.2' ~~sandy~~ clayey sand,
soft wet greenish gray color

JHB

Samples collected:

745B111-00
745B111-03
745B111-03D
745B111-03 MS
745B111-03 MSD
745B111-05

JHB

745B112

0-4'	Sandy loam, dark brown
3.7' Rec	damp to dry, mod hard
PID Down	to 1.1.
No smell	@ 1.1 sandy silt, some clay
	dry, mod hard, light brown
4-8'	@ 2.8' to 3.2 light gray/blue
4' Rec	cobble
PID down	3.2' light brown, sandy silt
No smell	damp, mod hard,
	6.2' Sandy clay, med brown,
8-12'	damp, mod hard
4' Rec.	@ 9.1 Silty clay, hard,
PID down	stiff, damp,
No smell	@ 10.5 clayey sand, mod
	soft, med brown, damp.

JHB

Samples Collected

745B112-04
745B112-05

JHB

745B113

0-4'	Silt Loam, dark brown,
3.5' Rec.	damp, mod hard, pebbles, roots
<1ppm	@ 1.0 Sandy clay, med
	brown, damp to dry, mod hard
	harder with more clay @ 3.5
4-8'	
1.7' Rec.	~ 4.5' Sand (Fill) light gray, loose, dry
@ 7.5	shells throughout,
500ppm	@ 7.5 dark green gray clay
	with sand, hydrocarbon odor.
8-12'	stones,
3.4' Rec.	alternating zones of silty clay
@ 9'	and sandy clay from 8-12'
1300ppm	dark green gray, pebbles
@ 11'	damp to moist.
1100ppm	

JHB

Samples collected

745B113-04
745B113-05

JHB

5/7/08

90

VPIBb/9

0-4' Topsoil, Silt Loam, dark (brown)
3.5' Rec. to 0.3'
<1ppm Sandy clay, damp to dry,
med. brown pebbles throughout
4-8' @ 2.3' dark brown, silty clay
4' Rec. dry, mod hard.
<1ppm 3.9 to 7.6 Clayey sand
light brown, mod soft,
8-12' dry to damp
4' Rec becomes greenish grey sandy
60ppm clay @ 7.6', damp, mod. hard
8-10' same silt
20ppm @ 13.6 silty clay, stiff,
10-12' damp to moist, caliche?
12-16' @ 16.2 Dark red brown silty
4' Rec clay, stiff, then clayey sand
>200 throughout brown to 17-18.2
then Greenish grey silty
16-20' clay, moist, caliche?, soft
4' Rec. hydrocarbon odor
18-20'
>300ppm

JHB

91

20-24' Sandy clay, very soft to soft
4' Rec. moist to wet, swelling clay
>300 caliche.

Set 1.5" well @ 24'

JHB

08GW05 V 9.54 ***
T.D. 12-59

JHB

on-site 6:30 am
check in @ security Bldg and
obtain vehicle passes

JHB

VPIBa/9

0-4'
3' Rec.
80 ppm

Sandy clay, dry, hard, grayish brown, some stones

4-8'
4' Rec
300ppm

silty sand, dry, mod hard, greenish brown,

becomes more green at 10'

8-12'
4' Rec
500ppm

Sandy clay, caliche, light gray

Intermittent sandy zones from 16-17' and 15.1 to 15.6

12-16'
4' Rec.
500ppm

@ 19.5 lean clay, some silt dark green, strong hydrocarbon odor, tight saprolite structure

16-20'
4' Rec
1800ppm

more silt than clay at 2'
brown color, dry to moist

JHB

20-24'
4' Rec.
1800ppm

some sand at 22' to 22.5'

Samples collected

74VPIBa/9-05	1010
74VPIBa/9-05D	1010
74VPIBa/9-09	1100

marked for PAHs

JHB

74VP3b/9

0-4'
1.9' Rec
<1 ppm

Sandy clay and gravel from 0 to 1', then light brown sand fine-to-med grained, loose

4-8'
3.2' Rec.
<1 ppm

8-12'
PID 80 ppm
@ 11'
3.3' Rec.

Variegated clay @ 10' red, blue, green, gray, soft damp to moist

12-16'
4' Rec.
>1500 ppm

16-20'
>1500 ppm
2.2' Rec.

becomes reddish brown, moist strong odor, mottled, silty clay

JHB

Samples Collected

74VP3b/9-05 1140
74VP3b/9-07 1200

marked for PAHs

JHB

748 VP3a/9

0-4'	Silt loam and gravel to 1'
3.2' Rec	then reddish tan silty clay,
<1ppm	hard, dry to 4.5'
4-8'	@4.5 soft silty clay, mottled
4' Rec.	beige and red
10 ppm	
8-12'	8' becomes light blue clay and
4' Rec.	red silty clay, some sand throughout
>700 ppm	mod soft damp to moist
12-16'	
4' Rec.	more plastic at 14'
1300 ppm	softer
16-20'	hydrocarbon odor
4' Rec.	
1300 ppm	

JHB

5/13/08
Sunny 88°F

No samples collected.

JHB

745B114

0-4'
2.6' Rec
<1ppm

Silt loam and gravel to 1.3' then hard sandy clay, brown, dry, brittle

4-8'
3.8' Rec.
<1ppm

becomes silty clay @ 4.8' mod soft, brown, damp to moist. mottling

Sandy clay @ 7.2' soft, damp to moist, brownish green

8-12'
3.7' Rec
500ppm
@ 10.5'

med greenish black @ 11.2 clayey sand from 11.2 to 11.8 saturated, wet soft very

JHB

Samples collected

745B114-04 1430
745B114-05 1440

JHB

74SB115

0-4 2.0' Rec <1ppm	Silt Loam and gravel dry, loose, hard to 3.5' then dark brown sandy clay, some organics, dry hard
4-8' 4' Rec. <1ppm	silty sand @ 5.3' orange and brown, mod. hard damp to dry, some sand more reddish @ 6' @ 8.5' maroon and light
8-12' 4' Rec. <1ppm	gray clay, some silt, mottled heavily, mod. soft damp to moist

JHB

Samples collected

74SB115-03 1500
74SB115-05 1510

JHB

745B116

0-4'
1.8' Rec
<1ppm

Sandy loam and gravel
first 3.5' hard, loose, dry

sandy clay, reddish brown,
soft to med soft

4-8'
3.8' Rec
<1ppm

some mottling @ 8' to 9.5'

becomes softer and moist
@ 9.5', more clay, red, white

8-12'
4.0' Rec
<1ppm

wet saprolite at 11'

JHB

Samples collected

745B116-04
745B116-05
745B116-05D

JHB

74SB117

0-4' <1ppm 1.9' Rec.	Sandy loam, gravel, loose dry, @ 2.5' dark brown and red sandy clay, dry, hard, roots, organics @ 4.5' med. orange brown
4-8' <1ppm 4' Rec	silty clay, damp to moist mod. hard, some sand throughout
8-12' <1ppm 4' Rec.	saturated zone from 11.1 to 11.9' med gray, slaty sand with pebbles then saprolite brown and white

JHB

Samples collected

74SB117-03 1550
74SB117-04 1600

JHB

745B118

0-4'
2.9' Rec
<1ppm

Sandy loam and gravel to 4.5', dry, loose

silty clay @ 4.5 light brown, damp, hard

4-8'
4' Rec.
<1ppm

reddish brown @ 7'

8-12'
3.5' Rec.
300ppm @ 11.5
in wet zone
>50 above

becomes sandy clay @ 9.0', mod hard, damp
caliche (white)

saturated @ 11.5 to 12
dark green and white
mod hard.

JHB

Samples collected

745B118-03 1610
745B118-05 1630 PAH

JHB

745B119

0-4'
2.5' Rec.
<1 ppm

Sandy loam and gravel
dry, loose, to 4.5'

med brown silty clay
dry to damp, hard, broken

4-8'
4' Rec.
<1 ppm

gravel zone from 6.8 to
7.4' light gray, loose, dry
then sandy clay, med
hard, some silt

8-12'
4' Rec.
<1 ppm

damp
~~more~~

JHB

Samples collected

745B119-04 1630
745B119-05 1640

JHB

112

JHB

5/14/08
Sunny

113

On-site 630
JFA and GES on-site 700

Mobilize to 74S/3120 and start drilling @ 730.

JHB

745B120

0-4'	Sandy Loam and gravel
3.8' Rec	to 2.0', dry, loose and
<1 ppm	broken up
	then sandy clay, light
	brown, mod hard, dry to damp
4-8'	some silt
4.0' Rec.	gravelly zone from 4.8 to 5.1
<1 ppm	light gray, then sandy clay
	again.
	becomes silty sand from
8-12'	8.4 to 9.8', loose, dry
4.0' Rec	grey brown, dry
<1 ppm	silty clay from 9.8 to 10.6
	light brown, mod hard, damp
	@ 10.6 sandy clay, light brown
	mod hard, some silt, damp

JHB

5/14/08

Samples collected

745B120-04

745B120-05

Mobilize to 745B24 to install well

JHB

74GW74

0-12' logged precisely by CHK

12-16 sandy clay, med to light brown pebbles throughout, light gray precipitate, mod hard.

16-20 same sandy clay visibly moist to wet from 16-17' and 20 to 21.5'

20-24

Set 1.5" temp. well at 24' with 10' screen
sand to 12'
Refusal with 3¼" I.D. drive point
Auger with 4¼" HSA
Finish @ 1330

JHB

No samples collected at this time.

JHB

74GW84

0-4' <1 2.2' Rec.	Sandy loam and gravel to 2' then medium grained sand loose, dry
4-8' <1 2.8' Rec.	4.2' Silty clay, greenish black very soft, moist, some sand
8-12' 15-30 ppm 4' Rec.	Same soft silty clay, greenish black, moist
12-16 <1 3' Rec.	becomes clay with some silt at 16', very soft, sticky moist
16-20' <1 3.4' Rec	same as above.

JHB

Start drilling @ 1350
No samples collected at this time.

Set 1.5" Temp. Well
10' Screen
sand to 8'

JFA
Drillers off-site 430 to get cement

JHB

JHB

5/15/08

On-site 630 am

JFA and GeoEnviroTech @ 7:00

Prep for day
Find valve pits along road
outside JP-5 Hill.

Begin drilling @ 8:15

JHB

745B131

0-4 Silty Sand and gravel to 0.3'
4' Rec Very dry @ 0.3' Sandy clay
<1 ppm med brown, mod hard, dry
some stones
3.1 to 3.3 silty clay then
4.8' sandy clay again
4' Rec. med hard, damp, med brown
<1 ppm more clay rich grayish brown
@ 7.5'

8-12' sandy clay continued
4' Rec. some silty areas
<1 ppm moist to wet @ 11.8'
bottom of tube
No hydrocarbon odor

JHB

Samples collected 745B131-00
745B131-03
745B131-03D
745B131-03 MS /MSD
745B131-05

JHB

74SB132

0-4'
4' Rec.
<1ppm

Silt Loam to l.t. mod
hard, dark brown, dry
then sand and silt
very dry (dusty) mod
hard, loose in most zones

4-8'
4' Rec.
<1ppm

same zone more clay mod
8-10 more clay & 11-12
rest just some clay
very dry throughout

8-12'
4' Rec
<1ppm

No hydrocarbon odor

X

JHB

Samples collected

74SB132-04
74SB132-05

JHB

745B133

0-4
3.2 Rec
<1ppm

Sandy loam, med dark brown dry, hard to 0.7' then gray brown sandy silt with some gravel, loose dry, mod hard

4-8
2.7 Rec
<1ppm

@~5.2' med gray green sandy clay, damp, mod hard fine to med grained sand (saprolitic)

8-12
3.3' Rec
<1ppm

JHB

Samples collected

745B133-04
745B133-05

JHB

745B134

0-4' Silt Loam, dark brown,
3.1' Rec mod soft, dry, broken
<1ppm to 0.4 then gray gravel, loose
and dry to 0.7'
than sandy silt with gravel
4-8' dry, loose, gray brown
3.8' Rec @ 4.5 med brown sandy clay
<1ppm with some silt, dry to damp
mod. hard.

8-12' sandy zone from 11.1 to 11.5
4' Rec. damp.
<1ppm

X

JHB

Samples collected

745B134-04
745B134-05

JHB

745B135

0-4
3.9' Rec
<1 ppm

Sandy Loam and gravel
to 0.4', dry, broken, mod soft
0.4' Sandy clay, med brown
damp to dry, mod soft
@ 1.9' DARK Brown Silty clay
mod hard, damp to dry

4-8'
occassional stone
4' Rec
<1 ppm

@ 4.6' lt green gray sandy clay
~~spr~~ saprolite, mod hard, some
iron-staining, damp to dry

8-12'
4' Rec.
<1 ppm

becomes sandy silt, saprolite,
very dry, mod soft, gray

No hydrocarbon Odor

JHB

Samples Collected

74 SB 135 - 03
74 SB 135 - 05

JHB

~~74136~~ 74SB136

0-4 3.8' Rec. <1ppm	Sandy loam and gravel to 0.5', mod soft, dry, broken greenish gray sandy clay "saprolitic", mod hard, broken damp to dry, occassional
4-8' 4' Rec. <1 ppm	cobble throughout @ 4.5' Dark Brown, silty clay mod hard, damp,
8-12' 3.9' Rec. <1ppm	mixed with limestone gravel from 10.4 to 12, damp

JHB

Samples collected

74SB136-03
74SB136-03D
74SB136-05

JHB

74SB137

0-4'
3.7' Rec
<1ppm

Sandy loam and gravel to 0.7 then sandy clay, saprolite, greenish gray, dry to damp, mod hard, stones,

4-8'
4' Rec
<1ppm

@ 4.2' Silty clay, dark brown mod hard, damp. occasional stones

8-12'
4' Rec.
<1ppm

Sandy clay at 8.8' med brown gray, damp to dry, mod soft some saprolite areas

JHB

Samples Collected

74SB137-03
74SB137-04

Come back on 5/16/08 install 1.5" well at this location

74GW137

12-16
4' Rec
<1ppm

Saprolite greenish gray weathered rock, rock frags sand, silt and clay moist inside, mod hard

16-20'
4' Rec.
<1ppm

some iron staining
No hydrocarbon odor

Set well @ 20' TD
10' Screen
Sand to 8
Bent to 6
Grout

JHB

74SB138

0-4'	Sandy Loam and gravel
3.5' Rec	to 1.5' then sandy clay
2 ppm	mod soft, damp, some sand throughout
	@ 3.5' becomes silty clay
4-8'	dark brown turning greenish
4' Rec.	brown at 5' with hydrocarbon
5'-6'-90ppm high	odor
	@ 6.1 becomes light brown
	sandy clay, mod soft to mod.
8-12'	hard, damp,
3.7' Rec	layer of quartz gravel @ 11.4
<1ppm	to 11.7'
	then sandy clay again

JHB

5/15/08

Samples collected

74SB138-03
74SB138-04

JHB

745B139

0-4'
3.8' Rec
<1 ppm

Silt Loam to 1.5'
DARK Brown, damp
then silty clay, dark brown,
some gravel @ 2.1 to 2.3'
silty clay to 4.8'

4-8'
4' Rec
<1 ppm

then sandy clay with some
gravel, more clay from 7.2
to 9.1, damp to dry, mod
soft

8-12'
3.4' Rec.
<1 ppm

No hydrocarbon Odor.

JHB

Samples Collected

745B139-03
745B139-05

JHB

745B140

0-4'
3.6' Rec
<1ppm

Silt loam and gravel to 0.5', dry, broken, med brown, then sandy clay dry, broken, gray brown some stones

4-8'
1.7' Rec
<1ppm

@ 3.6 gray green saprolite weathered into sandy clay, compact and hard

8-12'
3.0' Rec.
<1ppm

@ 10.2 becomes sandy silt soft, dry, loose, some rock frags throughout

No hydrocarbon odor

JHB

Samples Collected

745B140-04
745B140-05

JHB

74GWVP9a/[redacted] JPS Hill

0-4	Silt Loam and gravel to 0.3'
2.5 ppm	then sandy clay
3.8 Rec	med brown, dry, broken
4-8	to ~4.8 then med. green
20-30 ppm	gray weathered rock, sandy
4 Rec	clay (serpentinite)
8-12	
200 ppm	
2.8 Rec	
12-16	Becomes moist @ ~14'
500 ppm	
2.7' Rec	
16-20	
500 ppm	
3.2' Rec.	

Install 1.5" Well to 20' with 10' Screen.

JHB

On-site 630
JFA and GeoEnviroTech on-site
7:00

Prep for drilling field work
Move Truck rig to SWMU 9
Area C line.

JFA drilling 74GWVP9b/JPS Hill
@ 7:30
Sample to 20'

JHB

74GWVP9b / JPS H.11

0-4' Sandy loam and gravel to 0.2'
2.1' Rec. then sandy clay, greenish
5 ppm brown, cobbles, damp to dry
4-8' mod hard
4' Rec. At 5.5' becomes greenish gray
90 ppm @ 7' saprolite, sand and clay
8-12' rock frags throughout
4' Rec. mod hard to hard depending
200 ppm - on rock content, damp to
12-16' moist around 12'
4' Rec. hydrocarbon odor.
300 ppm -
16-20'
4' Rec.
300 ppm -

JHB

Samples Collected

74GWVP9b / JPS H.11 - 03
74GWVP9b / JPS H.11 - 05

Set 1.5" Well @ 20'
10' Screen sand to 8'
6' Bent to
then grout
stickup 3'

JHB

74GWVP10a / JPS Hill

0-4'	Sandy loam to 0.3'
3.2' Rec	Sandy Clay med gray brown
15 ppm	damp to dry, some stones
4-8'	throughout med hard
1.8' Rec	
2 ppm	
8-12'	~6' becomes sandy clay
3.4' Rec	dark green gray, damp
150 ppm	soft
12'-16'	
1.2' Rec	becomes gravelly @ 9'
500 ppm	wet zones between 11' and 12'
16-20'	then sandy clay, no gravel,
2 ppm	soft, wet/moist some
1.8' Rec.	silt

JHB

Samples collected

74GWVP10a / JPS Hill - 04
74GWVP10a / JPS Hill - 05

Set well @ 20' T.D.
10' Screen
Sand to 8'
Bent to 6'
Grout
Stick-up 3'

JHB

(148)

74GWVP11a/JPSHill

0-4'	Sandy Loam and Gravel
3.0' Rec.	Brownish gray, dry, broken
<1ppm	to 2.2'
4-8'	Sandy Clay, light brown, some
2.0' Rec.	silt, damp to dry, mod hard
<1ppm	
8-12'	
2.8' Rec.	Greenish gray/brown saprolite
<1ppm	silty sand with some clay
12-16'	mod hard, tightly packed
4' Rec.	
<1ppm	damp to moist at 14'
16-20	some high clay area @ 16' to
4' Rec.	16.8'
<1ppm	

JHB

5/16/08

(149)

No Samples Collected.

Geoprobe refusal on 3 1/4 Barrel
Have to Auger

Auger refusal @ 19.8'

Set well at 19.8', 1.5" Dia.
10' Screen
Sand to 8'
Bent to 6'
Grout
Stick up to 3'

JPA off-site 4:30

JHB

5/17/08 (1)
Hot Humid
88°F

On-site 630

JFA on-site 700

prep for fieldwork
mobilization to well locations
74GWVP11b / JPSH11

Mark boring locations down
Antietam Road and right-of-way
in morning

Look at value pit location at
the industrial area in the afternoon

JHB

74GWVP11b / JPS Hill

0-4'
4' Rec.
<1 ppm

Sandy loam and gravel to 0.6' then sandy clay and gravel and sand zones throughout, damp to dry, mod soft gray / brown

4-8'
4' Rec
<1 ppm

becomes light greenish brown at 7.6', mod hard, weathered rock damp,

8-12'
4' Rec
<1 ppm

12-16'
3.3' Rec
<1 ppm

becomes soft and damp to moist @ 12.5'

16-20'
22' Rec.
<1 ppm

No hydrocarbon odors

JHB

Samples collected

74SBVP11b / JPS Hill -04
74SBVP11b / JPS Hill -05

Set well @ 20' T.D.
10' Screen 1.5" Dia.
Sand to 8'
Bent. to 6'
Grout
Stickup to 3'

JHB

74GWVP10a / [redacted] DFM

0-4'	Silt Loam, dark brown,
3.5' Rec.	damp, mod soft to 1.1'
~10ppm	then light brown sandy clay
4-8'	fine grained sand, mod soft
3.8' Rec	damp to 4.6'
~30 pm	Greenish gray silty clay with
8-12'	some sand to 11' then
4' Rec	greenish gray clay with some silt hard
~90 ppm	12' Sandy silt with some clay
12-16'	damp to moist, loose
4' Rec	saprolite, strong hydrocarbon odor, greenish gray and white
>3000ppm	
16-20'	
4' Rec.	becomes olive green + white @ 18.3'
~900 ppm	

JHB

No Samples Collected

Geoprobe Refusal @ 14' with 3¼" Sleeve, have to Auger.

Set well @ 21' Bgs
10' Screen - 1.5" 0.010" Slot
Sand to 9'
Bentonite to 7'
Grout
stick-up to 3'

JHB

74GWVP10b/DFM

0-4'
2.9'
~10ppm
4-8'
3.8' Rec.
~25ppm
8-12'
4' Rec.
140ppm
12-16'
4' Rec
>2000ppm
16-20'
4' Rec
500ppm

Sandy loam and gravel to 1.5' Bgs, damp, dark Brown, soft then sandy clay, olive brown damp, mod soft med grained sand some silt

Gray rock, broken, hard from 4-5.2' dry, then sandy clay and rock frags, grayish brown clay and gray rock damp to dry

~ 11.5' Gray green saprolite weathered rocks, clay and sand variegated colors from 14.5 to 16

moist, after 17' Sandy silt with some clay, character, moist strong hydrocarbon odor.

JHB

Samples Collected

74SBVP10b/DFM -04
74SBVP10b/DFM -05

Geoprobe refusal with 3/4" casing have to drill with Augers

Encounter auger refusal @ 18'

Set 1.5" well @ 18' with 10' Screen
Sand to 6'
Bentonite to 4'
Grout
Stickup to 3'

JFA off-site 5:15pm

JHB

JHB

5/18/08
Sunny Hot
Humid

630am on-site
prep for field work

JPA on-site 200

Water levels @ 74GWVP10a/DPM

I = 18.02
TD = 24'

74GWVP10a/DPM

I : < 20.00 from TPVC (Dry)

Finish well pads and stickups at these wells, get water, mob to Tow Way Fuel Farm at 915

JHB

74GWVP19a

0-4' Sandy loam to + gravel to 4.8'
2.1' Rec. grayish brown mud hard, damp
<1 ppm some cobbles @ 4.8

4'-8' @ 5.1 silty clay, dark brown
4' Rec. damp, mud hard, pebbles with
<1 ppm iron-staining slightly mottled

8'-12' becomes soft and moist @
3.0' Rec. 7.8'
<1 ppm @ 8.5 feet wet sand and
coarse gravel with silty clay
12'-16' extends to 10.5'
2.2' Rec. @ 10.5 silty clay, saprolite
<1 ppm structure, hard, damp, some
rock frags
16'-20'
3.4' Rec. Cobbles @ 19.0' then saprolite
<1 ppm brown and white clay and sand
damp to dry, hard, brittle

No samples collected

Set well @ 15' TD.
10' Screen 1.5"
Sand to 4'
Bentonite to 2'
Stickup 3' Ags

JHB

74GWVP19b

0-4'	Sandy loam and gravels
3.8' Rec	to 3.5' brownish orange,
10 ppm	mod soft, damp.
4-8'	@ 3.5 to 8' sandy clay
2.8' Rec	moist, highly impacted, free
>3000 ppm	product gravel throughout
free product	
8-12'	8 to 12' silty clay, greenish
3.8' Rec.	gray some gravel, damp
>1000 ppm	plastic, mod soft
12-16'	@ 12' brown and green brown
4' Rec.	sandy clay, saprolitic, damp to
<1 ppm	moist, rock frags
	lighter in color with depth
16-20'	sandier,
4' Rec.	
<1 ppm	

JHB

Samples Collected

74SB VP19b -03	1115	LL
74SB VP19b -05	1130	LL

Set well @ 15' Bgs

10' Screen 1.5" Dia
Sand to 4'
Bentonite to 2'
Stick-up 3' Ags

Clean up decon rig and equipment
JFA off-site 2:30

JHB

JHB

5/19/08

Cloudy Hot
Humid

Onite @ 630 am

JFA and GeoEnviroTech on-site
@ 700

prep for fieldwork

Mobilize to VP20 in 20 Tow Away
Fuel Farm.

JHB

74GWVP20[redacted]

0-4'	Sandy loam and gravel
2.9' Rec.	brown, broken, mod hard, to 0.9'
20ppm @ 3.5'	then mixture of coral frags,
then <1ppm	gravel and sandy clay. (olive)
4-8'	mod hard, damp
4' Rec.	@ 3.5' Sandy clay some silt
2ppm Avg.	iron-stained, some gravel
	@ 5' Silty clay with some sand
8-12'	dark gray brown, very soft, damp
4' Rec.	to moist,
5ppm Avg	becomes slightly stiffer @ 8'
	mod soft
12-16'	@ 13' sandy clay, mod hard
@ 13' 500ppm	med-grained, sand, green, gray, brown
14' 1200ppm	damp to moist, hydrocarbons odor
3.5' Rec.	(saprolitic structure)
16-20'	
1.5' Rec.	
>2000ppm	

JHB

Samples collected

74SBVP20[redacted]	-05	825	LL
74SBVP20[redacted]	-06	845	LL

Set 1.5" well to 20' Bgs
10' Screen
Sand to 7'
Bentonite to 5'
grout
stickup to 3' Ags

Mob. outside of Tow Way Fence along Forrestal Road.

JHB

74GWVP1982

0-4'	Sandy silt, brown, dry, loose
3.3' Rec.	to 0.3'
>1 ppm	then sand and gravel, light gray
	loose, dry, coral and shell frags
4-8'	to 3.5'
3.2' Rec.	then sandy clay and gravel
~500 ppm	green gray, strong hydrocarbon
4-7'	odor @ 5'
8-12'	sandy clay transitions into
3.2' Rec.	silty clay green/brown very
>5 ppm	soft, dry to moist
12-16'	becomes wet @ 13'
2.0' Rec.	very soft dark green gray
>5 ppm	
	@ 15' brownish green
16-20'	weathered rock, saprolite
3.6' Rec	structure, moist, hard, strong
>700 ppm	hydrocarbon odor some sand
	and clay rich zones. rock
	fragments.

Sunny 85°F

Samples collected

74SBVP1982-03	1040
74SBVP1982-05	1100

Set well @ 20' Total Depth

Since boring is soo sloppy will use prepack well screen.
1.5' I.D. Dia.
Add sand to 8'
Bentonite to 6'
Grout
Stick-up to 3' AGS

JHB

7458212

0-4'
2.0' Rec
<1ppm

Rock, gravel, some silt and sand. dry

4-8'
0.8' Rec
<1ppm

minor sandy clay at bottom of sleeve, greenish brown, wet

8-12'
2.2' Rec
<1 ppm

greenish brown sandy clay saturated, soft, fine to med. grained sand

JHB

5/19/00

No samples collected
poor recovery, rock, and what was recovered was saturated.
No hydrocarbon odor.

JHB

745B213

0-4' Rock, gray, loose with silt
2.9' Rec and sand, dry to ~1.5
<1ppm sandy clay mixed with rock
Iron stained, compact, hard
4-8' damp
2.8' Rec @ 2.2 Bedding sand, light brown
10 ppm loose, dry
@ 6.5 @ 5' Sandy clay and clay
8-12' mixed greenish gray
1.8' Rec wet at 6.5 1" inch of
10-20 ppm weathered product at 6.5'
throughout

JHB

Samples collected

745B213-03

JHB

74SB214

0-4' Sandy clay and rock mixed to 3.5', dry, hard, light brown, then sandy clay grey stained with less rock

4-8' bedding sand and 4.5' and geoprobe refusal at 5'

No hydrocarbon odors

JHB

No samples collected

geoprobe refusal @ 5'

JHB

745B215

0-4'	Silty sand and gravel, loose
2.3' Rec.	gray, dry @ 1.3 Sandy
<1ppm	clay, Mod hard, damp
	gray brown
4-8'	@ 5' become dark gray and
1.6' Rec.	greenish brown, sandy clay
<1ppm	with rocks. moist @ 7'
8-12'	wet @ 9.' saturated
2.7' Rec.	
<1ppm	

JHB

Samples collected

745B215-03 1400

JHB

745B216

0-4'
2.6' Rec.
<1ppm

Silty Sand and Rock
Dry, hard,

becomes sandy clay with rock

4-8'
2.0' Rec.
20-40ppm

@ 2.0' mod soft, grayish black, moist
@ 7' turns greenish black
mod soft, silty clay

8-12'
3.6' Rec.
200ppm @ 11.4'
20-40 ppm above

hydrocarbons stains @ 11.4' to 11.8' saprolite rock
at 11.8', weathered rock and SANDY CLAY

JHB

Samples Collected

745B216-03 1415
745B216-05 1425
745B216-05D 1425

JHB

74SB217

0-4' Silt and Sand mixed with
2.8' Rec gravel, loose, dry, hard
<1ppm grayish brown
then sandy clay with gravel @3
4-8' large cobble at 6'
<1ppm Geoprobe refusal
moved 3X same thing
each time.
No hydrocarbon odors
No samples collected.

JHB

No Samples collected
due to refusal

JHB

74SB218

0-4'	Rocks and sand, gray, hard
3.3' Rec.	dry to 0.8'
<5ppm	then light brown sandy clay
	hard, brittle, broken, dry
4-8'	some rocks throughout
4' Rec.	@ 4' Sandy silt with
>700 @ 5'	some clay, Med brown, mod
40 @ 6'	hard, damp
8-12'	becomes greenish gray and
4' Rec.	strong odor @ 5'
50 ppm	@ 9' becomes silty sand,
throughout	mod hard, damp to moist.
	saprolite structure

JHB

Samples collected

[redacted]

74SB218-03

74SB218-05

JHB

745B219

0-4'
3' Rec
<1ppm

Rocks and sand fill
dry, hard loose some
sandy clay @ 2.0'
Geoprobe refusal @ 3'
concrete.
Tried 3X and unsuccessful

JHB

No Samples collected

JHB

745B220

0-4'
3' Rec.
<1ppm

Silty Sand and gravel
dry, loose hard
some clay @ 2' red brown
mixed in
Geoprobe refusal @ 3'
concrete
Tried 2X

JHB

No Samples Collected

JHB

JHB

Sunny 85°
Humid

630 on-site

700 JPA on-site

Prep for field work sunny 74

Mob to Fueling Pier

JHB

745B221

0-4'
3.1' Rec
<1ppm

Sand and Silt with some gravel to 0.6' then Sandy clay with gravel to 2.0', dark brown

4-8'
2.2' Rec
>50 ppm

Sandy clay, mod brown, soft, damp, some rock some bedding sand

Free product @ 5.5', weathered, dark brown,

8-12'
>200ppm
0.8' Rec

JHB

Samples Collected

745B221 -00 855
745B221 -00D 855

745B221 -02 920
745B221 -02 D
745B221 -02 MS
745B221 -02 MSD

Did Not collect deeper sample Free product @ 5.5'

JHB

745B222

0-4'
2.3' Rec
<1ppm

Silt and sand mixed with gravel, light brown, dry, loose
Some clay @ 1.8'

4-8'
2.8' Rec
>50 ppm @ 6.5
>20 ppm 5.5 to 6.5

@ 3.2' Bedding sand
light brown, soft, loose, dry
Free product @ 6.5'
moist to wet

8-12'
2.0' Rec.
>50ppm

8-12' greenish gray sandy clay, saturated, strong hydrocarbon odor.

JHB

Samples Collected

745B222-03

Second subsurface not collected with Free product @ 6.5'

JHB

74SB223

0-4'	Sandy Loam to 0.2'
3.2' Rec	then sandy clay, light brown,
>1 ppm	broken, dry,
	Sand and silt mixed with
4-8'	gravel @ 0.8' light gray
2.8' Rec.	brown, mod soft, dry
>100 @ 6.5'	bedding sand @ 3.0' extends
<10 above	to 5'
8-12'	Med brown, silty clay at
1.5' Rec	5', damp, mod soft
>200 ppm	hydrocarbon impact @ 6.0'
	greenish black, moist
	some greenish black
	sandy clay, saturated
	oil mixed with water

JHB

Samples Collected

74SB223-03

Second subsurface soil not collected due to free product @ 6'

JHB

745B224

0-4'	Sandy clay and gravel
2.5' Rec	to 6.9', grayish brown, mod
<1ppm	hard to mod. soft, dry
4-8'	then greenish gray sand and
4' Rec	silt, trace gravel to 7.2'
2ppm	mod hard, damp
	then silty clay, very hard,
8-12'	compact, saprolite structure
3.9' Rec	damp to 8.5'
>40ppm	then sandy clay, greenish
9-9.5'	gray, mod hard, damp
~20ppm	rock frag throughout
	saprolite structure
	damp to moist @ 9.0'

JHB

Samples Collected

745B224-04
745B224-05

JHB

745B225

0-4'
2.6' Rec.
<1ppm

Sandy Loam to 0.3' then light grey sand and silt with gravel, dry, loose, hard. to 1.1 then med brown

4-8'
2.2' Rec.
<1ppm

sandy clay, dry, med hard some gravel.
@ 7.' dark brown, moist

8-12'
4.0' Rec.
<1ppm

10' silty clay, hard, damp some sand, med, brown.

JHB

Samples Collected

745B225-04
745B225-05

JHB

745B226

0-4'	Sand and Silt mixed with
4' Rec	gravel, loose, dry, med
2ppm	light gray brown to 3.2'
	greenish gray sandy clay mixed
4-8'	with gravel, med soft
1.0' Rec	becomes very soft, damp to
10 ppm	moist @ 4.5' poor recovery
8-12'	tight sandy clay, saprolite
4' Rec.	structure @ 8.0, damp
>100 ppm	strong hydrocarbon odor
	become light brown @ 11.5'

JHB

Samples collected

745B226-04	1125
745B226-05	1135
745B226-05D	1135

JHB

74SB269

0-4'
2.2' Rec.
<1ppm

Med brown, silty sand, loose dry, mod soft, gravel throughout to 0.8' then turns light gray, same

4-8'
2.8' Rec.
50ppm

@ 4.5' dark brown sandy clay stones throughout, some odor, soft dry to moist, turns silty sky @ 10' very soft, green gray

8-12'
3.5' Rec.
>500ppm

Wet @ 11', strong hydrocarbon odor, brownish green, very soft

JHB

Samples Collected

74SB269-04 1215
74SB269-05 1230

JHB

745B268

0-4'
3.1' Rec.
5 ppm

Sandy Loam and Gravel
dry, gray brown, broken, med hard
to 1.6'
then sandy clay med to dark
brown, Mod soft, damp
turns greenish gray @ 6'
sandy clay mixed with rock frags
strong hydrocarbon odor

4.8'
>50 ppm
3.5' Rec.

8-12'
4' Rec.
>700 ppm

saprolite structure evident @
9'
turns brown green @ 11' softer
moist

JHB

Samples Collected

745B268-03 1400
745B268-05 1415

JHB

745B267

0-4'	Sandy silt with some clay and
3.7' Rec.	gravel, light grey, hard, loose
5ppm	dry
	clay starts to turn gray green
4-8'	@ 3'
2.5' Rec.	becomes dark green gray @ 5'
>50ppm	damp to moist, soft
	Med brown color @ 6' with
8-12'	some sand, damp
1.2' Rec.	greenish brown at 6.5
>800ppm	@ 7.2' Free product, oily
	hydrocarbon, gravel and
	green sandy clay, wet

JHB

Samples Collected

745B267-02	1425
745B267-03	1435

JHB

745B266

0-4'
3.6' Rec
25ppm

Sandy silt with mixed gravel
loose, dry
sandy clay mixed in @ 3'

4-8'
1.5' Rec
740ppm

greenish brown sandy clay @ 5'
some silt, damp, soft
Free product @ 6.5', wet
strong odor

8-12'
1.0' Rec.
>400ppm

JHB

Samples Collected

745B266-03

Second sample not collected because of low recovery and free product @ 6.5'

No duplicate collected because of low recovery, will collect on next boring.

JHB

745B265

0-4'
2.6' Rec.
<1ppm

Sandy Silt, brownish gray, dry, loose, broken sandy clay mixed in around 3.0', damp, mod soft.

4-8'
1.8' Rec
>100ppm

@5.5' becomes greenish gray sandy clay, damp, strong hydrocarbon odor

8-12'
2.0' Rec.
>200ppm

wet @ 9.0', large gravel mixed with sandy clay

JHB

Samples Collected

Samples collected

745B265-03	1515
745B265-03 Dup	1515
745B265-04	1530

JPA off-site 3:30
Label Bottles and Ship Fedex 4:30
Baker off-site 5:30

JHB

JHB

Sunny Hot
Humid

630 on-site

700 JFA on-site

Prep for field work

mob to 7YSB264

JHB

745B264

0-4'	Sandy loam and gravel,
3.3' Rec.	dry, loose, mod soft
<1ppm	gray brown
	becomes light gray @ 2.5'
4-8'	then
3.1' Rec	Sandy clay @ 3.5'
<1ppm	med brown, mod soft, damp
	becomes greenish brown @
8-12'	6'
3.8' Rec.	mixed with light gray sand
+300 ppm	@ 7' to 8'
@ 9'	wet @ 9.0' very soft
	sandy clay

JHB

Samples collected

745B264-03	800
745B264-04	810

JHB

745B263

0-4'	Sandy loam and gravel,
3.8' Rec	dry, broken, lt gray brown
<1ppm	to 3.5'
	then bedding sand, light brown,
	soft, loose, damp
4-8'	to 7.2'
2.5' Rec.	then med brown, silty
<1ppm	sand, little clay, loose
	soft
	~~more~~ becomes greenish gray Sandy clay @ 10'
8-12'	wet @ 11.0' hydrocarbon
2.2' Rec.	odor
>30 ppm 9'	
>50 ppm 10'	

#

JHB

Samples collected

745B263-03 825
745B263-04 835

JHB

74SB262

0-4'
3.8' Rec
<1ppm

Sandy loam to 0.5'
Gray Brown, soft, broken, dry
then silty sand light brown, dry
loose, dry to 1.8' then

4-8'
2.2' Rec
<1ppm

Sandy clay mixed with gravel
soft, damp med to dark brown

8-12'
1.0' Rec
>700ppm

mixed with bedding sand from
4.5 to 8.5 lots of rocks
from 5 to 8.5' poor
recovery
wet @ 9.0' free product
coating the entire sleeve from
8-12'

JHB

Samples Collected

74SB262 - 03 885

Did not collect second subsurface
sample due to poor recovery
and rocks and cobbles, also
saturated with free product @ 9'

JHB

74SB261

0-4'
3.6' Rec
>1ppm

Sandy Loam, dry, loose, broken to 0.6' then silty sand mixed with gravel loose, dry to 3.5'

4-8'
@1.2' Rec.
5X
>10ppm

then bedding sandy tan, soft loose, to 6'
sandy clay, greenish black soft damp to moist, lots of rocks and cobbles

8-12'
1.0'
>500ppm

bad recovery 5X

8-12' sheen covered with free product, wet

JHB

Samples Collected

74SB261-00
74SB261-03
74SB261-03 Dup
74SB261-03 MS
74SB261-03 MSD

Second subsurface sample not collected due to poor recovery free product and rocks. at depth.

JHB

745B260

0-4'	Sandy loam to 0.3'
2.3' Rec.	dry, broken, soft
<1ppm	then silty sand, gray brown
	dry, loose, some gravel
4-8'	sandy clay @ 2.8'
1.8' Rec.	very soft, damp, greenish
<10 ppm	brown, lots of gravel throughout
8-12'	Med. brown @ 8.5'
>100 above	soft, damp, medium-grained
9.5'	sand. @ 9.5' clayey sand
3.6' Rec.	soft, wet, hydrocarbon
	stained greenish black.

JHB

Samples collected

745B260 - 03 1025
745B260 - 04 1040

JHB

745B259

0-4' 3.2' Rec <1ppm	Sandy Loam, grayish brown dry, mod hard, to 0.4' then sandy clay with gravel dry, broken, mod soft, coral frags @ 3.5'
4-8' 2.2' Rec. <1ppm	med brown sandy clay @ 4.5' black and tan sand throughout damp
8-12' 1.8' Rec 750ppm @ 9.5'	wet @ 9.5' hydrocarbon staining, greenish black

JHB

Samples Collected

745B259-03 1115
745B259-04 1125

JHB

745B258

0-4'	Silty Sand and gravel to
2.8' Rec.	4.5', some clay, very dry
<1ppm	broken, gray brown
	then bedding sand tan
4-8'	loose, dry with rocks throughout
3.2' Rec.	6.5' med green brown sandy
<1ppm	clay, damp, mod soft
	moist from 8-9.5'
8-12'	then weathered rock, saprolite
4.0' Rec	hard, rock frags, damp to
<5ppm	dry

JHB

Samples Collected

745B258-03 1145
745B258-05 1155

JHB

745B257

0-4'
3.5' Rec
<1ppm

Silty sand and gravel to 1.8' light gray, dry, loose

then mixture of clay and gravel med brown, damp

4-8'
0.5' Rec
<1ppm

@ 3.5' med grained sand and coral frags, loose, soft, wet

8-12'
0.6' Rec
<1ppm

JHB

Samples Collected –
~~745B257~~
No samples collected

wet sand and coral @ 3.5'

JHB

745B256

0.-4'	Sandy gravel with some
3.6' Rec	clay, dry, broken,
<1ppm	gray brown,
	then med brown sandy,
4-8'	clay with gravel @ 4.5'
1.5' Rec	damp, med-grained sand
2X	
<1ppm	
8-12'	@ 7.5' silty clay, dark
2.2' Rec	brown, very soft, sticky
<5 ppm	some sand throughout

JHB

Samples Collected

745B256 -03	1220
745B256 -03D	1220
745B256 - 04	1235

JHB

JHB

6:30 on-site

700 Drillers on-site
work on wells along
Forestall Road. Did not collect
any samples today, except groundwater.
Clean up

View ~~space~~ sumps 71, 78, 61, 62
with help from Chief Kelly.
Will need to locate borings
with GPS.

Prep samples from shipping

JHB off-site 270 pm

JHB

JHB

5/28/08
Cloudy, Humid
85°F

JHB on-site 800 am
Drillers on-site 700 am
check in get passes.

Prep for field work, mob to
JP-5 Hill

JHB

745B270

0-4' 2.7' Rec <1ppm	Sandy loam, and gravel to 0.3', dry, hard then tan and red (maroon) clay, damp, mod hard
4-8' 0.2' Rec <1ppm	becomes very soft at 4' poor recovery
8-12' 4' Rec. <1ppm	darker red color @ 8' and white clay, mod soft, damp to moist stiffer @ 10.5', harder

JHB

Samples collected

745B270 - 04 @1005
745B270 - 05 1015

JHB

745B271

0-4' 3.7' Rec <1ppm	Sandy loam and gravel to 0.8' then tan and red clay, mod hard, damp
4-8' 4' Rec <1ppm	becomes softer and sticky @ 4', iron staining throughout mod soft to soft
8-12' 4' Rec <1ppm	Some brown to tan silt and sand throughout the red/white clay from 8-12' mod soft, damp to moist variegated.

JHB

Samples collected

745B271-00 1030
745B271-03 1040
745B271-03 Dup
745B271-03 MS
745B271-03 MSD
745B271-05 1050

JHB

745B272

0-4'
2.8' Rec.
<1ppm

Sandy loam and gravel to 1.2'
gray brown, soft, dry
then dark brown, sandy clay
to 2.5', hard, dry
then med yellow brown silty clay

4-8'
4' Rec.
<1ppm

damp, mod hard, iron staining
becomes clayey sand from
4.5 to 5.2' med brown, damp
then tan sandy clay, some
silt, hard, damp 5.2-8.4'

silt layers

8-12'
4' Rec
<1ppm

then saprolite, hard, olive
brown, and light gray, damp

JHB

Samples collected

745B272-04 1105
745B272-05 1115

JHB

745B273

0-4' Sandy clay and gravel, hard
4' Rec. loose dry to 0.5'
<1ppm then sandy clay (saprolite)
greenish brown, and white
specks

4-8' iron-staining and dry to moist
4' Rec. @ 3.5 to 4.2' more greenish
<1ppm gray color @ 4.2', hard

alternating layers of clayey brown and
8-12' rocky greenish gray, hard saprolitic
4' Rec. structure. damp. rock fragments
<1ppm throughout

12-16' saprolite - damp to moist, iron
<1ppm staining throughout rock fragments
geoprobe refusal @ 14.5'

JHB

Samples Collected

745B273 -04 1125
745B273 -05 1135

Will Set well at this location
using 4 1/4" HSA

Total Depth 20' with Augers
use GeoPACK screens because
of water and sediment in bottom
10' Screen
Sand to 8'
Bentonite to 6'
Grout
Shellup 74GW273

JHB

745B274

0-4'
3.9' Rec
<1ppm

sandy clay and gravel to 1.6', dry, hard, broken then silty clay, hard to very hard, damp, brown to gray @ 4'

4-8'
4' Rec.
<1ppm

becomes greenish gray sand and rock frags, saprolite, hard, damp to dry iron staining

8-12'
4' Rec.
<1ppm

becomes reddish brown and white clayey sand, quartz rock, soft, damp

JHB

Samples Collected

745B274-03 1150
745B274-05 1200

JHB

745B275

0-4' Gravel and silt to 2.2' gray, hard then medium brown sandy clay, mod hard, damp rocks, Fe staining

4-8' @ 4.5' silty clay with some sand, mod soft, med. brown, damp

Geoprobe refusal @ 8'

8-12' light gray, rock, very hard dry

JHB

Samples Collected

745B275-03 1215
745B275-03 Dup 1215

Did not collect second sub-surface sample due to refusal

JHB

74SB276

0-4' Sandy Loam and gravel
3' to 1.5' then sandy clay
<1ppm med to dark brown, mod hard
dry then
4-8' Geoprobe refusal @ 3'
light gray rock.

JHB

No samples collected from
this boring 74SB276.

Rock refusal @ 3'

JHB

JHB

Finish well @ 74 SB 273
Drillers off-site @ 5pm

Fedex pick-up not until 6:15pm
then off-site.

JHB

JHB

5/29/08
Cloudy 85°

On-site 630 pm
Drillers on-site 700
prep for fieldwork

Drillers JFA mob to 74SB256
and install a temporary well

74GW256 TD 20'
10' Screen
Sand to 8'
Bentonite to 6
Grout
stickup

10 am mobilize to SWMU 78
Begin soil borings

JHB

Field Scientist – Darrin Hupe

4/29/08

SWMU 69 [Surface Soil Sampling.]

Weather: Mostly sunny, windy, ~95°F

Sample Point	Time	Description
69SB01-00	0850	S.Hy, some roots/roots, Med. Br. moist
00MS	"	
00MSD	"	
00D	0855	
69SB02-00	0940	S.Hy clay, roots, Med. to dark brown, moist.
69SB03.00	0950	Sandy clay, Root + shell frags, Med. Br. moist to wet.
69SB04-00	1035	Clay, some S.H, Roots, some rocks/shells, Med. Brown.
69SB05.00	1110	S.Hy clay, Roots, some sand, dark Brown, moist
69SB06.00	1120	clayey S.H, Roots, Med. Br., moist
69SB09.00	1135	S.H, some sand lots of Roots, DK. Brown, moist to wet.
69SB10-00	1345	S.Hy clay, lots of Roots, some rock/shells Med. Br., damp.
69SB13.00	1400	S.H, some sand/clay, roots, some rocks/shells, Med. Br., damp
69SB14.00	1415	Clayey S.H, roots, rocks/shells, Med. to DK. Br., Damp.

4/29/08

Sample Point	Time	Descrip.
69SB15.00	1425	S.Hy Sand, trace clay, roots, rocks/shells, Md. Br., Damp.
69SB16-00	1430	S.Hy sand, roots, rocks/shells, light Br., damp.
69SB17.00	1445	S.H, some sand, rocks/shells, Med. to dk Br., damp.
69SB18-00	1450	S.Hy Sand, rocks, Med. to light Br., Moist.
69SB19.00	1500	S.Hy Sand, rocks, Med. to light Br., Moist.
69SB20-00	1500	S.Hy Sand, rocks/shell, some Coral, Med. to Dk. Br. damp.
69SB21-00	1520	Sand, rocks/shells, light Br./Tan, damp.
~~69SB22-00~~	~~1530~~	
69SB21D-00	1520	
21MS	"	
21MSD	"	
69SB22-00	1530	S.Hy Sand, rocks, Med. Br., damp.
69SB23.00	1535	" " " " "
69SB24-00	1550	" " " " "

4/30/08

SUMU 69 [Well Development]

Weather - Mostly sunny, breezy, ~95°F

69GW11

TD: 19.46 (Hard bottom)

SWL: 12.76

Time: 0915

Time	Vol. (gal.)	Temp.	Cond.	D.O.	pH	ORP	Turb.
0954 - Start							
0957	.75	31.79	0.687	2.11	7.22	87	>1k
1003	2	31.74	0.679	2.71	6.90	91	"
1010	4	31.90	0.680	2.20	6.86	84	"
1017	6	31.97	0.657	1.93	6.96	64	717
1025	8	32.03	0.577	1.83	6.90	63	227
1030	10	32.06	0.542	1.76	6.85	61	60

Ending SWL = 12.84

Pump Speed = Full

4/30/08

69GW12

TD: 18.10 (Hard Bottom)

SWL: 10.38

Time: 1040

Time	Vol. (gal.)	Temp.	Cond.	D.O.	pH	ORP	Turb.
1045 - Start							
1053	2	29.40	0.716	2.10	6.81	69	>1k
1100	4	29.49	0.723	1.94	6.76	55	"
1106	6	29.42	0.711	1.87	6.76	40	"
1113	8	29.48	0.459	1.82	6.74	29	279
1120	10	29.43	0.716	1.80	6.72	19	199
1126	12	29.45	0.714	1.74	6.80	8	41

Ending SWL = 10.45

Pump Speed = Full

4/30/08

696W08

TD: 19.05 (Hard Bottom)

SWL: 8.95

Time: 1205

Time	Vol. gal.	Temp.	Cond.	D.O.	pH	ORP	Turb.
1208 - Start							
1215	2	28.75	0.629	4.05	7.01	32	>1k
1221	4	28.62	0.618	3.47	6.98	35	"
1227	6	28.56	0.554	3.38	6.95	37	845 ~~844~~
1233	8	28.57	0.622	3.05	6.91	43	436
1238	10	28.49	0.623	3.17	6.94	43	971
1243	12	28.48	0.587	3.08	6.94	43	780
1250	14	28.39	0.484	3.00	6.94	42	528
1255	16	28.45	0.580	2.33	6.98	41	136
1304	18	28.29	0.609	2.92	6.96	41	89

Ending SWL = 9.33

Pump Speed = Full

4/30/08

696W07

TD: 19.45 (Hard Bottom)

SWL: 10.83

Time: 1458

Time	Vol. gal.	Temp.	Cond.	D.O.	pH	ORP	Turb.
1502 - start							
1510	2	29.96	0.661	6.15	7.29	40	>1k
1518	4	29.63	0.630	~~7.15~~	7.15	51	"
1524	6	29.50	0.646	4.09	6.94	56	866
1531	8	29.45	0.633	3.65	6.85	69	318
1537	10	29.33	0.572	3.42	6.81	78	68

Ending SWL = 11.50

Pump Speed = Full

4/30/08

69GW25

TD: 20.39 (Hard Bottom)

SWL: 8.33

Time: 1549

Time	Vol. (gal.)	Temp.	Cond.	D.O.	pH	ORP	Turb.
1552 - Start							
1600	2	29.90	0.758	5.51	6.83	51	>1K
1606	4	29.50	0.739	5.39	6.75	57	37
1613	6	29.37	0.745	4.61	6.69	57	528
1619	8	29.19	0.740	4.20	6.66	48	51

5/1/08

SWMW 69 [Well Sampling]

Weather: Partly cloudy, breezy, ~55°F

69GW07

SWL = 10.93 @ 0938 TD = ~~10.93~~ 19.45

1 Vol. = ~~.8~~ 1.4 gal.

Time	Vol.	Temp.	Cond.	D.O.	pH	ORP	Turb.
0941 - Start							
0952	1	29.20	0.693	2.16	6.89	77	11
1000	2	28.88	0.685	1.84	6.87	78	7.8
1007	3	29.09	0.674	1.44	6.84	68	3.0
1013	4	29.09	0.668	1.39	6.81	74	1.5

1020 - Sample Taken

5/1/08

696W-08

TD = 19.05

SWL = 9.09 @ 1043

1 Well Vol. = 1.6 gal.

Time	Vol.	Temp.	Cond.	D.O.	pH	ORP	Turb.
1046	—	Start					
1054	1	28.54	0.676	2.01	6.91	52	7.7
1101	2	29.00	0.668	1.43	6.91	45	4.5
1109	3	28.18	0.660	1.37	6.88	42	3.2
1115	4	28.09	0.655	1.28	6.87	37	3.5

1125 - Sample Taken

5/1/08

696W-11

TD = 19.46

SWL = 12.86 @

1 Well Vol. = 1.1 gal.

Time	Vol.	Temp.	Cond.	D.O.	pH	ORP	Turb.
1145	- Start						
1152	1	32.11	0.670	1.24	6.81	45	19
1156	2	32.10	0.670	1.18	6.80	43	9.4
1201	3	32.20	0.668	1.19	6.80	41	5.7
1207	4	32.10	0.670	1.17	6.80	38	3.2

1215 - Sample Taken

" - MS/MSD

1220 - Dep.

5/1/08

69GW12

TD = 18.10

SWL = 10.49 @ 1344

1 Well Vol. = 1.2 gal.

Time	Vol.	Temp.	Cond.	D.O.	pH	ORP	Turb.
1346 - Start							
1353	1	29.49	0.714	1.28	6.75	-5	6.7
1358	2	29.12	0.714	1.48	6.75	-8	3.7
1409	3	29.00	0.712	1.28	6.73	-9	3.8
1413	4	29.	0.712	1.26	6.73	-8	3.3

1420. Sample Taken

5/1/08

69GW25

TD = 20.39

SWL = 8.81 @

1 Well Vol. = 1.9 gal

Time	Vol.	Temp	Cond.	D.O.	pH	ORP	Turb.
1451	1	28.71	0.765	~~2.05~~ 1.93	6.51	43	17
1458	2	28.67	0.760	1.54	6.49	41	6.3
1506	3	28.70	0.748	1.50	6.47	57	3.2
1515	4	28.68	0.743	1.47	6.45	61	3.0

1520 - Sample Taken

5/2/08 [Well Developement]

Weather: Mostly Sunny, Breezy, ~85°F

69GW26

TD = 21.44 (Hard Bottom).

SWL = 11.50

Time = 0854

Time	Vol. (gal.)	Temp.	Cond.	D.O	pH	ORP	Turb.
0906	1	27.08	1.063	6.82	6.60	138	63
0910	2	26.84	1.057	5.71	6.54	136	15
0914	3	26.79	1.069	5.42	6.52	134	6
0920	4	26.93	1.074	5.13	6.49	134	27
0924	5	26.92	1.084	5.09	6.45	135	29
0929	6	26.95	1.089	5.01	6.42	133	27
0934	7	26.06	1.092	4.81	6.42	133	7
0939	8	26.02	1.094	4.73	6.41	132	7

Ending SWL = 19.83

Pump Speed = Full

5/2/08

69GW27

TD = 21.57 (Hard Bottom)

SWL = 13.28

Time = 1030

Time	Vol. (gals.)	Temp.	Cond.	D.O.	pH	ORP	Turb.
1035 - Start							
1040	1	27.18	0.768	3.30	6.59	107	178
1043	2	26.94	0.788	5.32	6.53	112	53
1048	3	26.95	0.826	4.51	5.66	105	310
1051	4	27.00	0.848	5.07	6.69	105	13
1056	5	27.11	0.843	4.61	6.58	107	6
1100	6	27.15	0.826	4.39	6.50	93	2

1101 - Dry

Pump Speed = Full

5/2/08

SWMU 56 [Well Sampling]

56GW05

TD= 18.20

SWL= 5.57

1 Well Vol. 2.1 gal

Time	Vol.	Temp.	Cond.	D.O.	pH	ORP	Turb.
0748 - Start							
0758 -	1	27.19	0.707	1.50	6.82	146	15
0807 -	2	26.93	0.707	1.26	6.80	141	6
0819 -	3	26.94	0.706	1.16	6.79	137	2.6

0825 - Sample Taken

5/2/08

SWMU 56 [Well Development]

~~Weather - Overcast, breezy, ~80°F~~

56GW07

TD= 18.44 (Hard Bottom)

SWL= 6.49

Time= 11.31

Time	Vol. (gal)	Temp.	Cond.	D.O.	pH	ORP	Turb.
1136 - Start							
1145 -	2	27.20	1.769	3.25	7.22	88	>1K
1153	4	26.20	1.838	1.44	7.12	70	"
1201	6	26.14	1.845	1.24	7.09	52	"
1209	8	25.98	1.847	1.21	7.09	43	981
1218	10	26.03	1.850	1.15	7.08	35	691
1226	12	25.92	1.852	1.30	7.12	15	293
1234	14	25.88	1.853	1.12	7.09	7	119
Ending SWL - 7.17							
Pump Speed = Full							
1243	16	25.84	1.855	1.07	7.11	-2	44

5/2/08

56GW06

TD= 18.41

SWL= 2.96

Time= 1306

Time	Vol. gal.	Temp	Cond.	D.O.	pH	ORP	Turb.
1319	2						
1325	4	28.34	0.966	2.80	6.76	70	>1K
1333	6	28.58	0.954	2.16	6.74	72	871
1341	8	28.59	0.946	1.76	6.72	73	>1K
1347	10	28.59	0.943	1.40	6.70	74	987
1354	12	28.53	0.940	1.34	6.71	73	656
1358	13	28.60	0.938	1.23	6.70	73	217
1401	14	28.56	0.933	1.21	6.71	72	85

Ending SWL = 4.56

Pump Speed = Full

5/3/08

Weather: Overcast, breezy, ~80°F

SWMW69 [Well Sampling]

~~69GW2~~

69GW27

TD = 21.57

SWL = 12.91 @ 0813

1 Well Vol. = 1.4 gal.

Time	Vol.	Temp.	Cond.	D.O.	pH	ORP	Turb.
0818	.3	26.48	0.822	2.13	6.57	93	6.5
0821	.6	26.47	0.819	2.14	6.61	87	6.7
SWL = 14.62							
0824	1	26.48	0.817	2.48	6.60	88	4.6
0829	1.3	26.47	0.818	3.03	6.60	88	3.4
SWL = 15.63							
0834	1.6	26.50	0.820	3.08	6.60	89	2.8
0839	2	26.55	0.819	3.06	6.59	87	2.0
SWL = 16.53							

0850 - Sample Taken

Note: Sample was clear but with a smell of slag/cement.

Pump Speed = 2/3

5/3/08

696W26

TD = 21.44

SWL = 11.06 @ 0915

1 Well Vol. = 1.7 gal.

Time	Vol.	Temp.	Cond.	D.O.	pH	ORP	Turb.
0918	.3	26.61	1.057	4.96	6.44	98	1.7
0922	.6	26.62	1.059	4.63	6.43	98	1.3
@ SWL = 12.48							
0926	1	26.63	1.058	4.73	6.45	97	1.2
0933	1.3	26.64	1.060	4.50	6.44	94	0.7
@ SWL = 13.34							
0937	1.6	26.67	1.062	4.41	6.45	93	0.8
0944	2	26.67	1.060	4.39	6.43	93	0.6
@ SWL = 13.97							

0950 - Sample Taken

Pump Speed = little more than 1/2

5/3/08

SWM056 [Well Sampling]

56GW06

TD = 18.41

SWL = 2.69 @ 1052

1 Well Vol. = 2.6

Time	Vol.	Temp.	Cond.	D.O.	pH	ORP	Turb.
1107	.5	28.78	0.951	0.91	6.70	71	25
1114	1	28.68	0.952	1.01	6.71	72	13
@ SWL = 3.45							
1120	1.5	28.66	0.944	0.74	6.69	71	7
1126	2	28.75	0.949	0.71	6.69	69	6.4
@ SWL = 3.58							
1132	2.5	28.72	0.947	0.67	6.69	68	5.3

1140 - Sample Taken

Pump Speed = ~ 3/4

5/3/08

56GW07

TD = 18.44

SWL = 6.42

1 Well Vol. = 2.0

Time	Vol.	Temp.	Cond.	D.O.	pH	ORP	Turb.
1223	.5	26.63	1.857	1.21	7.14	51	79
1229	1	26.22	1.866	1.07	7.12	32	21
' SWL = 6.89							
1234	1.5	26.00	1.872	0.82	7.08	16	9.6
1240	2	25.96	1.875	0.77	7.08	3	5.5
' SWL = 6.9							
1246	2.5	25.92	1.876	0.79	7.09	4	3.0
1250	3	25.93	1.877	0.86	7.09	3	2.3
' SWL = 6.9							
1255	3.5	25.93	1.877	0.89	7.10	2	2.1

1300 - Sample Taken.

Pump Speed = 3/4

5/3/08

SWM074 [Well Developement]

74GW05

TD = 16.59

SWL = 8.51

Time = 1357

Time	Vol. (gal.)	Temp.	Cond.	D.O.	pH	ORP	Turb.
1403.	Start						
1410	1	29.31	1.021	1.87	7.05	-21	>1K

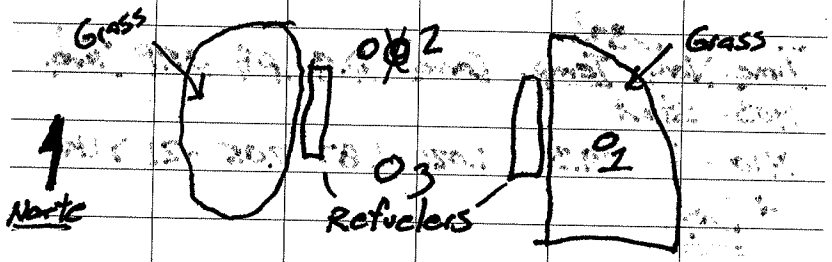
↓ Dry.

5/4/08

Weather: Mostly cloudy, windy, ~80°F

SWMU 74 [Well Developement/Sampling]

3 Existing Wells btwn the first & second refuelers:



	TD	SWL	Time
1	14.64	5.15	0830
2	19.58	5.33	0833
3	18.98	5.24	- Fuel Smell 0835

- All Flushmounts.
- Date stamped on #1 is 3/95

5/4/08

SWMU 74 [Developement]

Existing Well 1

TD : 14.64
SWL : 5.15
Time : 0830

Time	Vol.	Temp. (°C)	Cond.	D.O.	pH	ORP	Turb.
0853 · Start							
0901	2	30.33	0.252	1.76	6.74	104	61
↳ SWL = 6.54							
0909	4	30.04	0.254	1.26	6.70	37	37
↳ SWL = 7.66							
0916	6	29.89	0.258	1.10	6.75	7	30
↳ SWL = 8.62							

Pump Speed = Full

5/4/08

Existing Well 2

TD = 19.58
SWL = 5.33
Time = 0833

Time	Vol. (gal.)	Temp.	Cond.	D.O.	pH	ORP	Turb.
0930 - Start							
0934	2	32.73	1.212	1.53	6.81	71	17
SWL = 5.94							
0947	4	32.47	1.213	1.49	6.79	74	12
SWL = 6.14							
0953	6	32.77	1.220	1.58	6.80	74	10
SWL = 6.18							

Pump Speed = Full

5/4/08

Existing Well 3

TD = 18.98
SWL = 5.24
Time = 0835

Time	Vol. (gal.)	Temp.	Cond.	D.O.	pH	ORP	Turb.
1006 - Start							
1013	2	33.53	1.418	1.28	7.03	7.2	5.8
SWL = 6.43							
1022	4	33.25	1.370	1.26	6.97	-17	1.1
SWL = 7.06							
1029	6	33.34	1.374	0.90	6.94	-17	1.4
SWL = 7.44							

Pump Speed = Full
Note: Noticeable Fuel smell when first purging, less so when finished.

5/4/08

74GW2~~8~~6 ** - See below.

TD: 22.76
SWL: 15.50
Time: 1103

Time	Vol. (gal.)	Temp.	Cond.	D.O.	pH	ORP	Turb.
1108 - Start							
1111 - Dry							
1111	0.8	28.67	1.202	4.26	7.23	-11	C

** - Back in the office, it was verified that wells 74GW22/26 were mis-identified in this field book, hence the corrections shown. It was ~~[illegible]~~ determined that it was easier to make the switch here rather than with the analytical + survey data. J. Barnum will make sure the Lab makes the switch prior to sending the results. DNH (6/30/08)

5/4/08

74GW2~~6~~2 ** - See previous pg.

TD: 19.64
SWL: 17.72
Time: 11.25

Time	Vol. (gal.)	Temp.	Cond.	D.O.	pH	ORP	Turb.
1133 - Start							
1134 - Dry	29.03	0.842	3.44	7.54	2.4	11	

5/4/08

VP1B ~~74GW1B~~ 74GWVP-1B

TD: 13.75
SWL: 8.98
Time: 1158

Time	Vol. gal.	Temp.	Cond.	D.O.	pH	ORP	Turb.
1208 - Start							
1212	1	28.94	0.811	2.80	7.94	-9	>1k
SWL = 10.15							
1215	2	27.13	0.808	1.97	7.80	-6	"
SWL = 10.94							
1219	3	27.04	0.817	1.48	7.51	-6	"
SWL: 11.09							
1224	4	26.94	0.833	1.54	7.33	-12	"
SWL: 11.15							
1227	5	26.70	0.845	1.71	7.24	-25	271
SWL = 11.15							
1231	6	26.64	0.858	1.53	7.20	-31	67

Ending SWL = 11.15
Pump Speed = Full

5/4/08

74GWVP-1A

TD: 13.5
SWL: 10.52
Time: 12.45

Time	Vol. gal.	Temp.	Cond.	D.O.	pH	ORP	Turb.
1251 - Start							
1256	1.5	28.54	0.692	1.54	6.79	11	193
SWL = 10.62							
1301	3	28.08	0.690	1.48	6.84	4	121
SWL = 10.62							
1307	4.5	27.89	0.691	1.38	6.77	9	116
1311	6	27.89	0.691	1.37	6.78	12	6

Ending SWL = 10.62
Pump Speed = Full

5/5/08

SWMU 74 [Well Sampling]

74GW282

TD: 19.64

SWL: 17.60

1 Well Vol.: 0.3 gal.

Time	Vol.	Temp.	Cond.	D.O.	pH	ORP	Turb
0800	–	27.80	0.809	2.61	7.48	34	3

0800 - Sample Taken.

* Purged Dry at 1134 - 5/4/08.

* Won't Dry after 4 VOA's.

* Initially could only fill 6 VOA's.

** Slight Fuel Smell

5/5/08

74GW286

TD: 22.76

SWL: 14.97

1 Well Vol. = 1.3 gal.

Time	Vol.	Temp.	Cond.	D.O.	pH	ORP	Turb.
0850	–	30.21	1.312	4.16	7.20	20	2.1

0850 - Sample Taken.

* Purged Dry @ 1114 - 5/4/08.

* Won't Dry after 6 VOA's, 2 Amber & 2 Metal's.

5/5/08

~~74~~ 74 Existing Well #3

TD = 18.98

SWL = 5.43

1 Well Vol. 2.2 gal

Time	Vol.	Temp.	Cond.	D.O.	pH	ORP	Turb.
1001 - Start							
1011	1	32.47	1.370	1.24	6.91	21	4.2
1022	2	32.66	1.362	1.04	6.92	18	3.4
1033	3	33.40	1.365	0.87	6.91	16	3.5
↳ SWL = 7.31							
1044	4	33.68	1.368	0.87	6.91	10	3

1045 - Sample Taken (74 GW HyD3)

" - MS/MSD

1050 - Dup.

* Filled PAH Bottles

* very faint Fuel Smell

Pump Speed = ~3/4

5/5/08

74GW05

TD: 16.59

SWL: 8.53 @ 12:55

1 Well Vol. = 1.3 gal

Time	Vol. "gal"	Temp.	Cond.	D.O.	pH	ORP	Turb.
1310	.3	30.50	1.014	2.14	7.05	-22	23
↳ SWL = 9.5							
1310 - Sample Taken							
1325		30.12	1.015	1.68	7.01	-20	76
↳ SWL = 11.56							
1328		30.10	1.022		6.98	-19	195
↳ SWL = 12.83							

5/5/08

74GWVP1B

TD= 13.75

SWL= 9.08 @ 1418

1 Well Vol. 0.8 gal.

Time	Vol.	Temp.	Cond.	D.O.	pH	ORP	Turb.
1420 - Start							
1424	1	27.01	0.894	2.47	7.39	-16	45
↳ SWL= 10.19							
1429	2	26.70	0.876	1.51	7.33	-28	25
1434	3	26.71	0.852	1.44	7.26	-35	13
↳ SWL= 10.98							
1440	4	26.64	0.831	1.40	7.18	-38	9
1445		26.63	0.838	1.37	7.14	-38	8
↳ SWL= 11.44							

1455 - Sample Taken.

Pump Speed = 3/4.

5/5/08

74GWVP1A

TD= 13.5

SWL= ~~9.08 @ 1418~~ 10.52 @ 1508

1 Well Vol. 0.5 gal.

Time	Vol.	Temp.	Cond.	D.O.	pH	ORP	Turb.
1509 - Start							
1514	2	28.36	0.682	1.71	6.79	3	48
↳ SWL= 10.60							
1518	4	28.28	0.681	1.73	6.79	3	10
1524	6	28.27	0.680	1.89	6.81	2.5	4

1535 - Sample Taken

Pump Speed = 3/4

5/6/08

Weather: Partly cloudy, breezy ~85°F

SWMU 74 [Well Sampling]

74GW2~~8~~2 - Dry after 6 VOA's, 5/5.

SWL = 17.39 @ 0748

Able to fill 1 non-preserved Amber, prior to going Dry.

74GW05

0805 - Obtained final non-preserved Amber, + both Metals.

5/6/08

74GW09

TD: 19.60

SWL: 10.22

1 Well Vol. = 1.5 gal.

Time	Vol.	Temp.	Cond.	D.O.	pH	ORP	Turb.
0826 - Start							
0832	3	28.20	0.494	3.81	7.17	-8	67
↳ SWL = 13.86							
0840	6	27.92	0.449	2.78	7.09	-27	193
↳ SWL = 17.18							

0850. Sample Taken.

* Initially could only fill 1 Amber + 6 VOA's.

** · very slight fuel smell.

Pump Speed = 1/2.

5/6/08

74GW34

TD: 17.86

SWL: 8.89

1 Well Vol.: 1.5 gal.

Time	Vol.	Temp.	Cond.	D.O.	pH	ORP	Turb.
0920 - Start							
0926	.3	26.76	1.145	5.31	7.09	43	5.7
SWL = 12.76							
0933	.6	26.62	1.158	4.82	6.98	48	5.8
SWL: 14.44							

0945 - Sample Taken.

*: Initially could fill only 6 VOA's & 1 1/2 Ambers.

Pump Speed = 2/3

5/6/08

74GWVP2B

TD: 17.48

SWL: 8.60

1 Well Vol. = 1.5 gal

Time	Vol.	Temp.	Cond.	D.O.	pH	ORP	Turb.
1040 - Start.							
1045	.3	26.79	0.736	6.07	7.52	33	249
SWL = 8.66							
10.50	.6	26.73	0.734	5.13	7.52	31	86
SWL = 8.66							
1054	1	26.77	0.733	4.65	7.53	29	40
1059	1.3	26.69	0.734	4.61	7.54	26	26
SWL = 8.67							
1103	1.6	26.65	0.733	4.57	7.51	29	16

1120 - Sample Taken.

Pump Speed = 2/3

5/6/08

74GWVP2A*

TD = 12.65

SWL = 9.23

1 Well Vol. = 0.6 gal

Time	Vol.	Temp.	Cond.	D.O.	pH	ORP	Turb.
1147 - Start							
1155	1	27.49	0.743	4.37	7.54	33	309
1201	2	27.82	0.739	4.18	7.52	29	176
SWL = 9.50							
1205	3	26.62	0.737	4.01	7.49	33	65
1209	4	26.50	0.737	3.92	7.48	35	51
SWL = 9.51							

1225 - Sample Taken

Pump Speed - 2/3

* Mistakenly labeled "2A" on labels. Lab caught this & Mr. Kimes & I figured it out."

5/6/08

74GW57

TD = 12.99

SWL = 4.73

1 Well Vol. = 1.4 gal.

Time	Vol.	Temp.	Cond.	D.O.	pH	ORP	Turb.
1321 - Start							
1323	3	25.90	2.407	1.44	7.02	-27	>1k
SWL = 8.09							
1331	6	26.10	2.543	1.59	7.07	-35	323
SWL = 9.39							
1336	1	26.47	2.529	1.44	7.04	-59	>1k
SWL = 10.14							

1350 - Sample Taken.

Pump Speed = 1/2

5/7/08

SWMU 56 [Well Sampling]

56GW08

TD = 16.47

SWL = 5.47 @ 0715

1 Well Vol. = 1.8 gal

Time	Vol.	Temp.	Cond.	D.O.	pH	ORP	Turb.
0717 - Start							
0729	1	27.23	4.096	1.95	6.63	30	421
1 SWL = 6.15							
0743	2	27.33	4.155	1.21	6.63	21	189
1 SWL = 6.18							
0753	3	27.40	4.165	1.07	6.62	19	27
0806	4	27.57	4.193	1.01	6.61	18	18
1 SWL = 6.16							

0815 - Sample Taken

Pump Speed = 2/3

5/7/08

Water Level Readings

	Level	Time
69GW25	9.17	0954
08	8.87	0956
07	9.98	0957
12	10.40	1000
11	12.78	1002
26	11.00	1008
27	12.61	1010
56GW01	2.55	1105
02	2.99*	1107
03	3.43	1110
04	2.35	1113
05	5.44*	1114
06	2.91	1116
07	6.48*	1118
08	5.47	0715

* "Possible" floater detected in the top 100th of the column

5/28/08

Weather: overcast, breezy, ~80°F

SWMU74 [Well Sampling]

74GWVP19A

TD = 17.74

No water

SWL = Completely Dry @ 0945

~~1 well vol. =~~

5/28/08

74GWVP19B

TD = 17.58

SWL = 15.66 @ 0940

1 Well vol. = 0.3 gal.

Sample Taken @ 1005

Sample was clear w/ slight fuel odor.

- Initially could only fill 6 VOA's & 1/2 Amber
- "Very" slow Recharge.
- No available water for ~~temp~~ parameter Readings.

5/28/08

746WVP20

TD = 22.28

SWL = 13.85 @ 1051

1 Well Vol. = 1.4 gal.

Sample Taken @ 1115

Time	Temp.	Cond.	D.O.	pH	ORP	Turb.
1136	30.56	10.47	1.47	6.57	0.6	2.3

(Post Sample.

Sample was clear w/ 'possible' slight fuel odor.

- very low recharge of 1' in 50 min.

5/28/08

746WVP1982

TD = 22.86

SWL = 9.16 @ 1202

1 Well Vol. = 2.2 gal.

Sample Taken @ 1225

- Sample was clear w/ slight Fuel odor.
- very low recharge of 1' in ~40 min.

Time	Temp.	Cond.	D.O.	pH	ORP	Turb.
1244	30.90	7.201	1.65	6.95	-97	35

(Post Sample.

5/28/08

(Existing Well)

UGW-04-VP-24 (?)

TD = 20.33

SWL = 9.50

2 Well Vol. = 1.8 gal.

Time	Vol.	Temp.	Cond.	D.O.	pH	ORP	Turb.
1540 - Start							
1553	1	30.03	1.362	0.93	6.93	-106	16

(SWL = 17.22

1557 - Dry @ 2.2 gals.

- Low recharge of 1' in 7.5 min.
- Purge water clear, w/ moderate amt. of light sheen & fuel odor.

* Will Sample Tomorrow.

5/29/08

UGW-04-VP-24

SWL = 9.03 @ 0745

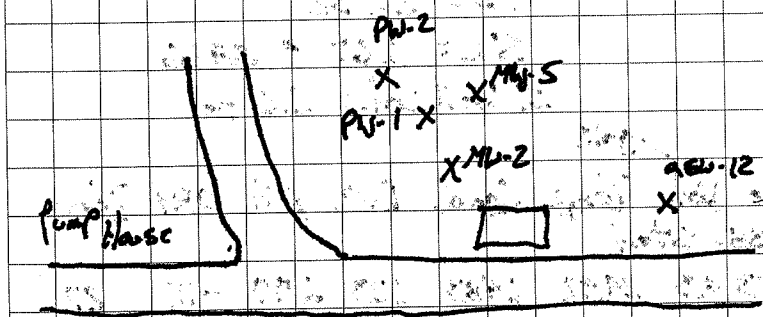
Sample Taken @ 0755

- Sample clear w/ Moderate Fuel odor.

5/29/08

Weather: Overcast, breezy, ~80°F

Area adjacent to VP-56



ID	TD (ft.)
MW-2	27
UGW-5	30
PW-1	19
PW-2	27
UGW-12	25

5/29/08

(Existing Well)

74GW-MW-2-VP-56

TD = 27.32

SWL = 11.67 @ 0826

1 Well Vol. = 2.6 gal

Time	Vol. (gals)	Temp.	Cond.	D.O.	pH	ORP	Turb.
0838 - Start							
0843	0.3	29.92	1.483	1.23	6.99	-117	27
(SWL: 12.05							
0848	0.4	30.32	1.395	0.90	6.88	-106	9
(SWL: 12.50							
0853	0.7	30.29	1.344	0.98	6.85	-104	8
(SWL: 12.85							
0858	1.0	30.41	1.316	1.02	6.82	-105	0.6
(SWL: 13.12							
0903	1.3	30.45	1.307	1.12	6.81	-105	1
(SWL: 13.53							

0920 - Sample Taken.
- Pump Speed = ≈3/4
- Purge & Sample water clear, w/ very light sheen & light fuel odor.

.65

5/29/08

(Existing Well)

74GW-UGW-12-VP-56

TD = 24.76 (Product Layer)

SWL = 11.45 - 11.54 @ 0956

1 Well Vol. = 2.2 gal.

Time	Vol. (gals.)	Temp.	Cond.	D.O.	pH	ORP	Turb.
1041 - Start.							
1050	1.0 (Developed 1 gal. to rid water of dark brown flocculent material)						
1050 - Start low-flow purge.							
(SWL: 13.85							
1055	1.0	31.03	1.600	1.47	6.72	-85	86
(SWL: 14.48							
1100	1.5	30.38	1.527	0.86	6.69	-82	6
(SWL: 14.54							
1105	2.7	30.21	1.488	0.87	6.69	-83	4
(SWL: 14.58							
1110	3.3	30.32	1.455	0.89	6.68	-83	3
1115	3.8	30.22	1.437	0.90	6.70	-84	3
(SWL: 14.58							
1140 - Sample Taken							
" - MS/MSD							
1150 - Dep.							
Pump Speed = 3/4.							

- Purge & sample clear, w/ slight sheen & moderate fuel odor.

* Due to product layer, sample tubing was placed inside 20 ft. of 1 1/2 PVC Pipe w/ Aluminum foil wrapped around the bottom - which was fed into the well below product layer.

5/29/08

Btw: 1400 & 1545, went to check on wells that were thought to be Dry during the last Sampling event. Results:

ID	SWL	TD	
74GWVP09a	Dry	—	
09b	Dry	—	
10b	Dry	—	
11a	Dry	—	
11b	Dry	—	
05a	23.82	25.05	
05b	Dry	—	
08a	19.25	26.72	
08b	21.11	25.76	
10b/DPM	Dry	—	
06Bb	15.83	42.53	'Existing Well'
06Aa	24.26	24.38	[Dry]
06Ab	Dry	—	
07	7.27	12.21	
74GW151	6.86	11.73	
* Installed this event.			
74GW273	16.01	22.96	
285	Dry		

- At 1640 - Collected Total + Diss. Metals from 74GWVP6Ba that were not collected last event.
- At 1650 - Collected Diss. Metals from 74GW145: Last event, this arrived at the lab w/ cap off.

5/30/08

Weather:

- At 0700 - collected Diss. Metals from 74GWVP3a/9 - not obtained last event.
- At 0710 - collected total & Diss. Metals, & 2 DRO Ambers from 74GWVP1Ab/9.
- At 0745 - collected total & Diss. Metals & 2 DRO Ambers from 74GWVP1Ba/9.

(At the time, could only collect 1 Amber & 1 Metals & will obtain rest at end of day)

* Original (previous) sample dates & times to be used on labels for these 3 wells, as well as 74GWVP6Ba & 74GW145 mentioned on previous page.

Existing Well

5/30/08

74GWVP68b

TD = 42.53

SWL = 15.83

1 Well Vol. = 4.4 gal.

Time	Vol. (gals.)	Temp.	Cond.	D.O.	pH	ORP	Turb.
0816 - Start							
0821	1.0	27.90	18.94	1.45	6.46	50	10.5
(SWL = 16.33							
0826	1.8	27.54	18.97	1.14	6.44	58	7.7
(SWL = 16.33							
0831	2.8	27.60	18.99	0.91	6.42	62	7.3
0836	3.8	27.62	18.99	0.93	6.42	64	

0850 - Sample Taken.
Pump Speed = Full
- Purge & Sample water clear - no fuel odor.

- At 0933 collected 5 voa's from 74GWVP05a.
(Sample Taken

5/30/08

74GW285

TD =

SWL = [Dry]

~~2 well vol.~~ =

74GW273

TD = 22.96 SWL = 16.02 @ 1006

1022 - Due to silty nature of water I Developed 0.7 gals (until it went dry)
- Low recharge rate of 1' in ~12 min.

1610 - SWL = 16.05

1620 - Sample Taken.
Sample clear, no fuel odor.
- No available water for parameter readings.

5/30/08

74GW256
TD= 23.17
SWL= 13.06
1 Well vol.=

Sample Taken @ 1110

Time	Temp.	Cond.	D.O.	pH	ORP	Turb.
1134	30.92	23.48	0.41	6.52	-324	26

(Post Sample.

- Purge & Sample water was: cloudy, yellowish w/ slight sheen (Purge water) + very musty odor - not sure if it smells of fuel.
- Pump speed: 3/4.

1200-1530: Assisted w/ Sample packing.

1550 ~~1550~~ - ~~Collected~~ Attempted to obtain last DRO Bottle from 74GWVP1Ba/9. Only got ~ 100 ml after 5hrs of recharge. Will try again tomorrow.

1600 ~~1600~~ - After 5+ hrs. of recharge, was only able to collect 1/2 of a VOA vial for 74GWVP05a.

5/31/08

Weather: Mostly cloudy, breezy, ~85 °F

0730: Checked for water in 74GWVP19A. still bone dry.
- was able to fill only 1/3 Amber (DRO) from 74GWVP19B - After ~~0800~~ 3 days recharge!

0800 - Able to obtain only ~100 ml (DRO) from 74GWVP05a, after 16 hrs. recharge.

0820 - Able to obtain only ~400 ml from 74GWVP1Ba/9 (DRO) after 18 hrs. recharge.

5/31/08

746W246

TD = 14.09

SWL = 12.56

1 Well Vol. =

0905 - ~~Sample Taken~~. Developed + 1 gal. due to siltyness.

Time	Vol. (gal)	Temp.	Cond.	D.O.	pH	ORP	Turb.
0933 - Start							
0938	1.0	30.12	4.545	2.62	7.06	34	91
(SWL = 13.80							
0943	2.2	29.89	4.567	2.91	7.09	33	37
(SWL = 14.09 (Dry)							

- Dry @ 2.2 gals. but very fast recharge.

1000 - Sample Taken.
- Purge + Sample water clear, w/ no indication of fuel.
- Pump speed = Full.

5/31/08

746WVP08B

TD = 25.76

SWL = 20.42 @ 1026

1 Well Vol. =

1050 - Sample Taken.
- Sample clear w/ no indication of fuel.
- Initially could only obtain 6 VOA's + 1 1/2 Ambers (DRO).
- No available water for parameters.

Pump Speed = 3/4.

5/31/08

74GW236

TD= 17.03

SWL= 11.38

1 Well Vol. =

1140 - Developed 0.8 gals. due to silt.

Time	Vol. gals.	Temp.	Cond.	D.O.	pH	ORP	Turb.
1148 - Start							
1153	0.7	31.15	2.866	1.00	7.10	-130	15
(SWL = 12.44							
1158	1.5	30.89	3.173	1.11	7.07	-176	15
(SWL = 14.05							
1203	2.1	31.08	3.360	0.74	7.06	-209	10
(SWL = 13.93 (Had reduced pump speed)							
1208	3.0	31.08	3.107	0.91	7.07	-201	3
(SWL = 14.31							
1213	3.8	31.05	3.255	0.88	7.07	-221	4
(SWL = 14.86							
1218	4.5	31.00	3.259	0.81	7.08	-233	5
(SWL = 15.74							

1230 - Sample Taken
- Purge + sample cloudy to clear, w/ musty odor + very light sheen.
- Pump Speed = 2/3.

5/31/08

1415 - Able to obtain ~300 ml from 74GWVP08 (DRO) after 3½ hrs. recharge.

SWMU 71 [Develope]

6

71MW06

TD = 20.20

SWL = 8.40

1434 - Start

1 Well Vol. = 1.9 gals.

1505 - Dry @ 4.0 gals.

- Good recharge rate of 1' in 4.3 min.

6/1/08

Weather; Overcast, slight breeze ~80°F, with some heavy rain showers.

0722 - In order to induce the dry wells to produce 2 gals. of D.I. Water were placed in the wells & a 1¼ PVC slug was used for ~15 min. to surge. Will come back next morning to test results.

0725 - 74GWVP9b: Placed water in well, but found out that the slug will only descend ~2 ft. before getting hung up. Tried w/ 3 other wells an with same result. - Left to pursue options.

0735 - 1130: Delta w/ Fire & Public Works Bld.

1200 - Surged for ~15 min. 74GWVP9b using a 3' section of slotted 1" PVC pipe. Note: This well was checked for water prior to adding the 2 gals. None found.

1245 - checked for water in 74GWVP9a: None. Unlike the previous well, after adding the 2 gals. of water, it was noticed that all but 10.5 inches remained; in 9b there was 8.3 ft. Surged what little there was.

1315 - Checked for water in 74GWVP10b: None. Same procedure as above. Well had 8.2 ft. of water after adding 2 gals. Surged for ~15 min.

6/1/08

1330 - checked for water in 74GWVP11a: None. Well had 6" of water after adding 2 gals. Surged for ~5 min.

1347 - Checked for water in 74GWVP11b: None. Had 9.5" of water after adding 2 gals. Noticed level falling as I measured. Did Not Surge.

1405 - No water found in 74GWVP05b. After adding 2 gals., only 5" in well. Did Not Surge.

1416 - Found an 1" of water in 74GWVP06Aa. - After adding 2 gals., only 8" in well. Did Not Surge.

1424 - No water found in 74GWVP06Ab. After adding 2 gals., only 1" still in well. No Surge.

1439 - No water found in 74GWVP10b/DFM. After adding 2 gals., only 10" in well. Did Not Surge.

6/2/08

Weather: Mostly cloudy, breezy, ~85°F

74GWVP09b

TD = 22.30

SWL = 14.26 @ 0800

1 Well Vol. =

0811 - Start 0820 - Dry @ 1.3 gals.

* To this well was added 2 gals. of D.I. water yesterday & that was surged, in hopes of inducing flow. 1.3 gals was pulled (Dry) & a low flow rate of 1' in ~30 min was noticed. Will attempt to sample later.

74GWVP10b

0835 - like 74GWVP09b, this well retained the added water yesterday. Today, only 8" water. Not Sampled.

6/2/08

0846 - checked for water in 74GW285: None.

0850 - Obtained only ~100 ml (DRO) from 74GWVP05a after 2 days recharge!

0900 - Could only obtain ~50 ml from (DRO) 74GWVP2B9 after 2 days recharge!

0915 - Could only obtain ~200 ml (DRO) from 74GWVP19B after 2 days recharge!

0918 - Checked for water in 74GWVP19A: None.

6/2/08

SWMU71 [Sampling]

71GW06

TD = 20.24

SWL = 7.32

1 Well Vol. =

Time	Vol. (gals.)	Temp.	Cond.	DO	pH	ORP	Turb.
0937. Start							
0942	0.7	30.62	4.628	1.93	7.32	-168	32
(SWL = 9.18							
0947	1.2	30.16	4.635	1.68	7.29	-161	28
(SWL = 10.40							
0952	1.6	29.77	4.637	1.80	7.28	-130	57
(SWL = 11.07							
0957	1.9	29.42	4.634	1.77	7.27	-125	134
(SWL = 11.87							
1002	2.2	29.37	4.630	1.80	7.27	-110	330
1007	2.5	29.45	4.632	1.81	7.25	-101	443
(SWL = 12.86							
1012	3.0	29.54	4.631	2.00	7.25	-90	618
(SWL = 13.57							
1017	3.3	29.45	4.632	2.17	7.25	-77	580
(SWL = 14.25							

Cont. →

6/2/08

Time	Vol.	Temp.	Cond.	D.O.	pH	ORP	Turb.
1022	3.5	29.60	4.642	2.21	7.26	-74	518
(SWL = 14.83							
1027	3.8	29.75	4.619	2.05	7.26	-75	452
(SWL = 15.70							
1037	4.5	29.87	4.590	2.01	7.28	-95	558
(SWL = 17.64							

" Due to high Turbidity well was purged Dry at high speed. Will try again later to sample."

1100 - checked for water in 71GW04: 0.63 ft in well.

1113 - Obtained Total + Diss. Metals from 74GWVP08B. Well completed.

1130 - 1600: Assisted w/ Sample packing.

1639 - checked for water in 74GWVP09b: 13", after 8hrs recharge. No sample.

1643 - checked 74GWVP10b. 6" water standing.

1648 - checked 74GW285: Dry.

6/3/08

Site 71 [~~Sampling~~ Develope]

71GW08

TD = 20.43

SWL = 3.96 @ 0824

1 Well Vol. =

Time	Vol. / gals.	Temp.	Cond.	DO.	pH	ORP	Turb.
0831 - Start							
0835 - Mostly clear after ~ 0.7 gals.							
0841	1.5	30.81	3.167	1.37	7.08	0.7	548
(SWL = 6.33							
0847	3.0	31.09	3.172	1.47	7.06	-11	93
(SWL = 7.95							
0858	5.0	31.17	3.360	2.14	6.96	-11	205
(SWL = 9.47							
0906	6.0	31.07	3.406	1.13	6.92	-20	35
(SWL = 10.55							
0911	7.0	31.01	3.383	-0.05	6.98	-36	281
(SWL = 10.87							
0917	8.0	30.93	3.364	1.84	6.99	-46	10
(SWL = 11.53							

Pump Speed = Full

6/3/08

Weather: Overcast, breezy, ~80°F, some rain shower.

71GW08 [Sampling]

Time	Vol. / gals.	Temp.	Cond.	DO.	pH	ORP	Turb.
0920 - Start							
↳		30.92	3.357	1.79	6.97	-48	10
0925	0.6	30.82	3.318	1.69	7.03	-50	6
(SWL = 11.96							
0930	1.5	30.76	3.281	1.50	7.05	-58	5
(SWL = 12.13							
0935	2.2	30.69	3.255	1.37	7.05	-61	4
(SWL = 12.26							
0940	3.0	30.67	3.251	1.35	7.04	-64	3
(SWL = 12.40							

1000 - Sample Taken.

" - MS/MSD

1010 - Dep.

Pump Speed = Almost Full.

- Purged Sample water clear.

6/3/08

71GW06

TD = 20.24

SWL = 7.21 @ 1232

1 Well Vol. =

Time	Vol. (gals.)	Temp.	Cond.	D.O.	pH	ORP	Turb.
1235 - Start.							
1245 - Off to switch YSI Meters: D.O. problems.							
1328 - 2nd start.							
1333	0.3	29.96	4.650	0.54	7.41	-97	19
(SWL = 8.54							
1338	0.5	29.59	4.644	0.46	7.44	-98	12
(SWL = 9.03							
1343	0.8	29.63	4.639	0.49	7.43	-88	9
(SWL = 9.47)							
1348	1.0	29.58	4.632	0.54	7.41	-74	21
(SWL = 10.05							
1353	1.3	29.74	4.637	0.75	7.42	-69	27
(SWL = 10.55							
1358	1.6	29.63	4.636	0.75	7.42	-69	47
(SWL = 11.04							
1408	2.2	29.20	4.621	0.87	7.42	-50	148
(SWL = 12.52							
1420 - Sample Taken.							
1455 (Post sample)		28.98	4.648	1.63	7.51	-12	329
(SWL = 15.22							

6/3/08

71GW04

TD = ~~20.18~~ 19.85 SWL = 18.91 @ 15.01

1400 - pumped 0.3 gals until Dry. Will check tomorrow.

6/4/08

1040: Due to high turbidity while sampling 71GW06 yesterday I pulled the total metals bottle only. Turb. = 8.0

1045: 71GW04 SWL = 19.25 TD = ~~20.18~~ 19.85

6/4/08

Weather: Mostly Sunny, breezy, ~85°F

SWMU61 [Decking]

61GW02

TD = 21.11

SWL = 7.10 @ 1113

Time	Vol. (gal.)	Temp.	Cond.	D.O.	pH	ORP	Turb.
1118 - Start							
1123 - Mostly clear after ~ 1.0 gal.							
1133	3.5	26.12	1.351	2.36	6.98	44	226
1141	5.0	25.60	1.498	2.57	6.71	40	301
(SWL = 14.22							
1150	7.0	25.54	1.263	2.05	6.78	34	489
(SWL = 15.72							
1200	9.0	25.53	1.192	2.00	6.75	37	377
(SWL = 17.12							
1217	12.0	25.57	1.132	1.13	6.88	31	204
(SWL = 18.62							
1221	13.0	25.50	1.128	1.01	6.85	29	186
(SWL > 18.90							
1231	15.0	25.53	1.121	1.32	6.88	30	over
(SWL = 19.58							
1242	17.0						over
(SWL > 20.12							
1248 - Dry. (18 gals.)							

Good recharge of 1 ft. in ~5 min. Pump Speed = Full.

6/4/08

61GW01

TD = 17.51

SWL = 5.03

Time	Vol. (gals)	Temp.	Cond.	D.O.	pH	ORP	Turb.
1334 - Start							
1344	2.0 - still very turbid.						
(SWL = 7.57							
1348 - Starting to clear after ~3.0 gals.							
1354 - SWL = 7.85, Vol. = 4.0 gal Turb. = over							
1401 - SWL = 8.21, Vol. = 6.0 gals. Turb. = Over.							
1410 - SWL = 8.45, Vol. = 8.0 gals. Turb. = Over							
1419 - SWL = 8.57, Vol. = 10.0 ", Turb. = 994							
1429 - SWL = 8.63, Vol. = 12.0 ", Turb. = 479							
1441	14.0	25.87	1.910	1.15	7.05	46	292
(SWL = 8.67							
1450	16.0	: Turb. = 356					
1502	18.0	25.45	1.850	0.62	6.96	22	89
(SWL = 8.50							
1507	19.0	25.28	1.844	0.66	6.92	18	77
(SWL = 8.47							

Pump Speed = Full

Fast recharge of 1 ft. in 1 min. 30 s.

6/5/08

6IGW03
TD = 24.97
SWL = 2.42 @ 0835

0846 - start.
0855 - Mostly clear @ 2.0 gals. SWL = 3.36

Time	Vol. (gals.)	Temp.	Cond.	D.O.	pH	ORP	Turb.
0905	4.0	SWL = 3.40		Turb. = 392.			
0915	6.0	26.75	1.308	1.07	7.02	18	195
0921	7.0	SWL = 3.35		Turb. = 253			
0925	8.0	SWL = 3.28		Turb. = 260			
0935	10.0	SWL = 3.28		Turb. = 150			
↳	"	26.53	1.290	0.47	6.71	4	150
0939	11.0	26.48	1.291	0.45	6.71	5	94
0944	12.0	26.47	1.291	0.44	6.70	4	74
↳ SWL =		3.28.					

6/5/08

6IGW06
TD = 24.70
SWL = 7.11 @ 1004

1010 - start.
1020 - Vol. = 2.0 gals. (very thick up to now.) SWL = 8.46
1030 - Vol. = 4.0 gals. SWL = 8.26 Turb = over
1041 - Vol. = 6.0 gals. SWL = 8.24 Turb = 963
1051 - Vol. = 8.0 gals. SWL = 8.26 Turb = 585
1101 - Vol. = 10.0 gals SWL = 8.26 Turb = 501
1110 - Vol. = 12.0 gals. SWL = 8.26 Turb. = 255

Time	Vol. (gals.)	Temp.	Cond.	D.O.	pH	ORP	Turb.
1120	14	26.89	1.122	1.00	6.80	23	180
1125	15	26.73	1.114	0.70	6.68	14	160
1130	16						137
1136	17	26.70	1.112	0.83	6.68	12	135
1141	18	26.67	1.113	0.72	6.67	12	115
1146	19	26.66	1.113	0.69	6.67	10	83

6/10/08

Weather: Sunny, Breezy, ~85°F

By mistake, the partially filled bottles for wells: 74GWVP1Ba/9; 74GWVP05a & 74GWVP19B were not sent to the lab last week, prior to our break — will attempt to obtain what I can this week.

74GWVP19B

SWL = 15.53 @ 0924

- obtained 1 unpres. Amber after 8 days recharge.

74GWVP05a

SWL = 23.79 @ 0938

- Obtained ~400ml in an unpres. Amber after 8 days recharge.

0945 - checked 74GW285: No Water.

74GWVP1Ba/9

SWL = 23.53 @ 0954

- Obtained 1 3/4 unpres. Ambers after 8 days recharge.

6/10/08

71GW04

SWL = 18.26 @ 1035 TD = 19.85

- On 6/3/08, this well was pumped dry after 0.3 gals. This well was Not developed or purged.

* Today:

1045 - Sample Taken.

- obtain 6 VOA's + 2 unpres. Ambers.

6/10/08

SWMU61 [Sampling]

61GW05

TD = 24.07

SWL = 4.87 @ 1111

1 Well Vol. =

Time	Vol. (gals.)	Temp.	Cond.	DO.	pH	ORP	Turb.
1114 - Start							
1119	0.9	26.59	1.157	0.76	6.84	22	18
(SWL = 5.70							
1124	1.7	26.47	1.148	0.57	6.79	18	9
(SWL = 5.73							
1129	2.6	26.40	1.144	0.55	6.77	18	7
(SWL = 5.70							
1134	3.3	26.38	1.143	0.48	6.74	16.5	7
(SWL = 5.70							
1139	4.0	26.39	1.139	0.50	6.75	17.5	7

1150 - Sample Taken.
- Purge water cloudy first 0.5 gal. After that, purge + sample clear.
- Pump Speed = 3/4.

6/10/08

61GW06

TD = 24.70

SWL = 7.22 @ 1211

1 Well Vol. =

Time	Vol. (gals.)	Temp.	Cond.	D.O.	pH	ORP	Turb.
1214 - Start.							
1219	0.6	26.84	1.117	1.13	6.84	29	57
(SWL = 7.93							
1224	1.6	26.65	1.114	0.74	6.70	26	41
(SWL = 7.95							
1229	2.3	26.67	1.113	0.67	6.69	23	24
(SWL = 7.96							
1234	3.0	26.64	1.112	0.65	6.69	23	14
1239	3.7	26.65	1.112	0.59	6.67	21	11
(SWL = 7.94							
1244	4.2	26.64	1.113	0.64	6.68	22	10
1249	4.7	26.62	1.112	0.69	6.67	23	8
(SWL = 7.94							
1254	5.5	26.62	1.112	0.61	6.65	22	7

1310 - Sample Taken.
- Purge water cloudy first 0.3 gal., after which both purge + sample clear
- Pump Speed = > 3/4.

6/10/08

61GW03

TD = 24.97

SWL = 2.45 @ 1331

1 Well Vol. =

Time	Vol. (gals)	Temp.	Cond.	D.O.	pH	ORP	Turb.
1335 - Start.							
1340	0.4	27.12	1.459	0.75	6.87	-12	12
@ SWL = 2.85							
1345	1.0	26.80	1.370	0.40	6.76	-8	5
@ SWL = 2.95							
1350	1.9	26.60	1.336	0.35	6.72	-5	4
@ SWL = 3.03							
1355	2.7	26.49	1.331	0.50	6.73	-1.0	3
@ SWL = 3.04							
1400	3.5	26.47	1.315	0.46	6.70	0.4	2.5
1405	4.1	26.45	1.318	0.40	6.70	0.5	2.0
@ SWL = 3.02							
1410	5.0	26.44	1.317	0.38	6.69	0.6	1.5

1420 - Sample Taken

" - MS/MSD

1430 - Dup.

- Purge + Sample water clear.
- Pump Speed = 2 3/4.

6/11/08

Weather: Mostly Sunny, ~85°F

SWMU 61 [Sampling]

61GW04

TD = 20.43

SWL = 6.20 @ 0847

1 Well Vol. =

Time	Vol. (gals.)	Temp.	Cond.	D.O.	pH	ORP	Turb.
0848 - Start.							
0853	0.9	27.04	1.339	0.92	6.96	-25	18
@ SWL = 7.28							
0858	1.7	26.44	1.333	0.70	6.91	-27	15
@ SWL = 7.21							
0903	2.5	26.39	1.331	0.90	6.90	-29	9
@ SWL = 7.20							
0908	3.3	26.37	1.330	1.35	6.88	-34	7
@ SWL = 7.22							
0913	4.0	26.34	1.329	0.74	6.87	-33	5.5
0918	4.8	26.37	1.329	0.70	6.87	-34	5.0
0923	5.7	26.39	1.330	0.65	6.87	-35	5.0
@ SWL = 7.24							

0935 - Sample Taken.

- Purge + Sample water clear.
- Pump Speed = 3/4.

6/11/08

61GW02

TD = 21.11

SWL = 7.10 @ 0950

1 Well Vol =

Time	Vol. (gals.)	Temp.	Cond.	DO	pH	ORP	Turb.
0951 - Start.							
0956	0.4	25.77	1.341	2.63	7.02	28	10
(SWL = 8.56							
1001	0.7	25.67	1.335	1.82	6.92	25	10
(SWL = 9.30							
1006	1.0	25.56	1.311	1.62	6.89	24	8.5
(SWL = 9.86							
1011	1.3	25.50	1.279	1.67	6.88	24	7
(SWL = 10.26							
1016	1.6	25.46	1.246	1.65	6.86	23	6.5
(SWL = 10.68							

1030 - Sample Taken.

- Purge + Sample water clear.
- Pump Speed = 2/3

6/11/08

61GW01

TD = 17.51

SWL = 6.17 @ 1047

1 Well Vol. =

Time	Vol. (3 gals.)	Temp.	Cond.	D.O.	pH	ORP	Turb.
1050 - Start.							
1055	0.5	25.75	2.544	0.81	7.04	26	802
(SWL = 7.27							
1100	1.0	25.46	2.580	0.68	6.99	15	371
(SWL = 7.47							
1105	1.7	25.34	2.549	0.34	6.94	11	109
(SWL = 7.53							
1110	2.2	25.42	2.414	0.87	6.93	12	56
1115	2.6	25.31	2.343	0.48	6.94	11	47
1120	3.2	25.37	2.287	0.34	6.92	8	42
(SWL = 7.54							
1125	3.8	25.30	2.248	0.60	6.91	8	40
1130	4.2	25.32	2.238	0.78	6.92	8	41
1135	4.6	25.32	2.210	0.60	6.91	8	35
1140	5.0	25.45	2.180	0.50	6.90	8	28
(SWL = 7.58							
1145	5.6	25.51	2.162	0.45	6.90	7	24

Cont. ↓

6/11/08

61GW01

Time	Vol. (gals.)	Temp.	Cond.	D.O.	pH	ORP	Turb.
– continued from previous pg.							
1150	6.0	25.57	2.144	0.51	6.92	7	20
(SWL = 7.58							
1155	6.3	25.66	2.140	0.94	6.92	8	15
1200	6.8	25.60	2.114	0.87	6.94	8	10
1205	7.3	25.59	2.110	0.79	6.93	8	9
(SWL = 7.62							

1215 - Sample Taken.
- purge water murky first few gals. Sample clear.
- pump speed = 2/3.

Geologist – Robert Roselius

SMWU 56

4/28/08 (SEE PG 2)

— GEOENVIRO TECH, INC.

787.720.5869

ABRAHAM

NASSER

4/28/08

56 SB01 4/28/08 MONDAY

DEPTH	RECOVERY	PID	
0-0.6	TOPSOIL (ORGANICS)		
0.6-4.0	3.8	BKG	LtGREY TO MAROON MOTTLED CLAY, LITTLE SILT, MED STIFF, MED PLASTICITY.
	* SB01-00 @ 1125 (0-1)		
	* SB01-01 @ 1135 (1-3)		
4.0-8.0	3.6	BKG.	SAA (SAME AS ABOVE) SOME SURFACE WATER RUNNING INTO HOLE FROM RAIN LAST NIGHT
8.0	* SB01-04 @ ~~1135~~ 1200 (7-9)		
8.0-12.0	2.3	BKG	SAA TO 10' WHITE TO BL W/ MAROON @ 10' - SOME YELLOW @ 11'
12-16	3.2	BKG	SAA, MOIST
16-20	1.0	BKG	SAA
20-24	1.6	BKG	SAA W/ SOME LAMINATED BEDDING

56 SB01 (CONT.)

24-28	1.5	BKG	SAA. END OF BORING

● INSTALL 56 GW01 ON 4/30/08 (pg 13)

TD 16' bgs (2" PVC)
SCREEN 6' to 16'
SAND TO 4' bgs
BENTONITE TO 2' bgs
YELLOW, SQUARE 4"x4" PRO-TOP
2±' STICKUP

ABRAHAM & NASSER
GEOPROBE ~~DT66~~ 66DT (JOE'S DT66/10)

RGR
4/28/08

56SB02 4/28/08

0-4.0 4.0 BKG 0-0.6 TOPSOIL
0.6-4.0 Lt GREY TO MAROON MOTTLED CLAY, SOME SILT, DAMP, MED STIFF, MED PLASTICITY.
* SB02-00 @ 1420
4.0-8.0 3.8 BKG SAA W/ TRACE F. SAND.
* SB02-02 @ 1425 (3-5)
* SB02-04 @ 1430 (7-9)
8.0-12.0 3.9 BKG SAA
@ 9.5' SAA BUT Lt GREY TO DK MAROON W/ SOME SILT INCLUSION, DAMP

12.0-15.0 2.4 BKG ONLY 3' RUN
13-13.5 GREEN CLAY LITTLE SILT
14.8-15.0 " " " "

15.0-19.0 3.5 BKG SAA 13.0 - CLAY SWELLING IN SLEEVE.

END OF BORING MOVE TO SB04.

SG (2" PVC)

• INSTALL GW02 ON 4/30/08 (PG 13)

TD - 16', bgs
SCREEN 6-16'
SAND TO 4' bgs
BO-TONITE TO 2' bgs
YELLOW, SQURE 4'x4' PAD-TOP
2±' STICKUP

SG SB04 (04/28/08)

0-4.0 3.9 BKG 0-0.2 TOPSOIL
0.2-4.0 Lt GREY w/ LITTLE MAROON CLAY w/ LITTLE SILT, DAMP. MED. STIFF, MED, PLAST.
* SB04-00 @ 1500

4.0-8.0 3.9 BKG SAA TO 5.0
5.0-6.5 MAROON CLAY w/ WEATHERED SILT "PIECES"
6.5-8.0 SAA 5.0 w/ LESS Lt GREY, DAMP
* SB04-03 (5-7) @ 1515

8-12 3.7 BKG 8-9.5 Lt GREY, LITTLE MAROON, DAMP
9.5-12 MAROON SILTY CLAY w/ LITTLE LIGHT GREY.
* SB04-04 (7-9) @ 1530

12-16 1.3 — SAA MOIST TO WET.

END OF DAY

8 4/29/08 (TUES)

@ 56 SB04 (CONTINUE SAMPLING) 0745

DEPTH	RECOVER	PID
16-19	2.6	—

ONLY 3' RAN
MED GREY TO MAROON
SILTY CLAY, W/ SMALL (∴) BLACK INCLUSIONS, DAMP

GW WAS @ APPROX 4' bgs BEFORE START.

BUILD WELL - WILL OBSERVE SWL; AND CONTINUE SOIL SAMPLING @ SB03 AND SB05 AND DETERMINE WELL SPECS FOR ALL BASED ON SB04 SWL.

~~TD 18' bgs~~
~~SCREEN 8'-18'~~
~~BENTONITE 2' ABOVE (4.0 bgs) SAND.~~
~~SAND TO 6' bgs~~

INSTALL 56 GW04 (2" PVC)
TD 16' bgs
SCREEN 6'-16'
SAND TO 4' bgs
BENTONITE TO 2' bgs
YELLOW SQUARE 4"x4" PRO-TOP
2±' STICKUP

56 SB05 START @ 1000

0-4	4.0	BKG	1.4 TOPSOIL BR. SILT & CLAY. 1.4-4.0 LT GREY & YELLOW W/ LITTLE MAROON. SILTY CLAY, DAMP, MED STIFF
4-8	3.2	BKG	SAA BLOCK/FRIABLE W/ F. SAND. 6.0-7.5 - SAA AFTER 7.5
8-12	3.4	BKG.	SAA W/ INCREASE IN GRAINSIZE (LITTLE FINE TO MED SAND) MOIST
12-16	2.4	—	SAA (WET), SOFT.
16-20	3.2	—	SAA (WET) 19.4-20 GREEN GREY CLAY.

* SB05-00 @ 1010
* SB05-03 + ~~DUP~~ MS/MSD @ 1020 COARSE SAND GRAIN @ 8.0.
* SB05-05 @ 1030 (COLLECTED FROM 9-10' INTERVAL)

SWL @ MW04 - 2.45' @ 1040. (WILL MONITOR AND EXPECT TO DROP.

1310 2/29/08 MOVE TO SB05
AUGER 16' IN PREP FOR WELL
CONSTRUCTION TOMORROW.

56GW05 (2" PVC)

● COMPLETE MW CONSTRUCTION 4/30/04 A
(SEE 1613)

TD 16' bgs
SCREEN 6-16'
SAND TO 4' bgs
BENTONITE TO 2' bgs
YELLOW SQUARE 4"x4" PROTOP
2±' STICKUP

RGR

56SB03 (SET UP @ 1110) 4/29/08
REFUSAL @ 1.5 X2 / MOVE 6' SE REFUSAL @ 3' MOVE
3' NW OF ORIGINAL DIK
0-4 0-1.7 TOPSOIL (COTTON) 1.0 BLACK SAT/SAND
1.7-4.0 LT GREY & LT ~~MAROON~~ SILTY CLAY
DAMP. ORANGE
4.0 BKG ←

* SB03-00 + DMP @ ~~1120~~ RGR 1125
* SB03-02 @ 1140 (3-5)

4-8 3.8 BKG SAA GRADING TO GREENISH
W/ ORANGE/MAROON DAMP

* SB03-04 @ 1145

8-12 3.5 BKG DK MAROON W/ BLACK
~~[illegible]~~
INCLUSIONS, DAMP.

12-16 3.8 BKG 12-14 - GREENISH GREY
AND YELLOW ORANGE SILTY
CLAY
14-16 SAME AS 8-12
DAMP.

1150 ADRANOM OFFSITE TO GET SOND AND
LUNCH.

- INSTALL SB GW03 (2" PVC)

TD 16'
SCREEN 6-16'
SAND TO 4' bgs
BENTONITE TO 2' bgs
YELLOW, SQUARE 4"x4" Pro-Top

DRILLERS ADVANCE AUGERS TO 16' bgs @ SB05, INSTALL BALLARDS @ MW SB03
1620 DEPART (ABRAHAM)
1750 BAKER DEPARTS BASE.

★ SEE PG 17 FOR NEW GW-2 TD (ie. PRO-TOP DROPPED, NOD TO CNT PVC)

4/30/08 (WED.)

0730 @ GATE #1 (FROM PUBLIC WORKS BLDG)
COMPLETE MW CONSTRUCTION @ GW05
- SEE PAGE 10 FOR SPECS.
MOVE TO SB02 FOR MW CONSTRUCTION

		SB	SWL	TD
0750	GW04		2.37' TOC	17.90 TOC
0800	GW05		EQUILIBRATING(1)	18.25'
0805	GW03		"	18.22

(1) WELL CAPS TIGHT - DID NOT ALLOW SWL TO EQUILIBRATE, ALLOW EQUILIBRATE.

0930 COMPLETE GW02 WELL SEE PAGE 6 FOR DETAILS (NOT COMPLETED @ SURFACE)

		SWL	TD
1030	GW02	17.13'	~~17.13~~ 18.3
	LOW/SLOW YIELD.		VOID
1030	COMPLETE GW01 (NOT AT SURFACE) (SEE PG 3)		
1035	GW01	3.41'	18.3'

1040 ABRAHAM HEADS TO DECON HSA.

1435 ABRAHAM RETURNS FROM CUTTING EQUIP. START @ SB06, HELPER COMPLETING GW01 & GW02 AT SURFACE.

56 SB06

0-4 4.0 BKG 0-0.5 topsoil
0.5-4 Lt Grey to maroon mottled silty clay, some coarse sand sized siltstone pieces @ 3.5. stiff, damp

SB06-00 @ 1440
SB06-01 + DUP @ 1445

4-8' 3.9 BKG SAA grading to Lt Grey & orange @ 6.5', damp, stiff

SB06-03 + MS/MSD @ 1505

8-12' 3.8 BKG SAA grading to increased grain size (silt, L.F sand) and to Lt Grey/maroon at 11.5' (moist to wet @ 11±'

12-16 2.4 — 12.6-14.6 SAA very soft silty clay,
14.6-16 SAA stiff wet

56

Prep to install GW06 under 16' 56
● Install GW06 (2" PVC)
TD 16' bgs
Screen 6'-16'
Sand to 4' bgs
Bentonite to 2' bgs
Bellow, square 4"x4" Pro-Top.
Stickup 2±'

1615
~~1645~~ Crew needs to decom w/ completes well @ surface (Pro-Top & pad) tomorrow.

1645 Head to PWB
1750 Depart RNS

RGR

5/1/08 (THURS)

0810 COMPLETE GW06 (PRO-TOP/GROUT), CLEANUP MOVE TO SB07

56SB07

0-4' 2.8' BLG 0-0.7 TOPSOIL (ONE GRAVEL)
2.8. BROWN SILT & CLAY TAMPED SOFT. ?? SOME SAND (FILL)

~~0848~~ SB0700 @ 0845
SB0702 @ 0850 (3-5)

4-8' 3.3 TBLG - FILL CLAY TO COARSE SAND (GRAVEL ~~4-4.4~~ 4.0-4.4)
MOIST to WET., SOFT (CLAY MATRIX)
SB0703 @ 0905 (5-7)

8-12' 3.1 — SAA, GRADING TO LT GREY & ORANGE CLAY w/ LITTLE SILT (SILTY CLAY).
@ 11.5' MED STIFF.
* SATURATED (W/ GRAVEL ~~SLIGHT~~ SLUFF)

12-16' 1.5 — SAA (LT GREY/ORANGE SILTY CLAY, STIFF, MOIST.

PREP TO DRILL/CONSTRUCT GW07 @ 0915.

THE PRO-TOP @ GW02 DROPPED SO THE LID WOULD NOT CLOSE, CUT APROX 2" OF PVC - NEW WELL SPECS:

		TD	SWL
1055	GW02	18.11	11.35
1105	GW06	18.41	2.88 (SOME SILT ON BOTTOM 0.2±')
1110	GW07	18.44	6.44' ↳ NOT EQUILIBRATED

56

- COMPLETE GW07 INSTALL @ 1110 (2" PVC)
  TD - 16' bgs
  SCREEN 6' to 16
  SAND TO 4' bgs
  BENTONITE TO 2' bgs
  YELLOW, SQUARE 4"x4" PRO-TOP.

— ABRAHAM & NOSSER WILL COMPLETE ALL WELLS AT SURFACE (PADS/BOLLARDS) TODAY - WORKING @ GW07 NOW.

COMPLETE PADS/BOLLARDS @ GW07, GW05 GW04, GW02 & GW01

1645 HEAD TO PWB
— JOE STAYS TO MONITOR MY CREW FINISHING GW01

1810 DEPART NAPR

5/2/08 FRI

0615 ONSITE GATE #3 PER
0710 @ AIR FIELD, ABRAHAM/NOSSER
ATTEMPT TO COMPLETE WELLS @
SURFACE GW3 AND GW6

- COMPLETE WELLS AT SURFACE
- LOCATE VALVE PITS (VP) 1 & 2
- MARK CLEARS FOR VP BORING

1020 BEGIN SB VP2A — VP2A

0-4	3.8	BLG. ~~1.5~~	0-1.5 CLAY W/ SILT TO F. SAND, T. COARSE SAND BROWN, DAMP 1.5-4.0 CLAY, SOME SILT. LT. GREY AND MAROON, FRIABLE / BLOCKY. DRY TO DAMP
4-8	2.0	BLG.	F. SAND TO GRAVEL. BROWN, WET @ 7.5.
8-11	1.9	—	3' RUN - REFUSAL @ 11'; SAN - F. SAND TO GRAVEL, SOTURATED.

DRIVE 2 5/8" ID (10.3') CASING TO 10.6' bgs - REFUSAL.

1100 ABRAHAM/NOSSER DEPART TO GET PREPACK RISER AT EQUIP STAGING @ NEAR PWB.

1325 BUILD GWVP2A WITH 1½ PREPACKED SCREEN & RISER (GEOPROBE)
LIGHT RAIN

GWVP2A (1½ PRE-PACK)
74 TO 10.5± bgs.
SCREEN 10.5 - 5.5
SAND TO 4.5' bgs
BENTONITE TO SURFACE
PUSH PRE-TOP, 1+' DIAMETER AND.

1500 STILL RAINING DIRECT CREW TO LOAD RIG (PER SECURITY; THEY WANT THE EQUIPMENT BY THE ENTRANCE GATE ~~SO~~ OVER THE WEEK END SO THEY CAN WATCH IT.) DRILLERS HEAD TO HANGAR TO UNLOAD TRAILER SO THEY CAN LOAD THE RIG.

ASSIST JOB W/ SLUG TEST

1520 DRILL CREW DEPARTS AIRFIELD
RGR DEPARTS AIRFIELD TO PWB.

1635 DEPART NAVAL STATION.

5/3/08 SAT.

0615 DRIVE @ NAVAL STATION. PREP/MEETING
0735 DRIVE AIRFIELD
0815 VP2A 12.65 (TD) 8.50' RG (SWL) 8.50'

VP2B START @ 0820

0-4 3.4 BKG 0-0.5 TOPSOIL
0.5-~~1.0~~ 1.1 CLAY; LITTLE SILT, LT GRAY & MAROON, HARD, BLOCKY.
DRY TO DAMP. 4.0
1.1'-~~4.0~~ ~~3.8~~ SILT TO GRAVEL GREY & BROWN, DRY.
~~3.8-4.0~~ RG

4.0-8.0 2.4. BKG SAA. (SILT TO GRAVEL) WET @ 7.7'
VP2B-01 @ 0830 (1-3)
VP2B-03 @ 0840 (5-7) ABOVE WATER

8-12 0.8 — SAA SATURATED
12-16 2.8 — 12-14 SAA (SILT TO COARSE SAND, T. GRAVEL i.e. COARSE) SATURATED
14-16 CLAY LT GREY & MAROON MOTTLED, DAMP

74

[redacted] GWVP2B (1½ PRE-PACK)

15' TD
SCREEN 5-15'
SAND 4' bgs
BENTONITE TO SURFACE
PASN PRO-TOP, 1+' DIAMETER PAD

0940 LEFT REAR STABILIZER STUCK IN DOWN POSITION (WORKING ON IT).

1050 GWVP2B 17.20 (TD) 8.13 (SWL)
STILL WORKING ON STABILIZER.

1055 STABILIZER REPAIRED (SWITCH)
MOVE TO VP1B

— VP1B (SW OF PIT)

0-4 2.4 BKG 0-0.4 TOPSOIL (? FILL ~~FILL~~?)
0.4-4.0 SILT TO GRAVEL?

4-8 4.0 BKG CLAY TO COARSE SAND ORANGE BROWN. FILL, DAMP.

VP1B-03 @ 1130 (5-7 ~~8-10~~)
BEND SP SAMPLER — OFF SET.

0.3 BKG

8-11 SAME AS ABOVE, MED SORT, MOIST.
ONLY 3' RUN, ~~LOWER~~ LINER FULL.
— VP1B-04 @ 1145 (7-8)
REFUSAL @ 12'

1.0
11-12 SAA WET

MOVE TO VP1A — WILL SOIL SAMPLE AND EVALUATE FOR WELL

— VP1A (NORTH EAST OF PIT)

0-0.3' TOPSOIL
0-4' 4.0 BKG 0.3-1.4' DK. GRAY TO GRAVEL MOTTLED CLAY, BROWN DAMP.
~~0-4~~ ~~4-8~~ 1.4-3.0 MAROON SILTY CLAY, BLOCKLEY, DRY TO DAMP
3.0-4.0 SILT TO GRAVEL, LT GREY & BROWN, DAMP.

@ 4-8 0.4 BKG SAA (3.0-4.0) LITTLE RECOVERY

8-12 0.9 BKG SAND TO GRAVEL, SATURATED. VERY HARD TO PASN. NEAR 12' — ATTEMPT 12'-16' REFUSAL @ 12'

74

■ GW VP1A (1½" PRE-PACK)

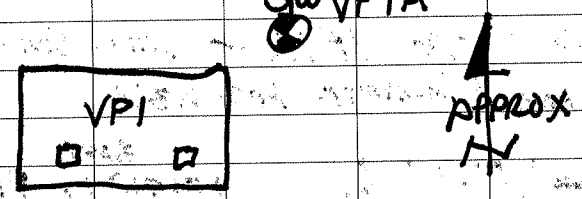
12' TD

7-12' SCREEN

SAND TO 5' bgs

BENTONITE TO ~~SURFACE~~ RUN 3' bgs, CEMENT TO SURFACE ✓

PUSH PRO-TOP, 1+' DIAMETER PAD



GW VP1B

ALSO FOR VP2 (i.e. A TO NORTH, B @ SOUTH)

MOVE TO GW VP1B TO BUILD WELL

- GW VP1A 13.49 TD / 10.49 SWL. @1415

■ GW VP1B

- PUSH CASING TO 12' ALTHOUGH SCREEN RISER OR 1" RODS CANNOT GET TO BOTTOM — WATER LEVEL METER CAN. - DEFLECTED OFF OF SOMETHING. PULL CASING, LOST 1 SECTION IN HOLE, BENT FEMAL END. - TOP OF BOTTOM SECTION @ 3' bgs.

~~W DAMAGED~~ RUN

- ATTEMPT TO USE DUEL TUBE SAMPLER BREAK IT ALSO AROUND 8' bgs. ✓

CONSULT W/ MARK WILL ABANDON THIS LOCATION DUE TO DIFFICULTIES AND THAT VP1A IS INSTALLED.

(ACETONE/SOLVENT LIKE?)

- ODOR ✓ COMMING FROM DUEL TUBE SAMPLER PID — 500±

- 18-24 FROM BOREHOLE OFFSET APPROX 4' SE FROM ORIGINAL.

1615 COLLECT VP1B-04X (≈ 7-8' bgs)

HEAD TO PWB, SAMPLE MANAGEMENT

1910 DEPART NAVAL STATION

5/4/08 Sun.

0620 ONSITE, PREP, DISCUSS REMAINING 74 ACTIVITIES (WELL LOCATIONS)

0715 @ PIN FIELD, PREP TO AUGER @ VP1B

0805 BEGIN. @ VP1B, SCREEN CUTTINGS W/ PID — NO PID HITS OR ODOR

0825 SWL @ GW VP1A 10.53' (TOC)

0885 AUGERED TO 12' @ VP1B, AUGERS NOT STRAIGHT, DEFLECTED WHILE AUGERING GRAVELS., BUILD WELL — COUPLE OF COBBLES TO SURFACE WHILE AUGERING

74GW [redacted] VP1B (PREPACK TURNOVER AUGERS) 3¼" 1½"

12' TD bgs

7-12' SCREEN

SAND TO 5' bgs

BENTONITE 3' bgs

CEMENT TO SURFACE

PUSH YELLOW PRO-TOP (NOT EQUILIBRATED) (LEANING DUE TO GRAVEL! AUGER KICK-OFF)

0940 VP1B 13.74 (TD) 8.62 (SWL

PREP TO MOVE TO 74SB57 TO INSTALL MW (12' w/ 5' SCREEN, CONSULTED w/ CHRIS

RE: SB57 SPECS. (11' TD DUE TO POTENTIAL SHALLOWER WATER TABLE & LNAPL; ALTHOUGH NO EVIDENCE OF PETROLIUM/JP-5 DURING BOREHOLE ADVANCEMENT BY CHRIS K.)

1015 BEGIN @ 74GW57

[redacted] 74GW57 (1½" PREPACK)

11' TD bgs

SCREEN 6-11'

SAND TO 4' bgs

BENTONITE TO 2' bgs

PUSH PRO-TOP.

1125 74GW57 12.7 (TD TOC) 4.8

NO EQUILIBRATED — 4.50 (SWL TOC)

1145 @ 74GW35 34X PREP TO SAMPLE & BUILD WELL (PER MARK DO NOT COLLECT SAMPLES UNLESS IMPACTS ARE OBSERVED). OFFSET FROM ORIGINAL SB34 (CLOSER TO PIPELINE) — USE DUEL TUBE SAMPLER.

BEGIN @ 1205.

— 74SB34

G-5 5.0 BKG. 0-0.4 TOPSOIL
0.4-4.0 CLAY w/ SOME SILT, Lt GREY & MAROON MOTTLED, DAMP, STIFF LOW PLASTICITY.

~~4-8~~ 5-6', 5.0 BKG SPA BUT MED SOFT MED PLASTICITY. STIFF
@ 8½' & DAMP TO MOIST.

10-13' 3.0 BKG ONLY 3' RUN, OVERPACKED THE SLEEVE, MAROONS AND LITTLE GREY MOTTLED W/ BLACK INCLUSIONS SOFT, MED PLASTICITY, (CLAY, LITTLE SILT, DECREASE IN GRAIN SIZE) MOIST.

13-15.5' BKG SPA, MOIST TO

PREP TO BUILD WELL W/ DESIGNATION OF 74GW34 (PER MARK)
NO IMPACTS OBSERVED ∴ NO SOIL SAMPLES COLLECTED

[redacted] 74GW34 (1½" PVC PACK)
TD 15' bgs
SCREEN 5-15'
SAND TO 3' bgs
BENTONITE TO 1' (CONCRETE CEMENT TO SURFACE) & PAD.
PUSH PROTOP

1350 17.57 (TD TOC) NO WATER YET.
≈ 3' STICKUP ∴ 14.5 TD (CHECK SURVEY DATA) WHEN AVAILABLE.
— LOAD EQUIP TO MOVE TO NAVAL STATION PROPERTY

1445 DEPART AIRFIELD, DID NOT GET EVERYTHING, TRUCK FULL, TRY GET THE BALANCE TOMORROW MORNING.

1540 DEPART N.S.

RCR

5/5/08 MONDAY

0620 ONSITE, ARONOW/NOSSER GETS/BRINGS BALANCE OF EQUIP FROM AIR FIELD (ONSITE @ 0720, SAID TUBY STARTED @ 0620).

PREP, HEAD TO 54SB08

0750 @ 54SB08, PREP TO DRILL

56 SB08

0-4.0 3.9 BKG 0-0.4 TOPSOIL
0.4-~~4~~ 1.5 SILT TO GRAVEL, GREY & BROWN, F
1.5-4.0 CLAY LITTLE SILT-SAND MAROON, YELLOW, MED HARD GRADUALLY MED TO SOFT @ 3.0 (FILL)

56SB08-00 0820
01 0830
02 0835

4-8 4.0 BKG STILL FILL CLAY W/ SOME SILT TO SAND, OLIVE, BROWN & BLACK. WET @ 5.0

SATURATED @ 6.0'

8-12 4.0 — 8-9.4 SAA (SATURATED VERY SOFT

9.4-12 - CLAY W/ SILT, SOFT. GREY AND YELLOW ORANGE W/ BLACK INCLUSIONS

12-14 2.0 — SAA

BACKFILL FOR WELL TO 14'

[redacted] 56 ~~SB~~ RIP GW08 (SEE PG 15 & 16 FOR LAST SMWU 56 ENTRY) (2" PVC)

TD 14' bgs
SCREEN 4-14'
SAND TO 3' bgs
BENTONITE TO 1' bgs
PUSH PRO-TOP - CONCRETE TO SURFACE & PAD

1050 56GW08 16.70 (TDTOC) 5.47 (SWL TOC)

1125 COMPLETE 56GW08 PAD, ETC MOVE TO VP3 FOR SOIL SAMPLING AND TEMP WELL INSTALLATION.

LOGGED BY PIT. 12

VP-3 – 74SB63 IS ADJACENT TO VP-3 ∴ NO SAMPLES WILL BE COLLECTED. CONSULT CHRIS K. RE: SB63 STRATIGRAPHY & WATER PRESENCE. (WATER ≈ 9-10±)

BEGIN SOIL SAMPLING @ VP3B (SOUTH) WILL JUST INSTALL WELL @ VP3A (ADJACENT TO 74SB63)

VP3B

0-4' 3.1 BKG 0-0.6 TOPSOIL
0.6-4.0 CLAY TO FINE GRAVEL (FILL) Lt GREY, TAN & BROWN. DRY TO DAMP.

4-8 3.7 BKG 4-4.4 SAA DRY TO DAMP
PID 4-16A 200+ 4.4-8.0 SILT to C. SAND, GREY W/ PETRO ODOR.

1-4± VP3B-03 @ 1155
16-200 VP3B-04 @ 1200 + PAH.

8-12 4.0 200± BKG 8-10 SAA. DAMP TO MOIST SOME CLAY
10-12 SILT & F. SAND, BROWN
PID 2-4 10-11 GRADE TO 1± - BKG @ 12.

12-14 2.0 1± - BKG SAA
PREP FOR WELL

74GW VP3B (1½" PVC)

14' TD bgs
SCREEN 4-14'
SAND TO 3'
BENTONITE TO 0.4', CONCRETE PAD

1350 74GW VP3B ~~17.10~~ 16.10 (TD TOC) DRY (ALLOW TO RECHARGE)

1355 BEGIN 74GW VP3A INSTALL, APPROX 3' W OF 74SB63, WILL INSTALL TO 16' SINCE GW VP3B APPEARS TO BE A LOW YIELD WELL.

74GW VP3A (1½" PVC)

TD 16' bgs
SCREEN 6-16'
SAND 4'
BENTONITE 2'
PASN PROTOPS (@ VP3B ALSO) CONCRETE TO SURFACE

1510 74GW VP3A 18.43 (TD TOC) DRY.
(ALLOW TO SET OVER NIGHT

VP11 (DESIGNATION CHANGE)

1525 HEAD TO ~~VP4~~ (LABELED PIT. 11) WILL USE 5' SAMPLER (OUT OF 4' LINERS)
LINER STUCK IN SAMPLER, FIGHT TO GET IT OUT.

1555 BEGIN @ VP11A (SOUTHERN SIDE OF PIT B ON NORTH)

0-5 5.0 BKG 0-0.6 TOPSOIL
0.6-5.0 CLAY SOME SILT, LT GREY & MAROON MOTTLED. SOFT, MED PLASTICITY, DAMP

5-10 4.6 BKG INCREASE IN GRAIN SIZE. @ 6.0', CLAY, SOME SILT,
6.0 to 8.5 LITTLE F. SAND, SOFT, MED PLASTICITY, DAMP
8.5-10.0 SAA BUT ORANGE TAN & LT GREY, MED ~~STIFF~~ STIFF, MED PLASTICITY, DAMP

10-15 4.7 / BKG to 13 / 4-12 @ 13-15' SAA TO 13.0 12.4-12.5' BLACK SILT AND CLAY LENSE
13.0-15.0 ~~CLAY & SILT~~ DAMP
SAA BUT LT YELLOW/TAN & LT GREY W/ BLACK INCLUSIONS, DAMP MOTTLED

SLIGHT PETRO ODOR W/ 4-12 PID READINGS

15-19 4.0 BKG ONLY 4' RUN, LINER FULL.
- SILT AND CLAY, ~~LT GRE~~ LT TAN W/ LITTLE ORANGE AND BLACK (BLACK INCLUSIONS) LAMINATE, ~~SLIGHT PETRO~~ ~~ODOR~~ BUT NO PID HITS (CHECK @ PWB). DAMP +

NO PID HITS OR ODOR BY OTHERS DETECTED

ALLOW TO SET OVERNIGHT TO MONITOR GW.

1645 DEPART VP11 to PWB

1740 DEPART NS.

5/6/08 TUES

0620 ONSITE (GATE #3) PREP.

0700 74GWVP3B 15.58 SWL TOC
16.10 TD TOC

0703 74GWVP3A 18.15 SWL TOC
18.43 TD TOC

- NASSER PAINTING BOLLARDS @ S6GW08
(MAYBE A ~~FALS~~ FALSE POSSITIVE)

0715 WATER AROUND 12± bgs IN
74VP11A - MEASURE THROUGH
BOREHOLE, WILL BLAND WELL
W/ 18' TD bgs TO ACCOUNT FOR
SEASONAL FLUCTUATIONS.
RLR
~~74VP~~
74GWVP11A (1½" PVC)
TD 18' bgs
SCREEN 8-18'
SAND TO 6' bgs RLR
BENTONITE TO ~~4' bgs~~ SURFACE

0800 MOVE TO VP11B (NORTH OF PITS)

— 74VP11B

0-5 2.6 BKG
0-0.2 TOPSOIL
0.2-1.0 SILTY CLAY, MAROON
@ 1.0 GRAVEL (ROCK DID NOT
ALLOW FOR RECOVERY)
⇒ 4.4 TO 5.0 - CLAY W/ SOME
SILT, MAROON W/ LITTLE
LT GREY, DRY TO DAMP.

5-10' 4.6 BKG
CLAY AND SILT.
5-8 ~~SILTY CLAY~~, BLOCKY
~~&~~ LT GREY & MAROON MOTTLED,
DRY TO DAMP, LOW PLASTICITY,
MOD STIFF, DRY TO DAMP.
8-10 SAME BUT LESS SILT,
STIFF, MOD PLASTICITY.

10-15' 5.0 BKG SAME MOD STIFF GRADING TO
SOFT ~~STIFF~~ AROUND 13±, DAMP
TO MOIST, + MOD PLASTICITY.

74VP11A-03 @ 0830
74VP11A-04 @ 0835

PID

15-20 5.0 BKW: 15-18.9 SAA. (MOTTLED)
4-30: 18.9-20.0 SAA (CLAY W/ SILT)
BUT DK GREY & LT GREY
LAMINATED & MOTTLED.
PETRO ODOR (STAINED?)

0930 RAINING
0955 RAIN STOPS.

PID

20-25 5.0 5-90 SAA

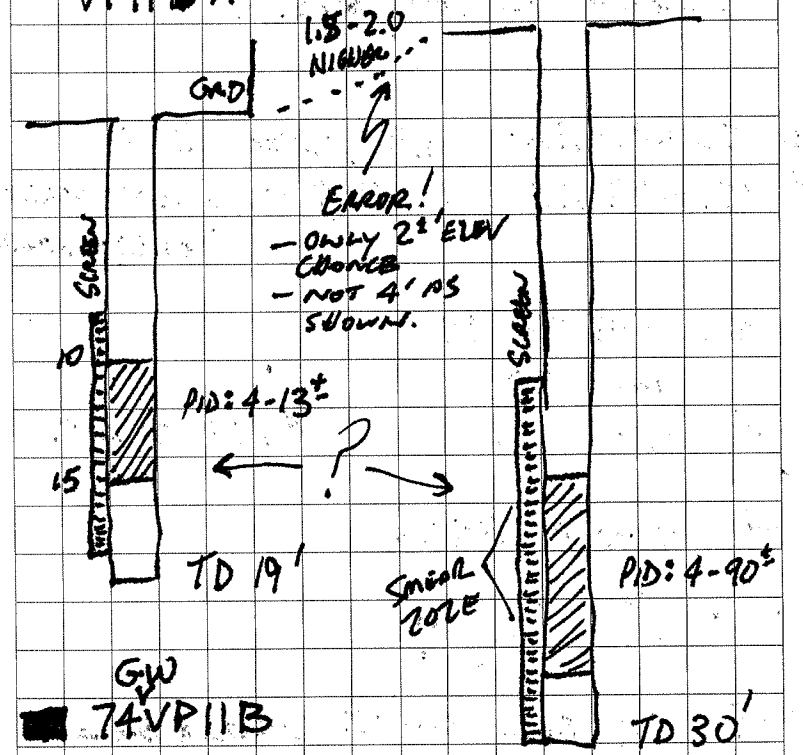
25-30 5.0 ~~4-30± SAA.~~ RW
↳ 25-27 SAA (PID 4-30±)
BKG - <1.0 27-30, CLAY & SILT, LT GREY
TAN, LT YELLOW,
LAMINATED, MOD STIFF
MOD, PLASTICITY.

CONSULT W/ KUPFER. WILL BUILD WELL
W/ 30' TD TOC & 15' SCREEN.

BARNAMS ORDERS MORE SAND & GRAVEL
WILL STAGE IT AT PARKING EAST OF
DEFENSE LOGISTICS AGENCY DRMO
BLDG. (ACROSS FROM VP11)

VP11 TOP 3.5 S
1.5 N
TD 8.7'
PIPE BOTTOM 6.0'

— VP11 BORING SAM



74VP11B
30' TD
SCREEN 15'-30'
SAND TO 13' RW.
BENTONITE TO ~~11~~ SURFACE

1145 DRILLERS TO LUNCH, RECON NEXT AREA
W/ MULTIPLE VPS. DRILLERS RETURN
1240 — MEETING W/ JUAN / UNLOAD EQUIP

1300 BEGINING — STARS 1315.

COMPLETE WELLS 74GWVP11A & B @ SURFACE (PRO-TOPS, RODS.).

1350 72GWVP11A 19.91', (TD TOC) DRY
72GWVP11B 32.07 (TD TOC) 29.60 (SWL TOC)
NOT EQUILIBRATED

WELL NE OF VPIC

	SWL	TD	
1425	14.42	25.3	≈ 2.7 STICKUP.

1430 BEGIN @ VPICa

— VPICa/9

0-5 3.9 BKG 0-0.7 TOPSOIL & BROWN SILT, F SAND & CLAY.
0.7-5.0. - SILT, F SAND LITTLE CLAY, Ø LT GREY, TAN & BROWN
DRY TO DAMP. (FILL)

FILL

5-10 5.0 BKG. FILL - SAA W/ LT GREY
LENSES < CLAY 5-5.5 & MAROON
CLAY 7.5-7.9

@ 8.5.- DK GREY & OLIVE SILT & ~~BR~~ F. SAND,
@ 9.5 MAROON CLAY W/ WHITE BEACH SAND & SC SHELLS (PER JOE B.)
@ 9.9-10.0. (FILL)
DRY TO DAMP.

FILL

10-15 5.0 BKG 10.-10.5
30-800+ 10.5-15 - FILL
MAROON CLAYS, OLIVE SILTS & SANDS
AND LITTLE WHITE SHELLS / SLIGHT ODOR / LARGE PID READINGS

15-19 4.0 90-900 SAA PLUS TAN SILTS & SAND
LOWER PID READINGS < 20± AROUND
50± 17.5±'

19-24 5.0 19-21.2 SAA SATURATED
* BKG 21.2 - 24 NATIVE — SILT & CLAY YELLOW ORANGE & TAN MOTTLED.

WILL BUILD WELL W/ 22' TD 10' SCREEN

~~40~~ 74 GW

[redacted] VPICa/9

TD 22' ~~bgs~~

SCREEN 12-22'

SAND ~~+~~ 9' RR

BENTONITE. to 1' ~~bgs~~ SURFACE

WILL COMPLETE @ SURFACE TOMORROW

TD 23.75' (TOC.) SEE PG 44

1625 DEPART FOR PWB

DEPART NS

5/7/08 WED.

0620 ONSITE

0650 @ SMWW 9 VPs - PREP/LABEL BOTTLES

DRILLER GETTING SAND/GRAVEL FROM THE AIR FIELD

0735 DRILLERS ARRIVE

-74 VPICb/9

0-5 4.2 BKG 0-0.3 TOPSOIL

FILL → 0.3-4.0 FILL YELLOW & TAN CLAY TO MED SAND, DRY TO DAMP

74VPICb/9-02 @ 0805 (3-5)

~~4-8~~ 5.0 BKG 4.0-9.6 SAND

5-10 FILL → 9.6-10.0 GREEN/DK. GREY W/ LITTLE WHITE SHELLS/SAND, DAMP

74VPICb/9-04 (7-9) @ 0815

10-15 3.4 (*) 10-13 LT GREY/WHITE F. SAND TO FINE GRAVEL

FILL → 13-15 CLAY, SALT OLIVE, WHITE MOTTLED HARD

15-20 5.0 (*) 15-17.4 SATURATED, SAME AS 10-13

FILL → 17.4-20 SAME AS 13-15 PETRO ODOR

(*) PID MALFUNCTION/PETRO ODOR

— WILL BUILD WELL W/ 22' TD / 10' SCREEN

0835 DRILLER OFF TO STOCKING DERR FOR SAND DELIVERY.

■ GWVP1Cb/9
22' TD
SCREEN 12-22'
SAND TO 10'
BENTONITE TO 8' & 1' bags / SURFACE
PROTOP/PAD LATER SEE PG 44

WILL CONTINUE SAMPLING @ VPs AND LIKELY COMPLETE WELLS @ SURFACE NEXT TIMES.

0950 MOVE TO VP1Aa/9

— VP1Aa/9

0-5 4.4 BKG 0-0.4 TOPSOIL
0.4-2 WHITE SILT & SAND & SHELLS.
FILL → 2-5 FILL ORANGE/BROWN CLAY & SILT, HARD, DRY TO DAMP.

5-10 5.0 BKG FILL ORANGE/TAN SILT AND F. SAND.
FILL → 5-5.5 WHITE SAND/SHELL
6.2-6.6 COARSE SAND & GRAVEL.
9.5-10.0 SILT & CLAY, GREY/OLIVE W/ WHITE MOTTLING (CALICHE? PER DRILLER/MINGO) DAMP.

74VP1Aa/9-03 @ 1015 (5-7)
74VP1Aa/9-04 @ 1025 (7-9)

10-15 ~~5.0~~ 4.1 60± * — SLIGHT ODOR, SAA (9.5-10) DAMP TO MOIST @ 14±

15-20 5.0 60-560± — 15-16' SAA, MOIST
560± ≈ 17±' 16-20' SILT & CLAY, TAN ORANGE W/ RUST & WHITE MOTTLING (LIKE NATIVE @ VP1Ca) BUT OLIVE GREY @ 16.8-17'; 17.6-17.8 ~~AND~~ 18.5-18.6; 19.0-19.1 AND 19.6-20.0.

END
20-25 0.2 1/2± — SLEEVE STUCK IN SAMPLER
24.8-25.0 — OLIVE, CLAY & SILT W/ WHITE MOTTLING, SLIGHT ODOR.

* PID ACTING UP

[redacted] 74GWVP1Aa/9

TD 24' bgs
SCREEN 14-24'
SAND TO 12'
BENTONITE TO SURFACE 1" bgs.
PUSH PROTOP, POD.

Complete GWVP1Ca & b @ SURFACE

	TD (TOC)	*SWL (TOC)*	
74GWVP1Aa/9	26.25	DRY	(JUST INSTALLED) 1240
74GWVP1Cb/9	24.11	16.52	1237
74GWVP1Ca/9	23.75	23.65	1235

NOT EQUILIBRATED.

74GWVP1Bb/9 26.35 DRY (JUST INSTALLED) 1245

JOE'S CREW/MINGO INSTALLED

DRILL CREWS CLEANUP/PACK
1305 DEPART VP/9 AREA, HEAD TO PWB.

Geologist – Chris Kupfer

4/28/08

6:00 Leave Hotel

6:35 on site - get site passes & mob to sort coolers & prep for drilling.

8:45 Drillers on site - load equipment for initiating drilling.

9:30 access base - get on SWMU #69 - drillers unload & build decon pad while Adam G. shoots boring locations.

10:30 Go w/ Adam & begin to flag boring locations for SWMU-74

want for Joe B. to return w/ utility map before beginning 74 borings

13:00 go over boring locations & utility clearances w/ Joe B.

13:15 drillers back (without) - get up on 74SB01 (end boring adjacent to tarmack at aircraft refueling area)

13:30 Begin drilling w/ Geoprobe boring 74SB01

4/28/08 74SB01 LOG

Depth	PID	Rec(ft)	Description
0-6"	0	2.5	topsoil,
6"-1'	2.5 ppm		gray, fuel odor - collect ss(00)
1' - 4'	0		Gravel, clay, Brown - fill
4-4.5'	21 ppm	4'	Gray, soft sandy clay, fuel odor (sample 02)
4.5'-8'	0		tight clay, trace sand gravel, damp, no odor
8-12'	0	4'	Grades red & gray mottled @ 8' (collect sample '04') @ 8'

End Boring @ 12' bgs

74SB02 LOG

0-6'	0	Gravelly clay, fill, dry to damp, little sand
6'7'	0	more clay, less gravel collect SB02-03' from 6-7' bgs
7'-9'	0	Stiff, brown, gray, red mottled clay
9-10'	0	(10) blue zone, soft clay, small silt

4/28/08

1350 collect surface soil sample 74SB01-00

1355 collect subsurface soil sample 74SB01-02 @3.5'-5'

1400 collect subsurface soil sample 74SB01-04 @7-9'

1415 End boring @ 12' bgs

1430 Begin boring 74SB02.

1450 collect sample 74SB02-03' (5-7')

1500 collect sample 74SB02-05 (9-10')

We will skip boring 74SB03 for now - needs concrete coring - will move on to 74SB04

1515 Begin boring 74SB04

1525 collect 74SB04-01 @ 3' bgs

1540 collect 74SB04-04 @ 8' bgs (7-9'

← back to saprolite clay-rock, very hard, grayish Brown

4/28/08 74SB04 LOG

Depth	PID	Rec.	Desc.
0-3'	0	3.5'	Brown, gravel & clay, dry
3'-5'	0	-	CLAY, stiff, golden Br.
5'-12'	0	8'	Friable Clayey SILT, dry, red & Brown (golden) - grades more red w/ depth and more stiff, dry - no water in hole

Finish 74SB04 @ 12' bgs - no water

4/29/08 $\boxed{\text{74SB05 LOG}}$

0'-4	0 74	3'	Fill: Gravelly clay & silt, fuel odor 3-3.5'
4'-6.5'	25	2.5'	Gravelly Sand, little silt & clay, wet @ 5-6'
6.5'-14'	0	4'	Clayey silt, red & Brown (gray) mott. dry, med-low plasticity
@ 8'			* less plast, more dry & more dense w/ depth to 14'
			very tight

4/29/08

6:20 on site - go thru coolers & prep for drilling today on site 74

7:20 over @ Site 74 - meet up w/ Drillers

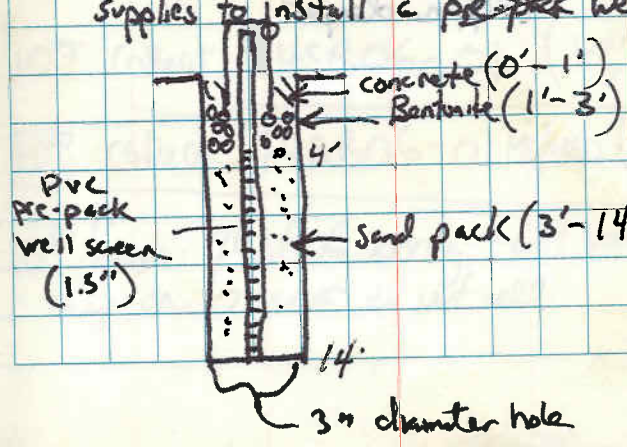
7:45 Begin Drilling 74SB05 - hit water

7:50 collect sample 74SB05-01 @ 3' and
7:55 $\boxed{\text{duplicate}}$ 74SB05-01 @ 3' (1-3')

8:15 collect sample 74SB05-02 from 3'

8:20 call Joe - well install & pre-pack well here since my rig can't auger

8:50 Finish Boring 74SB05 - Drillers will mob back to staging area to get supplies to install a ~~pre-pack~~ cem. well (1.5" PVC)



4/29/08 **74SB06 LOG**

Depth	PID	Rec.	Description
0-3'	0	3'	Fill, Gravelly Clayey sand, Br
3.0-3.5'	177		moist sandy zone, odor,
4'-4.5'	0		Clayey silt, dry, tight, friable. golden Brown
4.5-5.0	59	3'	Gravelly Sand, wet, gray fuel odor
5'-10'	0	3'	Clay, golden Brown tight damp, little plasticity

no well, fear of spreading 177ppm deeper

4/29/08

9:15 call Joe - he passed me on to Mark to make the call - called Mark - bad reception - left voice mail to call me back
- well move on to 74SB06 boring

9:40 have to move ≈ 5' southeast because of standing water @ 74SB06 location (toward runway)

9:45 Begin drilling 74SB06

9:50 Spoke to Mark K. - he said to go check & set 74SB05 well - note that drillers did not have prepacked screen materials.

10:00 collect 74SB06-02 (3-5' bgs)

10:05 collect 74SB06-01 (1-3' bgs)

10:10 collect 74SB06-01 MS/MSD (1-2' bgs)

10:30 finish 74SB06 boring - will set back up on 74SB05 to set well.

4/29/08

745B07 LOG

Depth	PID	Rec	Desc
0'	0	3.5'	Gravel, Clay & Sand - Fill, Br. Dry - Damp, poorly sorted
4'	0		Clayey silt, stiff, dry, friable, golden Brown
7'	0	4'	grades light Brown and softer, little plasticity.
8.5'	0	4'	grades more stiff, Clay Br, red, & gray mottling

End boring @ 12' - no water or fuel odor

745B09 LOG

Depth	PID	Rec	Desc
0'	0	3'	Gravel, Sand, & Clay Fill med. Brown, dry
3'	0		SILTY CLAY, stiff golden Brown, slight plasticity
4.5'	0		- grades softer & more plast.
7.8'	0	4'	grades med. Brown, moist and more plastic w/ depth
10'	0	4'	silty sand w/ little clay, wet

end boring @ 12'

4/29/08

13^{00} Drillers back from lunch

13^{20} Begin boring 745B07 (truck w/ stuck)

13^{30} Collect Sample 745B07-02 (3-5')

13^{35} collect sample 745B07-04 (7-9')

13^{50} Finish boring 745B07

* - Skip Boring 745B08 since on concrete -

14^{00} Mob onto 745B09 & Begin drilling

14^{15} collect soil sample 745B09-02 (3-5')

14^{20} collect soil sample 745B09-05 (9-10') coal

14^{30} Finish boring 745B09

14^{35} Begin boring 745B10

14^{45} collect soil sample 745B10-02 (3-5')

15^{00} collect soil sample 745B10-04 (7-9')

4/29/08 74SB10 LOG

Depth	PID	Rec	Desc
0	0	3.3'	FILL: Gravelly Clay, damp, light Brown
5.5'	0	3.5	Silty CLAY, soft, plastic, moist, pliable
6.5'	0		Clay grades more dense stiff & golden Brown
9'	0	4'	Grades more dense and Brown, red, gray mottling.

End Boring @ 12' w/ no water or fuel/odor detection

4/30/08

6^{30} on site - get supplies together - mob over to site 74

7^{30} Begin boring 74SB11 - refusal @ 4' - move South of tank access road ≈ 5'

8^{15} collect soil sample 74SB11-02 (5-5' bgs)

8^{25} collect soil sample 74SB11-04 (7-9' bgs) 9' cuttings

8^{30} collect soil sample 74SB11-04D Duplicate

MS/MSD for PAH/DRO

8^{20} talk to Mark K. - do a dup & MS/MSD at next surface soil location. (SB-13)

8^{55} Begin boring 74SB12 (south side of tank access road)

9^{15} collect soil sample 74SB12-03 (5-7')

9^{20} collect soil sample 74SB12-05 (9-10')

9^{45} Begin boring 74SB13

9^{50} collect soil sample (surface) 74SB13-00

9^{55} collect " " " Duplicate 74SB13-00D

9^{50} collect " " " MS/MSD 74SB13-00

4/30/08 74SB11 LOG

Depth	PID	Rec	Desc
0'	0	3.3'	FILL: Gravel, w/ little sand & clay, gray & Brown, dry
4.1'	0	4'	CLAYey SILT, golden Brown, dense, friable, dry-damp.
6.5' ↓ 12'	0	4'	grades more clay, more stiff, and red & gold mottling w/ depth

End Boring @ 12' w/ no PID hits & no water

74SB-12 LOG

0'	0	2.0	Gravelly Clay Fill, Brown, dry
5'	0	3.8	Sandy gravel, dry, loose-fill
6'	0		CLAYey SILT, dry, friable Brown & red.
8'	0	4	grades more clay, and dense
12'	0		grades red, Brown and gray mottling @ 11'

end Boring @ 12' - no water or PID hits

4/30/08

10^15 collect subsurface soil sample 74SB13-02 (3.5)

10^25 collect subsurface soil sample 74SB13-01 (7.9)

74SB13 LOG

Depth	PID	Rec	Desc.
0-0.5	0		FILL, Gravel & silty clay, Brown
0.5'	0	4'	SILTY CLAY, med. soft, pliable, some plasticity, med-dark Brown
	0		
6.5' ↓ 12'	0	4'	CLAYey SILT, friable, dry, red & golden Brown dense.
	0	2.5'	grades more to silty clay dense, little plast, red, gray Brown mottling

End boring @ 12' - no water or PID hits

4/30/08 745B14 LOG

Depth	PID	Rec	Desc
0'	0		
		4'	CLAYey SILT, damp, little plast, med-dk Brown
3'	0		SILT, little Clay & gravel dry, friable,
		4'	
5'	0		CLAYey SILT, med Brown, stiff, dense, friable,
6'	0		grades golden Brown w/ red mottling, more dense
		4'	
9'			SILT, little Clay, friable dry, red, Br & gray - almost sprolitic in appearance
12'	0		

End Boring @ 12' w/ no water and no PID hits

4/30/08

10^40 Begin boring 745B14

11^00 collect soil sample 745B14-02 (3-5')

11^10 collect soil sample 745B14-03 (5-7')

1115 Begin boring 745B15

11^30 collect soil sample 745B15-02 (3-5')

11^40 collect soil sample 745B15-03 (5-7')

Go do labeling of bottles & clear utilities near AST

14^10 Begin boring 745B16

15^00 collect soil sample 745B16-02 (3-5')

15^10 collect soil sample 745B16-04 (7-9')

15^15 collect Duplicate soil sample 745B16-04 D (PAH analysis also) *

15^30 Go back to label & pack samples - drillers will go back fill borings

4/30/08 745B15 LOG

Depth	PID	Rec.	Desc
0'	0		FILL, Gravel & sand, gray
		3.5	dry, poorly sorted
	0		
3'			SILTY CLAY, med Brown,
	0		some plasticity, dense, damp
		4	
5'	0		CLAYey SILT, Friable, dry
			red, Br, & gray mottling
		4	
9'	0		grades more red &
			friable, dry, saprolite-like
12'	0		

End boring @ 12' - no water or PID hits

4/30/08

745B16 LOG

Depth	PID	Rec	Desc
0'	0	4	CLAYey SILT, dk. Br,
			some plasticity.
4'	0		grades golden Brown
		4	
5'	57 ppm		SILT, little clay, dry, friable
	27 (6')		brown & red
8'	86 ppm	4	SILTY CLAY, some plasticity
			tight, gray, red & brown
			mottling - odor
10'	15 ppm		
12'	69 ppm		

End Boring @ 12' - no water and did not vertically delineate fuel contam (per Joe B.)

5/1/08 74SB28 LOG

Depth	PID	Rec	Description
0'			
	0	4'	Silty clay, med Br. little plasticity, stiff, dense
2'	0		clayey silt, dry, friable red & Brown, & gray mott.
		4'	
4.5'	23		
6'	56		
7'	182		Grades more to silty clay, dense, stiff, dry, no plasticity, odor
		4'	
8'	261		
9'	124		
			grades more clay w/ depth
10'	120		
11'	148		
12'	113 ppm		

end Boring @ 12'

5/1/08

6⁰⁰ leave hotel - go get coolers, etc.

7³⁰ on site

7⁴⁰ Begin drilling 74SB28

8²⁰ collect soil sample 74SB28-02 (3-5')

8³⁰ collect soil sample 74SB28-04 (8-9')

8³⁵ mob onto and begin boring 74SB29

9⁰⁰ collect soil sample 74SB29-03 (5-7')

9⁰⁵ collect soil sample 74SB29-05 (9-10') ok

9²⁰ mob onto and begin boring 74SB30 (last one before drainage ditch on day tank side)

9⁴⁰ collect soil sample 74SB30-03 (5-7')

9⁵⁰ collect soil sample 74SB30-04 (8-9')

10¹⁵ mob onto and begin boring 74SB31

10⁴⁰ collect soil sample 74SB31-02 (3-5') (PAH also)

10⁵⁰ collect soil sample 74SB31-03 (5-7')

5/1/06

74SB29 LOG

Depth	PID	Rec	Description
0	0		CLAYEY SILT, dry, friable
1	0	4'	red, Br, & gray mottling.
2	0		↓
3	0		grades little more clay
4	0		w/ depth and some
6	4		plasticity
		4'	
7'	120'		
8'	60		
9'	169		
10'	120	4'	grades more to silty
11'	137		clay, same color as
12	55		above

end Boring @ 12' - no water encountered

5/1/06

74SB30 LOG

Depth	PID	Rec	Description
0	0		SILTY clay, soft, plastic, pale Br.
1	0		damp.
2	0		
3	0		
4	0	4'	- grades more dense, and
5	0		more clay w/ depth
6	65		- grades w/ red color
7	20		@ 6'
8	100	4'	soft, more plastic
9	68		zone 8-9,
10	167		same silty clay as
11	47		above, stiff &
12	15	4'	dense

End Boring @ 12' - no groundwater encountered.

5/1/08 74SB31 LOG

Depth	PID	Rec	Description
0	0		FILL, Gravel and clay damp, brown
1			
2			
3		2.5'	3-3.5': clayey sand, wet, Brown
4			CLAYey SILT, Dense, Friable, Brown & red, dry
5			
6			→ grades more clay (silty clay) and plastic @ 5'
7			
8		4'	
9			grades to red, brown & gray mottling @ 9'
10			
11			
12		4'	

Boring completed @ 12' - no groundwater encountered. No fuel odor either

5/1/08

10⁰⁵ while drillers backfill - having PID problems - go switch out w/ someone

11⁰⁰ Begin boring 74SB32

11¹⁵ collect soil sample 74SB32-02 (3-5')

11²⁰ collect soil sample 74SB32-03 (6-7')

11²⁵ collect duplicate soil sample 74SB32-03 D

1¹³⁰ Go label bottles while drillers Clean up, backfill & go to lunch

1³⁰ set up on & begin boring 74SB33

1³⁵ collect soil sample 74SB33-01 (1-3')

1⁴⁰ collect soil sample 74SB33-02 (3-5')

1⁴¹ collect surface soil sample 74SB34-00 MS/MSD sample also

1⁴²⁰ Begin soil boring 74SB34

5/1/08 74SB32 LOG

Depth	PID	Rec	Desc
0	0		Gravel, sand & clay, dry friable, loose
1			
2			
3		3'	
4			CLAYEY SILT, med. stiff, little plast, red & brown
5			
6			Silty CLAY, med stiff, some plast, red, Br, & gray mottling
7			
8		4'	
9			
10			
11			
12		4'	

End Boring at 12' - NO water or fuel odor

74SB33 LOG 5/1/08

Depth	PID	Rec	Description
0	0		
1	0		CLAYEY SILT/ SILTY CLAY, Red, Brown and gray mottling, soft, some plasticity, damp.
2	0		
3	0		
4	0	4'	
5	0		
6	0		
7	0		
8	0	4'	
9	0		
10	0		
11	0		
12	0		

End Boring @ 12' - no groundwater Encountered or fuel odor

5/1/08

74SB34 LOG

Depth	PID	Recov	Descr
0	0		
1'	0		Clayey SILT, stiff, little plasticity/friable dry, red & Brown
2'	0		
3'	0		grades more clay w/ depth
4'	0	4'	
5'	0		
6'	0		SILTY CLAY, some plasticity, med. stiff, red & Brown mottling
7'	0		
8'	0	4'	
9'	0		
10'	0		
11'	0		
12'	0	4	

Finish boring at 12' - NO groundwater encountered

5/1/08

1450 collect soil sample 74SB34-01 (1-3')

1500 collect soil sample 74SB34-02 (3-5') (PAH analysis also)

Go back & label bottles while drillers back fill & grout borings

5/2/08 8:00 on site - get supplies

710 Check water level in well 74SB05 W.L. = 6.1' bgs (approx. 8' of water in well)

720 Set up on boring 74SB35 & begin drilling

750 collect soil sample 74SB35-01 (1-3')

800 collect soil sample 74SB35-03 (5-7')

820 mob onto and begin Boring 74SB36

840 collect soil sample 74SB36-02 (3-5')

845 collect soil sample 74SB36-05 (9-10')

890 confirm w/ Joe B. even though I have water, don't install a well - they'll decide later where they want to install them

5/2/08 745B35 LOG

Depth	PID	Rec	Description
0	0		CLAYey SILT, med. stiff, little plasticity, damp red & Brown
1	0		
2	0		
3	0		grades more clay w/ depth
4	0	4'	
5	0		SILTY CLAY, some plasticity, med. stiff, red, Brown & gray mottling
6	0		
7	0		
8	0	4'	
9	0		
10	0		
11	0		
12	0	4	

End Boring @ 12' - no groundwater or fuel odor observed

745B36 LOG 5/2/08

Depth	PID	Rec	Description
0	0		CLAYey SILT, med. stiff. little plasticity, damp, red & Brown
1	0		
2	0		
3	0		
4	0	4'	Silty CLAY, some plasticity, med. stiff, red, Brown & gray mottling, damp
5	0		
6	0		grades more moist & plastic w/ depth
7	0		
8	0	4'	
9	0		
10	0		- Groundwater encountered (10-12') very soft, stick, silty clay - no sand or distinctive water bearing zone observed
11	0		
12	0	4'	

end Boring @ 12' (GW 10-12')

5/2/08 745B37 LOG

Depth	PID	Rec.	Description
0	0		CLAYey SILT, Brown, damp, friable, little plasticity
1	0		
2	0		- grades to light Brown
3	0		- grades red, gray, Brown mottling & more friable
4	0	4'	
5	0		
6	0		
7	0		grades more dense & less friable
8	0	4'	grades back to friable
9	0		grades more dense & less friable
10	0		
11	0		
12	0	4'	

End Boring @ 12' - no GW or fuel odor

5/2/08

9:00 mob onto and begin boring 745B37

9:20 collect soil sample 745B37-01 (1-3')

9:30 collect soil sample 745B37-02 (3-5')

9:35 collect Duplicate soil sample 745B37-02 D (3-5')

9:45 mob onto and begin boring 745B38

10:00 collect soil sample 745B38-01 (1-3')

10:05 collect soil sample 745B38-02 (3-5')

10:15 mob onto and begin boring 745B39

10:30 collect soil sample 745B39-02 (3-5')

10:40 collect soil sample 745B39-04 (7-8')

10:55 mob onto and begin boring 745B40

11:10 collect soil sample 745B40-02 (3-5')

11:20 collect soil sample 745B40-04 (7-8')

5/2/08 745B38 LOG

Depth	PID	Rec	Description
0			CLAYey SILT, Damp, little plasticity, med Brown
1	0		
2	0		- grades red & Br. mottling and more friable
3'	0		
4	0	4'	
5	0		grades gray, red, & Brown mottling
6	0		
7	0		@6.5': grade little sand w/ the CLAYey SILT, poorly sorted
8	0	4'	- sand grades out by 8' - grades more stiff and dense @ 8.5'
9	0		
10	0		
11	0		
12	0	4'	

Boring completed at 12' - no G.W. or fuel encountered

745B39 LOG 5/2/08

Depth	PID	Rec	Description
0	0		CLAYey SILT, little plasticity, damp, med. Brown.
1	0		
2	0		- grades to red & Brown mottling
3	0		
4	0	4'	grades more dense w/ depth
5	0		
6	0		
7	0		grades dk. red, brown & gray mottling
8	0	4'	
9	0		grades a multi-colored mottling (Brown, gray, burgundy, tan) & more dense
10	0		
11	0		
12	0	4'	

End Boring at 12' - no groundwater of fuel odor observed

5/2/08 745B40 LOG

Depth	PID	Rec	Description
0'	0		
1'	0		Clayey Silt, dense, friable, dry red & brown mottling
2'	0		
3'	0		
4'	0	4'	
5'	0		Grades softer, less dense @ 5', more plasticity
6'	0		
7'	0		
8'	0	4'	grades very soft @ 7.5' (8-9.2') Groundwater @ 8' ↳ Clayey Sand & silt, soft, golden Brown
9'	0		@ 9.2': SILTY Clay, Soft, med-high plasticity brown, gray & red mottling
10'	0		
11'	0		
12'	0	4'	grades more dense, less plastic

End Boring at 12'

5/2/08

1130 Drillers backfill borings and break for lunch while I go label bottles.

1300 drillers back set up on & begin drilling 745B41

1305 Starting to rain

1330 collect soil sample 745B41-02 (3-5')

1340 collect soil sample 745B41-04 (7-9')

1345 Raining hard! - Go label bottles and try to wait out rain to do another boring.

1500 still raining hard! - send drillers home

go back & help out at maintenance bldg

1608 off site

EOK

5/4/08 74SB41 LOG

Depth	PID	Rec	Description
0	0		CLAYEY SILT, stiff, dense, damp, low plastic red & Brown mottling
1			
2	0		
3	0		grades red, Brown & gray mottling
4	0	4'	
5	0		grades less stuff & softer & friable & moist
6	0		
7	0		
8	0	4'	very soft from 8-10'
9	0		possible water zone from 9.8-10' (very soft & moist)
10	0		@10'- SILTY CLAY, some plast, stiff, damp, red & Brown mottling
11	0		
12	0	4'	

End Boring @ 12' - no fuel odor
G-W - questionable

530 leave hotel for site 5/3/08

Kickoff/Group meeting - maintenance bldg.

- Still doing 12' borings *no well even if I see gw or poss contam.
- Do Dupes on borings ending in "1" & "6"
- Do S.S. & MS/MSD in borings ending in "1"
- collect all soil samples below 5' bgs, but <10' bgs
- No more S.S. - MS/MSD

7 40 on site

7 45 drillers setup on & begin boring 74SB42

8 05 collect soil sample 74SB42-03 (5-7')

8 10 collect soil sample 74SB42-04 (7-9')

8 25 Drillers setup on & begin boring 74SB43

8 40 collect soil sample 74SB43-03 (5-7')

8 45 collect soil sample 74SB43-04 (7-9')

8 55 Drillers setup on and begin boring 74SB44

9 15 collect soil sample 74SB44-04 (7-9')

9 20 collect soil sample 74SB44-05 (9-10')

5/3/08 745B42 LOG

Depth	PID	Rec	Description
0,	0		CLAYey SILT, red, Brown, & gray mottling, trace Sand fragments, damp
1'	0		
2'	0		
3'	0		
4'	0	3.7'	grades more friable w/ trace gravel
5'	0		
6'	0		
7'	0		@7.5: more dense, less friable, damp, little plast.
8'	0	4'	SILTY CLAY, some plast. damp, stiff, red, Br, & gold mottling,
9'	0		
10'	0		
11'	0		
12'	0	4'	

End boring w/ no evidence of GW. or fuel odor

5/3/08 745B43 LOG

Depth	PID	Rec	Description
0	0		CLAYey SILT, stiff, damp, med. Brown little plasticity
1	0		
2	0		
3	0	3.8	
4	0		
5	0		- CLAYey SILT w/ Gravel (pea sized & smaller - poorly sorted) damp, red & Br. mottling
6	0		
7	0		
8	0	4'	SILTY CLAY, trace to little gravel, damp, little plast, stiff, red, Brown & gray mottling.
9	0		
10	0		
11	0		
12		4'	

End Boring @ 12' - No GW. fuel odor observed

5/3/08 745B44 LOG

Depth	PID	Rec	Description
0	0		Gravel, Sand & clay, Brown - damp
1'	0		CLAYey SILT, tight, dense, dark Brown, little plast.
2'	0		
3'	0		
4'	0	4'	grades lighter Brown @ 3.8' and more silt, less plasticity
5'	0		
6'	0		grades less silt, more plasticity
7'	0		
8'	0	4'	grades softer, more plast. damp.
9'	0		CLAYey Gravel and Sand, poorly sorted, damp ~~[illegible]~~ friable
10'	0		10.5' CLAYey SILT, stiff, no-little plast. light gray & red & br mottling
11'	0		
12'	0	4'	

End Boring at 12' - / no G.W. or fuel odor observed.

5/3/05

9:30 Begin boring 745B45 - refused at 4' (concrete) move ~~[illegible]~~ 4-5' east

9:40 Mark K. comes over & relocates 745B45

9:50 Begin soil boring 745B45 - refusal again @ 5'

~~collect soil sample 745B45~~

9:55 Refusal (bedrock) @ 4-5'

(3 attempts total on 745B45) - move onto 745B46

10:05 Bedrock refusal on 745B46 @ 6' (rock)

10:20 Begin soil boring 745B47

10:25 Refusal @ 7' - Bedrock (little G.W. at tip of refusal)

10:35 Begin soil Boring 745B48

10:40 collect soil sample 745B48-01 (1-3')

10:45 collect soil sample 745B48-01D

5/3/08 74SB46 LOG

Depth	PID	Rec	Description
0'	0		Top soil, Black, clayey silt, moist
1'	0		CLAYEY SAND & GRAVEL
2'	0		
		2.5	
3'	0		grades wet @ 3'
4'	0		
5'	0		CLAYEY SILT, w/ gravel, gray, moist
6'	0		
			Refusal @ 6' - Bedrock
7'			
8'			
9'			
10'			
11'			
12'			

5/3/08 74SB47 LOG

Depth	PID	Rec	Description
0	0		Top soil
1	0		Gravelly Sand, light gray & Brown, damp
2	0		
3	0		
		3.8'	
4	0		
5	0		Grades to weathered Bedrock gravel & sand light Brown - primarily rock - no soil to sample
6	0	2'	
7	0		Refusal @ 7' - moist to wet at refusal
8			
9			
10			
11			
12			

5/3/08 745B48 LOG

Depth	PID	Rec	Description
0	0		
1			Gravelly Sand, little Clay, gravel poorly sorted, moist
2	0		
3	0	3'	
			- Becomes wet - gravelly Sand, @ 3-4'
4	0		
5	0		
6	0		CLAYey SILT, Brown, damp (confin. layer)
7	0		Gravelly sand, g, poorly ~~sorted~~ sorted
8	0	4'	
			Bory completed @ 8' (Below water)
9			
10			
11			
12			

5/3/08

1100 Begin boring 745B49

1110 collect soil sample 745B49-04 (7-9')

1115 collect soil sample 745B49-05 (~~[illegible]~~ 9-11 ft)

1130 Mob onto and Begin boring 745B50

1140 collect soil sample 745B50-03 (5-7')

1150 collect soil sample 745B50-04 (7-9')

1200 collect surface soil sample 745B51-00 (0-1')
1200 collect " " " 745B51-00 (MS/MSD)
1210 collect Duplicate soil sample 745B51-00D

1200-1300 Drillers take lunch - loading supplies afterward

1315 Begin soil boring 745B51

1330 collect soil sample 745B51-03 (5-7')

~~collect soil sample 745B51~~.
Do not collect second sample - too shallow for water

5/3/08

74SB49 LOG

Depth	PID	Rec	Description
0	0		SILTY CLAY, med. stiff, med plast., damp tight
1	0		
2	0		1.8 CLAYey SILT, friable, dry, red, Br., & gray mottling
3	0		@2.5: GRAVELLY SILT, poorly sorted, loose, red & Brown
4	0	4'	CLAYey SILT, friable red & Brown, dry, stiff
5	0		
6	0		grades red, Brown & gray mottling
7	0		SILTY CLAY, tight, stiff some plast. red, Br & gray
8	0	4'	mottling, dry
9	0		
10	0		
11	0		
12	0	4'	

End Borg @ 12' - NO GW or fuel odor

74SB50 LOG

5/3/08

Depth	PID	Rec	Description
0	0		CLAYey SAND & GRAVEL, damp
1'	0		med. Brown, little plasticity
			1.8' CLAYey SILT, friable,
2'	0		red & Brown, stiff, dry w/ little gravel (< pea sized)
3'	0		
4'	0	4'	
5'	0		Grades Golden Brown and no more gravel, stiff,
6'	0		some plasticity
7'	0		
8'	0	4'	SILTY CLAY, stiff, some plasticity, damp, red, Br, & gray
9'	0		mottling
10'	0		
11'	0		
12'	0	4'	

End Boring at 12' - NO GW or fuel odor

5/3/08 745B51 LOG

Depth	PID	Rec.	Description
0	0		CLAYEY SILT, Brown dry, friable
1			
2	0		
3	0		3-3.5': Gray gravel (fill) - dry
		3.4'	
4	0		@3.5' Clayey silt, Br. sticky, moist
5	0		
6	0		Gravelly Clay & Sand, wet, loose @ 6'
7	0		SILTY CLAY, dk gray & black, soft, moist, plastic
		3.0'	
8	0		
9	End Boring @ 8' due to gw encountered @ 6'		
10			
11			
12			

5/3/08

1305 Begin boring 745B52 - ~~3 (6-7')~~ gw

1405 collect soil sample 745B52-04 (~~6-7~~ 7-9' gw)

1400 collect soil sample 745B52-03 (5-7')

1410 Begin boring 745B53

1415 collect soil sample 745B53-04 (7-9')

1420 collect soil sample 745B53-05 (9-10' gw)

1425 Begin boring 745B54

1435 collect soil sample 745B54-03 (5-7')

1440 collect soil sample 745B54-04 (7-9')

1445 Begin boring 745B55

1450 collect soil sample 745B55-02 (3-5')

1455 collect soil sample 745B55-03 (5-7')

Go pack samples & do labels return boys

5/3/08 74SB52 LOG

Depth	PID	Rec.	Description
0'	0		CLAYey SILT w/ SAND, little plast, soft, med. Brown, med. density
1'	0		
2'	0		
3'	0		
		3.5'	
4'	0		Sand grades out to just a ~~CLAYey SILT~~
5'	0		Silty CLAY, med Brown soft
6'	0		
7'	0		clay gets very soft, moist to wet (G.W.) @ 7.5'
8'	0	4'	
9'	0		@ 8.5': SILTY CLAY, stiff, plastic red, gray & Brown mottling damp
10'	0		
11'	0		
12'	0	4'	

End Boring @ 12'-

5/3/08 74SB53 LOG

Depth	PID	Rec	Description
0			Clayey SILT, Med Br, soft
1	0		
2	0		
3	0		
4	0	4'	
5	0		
6	0		grades more red & friable
7	0		
8	0	4'	
9	0		
10	0		
11	0		
12	0	4'	

End Boring @ 12'

5/3/08 745B54 LOG

Depth	PID	Rec	Description
0	0		
1	0		Clayey SILT, stiff dk Brown, damp
2	0		
3	0		
4	0	4'	grades golden Brown
5	0		@4.5' grades Br & Black color, (small sand & gravel is Black) damp, friable, ~~damp~~
6	0		
7	0		grades more black w/ depth
8	0	4'	
9	0		[@8.5'] CLAYEY SILT, Brown & red, friable, slight plast damp
10	0		
11	0		
12	0	4'	

End Boring @ 12'

745B55 LOG 5/3/08

Depth	PID	Rec	Description
0	0		
1			Clayey silt, dry, friable. Brown, stiff, med. dense
2	0		
3	0		grades more plastic & soft
4	0	4'	grades w/ small gravels (trace) @ 4.5'
5	0		
6	0		
7	0		soft, wet @ 7' (GW)
8	0	4'	End Boring @ 8'
9			
10			
11			
12			

5/3/08

1445 Begin boring 74SB56

1500 collect soil sample 74SB56-03 (5-7)

1505 collect soil sample 74SB56-04 (7-9)

1510 Begin Boring 74SB57

1530 collect soil sample SB57-03 (5-7')

1540 collect soil sample SB57-04 (7-9')

end drilling for day - drillers go grout yesterdays (rain day) & todays borings

I'll go start labels

OK

* Brief post field meeting: I'm to keep doing same 12' borings. If I hit fuel & gw - then I'm to install a well, otherwise not

5/3/08 74SB56 L06

Depth	PID	Rec	Description
0			Clayey Silt, dry, friable,
1	0		some small sand & gravel
2	0		
3	0	3.5'	softer & plastic @ 3'
			to a SILTY CLAY,
4	0		dk Brown, plastic, trace
			small gravel, damp
5	0		
6	0		grades to little to some
			small gravel (pea size)
7	0		@ 6', also, light Brown &
			red
8	0	4'	
9	0		- CLAYey SILT, red &
			Brown
10	0		- SILTY CLAY, stiff.
			red, gray & Brown
11	0		plastic
12	0	4'	

End Boring @ 12'

5/3/08 74SB57 LOG

Depth	PID	Rec	Description
0	0		CLAYey SILT, med Br, little gravel
1	0		
2	0		SILTY CLAY, med. Stiff, low med plasticity.
3	0		3-3.5' - soft, more plastic (water?)
4	0	4'	4-4.5 - also softer (water?)
5	0		same silty clay as above (stiff)
6	0		
7	0		
8	0	4'	8-9': soft zone (water?)
9	0		same dense, little plastic Silty clay as above 8'
10	0		
11	0		
12'	0	4'	

End boring @ 12' - possible GW 8-9'

5/9/08

630 on site - load supplies for day
700 call Abraham (lead driller) to tell my driller (William) to come to Public Works Bldg) - He did
735 call Abraham back - said William is on his way should be here in a minute.
- Mark K. is staking my next drilling locations on site (starting w/ boring 74SB63
730 William (driller) arrives - move over to site
- Mark finishing up surveying in fuel line.

755 Drillers setup on & begin boring 74SB63

* 810 call Joe: confirm not to stop when I hit sand - water producing zone @ 3'. He said that's just perched, and don't count that as where to stop boring.

820 collect soil sample 74SB63-03 (5-7')
825 collect soil sample 74SB63-04 (7-9')

840 setup on & begin boring 74SB64
850 macrocore stuck down boring - full of soil.
940 collect soil sample 74SB64-03 (5-7')
945 collect soil sample 74SB64-04 (7-9')
915 Abraham comes over to give him new sampler
922 Resume drilling (restart boring)

5/4/08 74SB63 LOG

Depth	PID	Rec	Description
0'	0		CLAYey SILT dry, friable, little sand
1'	0		
2'	0		
3'	0		-SAND, fine grained, wet
		3.5'	med Brown
4'	0		
5'	0		-CLAYey SAND ~~trace~~ moist stiff, med. Brown
6'	0		-grades more CLAY w/depth
7'	0		-CLAYEY SILT med. & golden Brown, damp, friable, dense, tight
8'	0	4'	
9'	0		- SAND, wet, small grained, well sorted
10'	0		
11'	0		CLAYey SILT, med. Br. & golden Brown, dry, tight & dense
12'	0	4	

end Boring at 12' - no fuel odor GW encountered

5/4/08 74SB64 LOG

Depth	PID	Rec	Description
0			Topsoil (0-6")
1	0		(?) FILL, Gravel, Sand & clay, poorly sorted, dry loose, grayish Brown
2	0		
3	0	3'	
4	0		grades damp and little more clay
5'	0		GRAVELLY SILT ~~and SAND~~ gravels < pea-sized, poorly sorted, trace clay light & dk Brown, loose
6'	0		
7'	0		grades to little clay from trace and color to green, white & gray. damp.
8	0	4	grades back to Brown,
9'	0		
10'	0	2	
11'			
12'			

End Boring at 10' - No obvious GW or fuel odor

5/4/08 745B65LOG

Depth	PID	Rec	Desc.
0	0		Top soil - (0-6")
1	0		FILL: Gravelly SAND, poorly sorted, dry, loose, grey & Brown
2	0		
3	0		← grades from to little clay and
		3.5	Brown
4	0		
5	0		← SAND, fine grained, well sorted, dry, light to golden Brown
6	0		
7	0	3.5	
8	0		
9	0		
10	0	2	
11			
12			

End Boring @ 10' - tough to push probe
No obvious GW or fuel odor

5/4/08

9:55 mob onto & Begin Drilling 74SB65

10:10 collect soil sample 74SB65-03 (5-7')
10:15 collect soil sample 74SB65-04 (7-9')

10:25 Begin Drilling 74SB66
10:30 liner jammed
10:50 collect soil sample 74SB66-03 (5-7')
10:55 collect soil sample 74SB66-04 (7-9')
11:00 collect Duplicate soil sample 74SB66-04D (7-9')

11:15 Begin Drilling 74SB67

11:35 collect soil sample 74SB67-03 (5-7')
11:40 collect soil sample 74SB67-04 (7-9')

11:45 Begin Drilling 74SB68

12:00 collect soil sample 74SB68-03 (5-7')
12:10 collect soil sample 74SB68-04 (7-9')

12:00 Drillers go to lunch
I'll collect samples & pack samples - do labels

* 12:30 confirm w/ Mark K. to keep doing surface soils, just not days or MS/MSDs on flow

5/4/08 74SB66 LOG

Depth	PID	Rec	Desc
0	0		Top soil (0-6")
1'	0		6"- CLAYey SILT, dense, dry, red & Brown.
2'	0		-GRAVELLY SILT & SAND, poorly/ little clay, gravels < pea sized, gray & white
3'	0		
4'	0	3.2'	3.5' CLAYey SILT, dense friable, clay - damp, golden Brown
5'	0		- grades
6'	0		@4' GRAVELLY SAND & SILT, little clay, < pea sized gravel, damp, brown & tan
7'	0		
8'	0	4	grades to some clay
9'	0		
10'	0		
11'	0		
12'	0	4	

end Boring @ 12' - no obvious G.W.

74SB67 LOG 5/4/08

Depth	PID	Rec	Description
0	0		Top soil (0-6")
1	0		CLAYey SILT, trace sand, dense, red Brown, damp
2	0		grades red Brown @ 1'
3	0		grades less stiff, little plast. @ 2'
4	0	4	
5	0		Softer from 4-4.5'
6	0		softer 6-6.5'
7	0		grades light gray, black & brown mottling @ 6.5'
8	0	4	- SILTY CLAY, soft, moist, some plasticity, trace small gravel, brown
9	0		
10	0		CLAYey SILT, dense, stiff, dry, light Br & dk Br. mottling
11	0		
12	0	4	

end Boring at 12' - no obvious GW

5/4/08 74SB68 LOG

Depth	PID	Rec. (recovery)	Description
0	0		- CLAYey SILT w/ little to
1	6		some gravel, poorly sorted, dry, dense, stiff, red Brown
2	0		
3	0		- gravel grades out & grades golden Brown
4	0	4'	SILTY CLAY, some plast, damp, golden
5	0		Brown
6	0		more plastic & softer w/ black & gray mottling from 6-7'
7	0		CLAYey SILT, stiff, little plast, damp
8	0	3.5'	
9	0		8.5-9.5. CLAYey Sandy SILT, wet, soft plastic (GW) Brown
10	0		@9.5' CLAYey SILT, stiff, dry dense, gold, light Brown mottling
11	0		
12	0	4'	

End Boring at 12' & GW = 8.5-9.5'
no fuel odor

74SB69 LOG 5/4/08

Depth	PID	Rec.	Description
0	0		- CLAYey SILT, stiff, dry, Brown
1	0		- Gravelly Sand, dry, loose (fill?)
2	0		
3	0	3'	@3.8': CLAY, little silt, high plasticity
4	0		dk Brown, damp, med. dense to
5	0		soft w/ red mottling
6	0		
7	0		grades some gray mottling w/ red & Brown
8	0	4'	
9	-		
10	-		
11	-		grades @ 11.5': moist, stick (GW?)
12	0	1'	

End Boring at 12' - no obvious GW or fuel odor

5/4/08 745B70 LOG

Depth	PID	Rec	Description
0	0		Top soil (0-6")
1	0		CLAYEY SILT, trace gravel, v stiff, red & brown, damp.
2	0		
3	0		red grades out
4	0	4'	SILTY CLAY, soft, some plasticity, damp
5	0		
6	0		grades dark Brown from 6-7'
7	0		grades stiff @ 7'
8	0	4'	8-8.5': wet: silty clay, sticky, very soft, brown
9	0		8.5' SILTY CLAY, stiff, some plasticity, dense damp, red & Brown mottling
10	0		
11	0		
12	0		

End Boring @ 12', gw encountered from @ 8.5'

5/4/08

1330 Drillers back from lunch

1335 Begin Boring 745B69

1345 collect soil sample 745B69-03 (5-7')

1350 collect soil sample 745B69-04 (7-9')

1400 Begin drilling boring 745B70

1415 collect soil sample 745B70-03 (5-7')

1420 collect soil sample 745B70-04 (7-9')

Stop drilling for day per Mark - drillers will go grout borings while I go do labels on bottles

5/5/08 74SB71 LOG

Depth	PID	Rec	Desc.
0	0		Topsoil (0-6") & Gravel
1	0		CLAY, trace large gravel, soft, very plastic, moist dk. Brown.
2	0		
3	0	1.8'	
4	0		grades grades out
5	0		grades less soft, still some plasticity, damp, and med. Brown color
6	0		
7	0		
8	0	4'	7-7.5': soft, no visible water
9	0		Grades to gold, green, brown, and gray mottling
10	0		
11	0		CLAYEY SILT & SAND, little gravel, damp, gold, Br., & gray mottling
12	0		

End Boring: No obvious GW or fuel odor observed.

5/5/08

630 onsite - load coolers & supplies and head over to SB71 - awaiting drillers

712 Drillers arrive

720 collect surface soil sample 74SB71-00

725 Begin boring 74SB71

750 collect soil sample 74SB71-03 (5-7')
755 collect soil sample 74SB71-04 (7-9')
800 collect Duplicate soil sample 74SB71-04D

(collect MS/MSD also) of-03 (CH)

815 Begin soil boring 74SB72

825 collect soil sample 74SB72-03 (5-7')
830 collect soil sample 74SB72-04 (7-9')

845 Begin soil boring 74SB73

900 collect soil sample 74SB73-03 (5-7')
905 collect soil sample 74SB73-04 (7-9')

5/5/08 74SB72 LOG

Depth	PID	Rec	Description
0	0		Top soil & gravel Brown (0-6")
1	0		CLAYey SILT, stiff, little-no plast, dense, damp.
2	0		med. Brown.
		2.5'	
3	0		
4	0		@ 4' grades golden Brown SILTY CLAY, med stiff, damp. some plast.
5	0		@ 5'- CLAYey SILT, soft, little sand, Br & dk Br. mottling, little plast
6	0		
7	0		7.5' SILTY CLAY, soft, med.
8	0	4'	plast, damp, gold, gray & Brown mottling
9	0		
10	0		
11	0		
12	0	4'	

End Boring @ 12' - NO obvious GW or fuel odor

74SB73 LOG 5/5/08

Depth	PID	Rec	Description
0	0		Top soil (0-6")
1	0		CLAYey SILT, light Brown & tan, soft, no plasticity
2	0		- grades ~~some~~ little to plasticity and med. Br. color
3	0		
		3.5'	becomes more dense
4	0	4'	and more SILT in clay matrix
5	0		- grades more silt and fine sand, dense, well
6	0		sorted, light & dk Brown
7	0		
8	0	4	grades less silt, still little to no plast, damp-
9	0		med. dense
10	0		
11	0		
12	0		

End Boring at 12' - no obvious GW or fuel odor

5/5/08

74SB74 LOG

Depth	PID	Rec	Desc.
0'	0		0-3" Top soil
1'	0		SILT, trace small gravel, dry, well sorted, light to med Brown
2'	0		
3'	0		
4'	0	4'	@3.5' grades little clay, dense, stiff, dry, friable
5'	0		
6'	0		
7'	0	3'	grades trace small (<pea sized) gravel, still dry friable & dense
8'	0		
9'	0		
10'	0	3'	
11'			
12'			

End Boring @ 10' - very hard silt - crimped liner

No evidence of water or fuel odor in boring.

5/5/08

913 Begin Boring 74SB74

935 collect soil sample 74SB74-03 (5-7')
940 collect soil sample 74SB74-04 (7-9')

955 Begin Boring 74SB75

1020 collect soil sample 74SB75-03 (5-7')
1025 collect soil sample 74SB75-04 (7-9')

1038 Begin soil boring 74SB76

1055 collect soil sample 74SB76-03
1100 collect duplicate soil sample 74SB76-03 D
1105 collect soil sample 74SB76-04

1115 Begin drilling soil boring 74SB77

1130 collect soil sample 74SB77-03 (5-7')
1140 collect soil sample 74SB77-04 (7-9')

Drillers put cutting down hole & break for lunch - I'll go drop samples & begin labeling

5/5/08 74SB75 LOG

Depth	PID	Rec	Description
0	0		TopSoil (0-6")
1	0		CLAYEY SILT, st. ~~[illegible]~~, brown
			@ 1.5' SANDY SILT, dry loose,
2	0		gray & Brown, dry
3	0		
4	0	4'	
5	0		SILTY SAND, small gravel dry, loose, Br. & gray
6	0		
7	0		7' Grades little to some
		3'	gravel (poorly sorted)
8	0		below 7', dry
			8' - grades med. to golden
9	0		Brown.
10	0	3	
			End Boring at 10' - dense silt
			no evidence of GW or fuel odor
~~11~~			
~~12~~			

74SB76 LOG 5/5/08

Depth	PID	Rec	Description
0'	0		TopSoil (0-6")
1'	0		CLAYEY SILT & Gravel, damp, Brown,
2'	0		CLAYEY SILT & SAND, little gravel (¼ pea sized) damp,
3'	0		friable, gray & Brown
4'	0	4'	
5	0		SILT, golden Brown, dry, well sorted
6'	0		CLAYEY SILT & SAND, little gravel (¼ pea sized) damp
7'	0		friable, Dense, light & dk. gray
8	0	4'	
9'	0		
10'	0		
11'	0		
12'	0	4'	

End Boring at 12' - no evidence of GW or fuel odor

5/5/08 745B77 LOG

Depth	PID	Rec	Description
0	0		Top soil (0-6")
1	0		CLAYey SILT & GRAVEL (Fill) gray & Brown, dry, loose.
2	0		
3	0		
4	0	3'	@3.8': CLAYey SILT, med. dense to soft, little to some plasticity, damp Brown
5	0		
6	0		
7	0		7.5-8' - very dense
8	0	4'	more soft & plastic @ 8'
9	0		grades less clay & more silt (golden Brown) from 9-11'
10	0		
11	0		CLAYey SILT, dense, stiff, little plast, damp, dk gray and light gray
12	0	4	

End Boring @ 12' - No evidence of GW or fuel odor

745B78 LOG 5/5/08

Depth	PID	Rec	Description
0	0		GRAVEL & SAND (FILL)
1	0		Gray & Brown, dry, loose, poorly sorted
2	0		
3	0		
4	0	2.5' 1'	
5	0		Refusal @ 5'
6			No GW or Fuel odor observed
7			
8			
9			
10			
11			
12			

5/5/08 74SB79 LOG

Depth	P.I.D	Rec.	Desc.
0			
1'	0		FILL: Clayey Gravels & sands, dry, loose, poorly sorted, gray & Brown
2'	0		↓
3'	0		CLAYEY SILT, dense, dry-damp, Light & golden Brown
4'	0	4'	
			4.5': CLAY: med Stiff, dense high plasticity, Black to dk green.
5'	0		
6'	0		↓
7'	0		7.7' - grades little to some silt in the clay
8'	0	4'	
			8.5' CLAYEY SILT, soft, little plasticity, gold, Brown & green, damp
9'	0		
10'	0		
11'	0		
12'	0	4	

End Boring @ 12' w/ no GW or fuel observed

5/5/08

1307 Drillers back from lunch

1311 Begin Drilling 74SB78 boring

no sample { ~~collect Soil Sample 74SB78-2~~
collect Soil Sample 74SB78- }

1325 Refusal @ 5' on 74SB78 - call Fill (call Mark. he said to just move on instead of relocating

1332 mob onto and Begin boring 74SB79

1350 collect soil sample 74SB79-03 (5-7')

1355 collect Soil Sample 74SB79-04 (7-9')

1405 mob onto and begin Boring 74SB80

1420 collect Soil sample 74SB80-03 (5-7')

1425 collect Soil Sample 74SB80-04 (7-9')

1430 Begin boring 74SB81

1440 collect surface soil sample 74SB81-00

* MS/MSD collect soil sample 74SB81-03 (5-7')

1500 Collect Soil Sample 74SB81-04 (7-9')

1510 collect Duplicate soil sample 74SB81-04D

5/5/08 745B80 LOG

Depth	PID	Rec.	Description
0	0		
1	0		FILL: Gravel Sand & Clay, gray & Brown, dry, poorly sorted
2	0		
3	0		CLAYEY SILT, med Brown, soft, damp, little to trace gravel & Sand,
4	0		
5	0	4'	
6	0		
7	0		7-7.3' Gravelly Sand, loose, dry, Black
8	0	4'	@ 7.3' CLAY, soft, plastic, damp to moist,
9	0		
10	0		- grades med Brown & very soft 10'-11'
11	0		- CLAYEY SILT, w/ little gravel (small) stuff, damp.
12	0	4'	

End Boring @ 12' - no GW observed or fuel odor

745B81 LOG 5/5/08

Depth	PID	Rec.	Description
0	0		FILL: gravel, silts, and Sand, loose, poorly sorted gray.
1	0		
2	0		
3	0	3'	- CLAYEY SILT, little to some sand & gravel, soft, damp, Brown, little plast.
4	0		
5	0		
6	0		
7	0		Grades to CLAYEY SAND, w/ gravel Black, damp,
8	0	3'	(GW @ 8') SAND & GRAVEL, wet, loose, Brown, poorly sorted
9	0		
10	0		10-10.5 CLAYEY SAND & GRAVEL, no plast, Black, damp
11	0		@ 10.5' CLAY, Black, soft, plastic
12	0	3'	

Boring completed at 12', GW hit @ 8', no fuel odor observed

5/6/08 74SB82 LOG

Depth	PID	Rec	Description
0'	0		FILL: Gravel, silt, & clay, damp, gray & Brown
1'	0		
2'	0		
3'	0	3.5'	SAND, golden Br, fine-gr. well sorted
4'	0		
5'	0		
6'	0	[6 ~ 7]	CLAYey GRAVEL & SAND, moist, Brown & gray, gravel pea sized.
7'	0		
8'	0	2'	[9 to 10']
9'	0		wet (GW) CLAYey SILTS & fine sand, gray (GW)
10'	0		CLAY, soft, plastic, dk gray-black, organic odor
11'	0		
12'	0	4'	

Boring completed at 12' - GW encountered, but no fuel odor exhibited

5/6/08

6^20 on site - load supplies

* Kickoff meeting w/ Mark: [126 bottles for 3 borings]
  - collect 1 MS/MSD on each of my first 3 borings today (82, 83, 84)
  - collect 1 duplicate on my first boring today (82)
  - pick up normal QA/QC after that (Dup @ 86, etc)

7^00 on site @ 74SB82 - awaiting drillers

7^25 Drillers on site

7^30 Begin soil Boring 74SB82

7^50 collect soil sample 74SB82-03 (5-7') [MS/MSD Location]

8^00 collect soil sample 74SB82-04 (7-9')

8^05 collect Duplicate soil sample 74SB82-04D (7-9')

8^20 mobilize & Begin boring 74SB83

8^50 collect soil sample 74SB83-02 (3-5') [MS/MSD Location]

~~collect soil sample 74SB83~~ - GW hit no sample

* 8^50 Speak w/ Joe B. confirm only considered GW if hit in 2nd core (4-8'). If so, just collect 1 soil sample (#02 - 3-5' interval) above it.

5/6/08 745B84 LOG

Depth	PID	Rec	Description
0'	0		0-6" - Top soil - silt
1'	0		FILL: Gravelly Silty Clay, med Brown, damp
2'	0		↓
3'	0	3	3-3.5 SAND, Brown, dry, well sorted
4'	0		3.5 CLAYEY SILT: moist, soft, little gravel, some plasticity
5'	0		
6'	0		
7'	0	3.0' @ 7.5'	grades dk. gray to Black
8'			End Boring @ 7.5' - refusal (rock)
9'			
10'			
11'			
12'			

5/6/08

9⁰⁵ my Drillers leave to go move some Drums w/ bobcat
Joe told me to go help Robert at his drilling location until they arrive back.
- Help Robert w/ geology & well const specs.

9³⁰ Hard Rain

10⁰⁰ Rain done

11¹⁵ Walters boss called - finished w/ Bobcat - they're taking quick lunch and will meet me back at boring SB83.

12³⁰ Drillers back on site

12³⁵ Begin boring 745B84

13⁰⁰ collect soil sample 745B84-03 (5-7')

Collect MS/MSD sample also

1³⁰ - 1³²⁰ - Hard Rain

13³⁰ Begin Boring 745B85

13⁵⁰ collect soil sample 745B85-03 (5-7')

14⁰⁰ collect soil sample 745B85-04 (7-9')

5/6/08 745B83 LOG

Depth	PID	Rec.	Desc.
0'	0		FILL: Gravel, Sand & Clay,
1'	0		loose, dry, gray & Brown
2'	0		
3'	0	3'	
			@3.5 CLAYEY SAND, damp-moist, gray, little gravel
4'	0		
5'	0		4.5-5.5' SAND, little to some gravel WET, Brown
6'	0		@5.5' CLAYEY SAND, damp, little gravel, Brown
7'	0		@6' CLAY, very plastic, soft dk gray, damp
8'	0	4'	- grades red/Brown @ 7'
9'			End Boring at 8' - GW hit (4.5'-5.5')
10'			
11'			
12'			

745B85 LOG 5/6/08

Depth	PID	Rec	Desc.
0'	0		Top soil (0-6")
1'	0		FILL: Gravel, Sand, & SILT
			dry, Lt. to dk. Brown, poorly
2'	0		sorted
3'	0	3'	
			3.4' CLAYEY SILT, soft damp,
4'	0		little plast, little gravel, red Brown
5'	0		
6'	0		CLAYEY SAND, damp-moist, little plast, soft, trace gravel
7'	0		
8'	0	2'	@7.8' CLAY, soft, plastic, golden Brown
			~~@8.2'~~
9'	0		
10'	0		
11'	0		10.5' Grades Black w/ organic odor, stiff soft & plastic
12'	0	4'	

End Boring at 12' w/ no visable GW or Fuel odor

5/6/08 74SB86 LOG

Depth	PID	Rec	Desc.
0'	0		Topsoil (0-6")
1'	0		FILL: Gravel, Clay, & sand, Black & Gray
2'	0		↓
3'	0		CLAYey SILT, soft, little gravel, damp,
4'	0	3'	Lt. Brown.
5'	0		
6'	0		grades moist @ 6.5'
7'	0		6.9-7.4' GRAVELLY SAND, wet, no odor.
8'	52	3.2	SAND & SILT, w/ CLAY, loose, Black, fuel odor damp
9'	0		?
10'	0		
11'	0		CLAY, soft, moist, plastic, sticky, organic odor
12'	0	1.5	

End Boring @ 12' w/ fuel odor and GW encountered.

5/6/08

1400 Begin boring 74SB86

1425 collect soil sample 74SB86-03 (5-7')

1430 collect " " 74SB86-03D (5-7')

* call Joe: he said even though fuel odor is below water, go ahead & collect sample since it has fuel odor

1530 Driller tells me macrocore stuck in hole again (8-12') - trying to get out

1540 collect soil sample 74SB86-04 (7-9') for std list + PAHs

1540 Driller will try doing a discrete sample from 8-12' by using reamer (for well installation) to 8', then lower macrocore into hole and sample from 8'-12'

1500 driller retrieves 8-12' sample

pick up samples - go to labels while drillers go backfill borings

5/7/08 745B87 LOG

Depth	PID	Re	Description
0'	0		FILL: Gravel sand clay, dry loose, poorly sorted, Brown
1'	0		@1.5' CLAYEY SILT, trace to little gravel, no plast, damp gold & med Brown
2'	0		
3'	0		
4'	0	4'	@4.5' grades to more clay, w/ some plast., damp-moist
5'	0		
6'	0		- CLAY, w/ little gravel, soft, plastic, moist, dk Br & gray
7'	0		
8'	0	4'	- CLAYEY SILT, trace gravel, soft, little plast, yellow Br.
9'	0		
			@9.5' SILTY CLAY, soft, plastic, moist, organic odor
10'	0		
11'	0		
12'	0	4'	

End Boring at 12' w/ no obvious GW or fuel odor

5/7/08

6^{20} on site - load supplies & mob over to SB87

7^{08} Drillers arrive

7^{15} Begin Drilling 745B87 soil Boring

7^{30} collect soil sample 745B87-03 (5-7')

7^{35} collect soil sample 745B87-04 (7-9')

7^{50} Begin soil boring 745B88

8^{10} collect soil sample 745B88-03 (5-7')

(no second sample due to shallow GW @ 7'

8^{20} Begin soil boring 745B89

8^{35} collect soil sample 745B89-03 (5-7')
(no second sample due to shallow GW @ 7'

8^{45} Begin soil boring 745B90

9^{00} collect soil sample 745B90-02 (3-5')
no second sample - ~~5'~~ Refusal @ 6', & GW @ 5.3'

5/7/08 74SB88 LOG

Depth	PID	Rec	Desc.
0	0		Top soil (0-6") FILL: Gravel, Sand, silt + clay, loose, poorly sorted, brown
1	0		
2	0		
3	0	3.8'	@3.5' CLAYey SILT, little gravel, damp, little plast, soft, med. to golden Brown
4	0		
5	0		
6	0		
7	0		Becomes wet @ 7'-7.5'
	0	2.8'	@7.5' Same CLAYey SILT, little sand, gravel, damp, Brown
8			End Boring at 8' due to encountered GW
9			
10			
11			
12			

74SB89 LOG 5/7/08

Depth	PID	Rec	Desc
0	0		Top soil (0-1") FILL: GRAVEL, CLAY + sand, damp, Brown
1	0		
2	0		
3	0		
4	0	4'	- CLAYey SILT, little gravel, damp, little plast, med. Brown
5	0		
6	0		
7	0		@7-7.3' Gravelly SAND, wet, Brown
		2.8'	
8	0		@7.3' CLAY, little gravel, damp, plastic. @7.9' - grades Black, organic odor
9			End Boring @ 8' due to GW encountered at 7.7' bgs
10'			
11'			no Fuel odor evidenced in boring
12			

5/7/08 74SB90 LOG

Depth	PID	Rec	Desc
0'	0		FILL: CLAYey SILT w/ Gravel, damp, poorly sorted gravel, Brown
1'	0		
2'	0		
3'	0	3'	
4'	0		@3.5' CLAY, trace to little gravel, soft, plastic, dk. Brown
5'	0		5.3'-5.7' GRAVELLY SAND, WET, gray, poorly sorted gravel
6'	0	2.8'	5-7' CLAYEY SAND, little gravel, soft, little plastic, dk. gray
7'	0		End Boring @ 6' - refusal
8'	0		
9'			
10'			
11'			
12'			

5/7/08

9 15 collect surface soil sample 74SB91-00

9 18 Begin soil Boring 74SB91

9 30 collect soil sample 74SB91-03 (5-7')

9 35 collect duplicate soil sample 74SB91-03 D

collect MS/MSD sample also

10 10 Begin soil boring 74SB92
refusal @ 2' - move 6' forward, parallel road

10 30 collect soil sample 74SB92-03 (5-7')

10 40 collect soil sample 74SB92-04 (7-9')

10 55 Begin soil boring 74SB93

11 10 Collect soil sample 74SB93-03 (5-7)

11 20 collect soil sample 74SB93-04 (7-9')

11 30 Begin soil boring 74SB94

11 50 Collect soil sample 74SB94-03 (5-7')

12 00 Collect soil sample 74SB94-04 (7-9')

12 30 Go Back & sort, ice, & finish labeling bottles

CKA

5/7/08 745B91LOG

Depth	PID	Rec	Desc
0	0		Topsoil-(0-6")
1'	0		FILL: GRAVEL, Clay & Silt, damp, Brown & gray, dry
2'	0		
3'	0	3.7	@3.2 CLAYEY SILT, little gravel, damp, little plast. med. stiff.
4'	0		
5'	0		5-5.3': soft, some plast.
6'	0		
7'	0	3.2'	@7.5: GRAVELLY SAND, WET, med Brown, gravel poorly sorted. (¼ to 1" diameter)
8'	0		
9'			End Boring @ 8' due to encountered GW
10'			
11'			
12'			

745B92LOG 5/7/08

Depth	PID	Rec	Description
0'	0		FILL: gravel, sand, silt dry, Br., black & gray, poorly sorted gravel
1'	0		
2'	0		
3'	0		
4'	0	3'	3.8' CLAYEY SILT, little gravel, soft, damp, med. Brown
5'	0		
6'	0		@5.8' SILTY CLAY, soft, plastic trace gravel, med Brown
7'	0		- grades red from 6.5'-7.0'
8'	0	4'	@7' CLAYEY SILT, little to no plasticity, ~~soft~~ dense, damp, golden Brown
9'	0		-soft from 8.5-9.5' Dense again @ 9.5' & ~~frequ~~
10'	0		grades red-Brown 10'-11'
11'	0		grades gold brown w/ light gray mottling from 11-12'
12'	0	4'	

End Boring @ 12' - no GW. or fuel odor observed.

5/7/08 745B93 LOG

Depth	PID	Rec	Description
0'	0		Topsoil (0-6")
1'	0		FILL: GRAVEL, Sandy Silt, dry, gray & Brown
2'	0		
			@3.3' CLAYEY SILT, Dense little to no plast., Stiff, golden Brown
3'	0	3.5'	
4'	0		SAND
		4.5-5'	Sandy Gravel, dry, light Brown
5'	0		CLAYEY SILT, little gravel & silt sand, dry, friable, dense Br. & Black.
6'	0		- grades some light gray mottling @ 6' w/ Brown matrix
7'	0		
8'	0	4'	
9'	0		
10'	0		
11'	0		
12'	0	4'	

End Boring @ 12' w/ no GW observed or Fuel odor

745B94 LOG 5/7/08

Depth	PID	Rec	Description
0'	0		Topsoil (0-6")
1'	0		FILL: GRAVEL, SILT, & Sand, loose, poorly-sorted gravels, dry, Brown & gray
2'	0		
3'	0		
4'	0	4'	4' - CLAYEY SILT, dense, dry to damp, friable, Brown
5'	0		5' - grades less clay and more - fine sand and SILT
6'	0		very dense, friable, dry, gray
7'	0		
8'	0	4'	
9'			
10'			
11'			
12'			

Refusal at 8'
No evidence of GW or fuel odor

Geologist – Jason Oliver

mostly sunny 80's 5/13/08

0715 - on site - Report to security for Parking Permits / passes

0730 - Drillers on site loading up - move to PWC loading up vehicles

0815 - Move to Location Begin drilling on 74-SB 95

1200 - Drillers break for lunch - off site

1330 - Return from lunch - Resume drilling

1600 - finish on 74-SB 125 - grout all boring holes & general clean up

1640 - Return to PWC - offload samples - load car up for tomorrow

1730 finished for day - outbound.

74-SB95

0-.2" top soil

.2' - 2' - Coarse sand w/ some gravel / cobble mixed in. light tan.

0-4'
3.9'

2-3.5' brownish orange silty clay

3.5'-4' - light grey gravel ~#57 size.

4-8'
3.8

4'-5' light grey silty fine sand w/ some clay

5-8' light grey clayey silt w/ some sand & carbonate deposits

8-10.5' dark brown / olive silty clay w/ some carbonate deposits.

8.12
3.7

10.5-11' dark brown / orange silty sand w/ some gravel

SO 5/13/08

11-12' light grey silty clay w/ some sand -

Sample)

74-SB95-03 @ 1010
for DRO, GRO, VOCs, metals

74-SB95-04 @ 1015
for DRO GRO, VOC, metals

74 - SB 96

0 - .2' - dark brown top soil
.2 - .6' - light tan med-fine sand.
.6 - 2' - gravel ~~#~~ size
21 A with some coarse sand
mixed in light bluish color.
2' - 4' - No Recovery.

4.5' - 9.2' Red clay with some silt and
some Carbonates present

9.2' - 10' - Coarse Sand w/ some gravel
& white Carbonates - moist.

10 - 12' dark brown silty clay
with some white carbonates present

JO 5/13/08

Sampled 74 - SB 96 - 03 @ 1100
for DRO - GRO, VOC, metals

74 - SB 96 - 05 @ 1115
for DRO GRO, VOC, metals

QA / QC Duplicate sample
74 - SB 96 - 03 - Dup.

74-SB 121

0'-.4" dark brown sandy top soil
.4"-3.8' dark brown silty sand
with some carbonates present
some gravel interdispersed throughout
sand gets coarser w/depth
3.8'-4.2' Dark red silty clay
4.2-5.5' light brown/tan silty clay
5.5-6.5' red medium silty sand
6.5-12' red and tan silty clays
with some sand
- sand layer @ 9.5-10' fine sand
lt brown w/ some silt

50 5/13/08

Sampled, 74-SB 121-00 @ 1145
for DRO, GRO, VOC, metals

74-SB 121-05 @ 1215

QA/QC

74-SB 121-05-DUP @ 1215

74-SB 121-05 MS/MSD
@ 1215

74 - SB 122

0-4'
3.4' Recovery

0-.4' dark brown sandy top soil

.4'-2.5' light grey sand w/ some silt and some gravel

4'-8'
3.9' Recovery

4-8.9' orange & grey silty clay, some sand & some carbonates present

8-12
3.9' Recovery

9-12' dark grey silty clay some sand, some carbonates present

JO 5/13/08

Samples 74-SB122-03 @ 1410
for DRO, GRO, VOC, metals

74-SB122-04 @ 1425
for DRO, GRO, VOC, metals

74 - SB 123

0-4' 3.8'	0 - 4.5' grey sand w/ gravel & some cobble - some carbonates present
4-8' 3.8'	4.5 - 8.4' reddish orange silty clay mottled.
8-12' 3.8'	8.4 - 9' dark brown sand w/ some silt
	9-10' light orange silty clay w/ some sand. Some carbonates towards bottom of section
	10-12' light brown medium sand w/ some silt - some carbonate & clay nodules presents

JO 5/13/08

Sampled 74-SB123 - 03 @ 1445
for DRO, GRO, VOC, metals

74-SB123 - 05 @ 1500
for DRO GRO, VOC, metals

74 - SB 124

0-4'
3.5'
Recovery

0-.2 dark brown top soil
.2-2 - light gray sand med.
w/ gravel & some cobble
present, some carbonates

2-3.2' dark brown coarse
sand w/ some ~~gravel~~ gravel
present.

4-8'
3.9'
Recovery

4'-9' dark brown clayey silt

9-12' - dark brown medium sand
w some silt, some carbonates
present.

8-12'
3.9'
Recovery

JO - 5/13/08

duplicate 74-SB 124-02 @ 1310
for DRO-GRO, VOC, metal

74-SB 124-05 @ 1320
for DRO-GRO, VOC metal

74- SB 125

0-4'
3.5
Recovery

0- .2' dark brown top soil
.2'- 2' light tan Course Carbonate sand & gravel - some shell material
2'- 3' light grey gravel -

4'-8'
3.9"
Recovery

3- 6.5' light orange silty clay w/ some sparse cobbles

8-12'
3.9'
Recovery

6.5 - 9' light orang silty sand w/ some clay. Some Carbonate present

9'- 12' light orange medium sand w/ some silt and carbonates, sparse clay nodules- moist.

JO- 5/13/08

Sample 74-SB 125 - 03 @ 1550
for DRO-GRO, VOC, metals

74-SB 125 - 05 @ 1600
for DRO-GRO VOC metals

and 80's JO 5/14/08

0700 - on site @ PWL - load up drums & extra sample sets.

0730 - on site @ 74-SB126 - drillers on site - Juan & Rafael.

0800 - Begin boring - Start on 74-SB126

1100 - Wrap for lunch - end on 74-SB130

1230 - Resume from lunch - drillers return on site - pick up on 74-SB141

1530 - finish on 74 SB 144 - will grout holes tomorrow.

1600 - Drillers move to help other crew. back @ PWL to rotors, ding samples

74-SB126

0-4' 3.9' Recovery

0-.8' dark brown sandy top soil

.8-1.5' light tan coarse sand w/ some cobble & carbonates

1.5-2' gray gravel w/ some sand

2-4.5' dark brown silty clay w some interdispersed gravel

4-8' 3.9' Recovery

4.5'-6' light tan silty sand w/ some gravel & some carbonates

6-9' dark brown silty clay w/ some sand/gravel

8-11' 3' Recovery down to 11'

9-11' light reddish brown medium sand w sparse greyish-blue clay nodules (moist clay) some gravel

digital 74-SB126-02 @ 0815 for DRO-GRO, metals, VOC

74-SB126-05 @ 0825 for DRO-GRO, metals, VOC

QA/QC 74-SB126-05-DUP @ 0825

74-SB127

0-4'
3.9' recovery

0-.6' - Asphalt
.6'-.8' light tan sandy gravel
.8'-1' light brown silty clay
1-3' dark brownish red silty clay
3'-5' light brown silty sand w/ some gravel

4-8'
3.7' recovery

5-7' - ~~light~~ brown - silty sand w/ some clay nodules - some sparse gravel
7-9' weathered diorite / bedrock

8-12'

9-10' light tan silty sand w/ some gravel
10-11' weathered diorite / bedrock
11-12' light tan silty sand w/ some gravel

50' 05-14-08

Samples: 74-SB127-03 @ 0855
for DRO-GRO-metals, VOC

74-SB127-04 @ 0910
for DRO-GRO-metals, VOC

74-SB128

0-4'
3.6'
Recovery

0-.4' brown sandy top soil
.4-1 dark brown silty sand
w/ gravel
1-3' Very light tan medium
sand w/ sparse cobbles
& gravel, some silt
3'-5' dark brown silty
clay

4-8'
3.9'
Recovery

5'-6' reddish tan silty clay

6-9' tan medium silty sand
w/ some clay some sparse
gravel present

8-12'

9-12' light tan silty sand
w clay nodules/strips
more clay present with depth

50- 05/14/08

Sample 74-SB128-03 @ 0925
for DRO-GRO VOC, metals

74-SB128-05 @ 0940
for DRO-GRO, VOC, metals-

74-SB129

0-4'
3.5' Recovery

0-.2' dark brown sandy top soil
.2-2' dark brown silty sand
w/ gravel & some cobbles
2-5' light tan silty
sand w/ some clay (brown
nodule inclusions - shell fragments

4-8'
3' recovery

5-7' brown medium silty sand
w clay nodules (brown)

Refusal @ 7' - attempted
2nd push adjacent - same
refusal at same depth

8-12'

JO 5/14/08

Sampled: 74-SB129 - @ 1010
for GRO-DRO, VOC, metals

74-SB129 - @ 1025
for GRO-DRO, VOC, metals

74 - SB130

0-4' 3.8' recovery

0 - .1" dark brown sandy top soil
.1 - .5' light brown silty sand w/ some gravel
.5 - 1.5', white sand w/ some gravel/cobbles
1.5-1.8 - dark brown-black band of asphalt

4-8' 3.9' recovery

1.8 - 2.4 - bluish gray gravel ASTM size.
2.4 - 5' brown silty clay with some gravel & cobble mixed in

8-12' 3.9' recovery

5' - 8.5 dark brown/grey silty clay

8.5-9.4 - brown silty sand with weathered rock (green) inclusions

9.4 - 12' reddish brown silty sand w/ some gravel, some cobbles

Samples 74-SB130-03 @ 1045
for GRO-DRO, VOC, metals

74-SB130-05 @ 1100
for GRO-DRO, VOC, metals

74 - SB141

0-.2" dark brown sandy top soil
.2-2' light tan medium sand w/ some gravel, sparse cobbles
0-4' 3.8' recovered
2'-5' brownish grey fine silty sand, some clay, some gravel
5-7.5 gravel & cobble in a fine silty sand matrix

4-8' 3.5' recovered
7.5-10 - light brown medium sand w/ some gravel & sparse cobbles present - some blue gravel

10-11' - medium-fine silty brown sand - some chipped bedrock or in bottom of core.
8-12' 3' recovered

Sample 74-SB141-00 taken @ 1330 for GRO-DRO, VOC, metals

74-SB141-03 taken @ 1345 for GRO-DRO, VOC, metals

74-SB141-05 @ 1400 for GRO-DRO VOC, metals

QA/QC
74-SB141-03-MS/MSD @ 1345

74-SB141-05 - DUP @ 1400

74 - SB 142

0-4'
3.8' recovery

0-.3' dark brown sandy top soil
.3-1.2- gray silty sand w/ some gravel
1.2-3' light brown silty sand with some gravel and clay inclusions - carbonate material present

4-8'
3.9' recovery

3-3.5' reddish brown silty clay w/ some gravel
3.5-5' brown silty sand w/ some gravel

8-12'
1' recovery

5'-7' brown silty sand, some clay, some carbonate present, sporadic large angular cobbles & some gravel present throughout

7-9' dark reddish orange clayey silt w/ some cobbles & clay nodules - some carbonate

Refusal @ 9' - attempted 2nd direct push to 9' adjacent to boring - continued refusal @ 9'

5/14/08

Sample 74-SB 142-02 taken @ 1415
for GRO-DRO, VOCs, metals

74-SB 142-04 taken @ 1430
for GRO, DRO, VOCs, metals

74-SB 143

0-.4' dark brown sandy top soil
.4-1 brown silty sand w/ some gravel
1-1.8 white fine sand w/ some white cobbles & gravel
1.8-2.2 bluish gray gravel - #57 angular -
2-2-4.5' reddish brown silty clay w/ some sparse gravels
4.5-8' light brown & red silty sand w some clay inclusions sparse gravel & some sparse carbonates

0-4' 3.5' Recovery

4-8'

8-12'

- Refusal @ 8.5' attempting to direct push to 8' to attempt 8 to 12 again - moving adjacent to existing hole or line with pipeline
- attempt 2nd direct push - ~1.5' down line - some rejection

50 5/14/08

Sampled 74 SB143-02 @ 1450
for GRO DRO - VOC, metals

74-SB143-04 @ 1505
for GRO - DRO, VOC, metals

74 - SB 144

0-4'
3' Recovered

0 - .5' dark brown silty sand
top soil - some gravel
.5 - 1.7' white sand w/ some
white gravel - sand coarse
carbonate present
1.7 - ? greyish blue gravel
angular (FILL) some
coarse brown sand present.

4-8'

4-5' dark red silty clay
5' - 7.5 light brown & grey
mottled clay some sand
some silt, very sparse gravel

8-12'

7.5 - 8.5 dark brown silty clay
8.5 - 10.4 - Coarse brown sand
with some clay inclusion
some carbonates present.
some gravels - some weathered bedrock
10.4 - 12' light grey silty clay
some sand/some gravel

SO - 05/14/08

Sampled @ 74 - SB 144 - 03 @ 1525
for GRO - DRO - VOC's metals

74 - SB 144 - 05 @ 1540
for GRO - DRO - VOC's metals

SD - 5/15/08

0630 - on site @ PWC - finish loading out.

0700 - on site @ 74-SB146 - awaiting drillers

1200 - Drillers break for lunch after 74-SB153

1330 - Return from lunch.

Resume drilling on 74-SB154.

1430 Shipping 155

1530 - finish drilling for day - end on 74-SB156.

Return to PWC to wrap samples and assist in packing coolers for shipment/fedex

1630 - Loading for tomorrow

1700 - outbound for day

74- SB 146

0-4'
3.6
Recovery

0-.2" dark brown sandy top soil
.2-.8" brown silty sand w/ some gravel
.8-1.2' white coarse sand w/ some white gravel
1.2-2.3 - gravel in sand matrix gravel ~ #57
2.3-3.7- orange silty clay
3.7-4' gravel in a tar-like matrix (asphalt.
-PID hit 220 ppm

4-8'
3.9'
Recovery

4'-7.5' bluish green silty clay w/ sparse sand
7.5-8.5 light brown sandy silt

8-12'

8.5-11.5 = light brown sandy silt w/ some greenish blue clay inclusions
11.5-12 light tan silty clay

50- 5/15/08

sampled 74-SW146-02 @ 0800
for GRO-DRO, VOCs, metals

74-SW146-05 @ 0815
for GRO-DRO, VOCs, metals

QA/QC 74-SW146-02-Dup @ 0800

74 - SB147

0-4'
3.5' Recovery

0 - .4' dark brown silty sand
top soil
.4 - .8 light brown medium
sand w/ some gravel
.8 - 1.2 - gravel w/ sand matrix
#57.
1.2 - 2.5 - light brownish-red
silty sand w/ some clay

4-8'

2.5 - 7 bluish - brown silty
clay w/ some gravel

4 - 5' dark brown clayey sand -
w/ some gravel
5 - 7.5' bluish green clay w/
some silt some sparse
sand

8-12'

7.5 - 9 - bluish green sandy silty
clay
9 - 11' coarse brown sand w/ some
silt - sparse clay nodules -
some gravel
11 - 12 - bluish green clayey silt
w/ some sand more sand towards
bottom -

YC

50. 5/15/08

Sampled 74 - SB147 - 03 @ 0850
for GRO-DRO VOCs, metals

74 - SB147 - 04 @ 0905
for GRO-DRO - VOCs, metals

41

74 - SB148

0 - .4' light brown sandy top soil
.4 - 1.1' dark brown organic rich top soil
1.1 - 1.6' light tan silty sand w/ some gravel & cobble
1.6 - 2.2 - brown sand & gravel - angular
2.2 - 2.6 - light blue gravel ZLA w/ some sand in matrix
2.6 - 3.5 brown sandy silt w some weathered bedrock inclusions (saprolite diorite)
4-7 light brown silty sand w/ gravel

7-8 - light brown medium sand
8-12 - bluish green silty clay sparse sand -
- Saturated below 10' (wet)

0-4' 3.5' Recovery
4-8' 3.5' Recovery
8-12' 3' Recovery

50 - 5/15/08

Sample - 74-SB148-02 @ 0930
for GRO-DRO-VOC. metals

74-SB148-04 @ 0945
for GRO-DRO-VOC. metals

74-SB149

0-.4" brown sandy top soil
.4-1 - dark brown silty sand
1-1.4 black silty sand
1.4-2.6 white sand (coarse) w/
gravel & some cobbles -
some shell material & carbonates
2.6-3.2 dark brown clayey silt
w/ some gravel
3.2-3.6 white gravel & sand
3.6-4' bluish green clay w/
red inclusions
4-10' bluish green clayey
sand some sparse gravel
- saturated @ 9'

10-11' bluish green clay w/
some sand
11-12 - black & bluish green
gravelly clay -

0-4' 3.6 recovery
4-8 3.5 3'
8-12' 3.8' recovery

50 - 5/15/08

Sample 74-SB149-04 @ 1020
for GRO-DRO, VOCs, metals

74-SB150-06 @ 1035
for GRO DRO, VOCs, metals

74 - SB 150

0-9' - brown sandy top soil

0-4'
3.6'
Recovery

9-3. light tan silty coarse sand w/ some gravel
Carbonates towards bottom

3-3.5' gravel, bluish grey & reddish orange
some cobbles.

4-8'

4-6' light brown sandy clay - some bluish green clay nodules & some gravel present
- moist @ ~6'

6-12' greenish blue & brown silty clay, some sparse sand.

saturated @ 11.5'

8-12'
4'
Recovery

Samples taken above clay layers

50 - 5/15/08

Sampled 74-SB150-02 @ 1055 for
GRO - DRO - VOC, metals

74-SB150-06 @ 1110 for
GRO-DRO, VOCs, metals.

74 - SB 152

0.4'
3.6' Recovery

0 - .4' - dark brown sandy top soil
.4 - 1' brown silty sand w/ some gravel
1 - 2.8 - bluish grey gravel w/ brown med sand
2.8 - 3.8 light brown sandy silt w/ some clay - carbonates present & sparse gravel

4.8'

3.8 - 4.2 - brown sandy clay

4.2 - 4.8 dark Red silty clay w some gravel & sand.
4.8 - 6 brownish red silty clay sparse sand.
6 - 12' bluish green silty clay possible - weathered bedrock present @ [redacted]
- moist @ ~ 11'

8.12'

50 5/15/08

Taken above 1st clay layer
Sampled: 74 - SB152 - 03 @ 1125
for DRO - DRO, metals VOC.

taken @ water line
74 - SB152 - 05 @ 1140
for GRO DRO - metals, VOC's

74-SB153

0-.4" dark brown silty soil
.4-1 dark brown sandy clay
1-2.7' salt & pepper silty sand w/ some gravel
2.7-8.5 brown silty clay w/ some bluish streaks

0-4'
3.6' Recovery

8.5-12 - orangish brown clayey sand - some weathered bedrock inclusions.

4-8'
4' Recovery

- samples taken above confining clay layers - due to thickness of homogeneous layers

8-12'
3.9' Recovery

Sampled 74-SB153-02 @ 1150
for GRO-DRO, VOC, metals

74-SB153-04 @ 1205
for GRO-DRO, VOC, metals

74
SB - 154 -

0-.2' dark brown sandy top soil
.2-1 - light brown med, sand w/ some gravel
1-1.3 white sand & gravel
1.3-1.7 - bluish green silty sand w/ gravel
1.7-2.2 - tan med - sand w/ some gravel & carbonates
2.2-2.6 - gravel - open matrix. #57
2.6-3.5 dark red/Rust colored clay w/ some sand
3.5-4 dark bluish grey silty clay w/ some sand
4-10 - brown silty clay w/ some greenish blue inclusions some carbonates sparse, some sparse sand
10-11 - dark brown sand w/ bluish grey gravel #57
sand & gravel saturated @ 10'
Refusal @ 11'

0-4'
3.1 Recovered
4-8'
4' Recovery
8-12'
3' Recovery

JO - 5/15/08

Sample: 74 - SB154 - 04 @ 1400
for GRO, DRO, VOCs metals

74 - SB154 - 05 @ 1410
for GRO-DRO, VOCs metals

74 - SB 155

0-4'
3.4' Recovery

0 - .5' dark brown silty sand topsoil
.5 - .7" light gravel #57
.7 - 1.5 light tan calcilerous sand & gravel
1.5 - 1.8' dark brown sand
1.8 - 3.5 - light tan gravel & sand, some bluish grey gravel
3.5 - 4 - brown silty clay

4-8'
3.8' Recovery

4.5 - 7.6 weathered bedrock - saprolite, some sand
7.6 - 9.5 brown silty clay w/ some sand
- PID hit ~ 120 ppm ~ 8' - 8.5'

8-12'

9.5 - 11' dark green silty clay
11 - 11.4 - weathered diorite/bedrock
11.4 - 12 bluish green clay w/ some brown inclusions - some cobble @ bottom

- PID hit ~ 10' 110 ppm

Samples 74 - SB155 - 04 @ 1420
for GRO - DRO - VOCs, metals

74 - SB 155 - 05 @ 1435

74-SB156

0-1' 3' Recovery

0-.3' dark brown sandy top soil
.3-1' brown sand & gravel
some carbonates

1-2.7 light - medium sand w/
gravel some shell fragments
carbonates present
2.7-4' - Gravel - bluish grey
some cobbles

4'-8' 3' Recovery

4-7.7' brown silty clay -
some sand
- PID reading 108 @ 7'
7-8' greyish blue sandy clay w/
some gravel & cobble

8-12' 3' Recovery

8-8.7' light brown silty
coarse sand with gravel
8.7-9.5 - bluish grey clayey
silt w/ some gravel & some
carbonates
9.5-12- bluish green sandy clay
some silt - dry - some sparse gravel
PID hits (spikes)
9' - 240 ppm 11' 90 ppm 11'
10' - 235 ppm - note.

56

50. 5/15/08

Sampled 74-SB156-04 @ 1450
for GRO-DRO-VOC, metals

74-SB156-05 @ 1505
for GRO-DRO-VOC, metals

QA/QC
SB156-05 - DUP taken @ 1505

57

58

59 - 5/16/08

0700 - on site loading coolers / drilling - etc.
0730 - Shown new string for samples -
- drillers on site
0800 - move to 74-SB161 - begin
drilling -
0945 - Drillers out to get water -
- 1000 - Return on SB167
1200 - Drillers break for lunch

59

74-SB161-

0-.3' - brown sandy topsoil
.3-.6' bluish grey gravel w/ sand, cobbles present

0-4' 3' Recovery

.6 — 8' white calcareous sand w/ some shell material & coral, some white gravel

6'-6.9 - bluish-grey gravel w/ brown sand - dry some clayey silt lenses

4-8' 3.8' Recovery

6.9-10' - brown sandy silt w/ some clay - some gravel & cobbles present

10-12 - light brown silty clay w/ some carbonate precipitate & weathered bedrock

8-12 2' Recovery (w/ fr collapse)

Samples @ 74-SB161-00 - @ 0830
for GRO-DRO-metals, VOCs
{74-SB161-00-DUP @ 0830}

74-SB161-04 @ 0845
for GRO-DRO-metals, VOC-

74-SB161-05 @ 0900

QA/QC

74-SB161-04-DUP @ 0845

74-SB161-05-MS/MSD @ 0900

74-SB161-00-DUP - 0830

74 - SB 162

0 - .2' dark brown sandy top soil
.2 - 1' light sand (coarse) some gravel & clay
1 - 1.8 brown silty sand w/ some gravel, some silt
1.8 - 4.5 rust colored sandy clay w/ some gravel

0-4'
3.6' recovery

4.5 - 6.2' light brown silty sand w/ some gravel
6.2 - 12' brownish - orange silty fine sand w/ some weathered bedrock (serpentine) inclusions more inclusions toward depth.

4-8'

8-12'

50 - 5/16/08

sampled 74-SB 162 - 04 @ 1025
for GRO - DRO - metals, VOCs

74 - SB 162 - 05 @ 1030
for GRO - DRO - metals, VOCs

74 - SB 163

0-.2' dark brown sandy top soil
.2-1.4 light brown silty sand w/ some gravel - few cobbles

0-4' 3.8' Recovered

1.4-3.6' Rust colored clayey silt - sparse gravel

3.6-5' reddish brown medium - course sand w/ some gravel

4-8' 3.9' Recovery

5-8.5' fine brown silty sand w some carbonates present - possibly some weathered saprolite

8.5-8.7- bluish grey gravel

8.7-9.5 - medium brownish sand w/ weathered bedrock & carbonate inclusions -

8.7' 1.5' Recovery

- Refusal @ 9.5'

SO 5/16/08

Sampled 74-SB163-03 - @ 1110
for ~~GRO~~ - DRO - metals, VOCs

74-SB163-04 @ 1125
for GRO - DRO - metals, VOC

74-SB 164

0-.5' dark brown sandy top soil
.5-1 - brown clayey silt w/ some sand
0-1' 3.8' Recovery
1-1.5 - bluish grey gravel #57
1.5-6.2 orange silty clay - some sparse sand & gravel present
6.2-7' Coarse sand & gravel - brown sand / bluish grey gravel
4-8' 4' Recovery
7-8.' brown sandy silt - some clay
8-8.8 - gravel w/ some clay nodules - brown gravel / Red clay
8.8-11.4 light brown silty sand w/ some clay & saprolite inclusions
8-12' 3.8' Recovery
11.4-12 bluish green silty clay & saprolite / weathered bedrock

JO 5/16/08

Sample 74SB164-04 @ 1130
for GRO-DRO, VOCs, metals

74-SB164-05 @ 1145
for GRO-DRO, VOCs, metals

74 - SB 165

0-.4 - silty sand, brown top soil

0-4' 3.8' Recovery

.4-2 - light brown sand & gravel

2-3.4 - dark red/rust colored silty clay w/ some sand & gravel interdispersed

3.4-4.8 - orange silty clay

4.8-5.4 - orange silty sand w/ some gravel

4-8' 3.7' Recovery

5.4-5.7 - solid bluish gray Rock - cored through - appears to be fractured granite

5.7-10.5 - orange sandy silt w/ some fine sand - sparse gravel - fractured (native?)

10.5-11.5 - weathered bedrock

8-12' 3.8' Recovery

11.5-12 - light orange clay & silt - some sand

JO 5/16/08

Sampled: 74-SB165 - 04 @ 1200
for GRO-DRO, VOCs, metals

74-SB165 - 05 @ 1215
for GRO-DRO - VOCs, metals

74 - SB 166

0-.3' brown sandy top soil
.3-1.2 bluish gray gravel & brownish medium sand.
1.2-2 - light brown medium sand some clay nodules
2-4 orange sandy clay

0-4'
3.8' Recovery

4.5-11 brown sandy silt
some sparse gravel
- some weathered bedrock, saprolite inclusions with depth
- some bluish green clay inclusions dispersed

4'-8'
3.5' Recovery

- Rejection @ 11'

8-12

30 - 5/16/08

Sampled 74-SB166 - 04 - @ 1350
for GRO-DRO, VOCs, metals

74-SB166 - 05 @ 1405

QA/QC: 74-SB166-04 - Dup @ 1350

74-SB 167

0-4' 3 Recovery

- Pre-probe first 6" to get through granite cobble road

2-2.5' light bluish gray gravels w/ sand.

2.5-3.6 coarse brown sand w/ some granite

3.6-4' dark brown sandy clay - sparse gravel

4-8' 3.8' Recovery

4-6' orange silty clay w/ some sparse sand. & some weathered bedrock (saprolite) inclusions

6-12 ~~medium~~ orange sand ~~and~~ ~~silt~~ silt - ~~saprolite~~ saprolite inclusions

8-12'

- clay & bedrock saprolite inclusions increase in frequency with depth

- localized fracturing.

JO- 5/16/05

Sampled 74-SB167-04 @ 1430
for tpho-DRO, VOCs, metals

74-SB167-05 @ 1445
for tpho DRO + VOCs, metals

74 - SB 168

0-.3 - dark brown sandy top soil

.3 - 1.2 brown sandy silt w/ some gravel

1.2 - 2.0 - gravel - white w/ brown sand - some silt

2 - 3.4 - gravel & reddish brown clay, some cobbles

3.4 - 5' dark Reddish brown silty clay w/ some carbonates some sand.

5 - 9' orange silty clay w/ some sand

9 - 12' orangish sandy silt w/ sparse gravel and saprolitic bedrock inclusions -

0-4
3.5
Recovery

4.5-9'
3'
Recovery

9-12
1.0
3.0
Recovery

JO - 5/16/08

Sampled 74 - SB 168 - 04 @ 1500
GRO - DRO metals, VOCs

74 - SB 168 - 05 @ 1515
GRO - DRO, metals, VOCs

74 - SB 169

0-.4 dark brown sandy top soil

0-4' 3.5 .4-1.3 fine sand, gravel & few cobbles

1.3-4 brown coarse sand and gravel few cobbles

4-7 - orange silty clay w/ sparse sand

4-8' 3.9' Record 7-12 - Orange silty fine sand w/ some clay - some saprolite inclusions (increase frequency w/ depth), sparse gravels - few clay lenses and nodules

8-12' 3' Record

JO - 5/16/08

Sampled 74-SB 169-04 @ 1325 for GRO - DRO, VOC, metals

74-SB 169-05 @ 1540 for GRO - DRO - VOCs metals -

74 - SB 170

0 - .3' dark brown sandy top soil
.3 - .7' light brown coarse sand
.7' - 1.5' light brown fine sand w/ some gravel
1.5 - 2.4 light brownish orange silty clay w/ some gravel.
2.4 - 3' light brown fine sand w/ some gravel
3 - 7' light brownish orange silty clay - w/ sparse sand - some grey-blue clay lenses

0-4'
3.4' Recovery

4-8'
3.9' Recovery

7 - 11 orange & grey silt & clay - weathered bedrock (saprolite) present throughout.

8-12'
3.9' Recovery

11 - 12 - orange - grey silty clay gravel (Red) present

SO 5/17/08

Duplicate 74 - SB 170 - 04 @ 0805
for GRO - DRO - VOC. metals

74 SB 170 - 05 @ 0820
for GRO - DRO - VOC - metals

Begin @ 0745, only have 1 driller operating Rig today.

74 - SB171 -

0-4' 3' Recovery

0-.2' dark brown sandy top soil
.2-.6 light brown coarse sand w/ some gravel
.6-.9 gravel - black-grey #57 w/ some sand matrix
.9-3 dark red sandy silt w some clay & sand. sparse gravels distributed throughout.

4-8' 3.5' Recovery

4-8' dark red clayey silt w/ some sand.

8-12' 3.5'

8-12' - red & orange clay - some silt - sparse sand

Sampled 74-SB171-00 @ 0845
for GRO DRO, VOCs metals

74-SB171-04 @ 0900

74-SB171-05 @ 0915

QA/QC

74-SB171-05 -Dup @ 0915

74-SB171-04 ms/msD @ 0900

74-SB172-

0-4' - dark Red clayey silt
with some gravel & sand
interdispersed throughout

0-4'
3.8'
Recovery

4'-10' Red silty clay & silt
sparse sand, some brown
clay nodules/lenses
- damp @ 8-9'

4-8'
3.9'
Recovery

10-12' - Red & white clay

8-12'
3.9'
Recovery

JO 5/17/08

Samples:
74-SB172-04 @ 0945
for GRO-DRO, metals, VOCs

74-SB172- @ 1000
for GRO-DRO, metals, VOCs.

74 - SB173

0 - .3 dark Red silty clay
.3 - 1.7 brown clayey silt
w/ some organic material
& some sand
1.7-9.4 - reddish orange
& bluish - grey variegated
clays - some carbonate
inclusions - sparse sand

0.4'
3.6'
Recovery

4.8'
3.8'
Recovery

7.4 - 9.5 interbedded light
tan & red clays -
some - sand - sparse gravel

9.5 - 11 - greenish - tan clay &
saprolite bedrock inclusions,

11 - 12 - - granite - diorite saprolite

8.12'
3.6'
Recovery

JO' 5/17/08

Sampled: 74 - SB173 - 04 @ 1030
for GRO - DRO, VOCs, metals

74 - SB173 - 05 @ 1045
for GRO, DRO - VOCs metals

74-SB174

0-.3 dark brown sandy top soil

0-4' .3 - 1.3 white & bluish gray
3.6' sand & gravel - few cobbles

1.3 - 4 - reddish orange silty
clay w/ interdispersed sand
& gravel

4-6 - white - light tan medium
4.8' sand
3.5' 6-8 - red silty clay
some brownish - tan clay inclusions

8-12' bluish - green silty clay
may be weathered bedrock / saprolite
greenish - blue

8-12' 9' PID spike 408 ppm
10' PID spike 1104 ppm
11' PID spike 1145 ppm
12' PID spike 450 ppm

SO - 5/17/08

Samples 74-SB174-04 @ 1145
for GRO-DRO- metals, SVOC

74-SB174-05 @ 1200
for GRO-DRO - metals, SVOCs

74-SB175

0-.3' dark brown sandy top soil
.3-1' brown silty clay w/ some gravel
0-4' 3.9' Recovery — 1-4' red & brown variegated clays

4'-6.5 brownish red clayey silt. Some sparse sand
4'-8' 3.8' Recovery — 6.5-9' light tan clayey silt w/ some sand. weathered bedrock / saprolite inclusions

9-9.4' greenish-blue silty clay (saprolite / weathered bedrock ?)

8-12' 3.8' Recovery — 9.4-12' brownish-tan fine sandy silt w/ weathered bedrock inclusions - some fracturing

JO- 05/17/08

Sampled 74-SB175-04 @ 1440
for GRO-DRO, VOCs, metals

74-SB175-05 @ 1455
for GRO-DRO-VOC, metals

74-SB 176

0-.8' dark brown silty clay
04' w/ some gravel
.8-2.6 brown silty clay w/
sparse sand
2.6-6.4 - brown sandy silt
with some gravel
Possibly some weathered bedrock.

6.4-6.8- bluish gray gravel
6.8- 11 - brown sandy silt
w/ some interdispersed gravel
and weathered bedrock fragments

11-12- weathered bedrock/separation

8-12
39 pounds

50- 5/17/08

Samples

74-SB176 - 04 @ 1540
for Wet-DRO-VOCs, metals

74-SB176- 05 @ 1535

QA/QC
74-SB176-05-D-P @ 1535

74-SB177

0-4' 0-.3 dark brown silty sand trace gravel

0-8' 3' Recovery .3-1.7 dark brown sandy silt w/ some clay - some gravel

1.7-3.4 orange/red-brown silty clay sparse sand

3.4-6.4 orange-brown clayey silt w/ sparse sand

4-8'

6.4-12' light brown silty medium sand w/ some gravel & some saprolite/bedrock inclusions

8-12'

IO- 5/17/08

Sampled 74-SB177-04 @ 1550 for GRO-DRO, VOCs, metals

74-SB177-05 @ 1605 for GRO-DRO, VOCs, metals

74- Sw

50- 5/18/08

0700 - on site - loading up
0730 - met up w/ drillers on pad
- will grout holes from yesterday and then move to Bell fields/track and start on 74-SB200
0830 - Begin on 74-SB200
1200 - finish on 74-SB205 all that is marked through field -
1230 - Grouting / drillers out to lunch
1345 - drillers return from lunch - resume grouting -
1550 - finished - loading up for next day - outbound for day

74-SB200

0-.6 - brown sandy top soil

.6-1.1 brown

0-4' 3.9' Recovery

1.1-1.6 bluish-grey gravel - fine & medium sand matrix

1.6-5.8 - brown silt and clay w/ some gravel

4-8' 3.8' Recovery

5.8-7.6 - bluish-green silty clay - some sand & gravel interbedded

7.6-12' medium grey sand - saturated below 6.5'

8-12' 3.8' Recovery

Sampled 74-SB200-04 @ 0845
for GRO-DRO-metals, VOCs

74-SB200-05 @ 0900
for GRO-DRO-metals, VOCs

74-SB201

0-4' 3' Recovery

0-.2 - brown silty-sand topsoil
.2-2 - brown sandy silt w/ some gravel
2-3 - light brown sandy silt with gravel
3-5' light brown & brown clayey silt & gravel
5-5.8 - dark brown silty clay

4'-8' 3.7' Recovery

5.8-7.5 - brownish orange sandy silt w/ some clay & some gravel & cobbles
7.5-9.7 dark brown silty clay w/ gravel & bluish-green clay nodules
- moist @ 8'

8-12' 3.7' Recovery

9.7-12 - bluish-grey medium sand w/ some silt & clay
- saturated @ 10'

JO 5/18/08

Analysis

74-SB201-00 @ 0915
for GRO, DRO, metals, VOCs.

74-SB201-04 @ 0930
for GRO, DRO, metals, VOCs

74-SB201-05 @ 0945
GRO, DRO, metals, VOCs

QA/QC

74-SB201-04-Dup @ 0930

74-SB201-05-MS/MSD @ 0945

74-SB202

0-4' 0-4' Recovery

0-.4' brown sandy top soil
.4-2.4' brown sandy silt
2.4-5.5 bluish-gray gravel w/ some clay nodules & sand in matrix - few cobbles at depth

4-8' 4-8' Recovery

5.5-6.5' brownish orange sandy silt w/ some clay and gravel
6.5-11' bluish-green sandy clay w/ some silt, few cobbles, some gravel
- clay content increases w/depth
- moist @ 9'

8-12' 3.6' Recovery

11-12 - whitish-gray medium sand
- saturated @ 10.5'

JO - 5/18/08

Duplicate 74-SB202-04 @ 0955
for GRO-DRO, VOCs, metals

74-SB202-05 @ 1010
GRO, DRO, VOCs, metals

74- SB 203

0-.3' brown sandy top soil.

.3-3. light brown sandy silt & gravel
- few cobbles interdispersed

0-3' 3' recovery

3-3.4 - light orange & brown silty sand w/ some gravel few cobbles interdispersed.

3.4-4 brown & red / white clay - may be saprolite
- inclusion - k-spar silt granite (mineralogy structure intact)

4-8' 3.9' recovery

4'-10.5 greenish blue silty clay - some red clay inclusions

10.5-12 - whiteish-grey med sand w/ sparse green clay inclusions - sparse peat

8-12' 3.8' recovery

50- 5/18/08

duplicate 74-SB 203-04 @ 1020
CLP- DRO, VOCs, metals

74-SB 203-05 @ 1035
CLP- DRO, VOCs, metals

74 - SB 204

0-4' 3.6' Recovery

0-.2' light brown silty sand top soil

.2 - 2.8' light brown & orange sandy silt, w/ some clay - gravel interdispersed

2.8 - 4.8 - dark red gravelly/ sandy silt

4-8' 3.0' Recovery

4.8 - 7' dark greenish-brown silty clay w/ some gravel interdispersed

7-8.5 greenish blue / white silty clay w/ some sand - some weathered bedrock / separate inclusions

8-12' 3.8' Recovery

8.5 - 12' light brown sandy silt - (may be separate bedrock

Samples 79-SB 204-04 @ 1100
for GRO - DRO, metals, VOCs

79-SB 204-05 @ 1115
for GRO, DRO, metals, VOCs

74-SB 205

0-4'
3.9' Recov

0-.2" dark brown sandy top-soil
.2-1' brown sandy silt - some gravel
1-8.8 light orange fine silty sand
- layer of gravel fine 4.6-4.8

4-8'
3.8' Recov
17 blows

8.8'-10.4 light orange fine silty sand w/ interbedded gravel & some clay nodules

8-12'
3.8' Recov

10.4-12 {Saprolitic granite (quartz cobbles}
- fine sandy silt w/ some sand.
- Saturated @ 10.5'

JO - 5/18/08

Sampled 74-SB 205 - 04 @ 1145
GRO - DRO - ~~metals~~ VOCs

74-SB205 - 05 @ 1200
GRO - DRO - metals, VOCs.

SD - 05/19/08

0630 - on site loading up
0705 - on pad - prepping - waiting for
Drillers
- will resume line on H-SB178 -
1200 - Break for lunch -
1300 - Return from lunch - Resume
boring on main road on SB201
1500 - finish final boring for day
211
- Drillers grouting -
- back to set up/ice samples
1630 - samples iced - packed and loaded
1530 - outbound for day

74-SB178

0-.3 dark brown sandy top-soil
.3-4 brown sandy silt - some clay

0-4 8' 3' Ready

4-5.8 brown silty sand w/ some gravel

5.8-12 brown silty sand w/ some gravel, some weathered bedrock/separate inclusions - gravel increases w/ depth

4-8 3.8' Ready

8-12 3.8' Ready

JO · 5/19/08

Sampled -74SB178-04 @ 0800
for GRO-DRO-VOCs, metals

74-SB178-05 @ 0815
for GRO-DRO-VOCs, metals

74-SB179

0-.2 - dark brown sandy top-soil
.2-.9 - dark brown sandy silt
w/ some clay & gravel
0-4'
.9 - 2.3 brown silty clay
3.8' Bedrock
w/ sparse gravel
2.3-12' lighter brown med-fine
sand w/ some gravel
- few separate inclusions >9'

4.8

8-12

50- 5/19/08

Samples 74-SB179-04 @ 0830
for GRO-DRO, SVOCs, metals

74-SB179-05 @ 0845
for GRO-DRO-VOCs, metals

74 - SB 180

0-.2 brown sandy top-soil
.2-.4- gravel layer
.4 - 1 - brown silty sand
w/ some clay & gravel
1 - 1.4 - dark brown sandy silt
1.4 - 3' - orange/light brown silty
clay - sparse sand inclusions

0-4
3.8'
Recovery

3 - 7.4 light brown med-fine
sand - w/ some silt
7.4 - 12 light brown sand w/
some clay/silt - some weathered
bedrock inclusions -
- some gravel >10'

4-8
3.8'
Recovery

8-12

JOB 5/19/08

74 SB 180 - 04 @ 0855
for tbk - DRO, metals, VOCs

74 - SB180 - 05 @ 0905
for cbo - DRO - metals, VOCs

74-SB181

- 1- Rejection @ 6' - offset 1'
2- Rejection @ 4' offset 5'

0'-4' 3' Recovery

0-.2 brown sandy top-soil
.2-.5 gravel - bluish gray
.5-2.6 - brownish orange silty clay
2.6-4.1 brownish orange - sandy silt - some gravel
4.1-4.5 bluish-gray gravel

4'-8' 3' Recovery

4.5-8 light brown sandy silt - w/ some clay

8-10 light brown silty sand w/ weathered basalt inclusions -

8'-12' 3' Recovery

- rejection @ 10'

JO 5/14/08

Samples

74-SB181-03 @ 0915
for WRO-DRO, metals, VOCs

74-SB181-04 @ 0925
for DRO-DRO, metals, VOCs

74-SB181-05 @ 0935
for WRO, DRO, metals, VOCs

QA/QC

74-SB181-05-DUP @ 0935

74-SB181-04-MS/MSD @ 0925

74 - SB182 -

0-.2 - brown sandy top-soil

.2 - .5 - bluish-grey gravel #57

0.4' 3.8' Recov .5 - 2.2 - brownish orange silty clay w/ sparse sand/gravel

2.2 - 6.5 light brownish orangish silty med-fine sand w/ sparse weathered rock inclusions

6.5 - 10' orangish brown clayey silt w/ saprolite / weathered rock inclusions

6-8' 9' Recov

10 - 12' - light orangish brown silty clay w/ saprolite inclusions

8.1'

50 5/14/08

74 - SB182 - 04 @ 0950 for CLP - DRO - metals SOCs

74 - SB182 - 05 @ 1005

79 - SB183

1 = reflection @ 3' - offset ~2.5'

0 - .3 dark brown sandy top-soil

.3 - 2.1 orangish brown silty clay w/ sparse sand

2.1 - 7.4 clayey silt w/ some sand, saprolitized weathered rock.

7.4 - 16' clayey weathered bedrock & saprolite

- some layers of brownish orange silty clay

0-4
3.9'
Recovery

4-8
3.9'
Recovery

8-12

JO 5/19/08

79-SB183-04 @ 1025

for CRO - DRO VOCS metals

79-SB183-05 @ 1035

for CRO-DRO VOCS metals

74 - SB184

- 1 rejected @ 3' - offset ~3' (front)
- rejected @ .6' - offset ~2.5' (behind)

0-.2" dark brown sandy top soil.

0.4 3.6' heavy

.2' - .5' grayish blue #57 gravel/stone

.5 - 2.8 light brown silty sand w/ some gravel, few cobbles

2.8 - 5' orange/red - brown silty clay - sparse sand

4.8 3.6' heavy

5 - 12 orange clayey silt w/ some sand - some degradable (weathered) rock inclusions

- clay content increases w/ depth

9.12

JD 5/19/08

Sampled 74-SB184-04 @ 1050
GRO-DRO - metals, VOC

74-SB184-05 @ 1105
GRO - DRO - metals, VOC

74-SB 206

0-.2 dark brown top soil

0-4 .2-.5 brown silty sand

3.8 .5-1.5 tan sand w/ some

gravel sparse cobble

1.5-5.2' gravel (bluish-gray)

w bronze gray sand

5.2-6' gravel w/ brown silty clay

4-6 6-8' orangish brown clay

3.8 8-8.1 (asphalt ?)

8.1-8.2 - gravel ZIA

8.2-10 - light bluish gray

clayey silt w/ some gravel

8-12 10-12 orange sandy silt

3.8 sparse gravel

JO 5/19/08

Sampled 74-SB 206 - @ 1230

for GRO-DRO, metals, SOCs

74-SB 206 - @ 1240

for GRO DRO metals, SOCs

QA/QC

74-SB206 - - Dup @ 1230

74-SB 207

0-.5 - dark brown silty-sand
top soil

0-4
3.8'
Recov

.5-.7- 21A bluish gray gravel
.7-1 - brown silty sand
1-1.5 tan med-fine silty sand
1.5-5 - gravels w/ bluish
gray & orange clay in
matrix

4-8'
3.8'
Recov

5-10' gravelly bluish-gray
sandy silt.

Refusal @ 10'

8-12
1.8
Recov

50 5/19/88

Duplicate 74-SB 207-04 - @ 1300
for GRO, DRO, metals, VOCs

74-SB 207-05 - @ 1310
for GRO, DRO, metals, VOCs

74-DB 208

- Refusal ~ 2'
- Refusal ~ 1.5
- Refusal ~ 2'
- Refusal ~ 2.5'
- Refusal ~ 8'
- Refusal ~ 2.5'

0-4

moving on to 209

4-8

8-12

JO 5/1.9/08

No Samples taken

74-SB209

0-.2 dark brown sandy topsoil

.2-1.2 light brown silty sand and some gravel

0.4 3.8 Rock

1.2-1.6 brown silty sand w/ some gravel - few cobbles

1.6-2.8 bluish gray sandy silt - sparse gravel - some weathered bedrock/saprolite

4.8 3.8 Rock

2.8-7.5 brown sandy silt & gravel - few cobbles

7.5-10.4 mottled bluish gray silty clay & saprolite bedrock - damp @ ~9.5

10.4-12 bluish gray sandy silt w/ some saprolite inclusions saturated @ ~11'

8.12 3.8 Rock

JO 5/19/08

duplicate 74-SB209-04 @ 1345
for GRO - DRO, metals, VOCs

74-SB209-05 @ 1355
for GRO, DRO, metals, VOCs

74-SB210

0-.2' brown sandy top-soil
.2-1 light brown gravelly sand
0-4' 1-4' light brown w/ some orange gravelly silt, some sand lenses
3.6' Recov

4-5.1 - ~~gravelly~~ light brown sandy silt w/ gravel
4-8 3.9' Recov
5.1-11' greyish green sandy silt w/ some gravel
6.0' PID hit 10~~00~~ spike
7' - PID spike 1040
8-10 8' - PID spike 1149
9' PID spike - 780
10' PID spike 380

11-12' light brownish orange sandy silt w/ some clay
11- PID spike 780

JD 5/19/08

Samples 74-SB210-04 @ 1400
for GRO-DRO, metals, SVOCs
LL PAH's

74-SB210-05 @ 1410
for GRO DRO, metals, SVOCs
LL PAHS

74 - SB211

- 1 - Refusal @ 3'
1 Refusal @ 7'
1 - Refusal @ 7.5
1 Refusal @ 8.5

0 - .2 - ~~brown~~ sandy top soil
0-1 .2 — 2' brown sandy silt w/
3 feet some clay & gravel
2 - 4 bluish - green gravelly silt
4.5 - 7.5 brown sandy silt -
some gravel & separate below
4-8 interbedded layers).
3 feet
- PID spike ~6 @ 8.5
- Refusal @ ~~[illegible]~~ 8.5
8/12 Sampled 5 - 7 / 7 - 8.5

JD 5/19/08

Sampled 74 - SB211 - 00 @ 1430

Sampled 74 - SB211 - 03 @ 1445
for GRO, DRO, metals, VOCs

74 - SB211 - 04 @ 1500

QA/QC
1445
dup - 74 - SB211 - 03 - Dup @ ~~[illegible]~~

74 - SB11 - 04 - MS/MSD
@ ~~[illegible]~~
1500

JO 5/20/08

0730 - on site - set-up / notes
0740 - met drillers on site -
- start @ SB 227
1100 - Drillers take lunch - end on
SB 230 - / grouted and also
1215 - Return from lunch - relocate
& resume on SB 231 -
1430 - move to grout - end on 235 -
1530 - Return to PWC - Label / ice
samples - prep for next day -
1730 - finish outbound for day -

74-SB 227

0 - 3 dark brown sandy fine sand

3 - 6.7 orange/brown sandy silt & gravel - some clays

0-4
3.6'
Recov

6.7 - 8.5 greenish blue silty sand w/ some gravel some odor detected, but no PID hits.

8.5 - 9 bluish gray silty sand w/ some clay nodules & gravel

4.8
4.9
3.1
Recov

9 - 12 bluish gray - sandy silt w/ some clay & gravel

8-12
3.6
Recov

PID	Spikes
7'	0
8'	10
9'	550
10'	421
11'	189
12'	20

JD 5/20/08

duplicate 74-SB 227-04 @ 0800
for GRO DRO, metals, SVOCs

74-SB 227-05 @ 0815
for GRO DRO, metals, SVOCs
LL PAHs

74-SB228-

0-4' 3.5' Recovery

0-.5 dark brown sandy top soil
.5-1.5 bright-gray gravel
1.5-2.2 orangish brown silty clay
2.2-6.2 orangish-brown silty sand w/ some clay

4'-8' 3.6' Recovery

6.2-12 bright green gravelly silt and clay
some hydrocarbon staining

PID Spikes (ppm)

6' - 0	8' - 0	10' 156	12' - 20
7' - 0	9' - 132	11' 18	

- saturated @ 7.5'

8-12' 3.6' Recovery

JO 5/20/08

Sampled 74-SB228-04 @ 0825
for GRO DRO metals, VOCs

74-SB228-05 @ 0835
for GRO-DRO, metals, VOCs
LL PAH

74-SB 229

0-.4- dark brown sandy organic soil

.4 - 1.4 brown gravelly sand w/ silt

0-4' 3.6 Recov

1.4 - 3.5 orangish brown silt w/ some sand / gravel / cobble

3.5 - 7. orangish brown silty clay w/ some sand / gravel

7. 9.4 bluish brown clayey silt w/ sparse sand
- Saturated @ 7'

4-8' 3.8' Recov

9.4 - 9.7 light brown sand w/ some gravel

9.7 - 12 bluish - green clayey silt w/ some saprolite inclusions

8-12' 3.8' Recov

JO 5/20/08

Sample 74-SB 229 - 04 @ 0905
for GRO - DRO metals, VOCs

74-SB 229 - 05 @ 0920
for GRO - DRO metals, VOCs

74-SB 230

0-.4 dark brown sandy top soil
.4-1 - light tan sand w/ some gravel
1 - 1.5 - white sand & gravel
1.5 - 7.6 orangish brown silty clay

0-4'
3.6' Recov

7.6 - 12' bluish green sandy silt - Saturated @ 8'
PID spike (ppm) - some sand lenses & gravel @ depth
8' 5
9' - 190
10' 1350
11' 15
12' 7

4.8'
3.4' Recov

8-12'

JO 5/20/08

74-SB230-04 @ 0930
for GRO-DRO - metals, SOCs

74-SB230-05 @ 0945
for GRO-DRO - metals, SOCs
LL PAHs

74-SB 231

0-4'
3.2' pieces

0-.5 - brown silty sand top soil

.5 - 9.6 - light tan - white sand w/ some interdispersed sparse gravel / shell fragments - damp @ 6'

9.6 - 12 - light orange-ish brown silty sand w/ some gravel - saturated @ 10'

4-8'
4-3' 3' pieces

8-12'
3-4' pieces

SO 5/20/08

duplicate 74-SB 231-00 @ 1200
for GRO-DRO, metals, VOCs

74-SB 231-04 @ 1210
for GRO-DRO, metals, VOCs

74-SB 231-05 @ 1220
for GRO-DRO, metals, VOCs

QA / QC

74-SB231-00-Dup @ 1200

74-SB 231-04 ms/msd @ 1210

74-SB 231-05-Dup @ 1220

74-SB 232

0-.4 - brown sandy top-soil

a 4 .4-3.2 - brown ~~sand~~ sand w/
3.5' some silt - some gravel
Recov

3.2-7.4 light brown/tan
sand - some gravel -
some shell fragments -
sand gets finer w/ depth
- saturated @ 7'

4-8' 7.4-10 bluish-gray silt
3.4' & sand. sand increases
Recov w/ depth

10-12 - bluish gray sand / some
8-12' silt, some gravel &
3.4' recov shell fragments

50 5/20/08

Sampled 74-SB232-04 @ 1255
for CRO-DRO, metals, VOCs

74-SB232-05 @ 1305
for CRO-DRO metals, VOCs

74-SB 233

0-.2 dark brown sandy dense sand
.2-.7 gravel & brown silt
.7- fine silty sand & gravel
0-4' .7-1.5 - orange/light brown
3' pump silty sand w/ some shell
fragments & gravel
1.5-8.5 light tan med sand -
sparse gravel
4-8' 8.5-8.8 brown silty sand
3' pump

8.8 - 12 - blueish gray sand
w/ some silt some gravel
& shell fragments.

8-12' 3.5' pump

SD 5/20/08

sampled 74-SB233-04 @ 1315
for CRO-DRO, metals, SOCs

74-SB233-05 @ 1325
for GRO-DRO-metals, SOCs

74-SB 234

0-.4 - dark brown sandy top soil
.4-2 - tan sand & gravel
2.-8' - reddish brown
silty clay w/ lenses of
gravel (interbedded)

0-4'
2'
3' recovery

9-11 - gray & brown
silty clay

4-8'
6'
3' recovery

11-12 bluish-black silt
w/ gravel
-saturated @ 10.8'

8-12'
3' recovery

JO 5/20/08

sampled 74-SB234-04 @ 1340
for CRO-DRO-metals VOCs

74-SB231-05 @ 1350
for CRO-DRO, metals, VOCs

74- SB235

0-.2 dark brown sandy top soil
.2-1.6- dark brown silty sand w/ some gravel
1.6- 8.- light tan sand w/ some gravel & some silt

0-4' 3' recovery

9- 10- light tan clayey sand
10- 12- light bluish silty clay - saturated @ 10'
11-12 light bluish fine silty sand -

4-8' 3' recovery

8-12' 3' recovery

JO 5/20/08

Sampled 74-SB235-04 @ 1405
for GRO - DRO - metals, VOC.

74-SB235-05 @ 1415
for GRO - DRO - metals, VOCs

ending in 1 (ie 91, 101, 111) -
- Surface sample - ms/msD + DOP
on subsurface.
Ending in 6 (ie 96, 106, 116) -
~~ms/m~~ Duplicate on 1 of 2 subsurface

All - 2 subsurfaces -

for -

DRO, GRO -
VOC's metals
-
LL on Bid hits

0-1 - 00
1-3 - 01
3-5 - 02
5-7 - 03
7-9 - 04
9-11 - 05
~~11-13 - 06~~

154

CURVE TABLES

HOW TO USE CURVE TABLES

Table I. contains Tangents and Externals to a 1° curve. Tan. and Ext. to any other radius may be found nearly enough, by dividing the Tan. or Ext. opposite the given Central Angle by the given degree of Curve.

To find Deg. of Curve, having the Central Angle and Tangent: Divide Tan. opposite the given Central Angle by the given Tangent.

To find Deg. of Curve, having the Central Angle and External: Divide Ext. opposite the given Central Angle by the given External.

To find Nat. Tan. and Nat. Ex. Sec. for any angle by Table I.: Tan. or Ext. of twice the given angle divided by the radius of a 1° curve will be the Nat. Tan. or Nat. Ex. Sec.

EXAMPLE

Wanted a Curve with an Ext. of about 12 ft. Angle of Intersection or I. P. = 23° 20′ to the R. at Station 542 + 72.

Ext. in Tab. I opposite 23° 20′ = 120.87
120.87 ÷ 12 = 10.07. Say a 10° Curve.

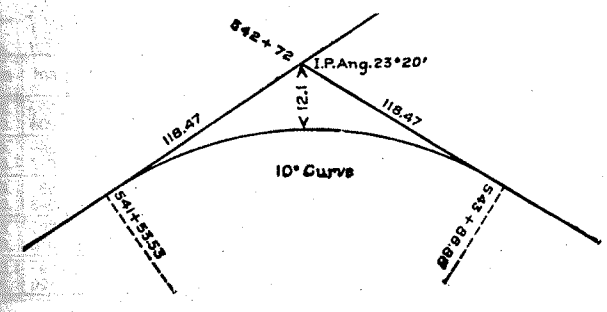
Tan. in Tab. I opp. 23° 20′ = 1183.1
1183.1 ÷ 10 = 118.31.

Correction for A. 23° 20′ for a 10° Cur. = 0.16
118.31 + 0.16 = 118.47 = corrected Tangent.

(If corrected Ext. is required find in same way)
Ang. 23° 20′ = 23.33° ÷ 10 = 2.3333 = L. C.

2° 19½′ =	def. for sta.	542	I. P.	= sta.	542 + 72
4° 49½′ =	" " "	+ 50	Tan.	=	1 .18.47
7° 19½′ =	" " "	543	B. C.	= sta.	541 + 53.53
9° 49½′ =	" " "	+ 50	L. C.	=	2 .33.33
11° 40′ =	" " "	543 + 86.86	E. C.	= Sta.	543 + 86.86

100 − 53.53 = 46.47 × 3′(def. for 1 ft. of 10° Cur.) = 139.41′ = 2° 19½′ = def. for sta. 542.
Def. for 50 ft. = 2° 30′ for a 10° Curve.
Def. for 36.86 ft. = 1° 50½′ for a 10° Curve.



JO. 5/20/08

0640 - on site / building up for day
0730 - meet drillers on pad / staging area
Reffi y Joshua
0750 - set up on first - SB 236

74-SB236

0-.4- dark brown sandy dry soil

.4-3- brown medium sand w/ some gravel & shell/coral fragments

0-4 3.5' Recov

3-4.5 - light tan-white medium sand w/ some interdispersed clay nodules

4.5-6 light tan silty clay

4-8 4' 3.5' Recov

6-7.5 - light tan medium sand
- moist @ 7'

8-9.5 light tan-white medium sand w/ some clay nodules

9.5-10.7 light greyish blue medium sand w/ some silt
- saturated @ 10'
- some coral/shell material

8-12 3.7' Recov

JO - 5/21/08

Duplicate 74-SB236-04 @ 0800
for GRO-DRO-VOCs, metals

74-SB236-05 @ 0810
for GRO-DRO-VOCs, metals

QA/QC
- 74-SB236-05-Dup @ 0810

74-SB237

0-.3- dark brown sandy ~~top~~ soil

.3-1.5- ~~dark~~ brown sandy silt & gravel w/ some sand some red clay increasing

0-4' 3.6' Recovery

1.5-1.7- dark brown gravel

1.7-9.5 light tan sand w/ some shell fragments & sparse coral

- saturated @ 7.5'

4-8' 3.6' Recovery

9.5-11 - color transition + some silt bluish gray sand w/ some silt, shell fragments -

- bluish gray clay nodules

8-12' 4' Recovery

50- 5/27/08

Samples: 74-SB237-04 @ 0845 for GRO-DRO, metals, VOCs

74-SB237-05 @ 0900 for GRO-DRO, metals, VOCs

74- SB 238-

1- refusal @ .5'

0-.3- dark brown sandy top soil

0-4 3.5' Rec

.3 - 1.3 - brown fine silty sand w/ some gravel

1.3-1.7- dark brown - black silty sand w/ gravel

1.7- 2.2- orangish brown silty sand w/ gravel

2.2- ~~[illegible]~~ 4' - light tan medium sand w/ some silt & clay, some shell fragments -

4-8 3.4' Record

4- 6.5- lighter brown/tan medium sand w/ some silt & clay, some shell fragments → some

- Saturated @ 6.5'

8-12 0 Record

6.5 - 8' gray silty sand w/ sparse coral & shell material

- some clay nodules

Will re-push in 3' lifts for better recovery -

~~[illegible]~~

JO 5/21/08

Sampled 74-SB 238 - 04 @ 0940

for GRO-DRO, metals, VOCs

74-SB238- 05 @ 0950

for GRO-DRO, metals, VOCs

0-3' 2.4' ~~0-2- dark brown silty sand~~

~~.2-.3 dark fine silty sand w/ gravel~~

~~.3-2- brown silty sand~~

→ Some clay nodules in second run

(only pick 3')

6-9' 2.9'

8 - 10 bluish - gray med sand w/ some shell & coral material

→

10-12 bluish - gray clayey silt

9-12' 2.8'

74- SB 239-

0-.2' brown silty topsoil

0-4 3.6' perg

.2-1 brown fine silty sand

1-1.5- brown gravelly sand

1.5-1.7- bluish-grey gravel 21B

1.7-4.8 light tan med-fine sand w/ some gravel /shell/ and coral fragments

4-7' 2.8' perg

- some lenses of med-orange-sand

4.8-5.2 - orangish brown coarse sand and gravel w/ some shell fragments

7-10 2.8' perg

5.2-7.8 - light tan clayey silt w/ lenses of light tan med-fine sand

10-12 2.0 perg

8-12' bluish grey clayey-silt

JO- 5/21/08

Samples 74-SB239-04 @ 1000
for GRO-DRO, metals, VOC-

74-SB239-05 @ 1010
for GRO-DRO, metals, VOC

74 - SB 240.

0 - .2' brown silty sand topsoil

.2 - 1 dark brown lt orange fine silty sand w/ some gravel

0.4 3.3

1 - 1.7 - med light tan sand w/ some shell fragments & sparse gravel

1.7 - 2 - gravel (bluish-gray) 21 A

4.8 0 Recovery

2 - 3.3' brown silty sand w/ some shell fragments & coral

(zero Recovery 4-8 - offset - preprobe to 4)

(zero Recovery 4-8 2nd attempt - only some saturated gravel in the shoe)

8-12 3.8' Recovery

8' - 9.5 - light brown med - coarse sand w/ some shell fragments - saturated @ 8'

9.5 - 11 - light bluish gray med sand some silt, - shell fragments

11 - 12 - fine light grey silty sand

50. 5/21/08

Sampled 74 - SB 240 - 04 @ 1040 for GRO - DRO, VOCs metals

74 - SB 240 - 05 @ 1050 for GRO - DRO - VOCs, metals

74-SB 241

0-.5 - dark sandy top soil
.5-.8 - brown sand & gravel
.8-2. orangish-brown clayey silt w/ some gravel
2-2.3 - dark/black sand w/ some gravel
2.3-5.5 tan silty sand w/ some clay - some gravel in lenses
5.5-7 light tan fine silty sand & clay
7-10' light tan med-coarse sand w/ some shell fragments & coral
10-12 - bluish-grey coarse sand w/ some silt - shell fragments throughout

0-4 3.5' from 3

4-8 3.4' from

8-12 3.3' from

Saturation @ 6.5'

JO - 5/21/08

Sampler

74-SB 241-00 @ 1400
for GRO DRO-metals, VOCs

74-SB 241-04 @ 1410
for GRO DRO, metals, VOCs

74-SB 241-05 @ 1420
for GRO-DRO, metals, VOCs

QA/QC

74-SB 241-04-DP @ 1410

74-SB 24-05-MS/MSD @ 1420

74-SB 242

1 - refusal @ 4'
2 - Refusal @ 4'
3 - Refusal @ 4'
4 - Refusal @ 4'
5 - Refusal @ 4'

0-.2" dark brown sandy top soil
.2-1.1 brown silty sand w/ some gravel
1.1-2 light brown silty sand with some gravel
2-4 dark tan silty sand w/ some clay, some gravel

- Constant Refusal @ 4'

30- 5/21/2008

Samples - ~~74-SB 242 @ 1.5'~~
~~for VOC PID VOC samples~~

No Samples collected
No PID indication

Geologist – Ed Kleinkauf

05/12/08

1. TRAVEL TO PUERTO RICO
2. GET SET UP IN CONDO.
3. SHOPPING AND DINNER
4. MEETING W/ JOE BURAWA AND JOHN MALINOWSKI ON SITE WORK

0630: @ PUBLIC WORKS DEPARTMENT BUILDING

GETTING EQUIPMENT AND SUPPLIES TOGETHER.

* DRILLER/HELPER FOR MY RIG:

ABRAHAM - DRILLER
NASSER - HELPER

GEOPROBE TRACK RIG

* OTHER TRACK RIG:
DOMINGO - DRILLER
EDWIN - HELPER

* CREWS USUALLY TAKE LUNCH BETWEEN 1200 AND 1300 H.

* FINISH AT SITE 1530 - 1600 H.

* LEAVE BASE ABOUT 1700 - 1730 H.

* WORKING @ VALVE PITS INSTALLING MONITORING WELLS.

* THIRD GEOPROBE RIG IS TRUCK MOUNTED:
JUAN - DRILLER
? - HELPER

④ 05/13/08

74 - VP1Ab

MONITORING WELL
NO ANALYTICAL SAMPLES

0 - 0.3' BROWN f/fm SAND SOME SILT + CLAY (FILL)

0.3 - 0.8 — SAME — (FILL)

0.8 - 5.0 WHITE/TAN/LT. BROWN f/fm SAND, LITLE SILT; DRY

5.0 - 8.8 BROWN SILT/CLAYEY SILT; TR. f SAND; SLIGHTLY MOIST.

8.8 - 10 GREEN/WHITE CLAYEY SILT/SILT, TR. f SAND; SLIGHTLY MOIST

10 - 14 — SAME —

* CONTINUALLY GETTING CAVE OR LEFT OVER SOIL FROM RUN.

⑤ 05/13/08

PID				
0 - 0'	0	0 - 11'	0	0 - 22
0	0 - 6'	0	2.4 - 17'	
0 - 1'	0	0 - 12'	58	
0	0 - 7'	0	0 - 18'	
0 - 2'	0	0 - 13'	185	
0	0 - 8'	3.4	1733 - 19'	
0 - 3'	0	4.0 - 14	234	
0	0 - 9'	0	1.4 - 20	
0 - 4'	0	0 - 15'	0	
0	0 - 10'	0	0 - 21	
0 - 5'	0	0 - 16	0	

* MOVED BORING/PROBE DOWN TO 15'

14 - 18 — SAME —

* STILL PROBLEM WITH CAVE, GOING TO CASING
① CASING TO 15'
② GOING TO SAMPLE 15 - 19'

* HARD MATERIAL, TOUGH GETTING TO 18'

15-18' — SAME — [VERY HARD]

* SLIGHT GLOSS TO SAMPLE SURFACE.

18-20' — SAME — (VERY HARD)

20-21.5' — SAME —

21.5-22' BROWN SILTY CLAY HARD.

* WELL INSTALLED @ 22'
10' SCREEN
SAND 2' ABOVE SCREEN
BENTONITE
CONCRETE @ SURFACE
w/ COVER.

74-VP1Ba

0-4' BROWN SILTY CLAY TR. f SAND (FILL)

f GRAVEL/ROCK FRAGS @ 2'

** JOE B TOOK OVER.

0725: @ DRILL SITE

74 - VP 2a

MONITORING WELL
ANALYTICAL SAMPLES

0 - 4' BROWN SILTY CLAY, TR. f/fm SAND V. S. MOIST (FILL?)

4 - 5 — SAME —

5 - 6 LIGHT BROWN/BROWN/TAN fm SAND, SOME SILTY CLAY/CLAY + SILT; DRY

6 - 11 BROWN/LT. BROWN/TAN SILT, TR. f SAND; DRY → V. S. MOIST.

11 - 14 GREEN/WHITE SILT/CLAYEY SILT, TR. f SAND

14 - 17 — SAME —

PID

0 – 0	0	0 – 11	2246	13 – 22
0	0 – 6	0	2375 – 17	19.3
0 – 1	0	0 – 12	1139	112 – 23
0	0 – 7	0	271 – 18	9.7
0 – 2	0	0 – 13	517	0 – 24
0	0 – 8	1.6	716 – 19	
0 – 3	0	0 – 14	13.3	
0	0 – 9	806	309 – 20	
0 – 4	0	917 – 15	17.3	
0	0 – 10	496	45.2 – 21	
0 – 5	0	1185 – 16	48.6	

17 – 20' — SAME —

20 – 22 — SAME —
GW @ 20'

22 – 24 BROWN/WHITE/TAN
SILT/CLAYEY SILT
TR. f SAND.

ANALYTICAL SAMPLES:
74-VP2a/9-08 @ 0840H
74-VP2a/9-10 @ 0850H

* TROUBLE GETTING CASING DOWN FOR WELL INSTALLATION. DRIVEN TO 16'. PULLED CASING. GOING IN WITH JUST PLUG AND RODS.

* SEEMS ABRAHAM HAS TROUBLE @ DEPTH. THINK HE DOESN'T GET THINGS LEVEL ENOUGH @ START

WELL INSTALLED @ 22'
10' SCREEN
SAND 2' ABOVE SCREEN
BENTONITE
CONCRETE @ SURFACE
W/ COVER.

(12) 05/14/08

74 – VP2b

MONITORING WELL
NO ANALYTICAL SAMPLES

0-0.7' DK. BROWN SILTY CLAY TR. f SAND (FILL)

0.7-1' BROWN SILTY CLAY TR. f SAND (FILL?)

1-7 BROWN SILTY CLAY TR. f. SAND

7-8 GRAY/LT. GREEN CLAYEY SILT/SILT, TR. f/fm SAND; TR. f GRAVEL/ROCK FRAGS @ 7'

8-9.5 — SAME —

9.5-12 GREEN SILT/CLAYEY SILT, TR. f SAND SLIGHT ODOR

(13)

PID			
0 – 0'	0	72.6 – 11	0
0	0 – 6	224	8.8 – 17
0 – 1	0	0 – 12	0
0	0 – 7	0	155 – 18
0 – 2	0	0 – 13	49
0	0 – 8	0	0 – 19
0 – 3	0	0 – 14	0
0	0 – 9	0	0 – 20
0 – 4	0	0 – 15	
0	0 – 10	6.3	
0 – 5	0	0 – 16	

12 – 14.5 — SAME —

14.5 – 16 LT. GREEN/BROWN/WHITE SILT/CLAYEY SILT

16 – 18 — SAME —

18 – 20 GREEN/BROWN CLAYEY SILT/SILT; MOIST

(14) 05/14/08

WELL SET @ ~~20'~~ 22'
10' SCREEN
SAND 2' ABOVE SCREEN
BENTONITE
CONCRETE @ SURFACE
W/ COVER

* CASING WENT TO 20'. HOLE OPEN. PUSHED PLUG ~4' TO SEE WHAT CONDITIONS ARE.

(15) 05/14/08

74 - SB160

0 - 10'. GRAY/BROWN/ MED. GRAY f/c SAND/CLAYEY SILT/f. GRAVEL ROCK FRAGS. (FILL)

* SAMPLES COLLECTED:

74 - SB160 - 04 @ ON JARS

74 - SB160 - 05 @ ON JARS

PID
0 - 0
0
0 - 1
0
0 - 2
0
0 - 3
0
0 - 4
0
0 - 5
0
0 - 6
0
0 - 7
0
0 - 8
0
0 - 9
0
0 - 10

(16) 05/14/08

74-SB159

		PID
0-2'	GRAY/LT. GRAY/WHITE fc SAND, LITTLE/SOME SILT (FILL)	0-0'
		0
		0-1
		0
2-3'	BROWN SILTY CLAY/CLAY + SILT, TR. f SAND (FILL?)	0-2
		0
		0-3
		0
3-9.7'	— SAME —	0-4
		0
9.7-10'	GRAY SILT/CLAYEY SILT TR. f SAND	0-5
		0
		0-6
		0
		0-7
		0
* SAMPLES COLLECTED		0-8
		0
74-SB159-03 @ 1415H		0-9
		0
74-SB159-05 @ 1425H		0-10

(17) 05/14/08

74-SB158

		PID
		0-0'
0-7'	BROWN/TAN SILTY CLAY/CLAY + SILT, TR. f SAND	0
		0-1
		0
		0-2
		0
7-10'	GRAY SILT + CLAY, TR/LITTLE ROCK FRAGS/GRAVEL	0-3
		0
		0-4
		0
		0-5
		0
		0-6
* SAMPLES COLLECTED:		0
		0-7
74-SB158-03 @ 1450H		0
		0-8
74-SB158-04 @ 1500H		0
		0-9
		0
		0-10

74-SB157

		PID
0-4'	BROWN SILTY CLAY, TR fm SAND, TR f ROCK FRAGS (FILL)	0-0'
		0
		0-1'
		0
4-6	- SAME -	0-2'
		0
6-8	BROWN SILTY CLAY/ CLAY + SILT	0-3'
		0
		0-4'
8-10'	GREEN SILT + CLAY,	0
		0-5'
		0
		0-6'
* SAMPLES COLLECTED:		0
		0-7'
	74-SB157-04	0
	@ 1540"	0-8'
	74-SB157-05	0
	@ 1600"	0-9'
		0
		0-10'

0630: @ PWD

(20) 05/15/08

74 - VP08a

MONITORING WELL
ANALYTICAL SAMPLES

0-5' BROWN / DK. BROWN SILTY CLAY / CLAY + SILT, TR. fm SAND, TR f GRAVEL / ROCK FRAGS (FILL)

5-10' LOW RECOVERY (~18")
MOSTLY SIDEWALL TRIMMINGS

10-15' NO REAL RECOVERY
SHAVINGS

15-20' BROWN SILTY CLAY / CLAY + SILT

20-24.5' — SAME — MORE SILT, HARD @ 24.5'

(21) 05/15/08

PID

0	-	0'	-			-		11	0			0	-	22
0			-	-	6	-			0	-	17	0		
0	-	1	-			-	-	12	0			0	-	23
0			9.8	-	7	-			0	-	18	0		
0	-	2	-			-	-	13	0			0	-	24
0			-	-	8	-			0	-	19	0		
0	-	3	-			-	-	14	0					
0			-	-	9	-			0	-	20			
0	-	4	-			-	-	15	0					
0			-	-	10	731			0		21			
0	-	5	-			8.2	-	16	0					

WELL SET @ 24.5'
10' SCREEN
SAND 2' ABOVE SCREEN
BENTONITE
CONCRETE @ SURFACE
W/ COVER

* SAMPLES COLLECTED:
74 - VP08a - 07
@ 0905 "
74 - VP08b - 10
@ 0920 "

74- VP08b

MONITORING WELL
NO ANALYTICAL SAMPLES

0 - 4.5' BROWN/TAN fm/fc SAND SOME SILT + CLAY, TR. f. GRAVEL; DRY (FILL)

4.5 - 5' BROWN/REDDISH BROWN SILTY CLAY/ CLAY + SILT, TR f SAND DRY

5 - 8' — SAME —
LESS TO NO SAND

8 - 10' GREEN CLAYEY SILT/ SILT + CLAY

10-15.5' — SAME —

15.5- 17' BROWN/ TAN/ YELLOWISH BROWN/ SILT/ CLAYEY SILT

CONTINUED ON PAGE (24)

PID

0 - 0'	0	75 - 11	0	0 - 22	
0	0 - 6	0	0 - 17	0	
0 - 1	0 -	1164 - 12	0	0 - 23	
0	0 - 7	518	0 - 18	0	
0 - 2	0	320 - 13	0	0 - 24	
0	480 - 8	262	0 - 19		
0 - 3	5.6	204 - 14	0		
0	0 - 9	129	0 - 20		
0 - 4	15	0 - 15	0		
0	0 - 10	0	0 - 21		
0 - 5	0	0 - 16	0		

WELL SET @ 24'
10' SCREEN
SAND 2' ABOVE SCREEN
BENTONITE
CONCRETE @ SURFACE
W/ COVER

74-VP08b (CONTINUED)

17-18' BROWN SILTY CLAY/ CLAY + SILT

18-19.5 BROWN/TAN/LT. GRAY CLAYEY SILT, TR. f SAND, TR. ROCK FRAGS.

19.5-20' BROWN/REDDISH BROWN CLAYEY SILT

20-24' BROWN/TAN/LT. GRAY CLAYEY SILT/SILT + CLAY.

CLAYIER ZONE @ 22' (2-3")

74-VP07a ~~P/7/P1~~

MONITORING WELL ANALYTICAL SAMPLES

** REPLACES 74-SB151 MOVED PIN FLAG CLOSER TO VALVE PIT.

	PID
0-4' BROWN SILTY CLAY/ CLAY + SILT, LITTLE/ SOME fm/fc SAND TR. f ROCK FRAGS	0 - 0'
	0
	0 - 1
* GW @ 4'	0
	0 - 2
4-8' - SAME	0
	0 - 3
8-10' BLUE/GRAY CLAY/ SILTY CLAY	0
	0 - 4
	0
	0 - 5
* SAMPLES COLLECTED:	0
74-VP07a-00 @ 1335H	0 - 6
	0 -
74-VP07a-01 @ 1350H	0 - 7
DUP/MS/MSD	0 - 8
	0 - 9
	0 - 10'

74-VP07a (CONTINUED)

	PID
WELL INSTALLED @ 10'	0
7' SCREEN	0
SAND 1' ABOVE SCREEN	0 - 1
BENTONITE	0
CONCRETE @ SURFACE	0 - 2
W/ COVER	0
	0 - 3
	0
	0 - 4
	0
	0 - 5
	0
	0 - 6
	0
	0 - 7
	0
	0 - 8
	0
	0 - 9
	0
	0 - 10

74-VP07b		PID
	MONITORING WELL	0 - 0'
	NO ANALYTICAL SAMPLES	0
		0 - 1
0 - 1.5'	BROWN SILTY CLAY/	0
	CLAY + SILT, TR.	0 - 2
	LITTLE fm SAND	0
		0 - 3
1.5 - 5'	WHITE/LT. TAN	0
	SILT/CLAYEY	0 - 4
	SILT, LITTLE	0
	fc SAND/ROCK	0 - 5
	FRAGS	0
		0 - 6
	* GW @ 4'	0
		0 - 7
5 - 6'	— SAME —	0
		0 - 8
6 - 8'	RED/REDDISH	0
	BROWN/BLUE	0 - 9
	CLAY/SILTY CLAY	0
		0 - 10
8 - 10'	BLUE CLAY/	
	SILTY CLAY	

74-VP7b (CONTINED)

* WELL SET @ 10'
  7' SCREEN
  SAND 1' ABOVE SCREEN
  BENTONITE
  CONCRETE @ SURFACE
  w/ COVER

05/16/08

0645: @ PWD

SUPPLIES
ICE FROM SECURITY OFFICES

GW LEVELS

74-VP08a	—	no GW
74-VP08b	—	no GW
74-VP7a	—	4.3' (bgs)
74-VP7b	—	3.6' (bgs)
WELL NEAR 74-VP6	—	9' GW 30' BGW

* PROBLEMS w/ PID. "CLEAN SCREEN" MESSAGE. ERRATIC READINGS (NOT ONE I HAD YESTERDAY).
  NEEDS FILTER
  BORROWED JOE'S PID

* GOT MINE WORKING; STILL NEEDS FILTER.

05/16/08

74 - VP6a

MONITORING WELL
ANALYTICAL SAMPLES

0-0.8' BROWN SILTY CLAY/
CLAY + SILT, TR f.c.
SAND, ROOTS (TOPSOIL/FILL)

0.8-4' WHITE/TAN f/fm SAND
TR. SILT.

4-10' BROWN SILTY CLAY,
TR. f SAND.

10-13' — SAME —

13-18' GRAY CLAYEY SILT

18-20' TAN/LT. BROWN/YELLOWISH
BROWN CLAYEY SILT

* SAMPLES COLLECTED:
74-VP6a-05 @ 0915H
74-VP6a-09 @ 0955H

05/16/08

PID			
0-0	0	0-11	0
0	0-6	0	0-17
0-1	0	0-12	0
0	0-7	0	0-18
0-2	0	0-13	0
0	0-8	0	0-19
0-3	0	0-14	0
0	0-9	0	0-20
0-4	0	0-15	
0	0-10	0	
0-5	0	0-16	

WELL INSTALLED @ 20'
15' SCREEN
SAND 2' ABOVE SCREEN
BENTONITE
CONCRETE @ SURFACE
w/ COVER.

(32) 05/16/08

74-VP5a

MONITORING WELL
ANALYTICAL SAMPLES

0-1' BROWN SILT + CLAY, LITTLE fm/fc SAND (TOPSOIL/FILL)

1-5' BROWN/MEDIUM BROWN fc SAND AND SILT + CLAY DRY

5-9' BROWN CLAY/SILTY CLAY

9-10' TAN/LT. BROWN/YELLOWISH BROWN SILT/CLAYEY SILT, TR. f SAND, SLIGHTLY MOIST

10-23' -SAME-

* SAMPLES COLLECTED:
74-VP5a-04
@ 1210H
74-VP5a-09
@ 1220H

(33) 05/16/08

PID

0-0	0-6	0-12	0-18
0	0	0	0
0-1	0-7	0-13	0-19
0	0	0	0
0-2	0-8	0-14	0-20
0	0	0	0
0-3	0-9	0-15	0-21
0	0	0	0
0-4	0-10	0-16	0-22
0	0	0	0
0-5	0-11	0-17	0-23
0	0	0	

* WELL INSTALLED TO 23'
15' SCREEN
SAND 2' ABOVE SCREEN
BENTONITE
CONCRETE @ SURFACE
W/ COVER

(34) 05/16/08

74 - VPS b

MONITORING WELL
NO ANALYTICAL SAMPLES

0 - 5' BROWN SILTY CLAY
TR. f SAND, TR. f
ROCK FRAGS (FILL)

5 - 6.5' — SAME —

6.5 - 8.5' DK. BROWN / BROWN
SILTY CLAY

8.5 - 10' BROWN / YELLOWISH
BROWN SILT / CLAYEY
SILT -

10 - 16' — SAME —

16 - 17' BROWN CLAY / SILTY
CLAY

17 - 20' BROWN / YELLOWISH BROWN
SILT / CLAYEY SILT

(35) 05/16/08

PID											
0	-	0	0			0	-	11	0		
0			0	-	6	0			0	-	17
0	-	1	0			0	-	12	0	-	
0			0	-	7	0			0	-	18
0	-	2	0			0	-	13	0		
0			0	-	8	0			0	-	19
0	-	3	0			0	-	14	0		
0			0	-	9	0			0	-	20
0	-	4	0			0	-	15			
0			0	-	10	0					
0	-	5	0			0	-	16			

★ WELL INSTALLED @ 20'
10' SCREEN
SAND 2' ABOVE SCREEN
BENTONITE
CONCRETE @ SURFACE
W/ COVER

(36) 05/16/08

GW LEVELS

WELL#	TIME	GW*	BOW*	
VP8a	1540H	—	26.65	
VP8b	1543	—	25.72	
VP7a	1547	6.22	11.69	
VP7b	1550	6.89	12.17	
VP6a	1555	—	22.16	
VP6b	1559	9.5	30'(v)	
VP5a	1604	—	25.02'	NEW
VP5b	—	—	—	NEW

* MEASURED FROM TOP OF PVC CASING

(37) 05/17/08

0630 @ PWD

* LOADING SUPPLIES

* EXISTING WELL @ VP6B
  ① GW @ 15.55'
  BOW @ 42.50'

74 - VP6Cb

MONITORING WELL
ANALYTICAL SAMPLES

0 - 1' BROWN fc SAND / ROCK FRAGS, SILTY CLAY; DRY (FILL).

1 - 5' BROWN SILTY CLAY / CLAY + SILT, TR. f SAND; DRY THIN ROCK FRAG ZONES DRY → V. S. MOIST

5 - 8' BROWN / REDDISH BROWN SILTY CLAY; DRY → V. S. MOIST.

8 - 9.5' BROWN / TAN / YELLOWISH BROWN CLAYEY SILT, TR. f / fa SAND

9.5 - 11 GREEN / WHITE SILT / CLAYEY SILT.

PID																	
0	-	0'	0			0	-	9	0			0	-	18
0			0	-	5	0			0	-	14	0		
0	-	1	0			0	-	10	0			0	-	19
0			0	-	6	0			0	-	15	0		
0	-	2	0			0	-	11	0			0	-	20
0			0	-	7	0			0	-	16			
0	-	3	0			0	-	12	0					
0			0	-	8	0			0	-	17			
0	-	4	0			0	-	13	0					

11 - 13.5' BROWN SILT / CLAYEY SILT, TR. fa / fc SAND, TR. ROCK FRAGS

* GW @ 13.5'

13.5 - 16.5' GREEN / WHITE SILT / CLAYEY SILT

16.5 - 20' BROWN / RED / REDDISH BROW SILT / CLAYEY SILT.

* SAMPLES COLLECTED:
  74-VPGCb-04 @ 0835"
  74-VPGCb-07 @ 0855"

* WELL INSTALLED @ 20'
  10' SCREEN
  SAND TO 2' ABOVE SCREEN
  BENTONITE
  CONCRETE @ SURFACE
  W/COVER.

74-VPCa

MONITORING WELL
NO ANALYTICAL SAMPLES

0-1.5'	BROWN/LT. BROWN SILTY CLAY AND fc SAND AND f GRAVEL/ROCK FRAGS; DRY (FILL)
1.5-5'	LT. BROWN CLAYEY SILT, SOME f/fm SAND; DRY (FILL)
5-6.5'	— SAME —
6.5-9'	BROWN SILTY CLAY
9-10'	GREEN/WHITE SILT/CLAYEY SILT GW @ 9.0' THIN fm/fc SAND SEAMS
10-11'	— SAME —

PID

0 - 0'	0	0 - 9	0	0 - 18
0	0 - 5	0	0 - 14	0
0 - 1	0	0 - 10	0	0 - 19
0	0 - 6	0	0 - 15	0
0 - 2	0	0 - 11	0	0 - 20
0	0 - 7	0	0 - 16	
0 - 3	0	0 - 12	0	
0	0 - 8	0	0 - 17	
0 - 4	0	0 - 13	0	

11 - 14.5' BROWN/MEDIUM BROWN CLAYEY SILT, TR. f SAND.

14.5 - 15' GREEN SILT/CLAYEY SILT; occ. f SAND AREAS/SEAMS

15 - 18.5' — SAME —

18.5 - 20' BROWN/REDDISH BROWN CLAYEY SILT AND fc SAND.

* DK. BROWN @ TIP; SILTY CLAY.

* WELL INSTALLED @ 20'
10' SCREEN
SAND TO 2' ABOVE SCREEN
BENTONITE
CONCRETE @ SURFACE
W/ COVER.

(44) 05/17/08

74-VP6Ba

MONITORING WELL
ANALYTICAL SAMPLES
* EXISTING WELL @ SITE
TO BE USED AS 74-VP6Bb

0-1' TOPSOIL

1-5' BROWN/LT. BROWN/TAN
fm/fc SAND, LITTLE
CLAYEY SILT; DRY

5-6.5' BROWN SILTY CLAY/
CLAY

6.5-10.5' BROWN/TAN/LT. BROWN
SILT/CLAYEY SILT,
TR. f SAND. CLAYIER
ZONE @ 9' (~3-4")

* GW @ 9'

(45) 05/17/08

PID											
0	-	0'	0			0	-	9	0		
0			0	-	5	0			0	-	14
0	-	1	0			0	-	10	0		
0			0	-	6	0			0	-	15
0	-	2	0			0	-	11			
0			0	-	7	0					
0	-	3	0			0	-	12			
0			0	-	8	0					
0	-	4	0			0	-	13			

10.5 - 14.5' BROWN/TAN/YELLOWISH
BROWN SILT/CLAYEY
SILT

14.5 - 15' CLAYIER.

* SAMPLES COLLECTED:
74-VP6Ba-03 @ 1210"
74-VP6Ba-04 @ 1220"

* WELL INSTALLED @ 15'
10' SCREEN; SAND 2' ABOVE
SCREEN; BENTONITE; CONCRETE
@ SURFACE w/ COVER

74 - VP6Aa

MONITORING WELL
ANALYTICAL SAMPLES

0-3.5' BROWN SILTY CLAY, TR. fm SAND / ROCK FRAGS; DRY (FILL?)

3.5-5' LT. BROWN / TAN SILT / CLAYEY SILT, TR. f SAND

5-10' — SAME —

10-13' — SAME —

13-16' — SAME —

16-20' — SAME —
* SOFTER @ 16-19'

20-22' BROWN CLAYEY SILT / SILT + CLAY; TR. ROCK FRAGS.

PID

0 - 0	0	0 - 11	0
0	0 - 6	0	0 - 17
0 - 1	0	0 - 12	0
0	0 - 7	0	0 - 18
0 - 2	0	0 - 13	0
0	0 - 8	0	0 - 19
0 - 3	0	0 - 14	0
0	0 - 9	0	0 - 20
0 - 4	0	0 - 15	0
0	0 - 10	0	0 - 21
0 - 5	0	0 - 16	0

0 - 22

* SAMPLES COLLECTED @
74 - VP6Aa - 04 @ 1515"
74 - VP6Aa - 07 on
05/18/08 @ 0900"

* WENT TO AUGERING @ ~15', DOWN TO 22'

0630: @ PWD

* TALKED TO ABRAHIM ABOUT GOING TO AUGERS. MKD CREW USING AUGERS FOR WELLS. STILL HAVE 2 WELLS. GOING TO GET AUGERS AND ADAPTERS/ EQUIPMENT FROM MINCO. JOE B STILL MAY NEED AUGERS FOR WELLS.

* TOOK PURGE H_2O DRUM TO STORAGE AREA FOR JPK.

* DISCUSSIONS W/ JOE B ON REST OF WORK. TRY TO GET THESE 2 WELLS DONE AND THEN GO ONTO SOIL BORINGS ALONG PIPELINE ALONG ROAD.

* GETTING SET UP TO AUGER ON 74-VP6Aa.

~ 0815/0820 DOWN TO 5' W/ AUGERS. RIG STOPPED AND WOULDN'T RESTART. NO SOUND WHEN KEY TURNED.

0855: BACK TO DRILLING

* CLEANED BATTERY TERMINALS AND CABLE CLAMPS. FUELED RIG (~5 GALLONS)

* HARD DRILLING. ~15 MN/ 5 FOOT.

* GOING TO 15' W/ AUGERS. STILL HARD DRILLING, APPEARS TO BE SAME MATERIAL. NO PID READINGS FROM CUTTINGS

* ADDED 2-3 GALLONS OF POTABLE WATE TO BORING TO DRY AND LUBRICATE @ ~ 12-13'

* @ 16' MATERIAL CHANGED. SOFTER

* 20 MINUTES TO GO FROM 15-20 FEET. GOT HARDER AGAIN @ ~ 19'.

* DOWN TO 22' IN 15 MINUTES HARD; GRINDING SOUND.

* WELL TO BE SET @ 22'
  - 10' SCREEN
  - 5' SCREEN
  - ~ 10' RISER
  - 6 BAGS OF SAND
  - 1 BAG BENTONITE
  - 3 BAGS CEMENT + GRAVEL

* FINISHED SETTING WELL w/ COVER

* LEFT EQUIPMENT @ SITE
* BACK TO STAGING AREA AND PWD.

0645: @ PWD

* LOADING EQUIPMENT AND SUPPLIES.

0735: @ DRILL SITE GETTING READY

* DOWN ~ 1-1½ HOURS WHILE SOIL BORING LOCATIONS WERE CHECKED AND CLEARED.

(52) 05/19/08

74-VPGAb

MONITORING WELL
NO ANALYTICAL SAMPLES

0-2' BROWN / MED. BROWN SILTY CLAY (FILL)

2-10' BROWN / REDDISH BROWN / RED CLAYEY SILT / SILT.
* QUARTZ (MILKY) FRAGMENTS @ 8'

10-13' → SAME —

13-15' BROWN / YELLOWISH BROWN / TAN SILT / CLAYEY SILT; TR. f SAND / ROCK FRAGS; MOIST

15-16' — SAME —

16-16.5' GREEN / WHITE SILT / CLAYEY SILT, TR. f SAND, HARD MOIST

(53) 05/19/08

PID

1.3	-	0'	1.9				0	-	9	0								
8.4			4.7	-	5		0			0	-	14						
14.2	-	1	3.4				0	-	10	0								
27.7			0	-	6		0			0	-	15						
8.2	-	2	0				0	-	11	0								
8.5			0	-	7		0			0	-	16						
6.4	-	3	0				0	-	12	0								
1.8			0	-	8		0											
1.3	-	4	0				0	-	13									
~~1.9~~																		
~~4.7~~																		
~~3.4~~																		

☆ WELL SET @ 16.5'
10' SCREEN
SAND TO 2' ABOVE SCREEN
BENTONITE
CONCRETE @ SURFACE
w/ COVER

(54) 05/19/08

74-SB185

	PID
SOIL BORING	0 -0'
ANALYTICAL SAMPLES	0
* NO WELL NEEDED	0 -1
FOR ~1000 FT.	0
	0 -2
0-0.5' BROWN fm SAND,	0
LITTLE SILT (FILL,	0 -3
TOPSOIL)	0
	0 -4
0.5-2' WHITE fm/fc	0
SAND	0 -5
	0
2-7' -SAME-	0 -6
	0
7-8' DK. BROWN/BLACK	0 -7
SILTY CLAY	0
	0 -8
8-10' WHITE fm/fc SAND	0
	0 -9
10-12' BROWN SILTY CLAY	0
	0 -10
* SAMPLES COLLECTED:	0
74-SB185-03 @ 1035"	0 -11
74-SB185-05 @ 1045	0
	0 -12

(55) 05/19/08

74-SB186

	PID
0-6" JUNK (LOW REC.)	0 - 0'
(FILL)	0
0.5-4' BROWN SILTY CLAY	0 - 1
	0
4-8' GRAY/BROWN SILTY	0 - 2
CLAY	0
	0 - 3
8-10' BROWN/TAN CLAYEY	0
SILT	0 - 4
	0
	0 - 5
	0
	0 - 6
	0
	0 - 7
	0
	0 - 8
	0
	0 - 9
	0
* SAMPLES COLLECTED	0 - 10
74-SB186-03 @ 1100"	0
74-SB186-05 @ 1110"	0 - 11
	0
	0 - 12

(56) 05/19/08

74-SB187

		PID
0-~~0.25~~ 3'	ROCK FRAGS, SILTY CLAY (FILL)	0 -0'
		0
		0 -1
3-5'	GRAY/BROWN SILTY CLAY, fc SAND/ ROCK FRAGS.	0
		0 -2
		0
		0 -3
5-8'	BROWN/GRAY SILTY ~~SAND~~ CLAY	0
		0 -4
		0
8-10'	BROWN/TAN CLAYEY SILT/SILT, TR. f SAND	0 -5
		0
		0 -6
		0
10-12'	GREEN/GRAY/WHITE SILT/CLAYEY SILT	0 -7
		0
		0 -8
		0
		0 -9
* SAMPLES COLLECTED:		0
74-SB187-03 @ 1130"		0 -10
74-SB187-04 @ 1145"		0
		0 -11
		0
		0 -12

(57) 05/19/08

74-SB188

		PID
0-1'	DK. BROWN fm SAND/SILT (TOSOIL, FILL).	0 - 0'
		0
		0 - 1
		0
1-4'	TAN/LT. BROWN fc SAND, SOME SILT/CLAYEY SILT	0 - 2
		0
		0 - 3
		0
4-5'	— SAME —	0 - 4
		0
5-6'	BROWN/DK. BROWN CLAYEY SILT/SILT + CLAY.	0 - 5
		0
		0 - 6
		0
6-7'	DK. BROWN/GRAY SILTY CLAY	0 - 7
		0
		0 - 8
7-8'	BROWN/GRAY/RED SILTY CLAY	0
		0 - 9
		0
8-12	— SAME —	0 - 10
		0
* SAMPLES COLLECTED		0 - 11
74-SB188-02 @ 1330"		0
74-SB188-05 @ 1345"		0 - ~~12~~

(58) 05/19/08

74-SB189

		PID
0-1'	TOPSOIL / FILL	0 - 0
		0
1-3'	RED SILTY CLAY; DRY	0 - 1
		0
		0 - 2
3-4'	BROWN SILTY CLAY / CLAY + SILT; DRY	0
		0 - 3
		0
4-10'	RED / GRAY / BROWN SILTY CLAY; SL MOIST	0 - 4
		0
		0 - 5
10-11.5'	BROWN / TAN / YELLOWISH BROWN SILT / CLAYEY SILT	0
		0 - 6
		0
		0 - 7
11.5-12'	GREEN / GRAY / WHITE SILT / CLAYEY SILT	0
		0 - 8
		0
		0 - 9
☆ SAMPLES COLLECTED		0
	74-SB189-03 @ 1350h	0 - 10
	74-SB189-05 @ 1400h	0
		0 - 11
		0
		0 - 12

(59) 05/19/08 (112)

74-SB191

		PID
0-1.5'	BROWN SAND, SILTY CLAY (TOPSOIL / FILL)	0 - 0
		0
		0 - 1
		0
1.5-4'	RED SILTY CLAY DRY	0 - 2
		0
		0 - 3
4-5'	WHITE fc SAND & GRAVEL + ROCK FRAGS; DRY	0
		0 - 4
		0
		0 - 5
5-8'	RED / GRAY / TAN SILTY CLAY	0
		0 - 6
		0
8-10'	WHITE / TAN fm/fc SAND	0 - 7
		0
10-11.5'	RED / GRAY SILTY CLAY	0 - 8
11.5-12'	BROWN / YELLOWISH BROWN CLAYEY SILT	0
		0 - 9
☆ SAMPLES COLLECTED:		0
	74-SB191-00 @ 1435	0 - 10
	74-SB191-03 + DUP @ 1515	0
	74-SB191-05 + MS/MSD @ 1515h	0 - 11
		0
		0 - 12

(60) 05/19/08

74-SB190

		PID
0-4'	BROWN fc SAND/ fm GRAVEL + ROCK FRAGS / SILTY CLAY DRY (FILL)	0 - 0
		0
		0 - 1
		0
		0 - 2
4-5'	RED / BROWN -SAME-	0
		0 - 3
5-7'	RED / BROWN SILTY CLAY, fm SAND; DRY	0
		0 - 4
		0
7-8'	RED / GRAY SILTY CLAY DRY	0 - 5
		0
		0 - 6
8-11.5'	-SAME-	0
		0 - 7
11.5-12'	GRAY / BROWN SILTY CLAY, MOIST	0
		0 - 8
		0
		0 - 9
★ SAMPLES COLLECTED		0
74-SB190-03 @ 1410		0 - 10
74-SB190-05 @ 1425		0
		0 - 11
		0
		0 - 12

(61) 05/19/08

74-SB192

		PID
		0 - 0
0-1.5'	SAND / SILT / CLAY (FILL)	0
		0 - 1
		0
1.5-4'	RED SILTY CLAY; DRY (FILL?)	0 - 2
		0
		0 - 3
4-5'	WHITE fc SAND / f GRAVEL + ROCK FRAGS; DRY	0
		0 - 4
		0
		0 - 5
5-8'	RED / GRAY / TAN SILTY CLAY	0
		0 - 6
		0
8-12'	-SAME- SOME OCCASIONAL RED fc SAND SEAMS (THIN)	0 - 7
		0
		0 - 8
		0
		0 - 9
★ SAMPLES COLLECTED:		0
74-SB192-03 @ 1600		0 - 10
74-SB192-05 @ 1615		0
		0 - 11
		0
		0 - 12

(62) 05/20/08

0630 : @ PWD

* AFTER DRILLING, TO PWD.

LABELS ON SAMPLES

(63) 05/20/08

74-SB193

		PID
0 - 2'	BROWN fc SAND AND ROCK FRAGS / GRAVEL, SOME SILT + CLAY; DRY	0 - 0 0 0 - 1 0 0 - 2
2 - 3'	REDDISH BROWN SILT + CLAY	0 0 - 3 0
3 - 4'	BROWN SILTY CLAY	0 - 4 0
4 - 7.5'	RED / GRAY / REDDISH BROWN SILTY CLAY VIS. MOIST	0 - 5 0 0 - 6 0
7.5 - 8'	ROCK STRUCTURE, WEATHERED, fc SAND	0 - 7 0 0 - 8
8 - 9'	— SAME —	0 0 - 9
9 - 12'	— SAME —	0
* SAMPLES COLLECTED:	74-SB193-03 @ 0800 74-SB193-05 @ 0845	0 - 10 0 0 - 11 0 0 - 12

(64) 05/20/08

74-SB194

		PID
0 - ~~2~~ 3.5'	BROWN fc SAND AND ROCK FRAGS / GRAVEL, SOME SILT + CLAY; DRY (FILL).	0 - 0
		0 - 1
		0 - 2
3.5 - 5 ~~2 - 3~~'	REDDISH BROWN SILTY CLAY	0 - 3
		0 - 4
3 - 4'	BROWN SILTY CLAY	0 - 5
4 - 12' ~~4 - 5~~'	RED / GRAY / REDDISH BROWN SILTY CLAY; V.S. MOIST OCCASIONAL COARSE SEAM	0 - 6
		0 - 7
~~7.5 - 8' ROCK SEA~~		0 - 8
✱	10.5' BROWN / TAN / WHITE / YELLOWISH BROWN CLAYEY SILT / SILT + CLAY WET.	0 - 9
		0 - 10
✱ SAMPLES COLLECTED:	74-SB194-03 @ 0855	0 - 11
	74-SB194-05 @ 0910	0 - 12

(65) 05/20/08

74-SB195

		PID
0 - 3'	BROWN fc SAND SILTY CLAY (FILL)	0 - 0
		0 - 1
3 - 7'	BROWN SILTY CLAY	0 - 2
7 - 11'	BROWN / LIGHT GRAY SILTY CLAY	0 - 3
		0 - 4
✱	WET @ 10'	0 - 5
11 - 12'	GRAY CLAYEY SILT.	0 - 6
		0 - 7
✱ SAMPLES COLLECTED:	74-SB195-03 @ 0930	0 - 8
	74-SB195-05 @ 0940	0 - 9
		0 - 10
		0 - 11
		0 - 12

(66) 05/20/08

74-SB196

		PID
0-1'	BROWN fc SAND, LITTLE/SOME CLAY + SILT (FILL)	0
1-4'	BROWN SILTY CLAY	0
4-7'	BROWN/GRAY/RED SILTY CLAY	0
7-8'	BROWN/TAN/YELLOWISH BROWN CLAYEY SILT/SILT + CLAY	0
8-10.5'	— SAME —	0
10.5-11.5'	GRAY SILT + CLAY	0
11.5-12'	BROWN/YELLOWISH BROWN/TAN CLAYEY SILT	0

* SAMPLES COLLECTED:
74-SB196-03 + DUP @ 1020
74-SB196-05 @ 1030

(67) 05/20/08

74-SB197

		PID
0-1'	BROWN fc SAND/f GRAVEL + ROCK FRAGS, SOME SILT + CLAY	0
1-2'	BROW SILTY CLAY/CLAY + SILT	0
2-4'	BROWN/REDDISH BROWN/GRAY SILTY CLAY	0
4-8'	— SAME —	0
8-12'	BROWN/YELLOWISH BROWN/TAN CLAYEY SILT/SILT	0

* SAMPLED COLLECTED:
74-SB197-03 @ 1055
74-SB197-05

0 0 0 0 0 0 0 0 0 0 0 0

(68) 05/20/08

74-SB243

		PID
0 - 1'	BROWN fc SAND, SILTY CLAY (FILL)	0 - 0 0
1 - 2'	BROWN SILTY CLAY (FILL)	0 - 1 0 0 - 2
2 - 4'	BROWN/REDDISH BROWN/GRAY SILTY CLAY (FILL)	0 0 - 3 0 1 0 - 4

* REFUSAL @ 2-3'

* REFUSAL @ 5'

* REFUSAL @ 6"

* REFUSAL @ 8"

* LITTLE RECOVERY
SAND + ROCK
FRAGS

(69) 05/20/08

74-SB244

0 - 4' BROWN SILTY CLAY, fc SAND, f ROCK FRAGS (FILL)

4 - 5' — SAME — (?)

5 - 9' "VOID" RODS + BARREL DROPPED UNDER OWN WEIGHT

9 - 12' SAND, ROCK FRAGS SATURATED (FILL)

* LOW RECOVERIES

* MOVED

0 - 8' LITTLE TO NO RECOVERY
LOT OF ROCK FRAGS (FILL)

0630 @ PWD

* DISCUSSIONS W/ JOE B ON WORK

* TOOK JPK AROUND TO SHOW WELLS

* RIG DIED AGAIN AND WOULDN'T RESTART. CLEANED BATTERY TERMINALS AND CABLE ENDS. HAD TO JUMP START.

* FINISHED OFF JOE B'S LOGGING + SAMPLES [SB 254 + SB 254]

* BACK @ PWD. GETTING FED EX SHIPMENT READY.

* LABELS.

74-SB245

		PID
0-4'	BROWN fc SAND / f GRAEL + ROCK FRAGS / SILT + CLAY ; DRY (FILL)	0 - 0
		0 - 1
		0 - 2
4-8'	— SAME — LARGE PIECES OF CORAL	0 - 3
		0 - 4
8-11'	— SAME —	0 - 5
11-12'	DK. GRAY fc SAND + ROCK FRAGS, LITTLE SILT + CLAY	0 - 6
		0 - 7
	* REFUSAL @ 10' ; MOVED	0 - 8
	* GW @ 8'	0 - 9
	* LOW RECOVERIES	0 - 10
	* SAMPLES COLLECTED: 74-SB 245-03 @ 0755	0 - 11
	74-SB 245-05 @ 0805	0 - 12

(72) 05/21/08

74-SB246

		PID
0-4'	LT. BROWN/TAN/WHITE fc SAND, f. ROCK FRAGS/GRAVEL TR./LITTLE SILT/SILT + CLAY; DRY (FILL)	0 - 0 0 0 - 1 0 0 - 2 0 0 - 3
4-8'	— SAME —	0 0 - 4
8-10.5'	— SAME —	0 0 - 5
10.5-12'	GRAY fc SAND + ROCK FRAGS/GRAVEL (FILL)	0 0 - 6 0 0 - 7
	* GW @ 8.5'	0 0 - 8
	* LOW RECOVERIES	0 0 - 9
	*SAMPLES COLLECTED.	0
	74-SB246-03 + DUP @ 0825	0 - 10 0
	74-SB246-05 @ 0835	0 - 11 0 0 - 12

(73)

74-SB247

		PID
0-0.5'	BLACK TOPSOIL (FILL)	0 - 0 0
0.5-1'	WHITE f/fm SAND, TR. SILT (FILL)	0 - 1 0 0 - 2 0 0 - 3
1-2'	BROWN fc SAND + ROCK FRAGS, LITTLE SILTY CLAY (FILL)	0 0 - 4 0 0 - 5
2-4'	WHITE/TAN/BROWN fc SAND AND ROCK FRAGS, LITTLE SILT AND CLAY (FILL)	0 0 - 6 0 0 - 7 0 0 - 8
4-8'	— SAME —	0 0 - 9
	* GW @ 7.5'	0
8-12'	DK. GRAY fc SAND + ROCK FRAGS LITTLE SILT + CLAY	0 - 10 0 0 - 11
	* 74-SB247-03 @ 0900*	0
	* LOW RECOVERIES	0 - 12

(74) 05/21/08

74-SB248

	PID
0'-4' WHITE/TAN/LT. BROWN fm/fc SAND, TR. SILT ROCK FRAGS DRY (FILL)	0 - 0
	0
	0 - 1
	0
	0 - 2
	0
4-8' - SAME	0 - 3
* GW @ ~8'	0
	0 - 4
8-10' - SAME	0
	0 - 5
10-12' DK. GRAY ROCK FRAGS + fc SAND TR. SILT CLAY	0
	0 - 6
	0
	0 - 7
* LOW RECOVERIES	0
	0 - 8
* SAMPLES COLLECTED: 74-SB248-03 @ 0955	0
	0 - 9
	0
	0 - 10
	0
	0 - 11
	0
	0 - 12

(75) 05/21/08

74-SB249

	PID
0 - 4' WHITE/TAN/LIGHT BROWN fm/fc SAND AND ROCK FRAGS, LITTLE SILT + CLAY (FILL)	0 - 0
	0
	0 - 1
	0
	0 - 2
	0
4 - 8' - SAME -	0 - 3
	0
8 - 10' - SAME -	0 - 4
	0
10 - 12' GRAY/DK. GRAY fm/fc SAND AND ROCK FRAGS (FILL?).	0 - 5
	0
	0 - 6
	0
* GW @ 8'	0 - 7
	0
* LOW RECOVERIES	0 - 8
	0
* SAMPLES COLLECTED 74-SB249-03 @ 1010	0 - 9
	0
	0 - 10
	0
	0 - 11
	0
	0 - 12

(76) 05/21/08

74-SB250

		PID
0-4'	WHITE/TAN f/fm SAND, LITTLE ROCK FRAGS, LITTLE SILT + CLAY (FILL)	0-0 0 0-1 0 0-2
4-8'	- SAME -	0 0-3
8-10'	- SAME -	0 0-4
10-12'	DK. GRAY/GRAY ROCK FRAGS AND fc SAND (FILL?)	0 0-5 0 0-6
	* GW @ 8.0'	0
	* LOW RECOVERIES	0-7 0
	* SAMPLES COLLECTED 74-SB250-03 @ 1025 74-SB250-05 @ 1030h	0-8 0 0-9 0 0-10 0 0-11 0 0-12

(77) 05/21/08

74-SB251

		PID
0-4'	WHITE/TAN/LT. BROWN f/fm SAND, LITTLE SILT + CLAY DRY (FILL)	0-0 0 0-1 0 0-2 0
4-8'	- SAME -	0-3 0
8-11'	- SAME -	0-4 0
11-12'	DK. GRAY/GRAY fc SAND AND ROCK FRAGS	0-5 0 0-6 0
	* GW @ ~8'	0-7
	* LOW RECOVERIES	0
	* DRILLED AND SAMPLED 2 LOCATIONS FOR QUANTITY	0-8 0 0-9
	* SAMPLES COLLECTED 74-SB251-00 @ 1120 74-SB251-03 + DUP @ 1130 74-SB251-05 + MS/MSD @ 1145	0 0-10 0 0-11 0 0-12

(78) 05/21/08

74-SB252

		PID
0-4'	WHITE/TAN/LT. BROWN F/fm SAND, LITTLE SILT + CLAY DRY (FILL)	0 - 0 0 0 - 1 0 0 - 2
4-8'	— SAME —	0 0 - 3
8-11'	— SAME —	0 0 - 4
11-12'	DK/MED GRAY fc SAND AND ROCK FRAGMENTS	0 0 - 5 0 0 - 6
	* GW @ ~8.5	0 0 - 7
* LOW RECOVERIES		0 0 - 8
* SAMPLES COLLECTED 74-SB252-03 @ 1310*		0 0 - 9 0 0 - 10 0 0 - 11 0 0 - 12

(79) 05/21/08

74-SB253

		PID
0-4'	WHITE/TAN/LT. BROWN f/fm SAND, LITTLE SILT + CLAY; DRY (FILL)	0 - 0 0 0 - 1 0 0 - 2
4-8'	— SAME —	0 0 - 3
8-11'	— SAME —	0 0 - 4
11-12'	DK GRAY/GRAY fc SAND AND ROCK FRAGS.	0 0 - 5 0 0 - 6
	* GW @ ~8.5	0 0 - 7
* LOW RECOVERIES		0 0 - 8
* SAMPLES COLLECTED 74-SB253 @ 1330*		0 0 - 9 0 0 - 10 0 0 - 11 0 0 - 12

(80) 05/21/08

74-SB254

		PID
0-1'	BROWN/TAN fc SAND AND ROCK FRAGS, LITTLE/SOME SILT + CLAY DRY (FILL)	0-0 0 0-1 0 0-2 0
1-4'	BROWN SILTY CLAY, TR/LITTLE fn/fc SAND + ROCK FRAGS DRY → VS. MOIST (FILL)	0-3 0 0-4 0 0-5
4-8'	— SAME —	0 0-6
8-10.5	— SAME —	0 0-7
10.5-11.5	BROWN SILTY CLAY	0 0-8
	⊗ GW @ 18.5'	0 0-9
11.5-12'	GREEN SILT/CLAYEY SILT	0 0-10
	⊗ LOW RECOVERIES	0
	⊗ SAMPLES COLLECTED: 74-SB254-03 @ 1400	0-11 0 0-12

(81) 05/21/08

74-SB255

		PID
0-1'	BROWN fc SAND, LITTLE ROCK FRAGS, SOME SILTY CLAY, DRY (FILL).	0-0 0 0-1 0 0-2
1-2'	~~OLIVE~~ ORANGISH BROWN fn/fc SAND, SOME SILT + CLAY (FILL)	0 0-3 0 0-4 0
2-3'	BROWN fc SAND AND ROCK FRAGS, SOME/LITTLE SILT + CLAY (FILL)	0-5 0 0-6 0 0-7
3-4'	BROWN/YELLOWISH BROWN SILTY CLAY, TR./LITTLE fc SAND, TR f ROCK FRAGS DRY (FILL?)	0 0-8 0 0-9 0 0-10 0 0-11 0 0-12

(82) 05/21/08

74-SA255 (CONT.)

4-8' BROWN/YELLOWISH BROWN SILT/CLAYEY SILT TR/LITTLE f/fm SAND

8-10.5' — SAME —

10.5-12' GREEN/WHITE SILT/CLAYEY SILT WET

* GW @ 8.5'

* LOW RECOVERIES

* SAMPLES COLLECTED: 74-SA255-03 @ 1430

(83) 05/22/09

0630: @ PWD

* WORKING ON WELL ALONG MAIN ROAD BY MARINE AREA. THESE ARE IN RELATION TO PIPELINE (MAIN) AND LINES RUNNING TO DOCKS/PIERS.

* NO SAMPLES COLLECTED FROM THESE WELLS DUE TO EXISTING LOCATIONS.

* CREW GETTING THE EQUIPMENT AND SUPPLIES CLEANED/ORGANIZED FOR NEXT SESSION. CHECKING ON WHAT NEEDS TO BE ORDERED/BROUGHT OUT FROM SAN JUAN.

(84) 05/22/08

* ASSISTING WITH GETTING LAST SAMPLES LABELED, ICED, PACKED.

* FED EX ARRIVED ABOUT 1645^{H} FOR LAST SAMPLES SHIPMENT.

* HEADED TO SAN JUAN

(85) 05/23/08

* 0630 OFF TO AIRPORT

* PHILADELPHIA FOR CONNECTING FLIGHT

* IN PITTSBURGH ~ 1500^{H}

Field Scientist – JP Kumar

CONTENTS

PAGE	REFERENCE	DATE

MAY 12, 08 - TRAVELED TO PUERTO RICO
2100 TEAM MET IN CONDO TO DISCUSS SAMPLING PLANS. WELLS HAVE BEEN CONSTRUCTED WITH POURED SAND - NOT PRE PACKED FILTER. RISERS WITH PROTECTIVE CASING & TEMP. CONCRETE PADS

MAY 13, 08
0630 ARRIVED AT NAPR
GOT SECURITY PASSES FOR VEHICLES
0730 AT PUBLIC WORKS DEPT BLDG (BEHIND SECURITY BLDG) - EQUIPMENT STORAGE ROOM
COLLECTED EQUIPMENT. ADAM BAILEY (AG) & JP DRIVE TO WELLS OUTSIDE AIRFIELD FENCE TO START DEVELOPING

GWVP3A 18.43'
WL: 9.92' T.D.: ~~18.43'~~ JPK
WELL PUMPED DRY IN <10 MIN, APPROX 1 GAL.
(SEE READINGS IN AG'S NOTEBOOK)
~~GWVP~~
GWVP3B (SEE A.G. FOR W.L. & TD)
CLEAR, FAINT FUEL ODOR. VALVE PIT NEARBY HAS STANDING WATER. WELL DRIED IN ~8 MIN/1.5 GAL.

05/13/08

05/13/08

MOVED ONTO SWMU 9 WELLS

0940 SWMU 9 WELL BOTTOM

GWVP11A

W.L: 15.23' TD: 19.92'

WELL PUMPED DRY ~ 0.5 GAL. FUEL ODOR

GWVP11B WL: TD: (SEE A.G.'s NOTES)

WATER TURBID. WELL PUMPED DRY ~ 1.5 GAL

GWVP1Ca WL: ~~TD~~ TD: (SEE A.G.'s NOTES)

WATER CLEAR. MILD FUEL ODOR. WELL DRY ~ 1 GAL.

GWVP1Cb WL: 14.24' TD: 24.'

STRONG ODOR OF ANAEROBIC ACTIVITY

WELL PUMPED DRY AFTER ~ 1/3 GAL.

GWVP1Aa WL: 21.35' TD: 26.23'

FUEL ODOR

WELL PUMPED DRY ~ 1 GAL (15 MIN)

pH	TEMP	SP COND	D.O.	TURB	ORP
7.5	29.6°C	2.77 mS/cm	3.3 mg/L	35	-50 mV

A.G. LEFT SITE

06/13

05/13/08

05/13/08

GWVP1B6 WL: 23.45' TD: 26.34'

pH	Temp	Sp.C.	D.O.	Turb	ORP
7.65	29.9	1.37	3.8	22	-58

Well pumped dry ½ gal in 8 min

VP1 B6 - well pads still curing.

1230 P.G.: 9MW02S is included for sampling. Needs to be developed. Well has rusted lock. Need bolt cutters.

Return to ~~A.F.~~ Airfield. Check wells to check WLs

GWVP3A WL: 16.9 (TD 18.43). Had pumped dry

GWVP3B WL: 12.5 (TD: 16.10). Had pumped dry

Bottom of swamp hill

GWVP11A: WL: 18.9 (TD: 19.92). Had pumped dry

GWVP11B WL: 25.2 (TD: 32.2). Had pumped dry

Got bolt cutters from driller (Abraham)

Snipped lock.

9MW02S: WL: 10.9' TD: 23.7' (Plate says 21')

Reddish/brown fine sediment. Strong anaerobic odor

1420 Start pumping. Moving intake up/down to clean screen

05/13

05/13/08

05/13/08

	pH	Temp	Sp. Con
15 min (1.5 gal)	6.3	29.1	61.2
25 min (2.5 gal)	6.0	28.9	62
(3.5 gal) 35 min	5.9	28.5	69

CONTINUED PUMPING ~ 5 gal ADDL'N.
WATER STILL TURBID.
JOE (J. BURKWA): BECAUSE OF ADJACENT MANGROVE SWAMPS, EXPECT TURBID WATER.
STOP DEV. IF OTHER PARA STABLE.

BACK AT SWMU 9 TO CHECK W.Ls

GWVP1Ca : WL: 22.3' (TD: 23.75'). DRIED FROM 17.13' HAD PUMPED

GWVP1Cb : WL: 14.18' (TD: 26.34'). RECOV (14.24') HAD PUMPED DRY.

GWVP1Bb: WL: 25.9' (TD. 26.34') HAD PUMPED DRY FROM 23.45'

GWVP1Ba TD: 23.2' NO WATER. NO J-PLUG (PLASTIC CAP)

GWVP1Ab/a TD: 23.22' NO WATER.

1700 RETURNED TO PWD
1730 LEFT BASE

05/13

05/14/08

GW VP1 Ca
- 1x1L UN
- 1x1L UN 1/3
- 1x1L P
- 1x1L P
- VOA - 3 vial
- GRO - 3 vials
- UNF Me
- F Me

05/14/08

MAY 14, 08 5/14/08

0645 AT BASE. LOADED SAMPLE JARS FOR VP3A & VP3B.
MARK (MARC KIMES) CALLS. TARGET 9MW02S FOR GW/QC
CONTINUE DEVELOPING IN DOWNTIME.

SETUP AT GWVP3A. NO NEED TO PURGE OR TO RECORD STAB PARA (HAD PURGED DRY YESTERDAY)
GWVP3A: WL: 15.7'
0830 STARTED SAMPLING.
ONLY COLLECTED 1+½ AMBER (UNPRES) - 1L
WELL DRYING OUT

AT GWVP3B: WL: 11.87'
0930 STARTED SAMPLING VP3B
YIELDED ONLY 2x 1-L AMBER. WELL DRY.

MOVE TO SWMU9 (TOP OF HILL)
GWVP1Cb - W.L: 14.2'
1030 STARTED SAMPLING. STRONG FUEL ODOR
ADEQUATE VOL ALL SAMPLES.

GWVP1 Ca - W.L: 21.16' (TD: 23.75')
CHECK GWVP1Ba/a - DRY
GWVP1Ab/a - DRY.

05/14

GWVP1C6 + DUP
1030 5/14/08 12:45

1 L UN
1 L UN
1 L PR
1 L PR
3 VOA GRO
3 VOA VOCs
1 PLASTIC
1 PLASTIC FILT

05/14/08 [illegible]

5/14/08

JOHN MALINOWSKI (J.M.) & A.G. VISIT
– WANTS DUP FROM 1C6.

1215 START SAMPLING GWVP1C6
(YIELDED ONLY ~1 1/3 L. AMBER BOTTLES).
WELL DRIED.

1330 BACK NEAR AIRFIELD

VP3B: 15.36' W.L. (TD 16.10')

VP3A: 17.72' W.L. (TD: 18.43')

TRY VP3B COLLECTED ADD ~200 mL
AMBER (PRES). WELL DRIED.

1430 BACK AT PW. TAPE & ICE SAMPLES
HELP WITH COOLERS FOR FEDEX

1700 LEFT BASE.

05/14

[illegible]

VP 3A

LLPAHs 2
METALS F UN
VOCs, GRO
DRO (2) ~~5/18 ON 5/16~~ 1 ON 5/17

VP-3B

LLPAHs 2
ME: F UN
VOCs
GRO
DRO (2) 7/8

VOL COMPENSATE
SEND TO BLDG

VP-1C$_A$

LLPAHs (2) 1 3/4 — DROPPED Q: 1L
5/16/08 ← Me F UN
VOCs GRO SHIP
DRO (2) 1/2 ① + ~~(2)~~ ① 5/18/08
~~5/17/08~~

05/15

MAY 15 08 05/15/08

0620 AT BASE
DISCUSS SAMPLING PLANS FOR DAY W/ JB
WELLS NEEDING LLPAHs:
— VP3A & 3B - IF ADEQUATE VOLUME
: VP11A, 11B - DO LLPAHs
— VP1CA - DO LLPAH
74GW74* & 84 - NO LLPAHs
ALONG PIPELINE. * = GOOD PRODUCER!)
JB: FINISH PARTIALS FIRST.

0730 VP3A : WL : 16.79'
VP3B : WL : 13.9'
GIVE SOME TIME FOR RECON

74-GW74 (MIDDLE OF FIELD ?)
— JB - CONFIRM
W.L: 9.15' TD: 26.9'

0940 START PUMPING. MUDDY - CLEARING AFTER 1 GAL
MOVE TUBING UP/DOWN. 2 GAL - TURBIDITY
CLEARING.

	TEMP	pH	Sp.CON	
3 GAL	30	7.6	2.0	
3.5 GAL	29.5	7.6	2.1	
4 GAL	29.4	7.5	2.1	(STABLE)
(~30 MIN) FINAL		DO: 4.2.	ORP: -67	TURB: 33

05/15

05/15

05/15/08

1100 START SAMPLING 74-GW74 ←
(SEE FINAL FIELD READINGS PREVIOUS PAGE)

1150 RETURNED SAMPLES TO W. BLDG.
MADE NOTES OF SAMPLES. NOTED LL PAH, FOR J.M. ICED COLOR.

1220 BACK AT SWMU 9 AREA
VP1 Ca : WL : 23.4' (TD: 23.75') – INADEQUATE
VP1 Ab/g : DRY
VP1 Aa/g : WL : 23.6'
VP1 Bb/g : 24.68'
VP1 Ba/g : 26.9' WL. (TRACE) (TD = 27.2')

1240 M.K. CALLS. DISCUSS SAMPLE VOLS & OPTIMUM SEQUENCE.
CALLED A.G. HAS SAMPLED VP-11A.
PROCEED TO VP-11B
VP-11B : WL: 16.3'
SETUP FOR SAMPLING
1400 START SAMPLING VP-11B. ADEQUATE VOL FOR ALL SAMPLES ←

1440 AT 74-84. NO TUBING. 19.2' WL
23' TD

05/15

05/15/08

05/15/08

START PUMPING. BROWN/GREEN COLOR
NO VISIBLE PARTICULATES. VEG. ODOR
DRIED UP ~ 1/3 GAL.

VP1CA - WL: 23.1'.
WL. METER MALFUNCTION. CLEAN TIP.

1530 RETURNED TO PW WITH VP-11B
SAMPLES. PLACED ON ICE. MADE LIST
ON COOLER.

16:30 LEFT BASE

05/15

VP1 Aa

VOCs ✓
GRO ✓
LLPAHs 1+1 ✓
T. ME ✓
F. ME ✓
DRO ~~1~~ 1/2 5/17/08

VP-11A

VOCs
GRO
TMe
FMe
} A.G HAS COLLECTED

LLPAH 1+1 ✓
DRO ~~1~~ 5/8 1 ON 5/18

05/16/08

MAY 16, 08

0650 AT BASE AFTER GAS IN ED'S SUV.
D. HUPE CALIBRATES D.O. ON YSI
DISCUSS SAMPLING PLAN WITH JB / JM.

0730 VP3A - APPROX 5/8 AMBER (DRO)

VP-11A - COMPLETE LLPAH AMBER
- START DRO AMBER

VP1Ca · CHECK RECOV. W.L: 22'
- GOT FILT METALS + 1/2 DRO AMBER

VP-1Aa: WL: 22.8' (TD: 26.23') - GOOD

0840 START SAMPLING VP1-Aa
COLLECTED VOCs, GRO, 1-L LLPAH AMBER
TOT & FILT ME. DRIED UP.

VP1-Ab/q W.L = 22.65' (TD: 23.22')
NOT DEV. YET. (LATER)

VP1-Bb/q W.L = 24.15' (TD: 26.34')

0945 COLLECTED GRO, VOCs, 5/8 LLPAH AMBER

VP1Ba: WL = 26.7' (TD: 27.2')
NOT ENOUGH WATER (LATER)

GET GAS ON BASE

05/16

VP1 Bb/g

VOCs ✓

GRO ✓ ① 5/17/08

LLPAHs 1 +1 ~~5/8~~

T. Me ✓ 5/18

F Me ✓ 5/18

DRO: ① + 1

1/8th (5/18)

05/16/08

05/16/08

TO FORK IN ROAD. 2 WELLS - VP3a/g & 3b/g

VP3a/g - 12.5' (WL), 22.78' (TD)

11:00 Develop VP3a/g

VISUALLY CLEAR AFTER ½ GAL (12 MIN)

TURBIDITY: 4 NTU

JM/AG. STOP BY. NO NEW WELLS. KEEP PURGING

TOUR SAMPLES COLLECTED TODAY

11:50 GW VP3b/g W.L: 12.82' TD: 22.85'

DEVELOP VP3b/g UNTIL VISUALLY CLEAR.

TURBIDITY: 12 NTU

WELL DRY AFTER 1.5 GAL.

MOVED TO RIGHT FORK - WELLS VP2a & 2b

VP2a: WL: 20.5', TD: 24.9'

STRONG FUEL ODOR. OIL VISIBLE ON PROBE.

TIP HAS GRAY/GREEN SEDIMENT

CALLED D. HUPE FOR INTERFACE PROBE

COATS PROBE, NO DETECTABLE FLOATING PRODUCT

FLOATING PRODUCT

13:05 DEVELOP VP-2A

VISCOUS DARK GRAY/GREEN LIQUID

APPROX 1 GAL PUMPED. WELL DRIED.

05/16

05/16/08

05/16/08

VP-2B: WL: 20.55' T.D.: 24.38'
SOME FUEL ODOR

CALLED M.K. TO REPORT FREE PRODUCT

1400 CALLED BACK WITH INSTRUCTIONS ON IDW.
MET WITH J.B. WENT TO IDW STAGING AREA.

1500 BACK AT VP2 AREA TO DEVELOP VP2B
BEGINS TURBID. CLEARS AROUND 1/2 GAL.
SPORADIC FLOW.—STOPS. FUEL ODOR!

MOVE DOWN ROAD TOWARDS PWD TO ID.
WELLS FOR SAMPLING.

VP08a: DRY
VP08b: DRY

VP07a: WL: 6.2' TD: 11.68'
VP07B: WL: 6.9', TD: 12.17'
SETUP TUBING.
HEAD BACK TO PWD TO DEPOSIT SAMPLES,
ICE COOLER & MAKE LIST.

1700 LEFT BASE.

05/16

05/17/08

MAY 17 08

0630 ON BASE OVERCAST.
DISCUSS PLANS W/ J.B. LIGHT RAIN EARLIER
PARTIALS FIRST, THEN DEVELOP 9MW025.

VP3A : COLLECTED DRO AMBER
VP-11A : WL: 18.5' COULD NOT COMPLETE DRO.

VP-1 Cd : WL: 21.95' COLLECTED 1 1/4 AMBER DRO.
VP-1 Bb/g : WL: 26'. COLLECTED 1 AMBER LL PAH

VP-1 Ba/g : WL: 26.4' (TD 27.2') - INADEQUATE FOR DEV

VP1 Ab/g : WL: 21.75' (TD: 23.22')

VP1 Aa : WL: 24.42'. COLLECTED 1/2 DRO.

1015 SETUP FOR PUMPING VP1Ab/g.
TUBING FILLS WITH SAND & ~~CLOGS~~ STRAINS PUMP.
REMOVED TUBING & SHOOK TO CLEAR OUT
CLOGGED TWICE MORE. DRIED OUT

1120 PUMP VP1Ba/g. CLEAR WATER SQUIRTS.
DRIED.

UPDATED J.M. ON SAMPLES - STATUS

05/17

VP 3a/9 (05/17/08 1130)

VOCs ✓
GRO ✓
LLPAHs ✓ 1 + 1 5/18
T. Me ✓
F. Me ✓
DRO 1 + 1 5/18

VP 3b/9

VOCs ✓
GRO ✓
LLPAHs ✓ 1 + 1 ✓
T. Me ✓
F. Me ✓
DRO 1 + 1/4 1 ✓ 5/18

A.G. TO TABLE

05/17/08

05/17/08

1130 PROCEED TO SAMPLE VP3a/9

	TEMP	SPC.	D.O.	pH	ORP	TURB
INITIAL	30.7	7.4	3.3	6.4	-30.1	10
3MIN	29.1	4.4	2.5	6.3	-44	5
5MIN	29.2	4.1	2.2	6.4	-42	5.2

EST FLOW: 250 mL/min - W.L. FALLING.
COLLECTED VOCs, GRO, 1x1L LLPAH Amber, TOT & FILT ME, 1x1L DRO AMBER.

JB/JM STOP BY WITH LIST OF WELLS & LLPAH SPECS.

SETUP AT GW VP3b/9 WL: 14' TD: 22.85'

	TEMP	SPC.	DO	pH	ORP	TURB
INIT	29.2	4.0	2.1	6.8	-84	3.5
3MIN	29	2.5	1.9	6.9	-82	3.2
5MIN	28.9	2.1	1.9	6.9	-73	3.3
6MIN	29	1.8	2.2	6.9	-62	3.2

EST FLOW ~ 250 mL/min
COLLECTED VOCs, GRO, 2x1L LLPAH, TOT & FILT + 1/4 L DRO. WELL DRIED.

AG ARRIVES WITH BOTTLES FOR 74-84. NO LLPAHs (PER JB's LIST)

1505 74-84 WL 19.95'

05/17

74-84 5/17/08 1505

VOCs ✓
GRO ✓
TMe ✓
F Me ✓
DRO Amber 1 + 1 1/4

05/17/08

05/17/08

1505 Start Sampling. Collect VOCs, GRO, Tot & F Me. DRO 1/4 only. No LL PAH.

AG takes all full sample bottles to PW
Provides additional bottles for sampling

1545 Headed to VP2 wells
VP2a: WL: 20.5'. Int Probe - No Layer
Pumped 3/4 gal. Clearing visually.

1630 VP2b: WL: 20.65'.
Pumped 1/3 gal. Water clearer than 2a.

Back at PWD. Review & fill out checklist
Iced samples. Made list for cooler

1710 Left Base

Continued on checklist. Prepared labels.

05/17

VP1 Ab/g

VOCs ✓
GRO ✓
LLPAHs START 1+1
Me To
Me F
DRO 1+1

05/18/08

MAY 18, 08

0630 ON BASE
0705 RESUME DEVELOPING 9MW02S. MOVING INTAKES UP/DOWN. SHALLOWER PORTION CLEARING UP. LIGHT RAIN.

PROCEEDED TO PARTIALS
VP-11A -- DRO AMBER FILLED
VP1Ca/g : DRO AMBER FILLED
VP3a/g : PAH, DRO AMBERS FILLED. ALL SAMPLES & VOL. COMPLETED

VP3b/g : DRO AMBER FILLED. ALL SAMPLES & VOL. COMPLETED
VP1Bb/g : TOT & FILT ME.

74-GW84- DRO AMBER FILLED. ALL SAM & VOL COMPLETED PLUS

VP1Ab/g : WL : 22.6' TD : 23.8'
1130 STARTED SAMPLING VP1Ab/g
COLLECTED VOCs, GRO, STARTED LLPAH. DRIED.

VP1Ba/g : WL : 26.8' TD : 27.2' ("INADEQUATE)

RETURN TO PWD - DROP OFF FULL BOTTLES, ICED COOLER. PREPARED LIST

1300 BACK AT VP2b. SETUP TO SAMPLE

05/18

VP2b (05/18/08 1315)

VOCs ✓
GRO ✓
LLPAHs ✓ 1+1
TOT Me ✓
F. Me ✓
DRO (1)+1
3/4

05/18/08

05/18/08

1315 Start Sampling VP2b

TEMP	SpCon	DO	pH	Turb	ORP
30	1.4	1.7	7.1	4	-100

Collected VOCs, GRO, 1 x LLPAH, TotMe, 3/4 x 1L DRO. Dried out

Return to PWD. Unload & Press Samples

Unload Car - Go to Purchase Water/Bastrade

1500 Left Base

Updated Checklist

05/18

VP2a/9 05/19/08 0845

VOCs ✓
GRO ✓
LLPAH 1+1 ✓
Me TOT ✓
Me Fil ✓
DRO 1+1 ✓

05/19/08

MAY 19, 08

0635 ON BASE — STOPPED FOR GAS
UNLOAD WATER/DRINKS — RAIN AT HUMACAO
LOAD EQUIPMENT & PARTIALS.
GAVE CHECKLISTS TO JM. DISCUSS WITH JB/JM
PLAN FOR 9 MW02S TOMORROW

0730 BACK AT SWMU9 FOR PARTIALS
VP1 B6/9: ADDED TO DRO
VP1 A6/9 ADDED TO LLPAH

VP2a/9 W.L: 20.5'

0845 STARTED SAMPLING VP2a/9

	TEMP	Sp CON	D.O.	pH	TURB	ORP
INITIAL	28.5	1.84	2.4	7.3	66	-110
10 MIN	29.1	1.83	2.6	7.28	33	-110
15 MIN	29	1.83	2.5	7.3	21	-111

GOOD STABILITY. FLOW APPROX 250 mL/min
COLLECTED VOCs, GRO, LLPAHs, DRO, TOT & F. Me. ALL VOLs.

1000 RETURNED SAMPLES TO PW.
RECONCILED SAMPLES COLLECTED SO FAR WITH BOTTLES & COCs w/ J.M.

05/19

VP1 Ba/g 5/19/08
1230

VOCs ✓
GRO ✓
LLPAH START 1+1
Me T
Me Fil
DRO 1 + 1

VP10a / JP5 HILL 5/19/08
1430

VOCs ✓
GRO ✓
LLPAHs ✓ ✓
Me T ✓
Me F ✓ ✓
DRO 1+1

05/19/08

SWAP CAR W/ J.M.'S SUV.
M.K. HELPS SET UP FOR G.W SAMPLING
HEAD BACK TO SWMU 9. BRIEF RAIN

VP1 Ba/g : WL: 26.2' (TD: 27.2')
1230 START SAMPLING
VOCs, GRO, START LLPAH. DRIED.

1320 TO JP5 HILL. (JB - VERY LITTLE WATER. ALL NEED LLPAHs)

VP9a / JP5 HILL : DRY
VP9b - DRY
VP10B - DRY
VP10A WL: 13.8' TD: 22.6'
VP11A : WL: 21.7' TD: 21.85'
NO NEED TO D EVELOP. TAKE FIELD READINGS
VP11B: 22.8' TD (DRY) IF ADEQUATE VOL.
1430 START SAMPLING VP10a

TEMP	SPCOND	DO	pH	TURB	ORP
27.5	1.5	2.1	7.0	10.2	-70

SMELLS - (FUEL ODOR). VISUALLY CLEAR
COLLECTED ALL SAMPLES, VOLS.

RETURNED TO PWD TO ICE & LABEL
17:25 LEFT BASE

05/19

1-L in 5 min $= \frac{1000 mL}{5 min} = 200 mL/min$

9MW02S 05/20/08 920

	S	D	MS	MSD
VOCs	6✓	6✓	6✓	6✓
GRO	S	D	MS	MSD
LLPAH	2✓	2✓	2✓	2✓
TOMe	1✓	1✓	1✓	1✓
FQL Me	1✓	1✓	1✓	1✓
DRO	2✓	2✓	2✓	2✓

05/20/08 JJPK

MAY 20, 08

0625 ON BASE

JM/JB - COLLECT SAMPLE, DUP, MS, MSD FOR ALL ANALYTICAL AT 9MW02S.

INCLUDE LLPAHs

LOADED UP BOTTLES, ICE.

0800 9MW02S 2" P.W. (NOTE: BRITTLE CAP & NEEDS LOCK)

START LOW FLOW PURGING

INITIALLY TURBID, CLEARS AFTER 1/4 GAL.

TURBIDITY READING STILL > LIMIT ON LAMOTTE

	TEMP	SP CON	DO	pH	ORP
10 min (1/2 gal)	28.4	72.2	1.0	6.5	-97
20 min (1 gal)	28.3	72.5	0.8	6.4	-80
40 min (2 gal)	28.37	72.4	0.7	6.4	-90

FLOW RATE ≈ 200 mL/min. WL: 12.5'

0920 START SAMPLING

COLLECTED ALL SAMPLES & VOLUMES + DUP + MS + MSD

1130 END SAMPLING WL: 13'

05/20 JJPK

05/20/08

05/20/08

BACK TO PWD TO LABEL & TAPE SAMPLES
ICED & MADE LIST FOR COOLER

BACK AT SWMU9 TO FINISH PARTIALS
VP1 Ba/9 — NOT ENOUGH FOR LLPAH
VP1 Bb/9 — ALMOST FILLED DRO (3/4)
VP1 Ab/9 — ALMOST FILLED LLPAH (3/4)

CHECK JP5 HILL
VP 9a & 9b : DRY
VP 10b : DRY
VP 11A : TRACE (<0.1")
VP11B : DRY

ATTEMPT TO SAMPLE VP5A (BOTTOM OF JP5 HILL)

VP05A : WL: 24.35' TD: 25'
COLLECTED 2 VIALS OF VOCs -
TURBID. EFFERVESCENCE (HCl REACTING)

VP05B : DRY. TD: 22.4'
PROCEED FURTHER TO 74GW14582151

05/20

05/20/08

05/20/08

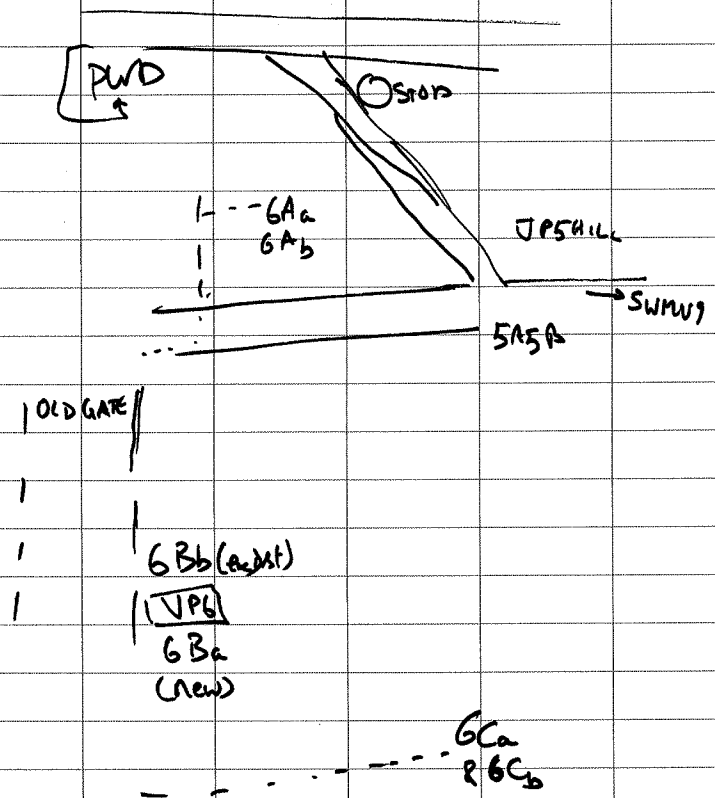
74GW145' WL: 20.55' TD: 22.15'

74GW151 WL: 6.45' TD: 11.7'

TARGET FOR TOMORROW

17:05 LEFT BASE

05/20



PHOTOS - 1 74 VP6 Ba
2 - 74 VP6 Bb
3 - TOWARD MAIN ROAD FROM VP6 Bb
4 - DOWN - TOWARDS 6Ca & 6Cb

05/21

MAY 21, 08

@ 635 AT BASE HAS RAINED OVERNIGHT

GO OVER LIST OF WELLS WITH JB. FOR AG. ED TO SHOW LOCATIONS. SOME IN WOODS

05/21/08

CONTINUED NEXT PAGE →

05/21

VP151 05/21/08 0850

COMPLETE

VOCs ✓
GRO ✓
To Me ✓
F. Me ✓
DRO 1+1 ✓

VP 145 05/21/08 0930

VOCs ✓
GRO ✓
T. Me
F. Me
DRO 1+1 3/4

VP07 05/21/08 1030

COMPLETE

VOCs ✓
GRO ✓
To Me ✓
Fil Me –
DRO 1+1 ✓

05/21

05/21/08

VP 151 WL: 6.5'

START SAMPLING. TURBID. EFFERVESCENCE
RAISE TUBING ~ 6-10"
REDUCED FLOW RATE. CLEARS UP.
COLLECTED COMPLETE SET OF SAMPLES

VP 145 WL: 19.95' TD: 22'
VISUALLY CLEAR. MINOR BUBBLING
ONLY VOCs, GRO, 3/4 L AMBER.
DRIED UP

VP07 WL: 7.15' TD: 12.18'
VISUALLY CLEAR. MINOR BUBBLES
YIELDED ALL SAMPLES & VOLUMES

HEAD BACK, GET ICE FROM SECURITY
GET GAS.

HEAD TO FINISH PARTIALS ON AG'S LIST.

VP6CA – UNABLE TO FILL DRO
VP6CB – FILLED DRO BOTTLE

05/21

74VP6Ba 05/21/08 1500

VOC ✓
GRO ✓
TOMe
FilMe
DRO ①+1
3/4

05/21/08

05/21/08

SWING BY SWMU 9 AREA

VP1Ba/9 - INCOMPLETE LLPAH

DROP OFF SAMPLES. GET ICE.

BACK TO JP5 HILL

VP9a
VP9b
VP10b
VP11A
VP11B
Dry

74VP6Aa NO TUBING
DRY - TD: 24.35'

74VP6Ab NO TUBING
TRACE - RO.1' TD: 18.75'

74VP6Ba
W.L: 15' TD: 17.5'

74VP6Bb (EXISTING 2"Φ RENAMED)
W.L: 15.65' TD: 42.5' (SOFT SED)

05/21

05/21/08

05/21/08

1500 START SAMPLING VP6Ba
YIELDED ONLY VOCs, GRO, 3/4 L DRO.

1530 SET UP TUBING IN VP6Bb
PUMPED APPROX 5 MIN. WATER VISUALLY CLEAR

CALLED TO CHECK IF DUPS NEEDED.

CHECK 74 VP05A : WL: 24.5'
TD: 25'
74 VP05B : DRY.

1630 BACK AT PWD. NO NEW SAMPLES.
PREPARE LIST OF FULL & PARTIALS.
HELP TAPE UP SOIL SAMPLE JARS

1710 : LEFT BASE

05/21

05/22/08

MAY 22, 08

0635 ON BASE

0700 INSTRUCTIONS FOR LAST DAY - WRAPUP

1. COMPLETE PARTIALS
2. VISIT AIR FIELD PARCELS - REF M.K.
3. MAKE COMPREHENSIVE LIST OF GW SAMPLES & BOTTLES

PARTIALS

74GW146 - COMPLETED DRO AMBER
- TOTAL METALS.
WELL DRIED

74GWVP6 BA - COULD NOT FILL DRO

0830 PROCEEDED TO GATE 1 WITH AG.
SECURITY CLEARED
SWMW56 - TOOK PHOTOS OF DRAINAGE & APRON
SWMW69 - PHOTOS OF GW07, P. AREA, EASTERN TEMP WELL.
DRAINAGE DITCH IS DRY

1000 BACK AT PWD. UNLOAD CAR, STORE EMPTY BOTTLES, GW EQUIPMENT
DISPOSE PARTIALS IN PURGE WATER IDW.

05/22

05/22/08

05/22/08

PREPARED COMP LIST OF GW SAMPLES & BOTTLES FILLED. GAVE JB.

1400 JM ASKS TO REMOVE TUBING IF WELLS ARE DONE SAMPLING. (WATER & STUFF CAN INFILTRATE IF CAP IS NOT DOWN)

PROCEEDED TO CHECK ALL WELLS & REMOVED TUBING OR MADE SURE CAP SECURED.

1600 RETURNED TO PWD

1715 LEFT BASE FOR SAN JUAN.

MAY 23, 08 – TRAVEL BACK TO PITTSBURGH

05/22 - 05/23

Geologist – Mark DeJohn

NAPR

Tuesday May 27 2008. Today's Tasks-
Mobilization
Weather Cond.tions- P. sunny, mod.
NE wind, Near 90°F (in PR)
0620 Arrive at PIT for travel to
NAPR
0700 Depart PIT for SJU via CLT.
1315 Arrive at SJU. Get rental car
and head to Palmas Del Mar.
1510 Arrive at Palmas

MicD
5/27/2008

NAPR

Wed. May 28, 2008. Today's Tasks-
SWMU 74 Borings
Weather Conditions-
AM: Cloudy, mod. NE wind, low 80's
PM: Rain early, cloudy mod NE wind, 80's

0645 Arrive at PWD. Prepare for the day.
0705 I relocate to driller's staging/decon. area. The drillers are preparing for the day.
0835 JB on site. Gives instructions
0915 Relocate to "JP-5 Hill" area of SWMU 74.
0940 Setup w/ William at SB279 while Abraham moves to SB285
1018 Back at SB285 Abraham is ready
~~1115~~ 1049 Set at SB284
1115 Set up at SB283
1155 Sampler bent. I relocate to William while Abraham fixes sampler.
1203 At 74SB278 (William)
1215 Relocate to 74SB277. Refusal at 2-ft; move two feet; retry
1245 Check up on Abraham. They have been on lunch break. Will try to

MKD 5/28

NAPR

(cont.) retrieve sample; straighten sampler.
1320 Light rain showers w/ lightning
1406 Abraham sets up at 74SB285 to install a well ~~at~~ to ~20 ft
William sets up at 74SB280
1425 William sets up at 74SB281
1536 William sets up at 74SB282
1555 Borings completed. Cleanup time; hole grout
1613 I relocate to 74SB285 to check Abraham's progress.
1623 Moderate rain showers begin. Abraham is in the process of completing the well.
1630 Well completed at 74SB285 to 20-ft bgs 10-ft of 10-slot screen w/ sand to 7-ft; bentonite to 5-ft bgs.
1638 Return to PWD.
1740 Depart PWD - done for the day
Notes on today's work:
- The intern Mike Cromley (MC) is on this trip. He assisted me at SB280-SB282.

5/28 MKD

NARR

74SB285 66DT

Time	Depth (ft bgs)	ID	Recovery (ft)	PID PS	PID BG
1020	0-4	S-1	3.8	0	0
				0	0
				0	0
				0	0
1023	4-8	S-2	3.4	0	0
				0	0
				0	0
				0	0
1030	8-12	S-3	3.5	0	0
				0	0
				0	0
				–	–

74SB279 5400

Time	Depth	ID	Recovery	PID PS	PID BG
0944	0-4	S-1	4.0	0	0
				0	0
				0	0
				0	0
0948	4-8	S-2	3.4	0	0

MKD 5/28

	IC	Description	
1		F GRAVEL, trace clay; gray; damp	0.5
2		CLAY, trace silt; dk brown; damp	2.4
3		weathered BEDROCK (saprolite); lt brown	
4		; tan; damp; soft	02-
5			
6			
7		as above, but hard	
8			
9		soft	05 -
10			
11		hard	
12		saprolite (dk. lt. tan ; tan)	
↓ 20			

	Description	
1	GRAVEL (F/C), some f/c sand, little silt;	
2	gray; dry	0.6
3	CLAY, trace silt; brown; damp	
4	little c sand & silt; gray & brown; damp	
5		

5/28 MKD

NAPR

745B279 Continued

Time	Depth	ID	Recovery	PID PS	PID BG
				0	0
				0	0
				0	0
0957	8-12	S-3	3.4	0	0
				0	0
				0	0
				0	0

745B284 66DT

Time	Depth	ID	Recovery	PS	BG
1043	0-4	S-1	4.0	0	0
				0	0
				0	0
				0	0
1048	4-8	S-2	3.2	0	0
				0	0
				0	0
				0	0
1055	8-12	S-3		0	0
				0	0
				0	0
				0	0

MKD 5/28

NAPR

	Description	
6	Weathered BEDROCK (saprolite); tan;	03
7	brown; damp	
8		
9	As above	05
10		
11		
12		

	Description	
1	P/K GRAVEL, little silt; dk brown; damp	0.4
2	CLAY, trace silt; red-brown; damp	2.7
3		
4	weathered BEDROCK; tan; lt brown; damp	02
5		
6		
7		
8		
9	f gravel; gray; dry (9.1 - 9.4')	05
10		
11		
12		

5/28 MKD

NAPR

745B283 66DT

Time	Depth	ID	Recovery	PS	BG
1020	0-4	S-1	3.5	0	0
				0	0
				0	0
				0	0
1132	4-7	S-2			

745B278 5400

Time	Depth	ID	Recovery	PS	BG
1205	0-4	S-1	3.2	0	0
				0	0
				0	0
				~	~
1212	4-7	S-2	3.0	0	0
				0	0
				0	0

MKD 5/28

	Description	
1	F/C GRAVEL, little clay, trace F/C sand;	
2	mainly gray; dry	
3		
4		02
5		
6		
7		
8	Refusal @ 7.0 ft	
9		
10		
11		
12		

	Description	
1	F/C GRAVEL, little fine; gray; brown; damp	0.5
2	weathered BEDROCK (saprolite); tan; brown	
3	gravelly zone; gray	
4		
5		
6	gravelly zone; gray	03
7		
8	Refusal @ 7.0 ft	

5/28 MKD

277

NAPR

74SB277

~~Continued~~

Time	Depth	ID	Recovery	PID PS	PID BG
~~1203~~				0	0
1225	0-4	0-4	3.1	0	0
				0	0
				~	~
1230	4-6	4-6	1.9	0	0
				0	0

74SB280

5400

Time	Depth	ID	Recovery	PS	BG
1412	0-4	S-1	4.0	0	0
				0	0
				0	0
				0	0
1416	4-8	S-2	3.7	0	0
				0	0
				0	0
				0	0
1420	8-12	S-3	3.5	0	0
				0	0
				0	0
				0	0

MK 5/28

5400

	Description	
1	F/C Gravel, some silt, trace clay; gray to brown; damp	
2		
3		
4	CLAY, some f gravel, trace silt; brown; dry	02
5		
6		
7	Refusal @ 6 Ft	

	Description	
1	F/C GRAVEL, some silt; gray; damp	0.9
2	CLAY, little silt, trace f gravel; dk brown; damp	
3		
4	trace silt; olive drab; rusty (mottled); moist	02
5		
6		
7		
8		
9		
10	gravelly zone	05
11		
12	weathered BEDROCK (saprolite); tan, gray; brown; damp	11.5

5/28 MK

NAPR

~~745B281~~ 745B281 5400

Time	Depth	ID	Recovery	PID PS	PID BG
1430	0-4	S-1	4.0	0	0
				0	0
				0	0
				0	0
1434	4-8	S-2	3.2	0	0
				0	0
				0	0
				~~0~~ –	~~0~~ –
1440	8-12	S-3	4.0	0	0
				0	0
				0	0
				0	0

745B282 5400

Time	Depth	ID	Recovery	PS	BG
1540	0-4	S-1	2.4	0	0
				0	0
				0	0
				–	–
1545	4-8	S-2	3.2	0	0
				0	0
				0	0
				–	–

MKD 5/28

NAPR

5400

	Description	
1	F/C GRAVEL, little f/c sand; gray; damp	1.6
2	CLAY, trace f sand; olive drab; rust	
3	(mottled); damp	
4		02
5	some f/c gravel; brown; gray (gravel); damp	
6		
7	little silt; brown; gray or brown; black;	
8	damp	
9		9.2
10	weathered BEDROCK (siltly, non saprolite);	
11	brown; rust w/ black vert fracture traces;	05
12	damp	05D 05MS 05MSP

	Description	
1	C GRAVEL, trace f gravel; silt; gray; damp	1.0
2	CLAY, little silt, trace f gravel; gray;	
3	damp	3.0
4	weathered BEDROCK (saprolite) gray;	02-
5	brown; damp	
6		
7		
8		

5/28 MKD

NAPR

745B282 continued

Time	Depth	ID	Recovery	PS	BG
1550	8-12	S-3	1.6	0	0
				0	0
				–	–
				–	–

(cont.) - Joe Burman (JB) provided direction today (including locating the well).
- Sampling; analyses according to work plan unless otherwise noted. For example, shallow refusal at several borings limited subsurface soil samples to one.
- I more or less managed two rigs (operated by Abraham [66DT] and William [5400])

MKD 5/28

NAPR

	Description	
9	As above	
10		OS
11	f/c gravel zone; gray; damp	
12		

MKD 5/28/2008

5/28 MKD

Thurs. May 29, 2008. Today's Tasks -
SWMU 74 Temp. Well Installation
Weather Conditions -
AM: Cloudy, mod ~~N~~E wind, low 80's
PM: M. Cloudy, mod. E wind, high 80's

0650 Arrive at PWD. Prep. for the day.

0711 JB says wells (Temp.) to be placed at 236, 246, and 256. William will install 236 & 246 and Mingo 256, while JB does some GPS work.

0717 Check on drillers. They are deconing. I check out locations for above wells

0747 William complete well at SB285 this morning. I instructed him regarding the next well locations.

0756 At SB256. Mingo's rig is setup for well installation.

0759 Begin collection of soil samples in preparation of well installation.

0803 William & Abraham arrive w/ 66DT.

0813 Setup at 74SB246.

0818 Begin direct pushs

0851 Attempted to drive 2.5-inch casing to 15-ft but got refusal at 13-ft. Switch to augers.

MKD 5/29

0956 Auger refusal at 13-ft. I instructed Abraham to install well there w/ 5-ft of screen

1037 Well completed to bentonite seal. Prep. to ~~make~~ install protective casing.

1100 Abraham sets up DT66 at SB236, while William decon's augers & tools.

1135 Install ~~2.5-~~ 2.5-inch casing for temporary well

1219 Well 74GW236 completed. Lunch break for driller. I prep. for ~~SL~~ SWMU 71 sampling.

1320 Drillers return to decon area to prep. for SWMU 71.

1329 Relocate to the Commisary area (SWMU 71).

1335 Setup at 71SB11

1507 Refusal at 29-ft and sample stuck in liner. No evidence of water in samples. Will leave bore hole open over night & gauge water in the morning.

1512 Set up at 71SB05.

5/29 MKD

NAPR

74GW246 Abraham/William

Time	Depth	ID	Recovery	Well Details
0815	0-4	S-1	2.4	
0818	4-8	S-2	1.6	4'
0822	8-12	S-3	1.5	6' 8'
0825	12-15.5	S-4	2.5	13'

MKD 5/29

NAPR

on 66DT

Description

F GRAVEL, little F sand, trace c gravel; clay; gray; damp (FILL) 3.5

F SAND, trace c sand; coral frag.; tan; damp (MARINE)

wet 8.0

C GRAVEL, some F gravel, trace F/C sand; clay, dk gray; wet (BEDROCK) appears as broken Gabbro

Refusal at 15.5-ft

5/29 MKD

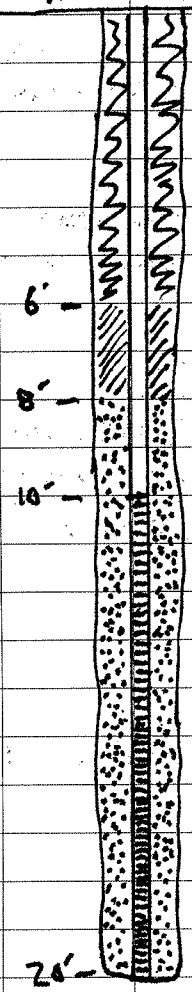
NAPR

74GW 256

Mingo on 66DT

Time	Depth	ID	Recovery
0802	0-4	S-1	3.0
0805	4-8	S-2	0.7
0810	8-12	D-N	—
0815	12-16	S-3	3.0
0820	16-20	S-4	4.0

Well Details



MKD 5/29

Description

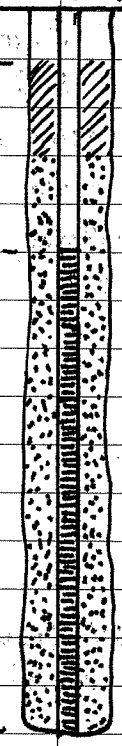
1 SILT w/grass; dk brown; damp
2 F/C SAND, some f gravel, trace clay; brown;
3 gray layering; damp
4 trace f/c gravel
5 GRAVEL, trace f gravel; f/c sand; gray;
6 dry
7
8
9
10
11
12 — 12.0
13 CLAY, trace f/c sand, olive drab w/ red zones;
14 moist
15
16
17
18
19 — 19.0
20 PEAT; dk brown; moist

5/29 MKD

NAPR

74GW236

Time	Depth	ID	Recovery	Well Details
1119	0-4	S-1	1.4	1'
1122	4-8	S-2	2.4	5'
1125	8-12	S-3	2.1	
1130	12-16	S-4	4.0	15'



MKD 5/29

NAPR

	Description
1	F SAND, trace f gravel; ~~tan~~ brown; damp
2	tan; damp
3	
4	
5	F SAND, trace silt; tan w/ brown layers;
6	damp
7	
8	
9	
10	
11	wet
12	
13	12.7 SILT, trace clay; gray; moist
14	
15	15.2
16	PEAT; dk brown; damp
17	

5/29 MKD

NAPR

715B11

Time	Depth	ID	Recovery	PID PS	PID BG
1340	0-4	S-1	2.1	0	0
				0	0
				–	–
				–	–
1344	4-8	S-2	3.2	0	0
				0	0
				0	0
				–	–
1349	8-12	S-3	4.0	0	0
				0	0
				0	0
				0	0
1355	12-16	S-4	3.6	0	0
				0	0
				0	0
				0	0
1400	16-20	S-5	4.0	0	0
				0	0
				0	0
				0	0
1408	20-23	S-6	3.0	0	0
				0	0

MKO 5/29

NAPR

	Description	Well
1	F/C GRAVEL, little clay; f/c sand;	
2	gray; dry (silt on top)	
3		
4		
5	F SAND, some f/c gravel, trace clay;	
6	brown;	
7	04	
8	8.0	
9	CLAY, trace silt; red-brown; dry;	
10	hard	
11		
12	weathered BEDROCK 12.0	
13	f/c gravel zone (12-13') reddish-brown; gray; damp	
14	f gravel zone -07	
15		
16		
17	Mainly gravelly (f/c); gray w/	
18	zones of brown; yell-brn; damp	
19		
20		
21		
22		

5/29 MKO

NAPR

715B11 cont.

Time	Depth	ID	Recovery	PID PS	PID BG
				0	0
1416	23-26	S-7	3.0	0	0
				0	0
				0	0
1426	26-29	S-8	3.0	-	-

715B05

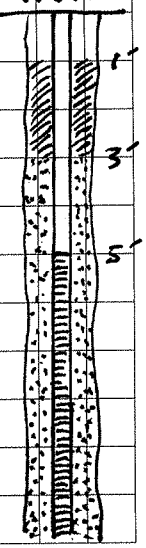
Time	Depth	ID	Recovery	PID PS	PID BG
1522	0-4	S-1	3.7	0	0
				0	0
				0	0
				0	0
1528	4-8	S-2	3.6	0	0
				0	0
				0	0
				0	0
1531	8-12	S-3	3.0	0	0
				0	0
				0	0

MKD 5/29

NAPR

	Description	Well
23	mottled SILT zone; gray: orange-brn; damp	
24	As above w/ white mottles	
25		
26		
27	Liner stuck in sampler;	
28	very crinkled when removed could not cut open	
29	Refusal @ 29 ft	

	Description	Well
1	GRAVEL, trace silt; gray: brn; damp, 1.0	
2	CLAY, some silt, trace f gravel; brown; damp 0'	
3	little gravel; red-brown	
4		
5	CLAY, some f gravel; silt; brown; damp	
6		
7	greenish-brown; moist 0'	
8		
9	trace f gravel; sand; olive drab; wet	
10	Moist	
11		



5/29 MKD

NAPR

715B05 Continued

Time	Depth	ID	Recovery	PID PS	PID BG
~~1537~~	~~12-16~~	~~S-4~~		~~—~~	~~—~~
1537	12-16	S-4	3.1	~~0~~ —	~~0~~ —
				0	0
				0	0
				0	0

MQ

5/29

NAPR

	Description	Well
12	~~brown~~ little f gravel; brown; damp	
13	CLAY, some f/c gravel, little f/c sand; gray; wet	
14	14.0	
15	weathered BEDROCK; gray, yell-brn; dk brown; damp	15'
16		
17		
18		
19		
20		
21		
22		
23		
24		
25		
26		
27		
28		
29		
30		

5/29

NAPR

1520 Sampler refusal @ 4 ft on concrete. Move ~5-ft to the south.

1540 Boring complete. Water shallow compared w/ 2005 (40-ft). Driller cleanup

1550 Driller departs site. I prep. samples.

1623 Return to PWD. Ice down samples and prep for tomorrow.

1720 Depart PWD - Done for the day.

MKD 5/29

MKD 5/29/08

5/29 MKD

Friday May 30, 2008. Today's Tasks -
SWMU 71
Weather Conditions -
AM: P. sunny, mod. E wind, low 80's
PM: P. sunny, mod. E wind, high 80's

0635 Arrive at PWD. Prepare for the day.
0652 Relocate to SWMU 71 to measure DTW in boreholes
0655 71SB11 collapsed at 2' bgs. SB05 blocked by rig.
0715 Meet drillers at decon area
0726 Drillers at SWMU 71 with me.
0735 Begin augering for 71MW05
0829 Begin well installation
1010 Well at SB05 completed (flush-mount cover) Named 71MW05
1013 Relocate to 71SB04
1026 Begin borehole at 71SB04.
1116 Refusal at 23.5-ft bgs. Borehole open and dry. Will leave open for a time to observed for any water
1130 Setup at 71SB06.
1205 Refusal at 22-ft bgs. Driller lunch break. I process samples
1245 I depart SWMU to grab a sandwich

MKD 5/30

1315 Return to SWMU 71. Gauge water in open boreholes. 6" of water in SB06; 3" of water in SB04.
1340 Talked to MEK. I will install wells using 15-ft of screen because water bearing zone was not observed. Drillers need to decon augers.
1353 I return to PWD to ice samples.
1423 Return to SWMU 71. Drillers preparing to auger.
1519 Augered to 15-ft; very hard augering the last 5-ft. The driller said that augers would work better that direct push of large casing.
1525 Resume augering (15 to 20-ft).
1605 I scoped out quarry (hill) locations 71SB10 is located in a drainage gully that is steep & deep. The rig would not be able to access and it wouldn't be good to regrade the ditch. I proposed to move it to the East. MEK concurred. Since the proposed location is within a ditch receiving runoff from above, MEK & I concurred on collecting

5/30 MKD

NAPR

715B04

Time	Depth	ID	Recovery	PID PS	PID BG
1027	0-4	S-1	2.4	0	0
				0	0
				0	0
				-	-
1030	4-8	S-2	4.0	0	0
				0	0
				0	0
				0	0
1035	8-12	S-3	3.8	0	0
				0	0
				0	0
				0	0
1041	12-16	S-4	3.9	0	0
				0	0
				0	0
				0	0
1046	16-~~20~~ 19	S-5	2.9	-	-
				0	0
				0	0
1053	19-22	S-6	3.0	0	0
				0	0
1105	22-23.5	S-7		0	0

MKD 5/30

NAPR

	Description		Well
1	SILT, trace F gravel; clay; brn; damp		1'
2	F/C GRAVEL, some clay; gray; dry		
3	F SAND, little clay; f/c gravel; brn; damp		3'
4	~~CLAY, some f/c gravel; red-brn; damp~~	5.1	
5	~~[illegible]~~		5'
6	CLAY, trace F sand; red-brown;		
7	damp		
8	f/c gravel zone	04 -	
9	F gravel zone		
10	f/c gravel zone		
11			
12		11.9	
13	weathered BEDROCK (saprolite); green-brown; damp		
14	light green		
15	green-brown		
16		08 -	
17	non-saprolite; light green; dry		
18	brown zone		
19			
20	light green; dry		20'
21			
22	Refusal @ 23.5 ft		
23			

5/30 MKD

NAPR

715B06

Time	Depth	ID	Recovery	PS	BG
1134	0-4	~~8-6~~	2.6	~	~
				0	0
				0	0
				0	0
1138	4-8	~~4~~ S-2	4.0	0	0
				0	0
				0	0
				0	0
1142	8-12	S-3	4.0	0	0
				0	0
				0	0
~~1147~~	~~12-16~~	~~S-4~~		0	0
1147	12-16	S-4		0	0
				0	0
				0	0
				0	0
1155	16-20	S-5	4.0	0	0
				0	0
				0	0
				0	0
1202	20-22	S-6	2.0		

MKD 5/30

	Description	Well
1	F/C GRAVEL, little f sand; clay; gray-brown; dry	1'
2		
3		3'
4	CLAY, trace f/c sand; red-brown; 3.5	
5	damp	5'
6	F gravel zone	
7	F/C gravel zone	
8	08	
9		
10	No gravel	
11	F/C gravel zone; gray	
12	12.5	
13	weathered BEDROCK; gray; yellow-	
14	brown; damp	
15		
16	09	
17	09D 09MS 09MSD	
18		
19		
20		20'
21		
22	Refusal at 22.0-ft	

5/30 MKD

((cont.) one surface soil from the gully to ascertain if ~~are~~ contamination from the two suspected source areas effected downgradient locations

1612 JB stopped by earlier this afternoon to let me know that the bulldozer (from SWMUs 61; 62) will mob to SWMU 71. They dozer will be able to clear; regrade hill locations tomorrow morning.

1617 Augering completed to 20-ft. Stop for the day. Well will be completed in the morning. Drillers depart SWMU - done for the day. I return to PWD.

1714 Scaped out access to hill at SWMU 71. It looks like the power line Row will work w/ some clearing. There are some fairly steep areas, but long enough grade; should be okay.

1745 Depart PWD - done for the day

MKD 5/30

MKD 5/30/2008

5/30 MKD

Sat. May 31, 2008. Today's Tasks -
SWMU 71 Well installation
Weather Conditions -
AM: M. cloudy, mod E wind, low 80's
PM: Cloudy, mod E wind, high 80's

0648 Arrive at PWD. Prepare for the day.
0715 Relocate to SWMU 71. Drillers on site, begining well installation. Dozer operater also on site.
0726 JB: Mingo on site to give operator clear instructions.
0940 Access to hill borings cleared
0944 ~~AH~~ 71MW06 completed. Drillers relocate to decon augers.
0950 71MW05 is dry
0956 71SB04 DTW ≈ 19.3' TD ≈ 20.3'
Water was ~ 20' on 5/30
1051 Begin augering at SB04 for well installation.
1157 71MW06 DTW = 8.51' (T/PVC). Juan
1 Negron on site.
1212 Driller lunch break. Juan was also going to scope out SWMU 61 & 62 w/ drillers.
1350 Drillers back on site. Begin well

(cont.) installation
1422 I setup for well development while installation of 71MW04 continued.
1440 DNH on site
1519 DNH off site. Well pumped dry, but is recharging quickly
1535 Well MW04 completed driller cleanup and get water for decon. I've been monitoring recharge at MW06 for a K estimate
1429 71MW04 is dry. Relocate to PWD.
1705 Depart PWD - Done fore the day

NAPR

71MW06 Well Development

DTW = 8.40' (T/PVC)

TD = 20.20' (T/PVC)

Well Vol. ≈ 1.9 gal

Time Gallons

DNH to record development

ET (sec)	DTW	ET	DTW
13	20.25	8m	19.00
30	20.20	8m 30s	18.91
45	20.15	9m	18.85
60	20.10	9m 30s	18.77
90	20.02	10m	18.69
120	19.93	11m 10s	18.51
150	19.85	12m	18.40
180	19.76	13m	18.26
3m 30s	19.69	14m	18.11
4m	19.60	15m	17.98
4m 30s	19.53	20m	17.31
5m	19.44	25m	16.68
5m 30s	19.39	30m	16.08
6m	19.30	40m	15.08
6m 30s	19.22	50m	14.62
7m	19.14	60m	14.24
7m 30s	19.06		

MKD 5/31

1~2 Feet of sediment in well

1434 Begin pumping

MKD 5/31/2008

5/31 MKD

Sun. June 1, 2008. Today's Tasks -
SWMU 71
Weather Conditions -
AM: Cloudy, ~~gusty~~ Variable NE wind, low 80's occ am rain
PM: Cloudy, occ rain, lt NE wind, 80's

0655 Arrive at PWD. Prepare for the day.
0713 71MW04 DTW = 19.76' (T/PVC)
TD = 20.18' (T/PVC)
0719 71MW06 DTW = 8.08' (T/PVC)
0721 71MW05 DTW = Dry
TD = 15.17' (T/PVC)
0726 Drillers arrive at SWMU 71.
0740 Begin augering for the installation of 71GW11.
0748 A small electric cable was hit at 71SB11 at approximately 1-ft bgs (probably for commissary sign). Moved approx. 10-ft to the southeast.
0840 AG stopped by. He said that the PWD bldg electrical room caught on fire.
0913 I drove to PWD & returned to SWMU 71. The entire bldg is filled w/ black smoke, including equip room & sample packing room.

MKD 6/1

0917 71MW04 DTW = 19.71'
1000 Still augering; weathered bedrock is hard
1123 Auger refusal at 17.5', we will leave hole open to check for water later
1144 71MW04 DTW = 19.65'
1149 71SB11 is open to ~16' bgs; trace of water at bottom.
1150 Lunchbreak
1300 Prepare for soil borings
1310 Setup at 71SB10
1356 Boring completed. Mobilize rig up hill to 71SB0
1407 71MW04 DTW = 19.60'
1430 Discuss access w/ driller. There are portions (2) of access that are too steep for the 66DT.
1445 Relocate to PWD. Help reorganize in Bldg 1205
1605 Depart - done for the day

6/1/2008

6/1 MKD

NAPR

715B10

Time	Depth	ID	Recovery	PID PS	PID BG
1322	0-4	S-1	2.2	–	–
				–	–
				0	0
				0	0
1329	4-8	S-2	2.0	–	–
				–	–
				0	0
				0	0
1333	8-12	S-3	3.4	–	–
				0	0
				60	0
				310	0
				[illegible]	[illegible]

MKD 6/1

	Description	
1	CLAY, trace f/c gravel; brown; moist	00
2	F GRAVEL, some clay; gray-brn; dry	
3	trace C Gravel	
4		
5		
6	F/C GRAVEL, little clay; gray;	05
7	dry	
8		
9		9.0
10	CLAY, trace f gravel; red-brn, dry	10.0
11	weathered BEDROCK; lt brown; damp; kerosene odor	06-
12	Probe refusal	

MKD 6/1/2008

6/1 MKD

Mon. June 2, 2008. Today's Tasks -
SWMU 71 well / SWMU 61 boring & well
Weather Conditions -
AM: M. cloudy, lt SE wind, low 80's
PM: Cloudy, rainy, gusty wind, mid 80's

0705 Arrive at the Security Bldg (our temp work / storage area).
0730 71SB11 is dry. Drillers to backfill
0730 71MW05 is dry
0739 71MW04 DTW = 19.28' still rising
0744 Setup 66DT rig at 71SB08 to install an additional well considering ~~SB11~~ SB11 & MW05 are dry.
0821 Prepare to auger to 20 ft bgs.
1035 71MW08 completed. Cleanup time.
1045 71MW04 DTW = 19.24'
1047 Driller decon. I do supply run
1113 Relocate to SWMU 61
1131 At SWMU 61.
1148 Setup at 61SB08
1220 I collect 61SB08-00 (~~was~~ 0-1') for Appl IX VOC, SVOC, PAHs & metals
1257 Setup at 61GW01
1320 Heavy rain shower
1416 Rain over; resume work

MKD 6/1

1430 Collect 61SB01-00, OOD, OOMS, and OOMSD for App IX VOCs, SVOCs, PAH, and metals
1445 William to build well pad (stickup w/ bollards)
1520 61MW01 completed. More rain showers
1525 Mob off SWMU. Drillers to decon area, I to Security. MC & JB also on site & mob. Rain showers cause early end to the day.
1635 71MW08 DTW = 4.10' (TOPVC)
1638 71MW04 DTW = 19.16'
1641 71MW05 is dry
1710 DNH & I depart Security bldg.

6/1 MKD

NAPR

715B08

Time	Depth	ID	Recovery	PID TS	PID BG
0748	0-4	S-1	3.2	–	–
				0	0
				0	0
				0	0
0753	4-8	S-2	4.0	0	0
				0	0
				0	0
				0	0
0757	8-12	S-3	3.0	–	–
				0	0
				0	0
				0	0
0805	12-16	S-4	4.0	0	0
				0	0
				0	0
				0	0
0813	16-~~20~~ 19	S-5	3.0	0	0
				0	0
	19-20	A-N	–	0	0
	Screen - 5-20' bgs				
	Casing - 0-5' bgs				
	Sand - 10-3' / Bentonite 1-3' bgs				

MKD

6/2

NAPR

	Description
1	SILT; dk brown; moist
2	F/C GRAVEL, some clay, trace f sand;
3	gray; dry (FILL)
4	3.5
5	CLAY, trace f gravel; c sand; brown; damp (RESIDUUM)
6	trace c sand; brown; moist; high
7	plasticity
8	
9	
10	little f/c gravel; c sand; brown; moist; high plasticity
11	11.0
12	weathered BEDROCK; brown, rust; gray; damp
13	clayey zone
14	gravelly zone
15	
16	
17	
18	wet zone ~~(ar)~~ 17.9-18.2' gray; hard - more monolithic
19	
20	

6/2

MKD

NAPR

615B08

Time	Depth	ID	Recovery	PID PS	PID BG
1150	0-4	S-1	2.7	–	–
				0	0
				0	0
				0	0
1153	4-8	S-2	3.3	–	–
				0	0
				0	0
				0	0
1156	8-12	S-3	4.0	0	0
				0	0
				0	0
				0	0

MKO 6/2

	Description	
1	CLAY, some f/c gravel w/ f sand zones; brown; damp (RESIDUM)	00
2		01
3		
4	CLAY, trace f gravel; c sand; brown; moist	
5		03
6		
7		
8	little f gravel; c sand; brown; moist	
9	wet @ 8.2'	
10	trace c sand; orange-brown; moist	
11	some f sand; orange-brown; wet	
12	Bottom 12.0'	

6/2 MKO

NAPR

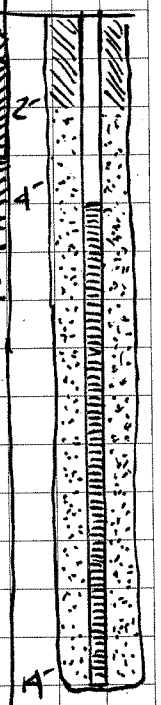
615B01 aka 61GW01

Time	Depth	ID	Recovery	PS	BG
1303	0-4	S-1	2.7	–	–
				0	0
				0	0
				0	0
1307	4-8	S-2	3.5	0	0
				0	0
				0	0
				0	0
1311	8-12	S-3	4.0	0	0
				0	0
				0	0
				0	0
1320	12-14	A-N	–	–	–

MKD 6/2

Description

1 ~~CLAY, sa.~~ SILT, little clay, trace OOB
2 c sand; brown w/ tan layers; damp
3 (RESIDUUM) 01'
4 02'
5 some clay
6 6.0
7 CLAY, little silt, trace % c sand; brown
8 moist (wet e 5.9-6.2) (RESIDUUM)
9 wet e 8'
10 trace c sand; silt; brown; wet
11 moist
12 mottled-brown; yell-brn w/ black
13 f gravel; moist
14



6/2/2008

6/2 MKD

NAPR

Tues. June 3, 2008. Todays Tasks-
SWMU 61 borings & wells
Weather Conditions
AM: P. sunny, lt SE wind, mid 80's
PM: M. cloudy, rainy, mid 80's

0650 Arrive at Security bldg.
0725 Relocate to the decon area, Driller's ready to go
0733 Relocate to SWMU 61 w/ driller
0820 William setsup at GW02
0845 Begin augering for 61GW02
0923 61GW01 DTW = 6.35' (T/PVC)
0954 61GW02 open borehole
TD ≈ ~~17.5'~~ 17.7'
DTW ≈ 16.0'
0950 MKD collects 61SB07-00 [late entry]
1007 Prepare to install well at 61GW02
1100 Driller is completing well pad (stickup & bollards)
1137 Setup at 61SB07.
1215 Driller lunchbreak.
1220 MKD lunchbreak & supply run
1338 Return to SWMU 61, Driller has 61SB11 samples waiting for me.
1400 setup at 61SB1

MKD 6/3

NAPR

1500 MRC collects 61SB12. Heavy rain begins
1510 MRC collects 61SB11.
1535 Rain over process samples. My driller is finishing pad at GW01
1603 I return to Security Bldg. Driller to decon area.
1700 Depart Security Bldg
2000 Look at 71MW04 & MW06 recovery data to determine if a "K" can be estimated.
2030 Done for the day

6/3 MKD

NAPR

615B02/GW02

Time	Depth	ID	Recovery	PID PS	PID BG
0824	0-4	S-1	4.0	0	0
				0	0
				0	0
				0	0
0828	4-8	S-2	4.0	0	0
				0	0
				0	0
				0	0
0835	8-12	S-3	4.0	0	0
				0	0
				0	0
				0	0
0842	12-16	S-4	4.0	0	0
				0	0
				0	0
				0	0
0940	16-18	A-N			

MQ 6/3

	Description	OO	Well
1	CLAY, little f/c gravel; brown; damp	1.0	
2	CLAY, trace f sand & silt; orange-brown; damp	01	
3	w/ mottled zones (RESIDUM)		
4			4
5			
6			6
7	moist (8-8.5')		
8			8.5
9	little silt; (orange & brown; gray mottled;		
10	damp	05	
11		11.0	
12	weathered BEDROCK; orange-brn, gray; tan; damp		
13			
14			
15		14.5	
16			
17			17.5
18			

6/3 MQ

NAPR

61SB07

Time	Depth	ID	Recovery	PID PS	PID BG
1141	0-4	S-1	4.0	0	0
				0	0
				0	0
				0	0
1145	4-8	S-2	4.0	0	0
				0	0
				0	0
				0	0
1152	8-12	S-3	4.0	0	0
				0	0
				0	0
				0	0

MKD

6/3

NAPR

	Description	
1	CLAY, trace silt; orange-brn & brown;	00
2	sl mottled; damp (RESIDUM)	01
3	little silt, trace c sand; orange-brn &	
4	brown; sl mottled; damp	
5		
6		
7	some silt; orange-brn, black & gray; mottled;	
8	moist	04
9		
10	some f sand; brown; wet	
11	weathered BEDROCK; orange-brn & black	9.9
12	and gray; moist	
	Bottom 12.0 ft	

6/3

MKD

NAPR

61SB11

Time	Depth	ID	Recovery	PID PS	PID BG
1335	0-4	S-1	2.4	–	–
				0	0
				0	0
				0	0
1340	4-8	S-2	4.0	0	0
				0	0
				0	0
				0	0
1345	8-12	S-3	4.0	0	0
				0	0
				0	0
				0	0
1358	12-16	S-4	4.0	0	0
				0	0
				0	0
				0	0

MKD

6/3

NAPR

	Description	
1	CLAY, little f gravel; dk brown; moist	00
2	trace silt; brown; damp (RESIDUUM)	01
3		
4	brown; gray-mottled; moist	
5		
6	little silt; brown; gray; damp	
7		
8		
9	trace clay; brown; gray (mottled);	
10	damp	05
11		11.0
12	weathered BEDROCK; orange-brn, gray,	
13	tan; black; mottled; moist	
14	clayey zone (gray)	
15		
16	BOHE 16.0'	

6/3

MKD

615B12

Time	Depth	ID	Recovery	PS	BG
1408	0-4	S-1	3.8	0	0
				0	0
				0	0
				0	0
1412	4-8	S-2	4.0	0	0
				0	0
				0	0
				0	0
1415	8-12	S-3	4.0	–	–
	Heavy rain begins			–	–
				–	–
				–	–

MKD 6/3

	Description	
1	CLAY, some silt; trace f gravel; brn; moist	00
2	SILT, little f sand; clay; brown; damp	01
3		
4	CLAY, trace f gravel; rust; brn; damp	
5	little silt; rust; brown; damp	
6		
7		
8	dk brown; moist	
9	trace silt; gray, rust; brown;	
10	mottled; damp	05
11	(RESIDUUM)	
12		
	Bottom 12.0 ft	

6/3/2008

6/3 MKD

Wed. June 4, 2008. Todays Tasks-
SWMU 61 well & borings
Weather Conditions-
AM: P. sunny, acc shower, lt E wind, low 80's
PM: M cloudy, mod SE wind, high 80's

0645 Arrive at security bldg. Prepare for the day.
0715 Relocate to decon area. Drillers are preparing for the day.
0720 Relocate to SWMU61.
0815 Setup at 61SB10
0839 Setup at 61GW04
0905 MKD collects 61SB10-00 while driller preps to auger
0943 61GW04 is located near a foundation/floor remnant. An odor (solvent?) was noted in sandy fill material sample collected there (61SB04-01
1030 Begin installation of 61GW04
0910 [Late Entry] MRC collects 61SB04-00
1145 Well completed. Prep. for next boring
1200 Lunch break. I run some errands
1259 Setup at 61SB09.
1345 MKD collects 61SB09-00 & 00D, Driller

MKD 6/4

(cont.) cleans up and moves to decon. area.
1404 Relocate to Security Bldg.
Several tasks to complete:
- ship out samples
- Reorganize our new room in Security
- Move over equipment and supplies from ~~fire~~ smoke damaged room
1700 Report security bldg after FedEx pickup. Done for the day.

6/4 MKD

NAPR

615B10

Time	Depth	ID	Recovery	PID PS	PID BG
0824	0-4	S-1	3.2	-	-
				0	0
				0	0
				0	0
0827	4-8	S-2	4.0	0	0
				0	0
				0	0
				0	0
0832	8-12	S-3	4.0	0	0
				0	0
				0	0
				0	0

MKD 6/4

	Description	
1	CLAY, some silt; dk brown; moist (RESIDUUM)	00
2	CLAY, some f/c gravel; silt; green-gray; damp little silt	01
3	CLAY, trace f gravel ~~; silt~~; rusty brown; damp	
4		
5	CLAY, trace silt; brown; damp	
6		
7		
8	moist	
9		8.9
10	weathered BEDROCK; gray; orange-brown; damp (silty sand in nature)	05 05D 05MS 05MSD
11		
12	BoHe 12.0 ft	
13		
14		
15		
16		

6/4 MKD

61GW04

Time	Depth	ID	Recovery	PID PS	PID BG
0840	0-4	S-1	2.9	–	–
				132	0
				0	0
				0	0
0844	4-8	S-2	3.3	–	–
				0	0
				0	0
				0	0
0851	8-12	S-3	3.5	0	0
				0	0
				0	0
				0	0
0858	12-16	S-4	3.3	–	–
				0	0
				0	0
				0	0
1005	16-17	A-N	–	–	–

MKD 6/4

	Description		Well
1	SILT, some clay; dk brown; moist	00	
2	F/C SAND, some f gravel; gray; damp; chemical odor (FILL)	01	
3	F GRAVEL; gray; dry	3.8	3
4	SILT, ~~little~~ trace clay; f gravel		
5	brown (~~rust~~ orange); damp (RESIDUUM)	5.0	5
6	CLAY, little silt, trace c sand; gray; moist		
7			7
8	brown; gray-mottled; moist		
9	trace c sand; silt; brown; gray (mottled); wet @ 8.7-8.9'		
10		9.9	
11	weathered BEDROCK; orange-brown and brown; damp (silty)	05	
12			
13	gray-brown; wet saturated 13-14'		
14			
15	orange-brn, brown; gray; damp		
16			
17			17
18			
19			
20			

6/4 MKD

615B09

Time	Depth	ID	Recovery	PS	BG
1304	0-4	S-1	2.9	–	–
				0	0
				0	0
				0	0
1308	4-8	S-2	4.0	0	0
				0	0
				0	0
				0	0
1312	8-12	S-3	4.0	0	0
				0	0
				0	0
				0	0
1319	12-16	S-4	4.0	0	0
				0	0
				0	0
				0	0

MKD 6/4

Description

1 CLAY, some silt; dk brown; damp — 0.0
trace f gravel
2
3 F/C GRAVEL, trace f sand; gray; dry — 2.0
4 — 4.0
5 CLAY, trace silt; gray; rust-mottled;
6 damp
7
8
9 CLAY, gray; rust mottled trace ~~ver~~
10 w/ black vert fracture traces; damp — 0.5
11
12 — 12.2
13 weathered BEDROCK; orange-brn;
14 gray; damp - moist @ 14'
15
16 moist @ 15.5
BOH @ 16.0'

6/4/2008

6/4 MKD

NAPR

Thur. June 5, 2008. Todays Tasks -
Demob activities
Weather Conditions -
AM: P. sunny, mod E wind, mid 80's
PM: M. cloudy, mod E wind, showers, mid 80's

0645 Arrive at Security Bldg. Various tasks this morning including:
- IDW sample prep
- Sample shipping
- Securing equipment & supplies

0830 Relocate to driller decon area

0900 Relocate to drum storage area.

~~0925~~

0930 Collect 74IDW01. Composite from soil drums for TCLP VOC & Metal analysis, as well as ignitability, corrosivity, and reactivity (cyanide & sulfide)

0935 collect 74IDW02. Composite from water drums for App IX VOC, RCRA metals as well as ignitability, corrosivity, and reactivity (cyanide & sulfide)

0945 Collect MNAIDW01; from one drum for TCLP VOC, RCRA metals and reactivity (cyanide & sulfide)

MKD 6/5

NAPR

0955 Relocate back to security bldg. Prep samples for shipping.

1030 Organize & pack equipment

1210 Lunchbreak

1245 Return to security bldg. Continue demob

1348 Depart NAPR for Nat'l Car Rental.

1500 Arrive at National.

1600 Head to Hotel in San Juan.

MKD 6/5/2008

6/5 MKD

Soil Boring Logs

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB01

COORDINATES: EAST: 931758.4 NORTH: 808208.0

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				4/28/08	0.0 - 12.0	Hot and Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1					74SB01-00 (0-1')			
2		D-1	2.5 63%			2.5	Clay, gray, fuel odor	
3							Gravel, Clay, brown, fill	
4	4.0				74SB01-02 (3-5')			
5							Sandy Clay, gray, soft, fuel odor	
6		D-2	4.0 100%			21		
7							Clay, trace sand and gravel, tight clay, damp no odor	
8	8.0				74SB01-04 (7-9')			
9							Grades red & gray, mottled at 8.0'	
10		D-3	4.0 100%			<1		

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB01 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB01

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	4.0 100%			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB01 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB02

COORDINATES: EAST: 931677.3 NORTH: 808149.4

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				4/28/08	0.0 - 12.0	Sunny and Hot	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1, 2, 3, 4	4.0	D-1	N/A			<1	Gravelly Clay (fill), little sand, dry to damp	
5, 6, 7, 8	8.0	D-2	N/A		74SB02-03 (5-7')	<1	More clay, less gravel	
							Clay brownish gray, red, mottled, stiff	
9, 10		D-3	N/A		74SB02-05 (9-11')	<1	Wet zone, softer clay, some sand and silt	

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB02 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB02

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	N/A			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
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29								
30								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB02 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB04

COORDINATES: EAST: 931513.2 NORTH: 808035.2

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				4/28/08	0.0 - 12.0	Sunny and Hot	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1, 2, 3, 4	4.0	D-1	3.5 88%		74SB04-01 (1-3')	<1	Gravel and Clay, brown, damp	
5, 6, 7, 8	8.0	D-2	4.0 100%		74SB04-04 (7-9')	<1	Clay, yellow brown, stiff; Clayey Silt,red/golden brown, friable, dry; grades more red with depth	
9, 10		D-3	4.0 100%			<1	Stiff and dry	

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB04 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB04

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	4.0 100%			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB04 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO. 74SB05

COORDINATES: EAST: 931435.9 NORTH: 807972.4

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				4/29/08	0.0 - 12.0	Hot and Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1 2 3 4	4.0	D-1	3.0 75%		74SB05-01 74SB05-01D (1-3') 74SB05-02 (3-5')	74	Fill ,Gravelly Clay & Silt, fuel odor	
5 6 7 8	8.0	D-2	2.5 63%			25	Gravelly Sand, little Silt & Clay, wet @5-6' Clayey Silt, red & brown, gray mottled, dry, med-low plasticity	
9 10		D-3	4.0 100%			<1	less plasticity, more dry and dense, very tight	

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO. 74SB05 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB05

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	4.0 100%			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB05 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB06

COORDINATES: EAST: 931351.0 NORTH: 807918.1

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				4/28/08	0.0 - 10.0	Sunny and Hot	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks: No well, fear of spreading 177PPM DEEPER

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Fill ,Gravel, Clayey Sand, brown	
2		D-1	3 75%		74SB06-01 74SB06-01MS 74SB06-01MSD (1-3')	177		
3								
4	4.0				74SB06-02 (3-5')		Sandy, moist, hydrocarbon odor	
5							Clayey Silt, golden brown, tight, friable, dry	
6		D-2	3.0 75%			59		
7							Gravelly Sand, gray, fuel odor, wet	
8	8.0							
9		D-3	3.0 75%			<1	Clay, golden brown, tight, little plasticity, damp	
10	10.0							
							END OF BORING at 10.0'	

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB06 SHEET 1 OF 1

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB07

COORDINATES EAST: 931270.0 NORTH: 807859.6

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				4/29/08	0.0 - 12.0	Sunny and Hot	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1, 2, 3, 4	4.0	D-1	3.0 75%		74SB07-02 (3-5')	<1	Gravel, Clay and Sand, (Fill), brown, dry to damp moist to wet	
							Clayey Silt, golden brown, friable, stiff, dry grades light brown and softer, little plasticity	
5, 6, 7, 8	8.0	D-2	4.0 100%		74SB07-04 (7-9')	<1		
9, 10		D-3	4.0 100%			<1	Clay, brownish red with gray, more stiff, mottling damp	

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB07 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB07

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	4.0 100%			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
14								
15								
16								
17								
18								
19								
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DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB07 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB09

COORDINATES: EAST: 931112.0 NORTH: 807735.4

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				4/29/08	0.0 - 12.0	Sunny and Hot	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1, 2, 3		D-1	3.0 75%			<1	Gravel, Sand and Clay, (Fill), medium brown, dry	
4	4.0				74SB09-02 (3-5')		Silty Clay, golden brown, stiff, slight plasticity, grades more softer and more plasticity damp to dry	
5, 6, 7		D-2	4.0 100%			<1		
8	8.0						Grades medium brown ,moist, and more plastic with depth	
9, 10		D-3	4.0 100%		74SB09-05 (9-11')	<1		
							Silty Sand with little Clay, wet	

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB09 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB09

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	4.0 100%			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
14								
15								
16								
17								
18								
19								
20								
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22								
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30								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB09 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB10

COORDINATES: EAST: 931030.2 NORTH: 807699.4

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				4/29/08	0.0 - 12.0	Sunny and Hot	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1, 2, 3, 4	4.0	D-1	3.3 63%		74SB10-02 (3-5')	<1	Gravelly Clay, (Fill), light brown, damp	
5, 6, 7, 8	8.0	D-2	3.5 100%		74SB10-04 (7-9')	<1	Silty Clay, brown, soft, plastic, moist; Clay, golden brown, grades more dense, stiff, damp	
9, 10		D-3	4.0 100%			<1	Grades more dense, brown.red.gray, mottling	

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB10 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB10

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	4.0 100%			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
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DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB10 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB11

COORDINATES: EAST: 930915.1 NORTH: 807670.1

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				4/30/08	0.0 - 12.0	Sunny and Hot	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Gravel with little sand and clay, (Fill), gray and brown, dry	
2		D-1	3.3 83%			<1		
3					74SB11-02 (3-5')			
4	4.0						Clayey Silt, golden brown, friable, dry to damp	
5								
6		D-2	4.0 100%			<1		
7					74SB11-04 74SB11-04D			
8	8.0							
9		D-3	4.0 100%		74SB11-04MS 74SB11-04MSD (7-9')	<1	Clay, more stiff, red/gold, mottling with depth	
10								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB11 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB11

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	4.0 100%			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
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DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB11 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB12

COORDINATES: EAST: 930823.3 NORTH: 807660.2

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				4/30/08	0.0 - 12.0	Sunny and Hot	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1, 2, 3, 4	4.0	D-1	2.0 50%			<1	Gravelly Clay, (Fill), brown, dry; Sandy Gravel, dry, loose	
5, 6, 7, 8	8.0	D-2	3.8 95%		74SB12-03 (5-7')	<1	Clayey silt, brown/red, friable, dry	
9, 10		D-3	4.0 100%		74SB12-05 (9-11')	<1	Grades more clay, dense; Grades red/brown/gray	

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB12 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB12

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	4.0 100%			<1	*Continued from Sheet 1* Mottling at 11.0'	
12	12.0						END OF BORING at 12.0'	
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DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB12 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB13

COORDINATES: EAST: 930725.7 NORTH: 807638.2

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				4/30/08	0.0 - 12.0	Sunny and Hot	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1, 2, 3, 4	4.0	D-1	4.0 100%		74SB13-00 74SB13-00D 74SB13-00MS 74SB13-00MSD (0-1') 74SB13-02 (3-5')	<1	Gravel and Silty Clay, (Fill), brown; Silty Clay, medium to dark brown, moderately soft plastic, damp	
5, 6, 7, 8	8.0	D-2	4.0 100%		74SB13-04 (7-9')	<1	Clayey Silt, red and golden brown, friable dense, dry	
9, 10		D-3	2.5 63%			<1	Silty Clay, reddish brown and gray, dense, little plasticity, mottling, damp	

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB13 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB13

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	2.5 63%			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
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DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB13 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB14

COORDINATES: EAST: 930628.2 NORTH: 807616.1

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				4/30/08	0.0 - 12.0	Sunny and Hot	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1, 2		D-1	4.0 100%			<1	Clayey Silt, medium to dark brown, little plasticity damp	
3, 4	4.0				74SB14-02 (3-5')		Silt with little Clay and Gravel, friable, dry	
5, 6, 7, 8	8.0	D-2	4.0 100%		74SB14-03 (5-7')	<1	Clayey Silt, medium brown, stiff, dense friable Grades golden brown, with red mottling, more dense	
9, 10		D-3	4.0 100%			<1	Silt with little clay, friable, red/brown/gray, saprolitic structure, dry	

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB14 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB14

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	4.0 100%			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
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DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB14 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB15

COORDINATES: EAST: 930530.6 NORTH: 807594.1

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				4/30/08	0.0 - 12.0	Sunny and Hot	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1, 2, 3		D-1	3.5 88%			<1	Gravel and Sand, (Fill), gray, poorly sorted, dry	
4	4.0				74SB15-02 (3-5')		Silty Clay, medium brown, some plasticity dense, damp	
5, 6, 7		D-2	4.0 100%		74SB15-03 (5-7')	<1	Clayey Silt, red/brown and gray, friable, dry mottling	
8	8.0							
9, 10		D-3	4.0 100%			<1	Grades more red and friable, dry, saprolite-like	

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB15 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB15

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	4.0 100%			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
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DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB15 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB16

COORDINATES: EAST: 930437.4 NORTH: 807563.9

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				4/30/08	0.0 - 12.0	Sunny and Hot	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Clayey Silt, dark brown, some plasticity	
2		D-1	4.0 100%			<1		
3							Grades golden brown	
4	4.0				74SB16-02 (3-5')			
5								
6		D-2	4.0 100%			57	Silt, little clay, brown and red, friable, dry	
7								
8	8.0				74SB16-04 74SB16-04D (7-9')		Silty Clay, gray/ reddish brown, some plasticity mottling, hydrocarbon odor	
9		D-3	4.0 100%			69		
10								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB16 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB16

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	4.0 100%			69	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
14								
15								
16								
17								
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30								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB16 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74
SO NO.: 111626 BORING NO.: 74SB22
COORDINATES: EAST: NORTH:
ELEVATION: SURFACE:

Rig: Geoprobe 6620 DT Track Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2"				5/3/08	0.0 - 16.0	85° Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1, 2, 3, 4	4.0	D-1	3.4 68%		74SB22-00 (0-1')	<1	Silty clay, moderate stiffness, damp, becomes medium brown silty clay with sand, damp, stiff, gravel	
5, 6, 7, 8	8.0	D-2	4.0 100%		74SB22-03 74SB22-03D 74SB22-03MS 74SB22-03MSD (5-7')	>200	Clay, soft, damp to moist, medium brown, hydrocarbon staining, some sand	
9, 10		D-3	4.0 100%		74SB22-04 (7-9')	>300	Sandy clay, moderate softness, damp to moist Clay, light blue, soft	

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa
DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB22 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB22

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	4.0 100%			>300	*Continued from Sheet 1*	
12	12.0							
13		D-4	4.0 100%			>300	Sandy clay, light blue, some silt, soft, damp moist	
14								
15								
16	16.0							
17							END OF BORING at 16.0'	
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DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB22 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB23

COORDINATES: EAST: 930372.0 NORTH: 807548.1

ELEVATION: SURFACE:

Rig: Geoprobe 6620 DT Track Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2"				5/3/08	0.0 - 12.0	85° Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Silty clay, medium brown, moderate soft, damp, roots at 0.8', light brown, silty clay some sand and rocks, damp to moist	
2		D-1	2.7 68%			<1		
3					74SB23-02 (3-5')			
4	4.0					5		
						40		
5							Clay with Silt, brown, soft, moist	
6		D-2	2.7 68%		74SB23-03 (5-7')			
7							Clay with Sandy Clay, light blue, moderately soft moist to damp	
8	8.0							
						>200		
9		D-3	4.0 100%				Clay with some silt, light blue and medium brown, wet	
10						50		

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB23 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB23

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	4.0 100%			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
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DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB23 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB24

COORDINATES: EAST: 930436.5 NORTH: 807702.0

ELEVATION: SURFACE:

Rig: Geoprobe 6620 DT Track Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2"				5/3/08	0.0 - 12.0	85° Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Silty Clay, dark brown, moderately stiff, damp Gravel from 0.8' to 1.5'	
2		D-1	3.2 80%			<1	Silty Clay, some sand, dark brown, some pebbles stiff, damp to dry	
3								
4	4.0							
5							Sand, brown, loose, well sorted, damp to moist well sorted	
6		D-2	3.6 90%		74SB24-03 (5-7')	<1		
7							Silty Clay, gray brown, soft, damp	
8	8.0							
9		D-3	4.0 100%		74SB24-05 (9-11')	<1	becomes light brown at 8.4, very stiff, damp, trace sand	
10								

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB24 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB24

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11							*Continued from Sheet 1*	
		D-3	4.0			<1	Clay, red and light blue/gray, damp	
12	12.0		100%					
							END OF BORING at 12.0'	
13								
14								
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25								
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DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB24 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB25

COORDINATES: EAST: 930448.2 NORTH: 807663.9

ELEVATION: SURFACE:

Rig: Geoprobe 6620 DT Track Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2"				5/3/08	0.0 - 12.0	85° Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1, 2, 3, 4	4.0	D-1	2.3 58%			<1	Silty clay, dark brown, stiff, rocks, damp becomes lighter brown at 1.5', dry	
5, 6, 7, 8	8.0	D-2	1.2 30%		74SB25-04 (7-9')	<1	Cobble pushed at 5.2' Sandy Clay, light brown, moderate stiff, damp pebbles throughout	
9, 10		D-3	4.0 100%		74SB25-05 (9-11')	<1	becomes dark red sandy clay and lt. brown silty clay some light blue clay throughout, stiff, plastic, damp fine grained sand	

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB25 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB25

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	4.0 100%			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
14								
15								
16								
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19								
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29								
30								

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB25 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB27

COORDINATES: EAST: 930339.1 NORTH: 807603.7

ELEVATION: SURFACE:

Rig: Geoprobe 6620 DT Track Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2"				5/3/08	0.0 - 12.0	85° Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1, 2, 3, 4	4.0	D-1	4.0 100%			<1	Silty clay, medium to dark brown, moderately stiff damp Rock throughout at 3.0' Sandy Clay, dark brown, damp	
5, 6, 7, 8	8.0	D-2	4.0 100%		74SB27-03 (5-7')	<1 75 149 232	Silty Clay, reddish light brown, soft, damp hydrocarbon impact at 6.2'	
9, 10		D-3	4.0 100%		74SB27-05 (9-11')	>200 | | | v	Sandy Clay, dark red, and Clay, blue gray intermixed, damp, clay is stiff	

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB27 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB27

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	4.0 100%			20	*Continued from Sheet 1* becomes soft, moist at 11.5'	
12	12.0						END OF BORING at 12.0'	
13								
14								
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DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB27 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB28

COORDINATES: EAST: 936678.2 NORTH: 804758.1

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/1/08	0.0 - 12.0	Sunny and Hot	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Silty clay, medium brown, little plasticity, stiff dense	
2		D-1	4.0 100%			<1	Clayey Silt, red/brown/gray, mottling, friable, dry	
3					74SB28-02 (3-5')			
4	4.0							
5						23		
6		D-2	4.0 100%			56		
7					74SB28-04 (7-9')	182	Silty Clay, reddish brown, dense, stiff, dry, no plasticity	
8	8.0					261		
9		D-3	4.0 100%			124	Grades more clay with depth	
10						120		

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB28 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB28

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	4.0 100%			148	*Continued from Sheet 1*	
12	12.0					113	END OF BORING at 12.0'	
13								
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DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB28 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB29

COORDINATES: EAST: 936774.7 NORTH: 804727.0

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/1/08	0.0 - 12.0	Sunny and Hot	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Clayey Silt, red/brown/gray, friable, dry	
2		D-1	4.0 100%			<1		
3							Grades little more clay with depth, and some plasticity	
4	4.0							
5					74SB29-03 (5-7')			
6		D-2	4.0 100%			4		
7						120		
8	8.0					60		
9						169		
10		D-3	4.0 100%		74SB29-05 (9-11')	120	Silty Clay, reddish brown, damp to dry	

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB29 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB29

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	4.0 100%			137	*Continued from Sheet 1*	
12	12.0					55	END OF BORING at 12.0'	
13								
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DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB29 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB30

COORDINATES: EAST: 936772.6 NORTH: 804728.4

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/1/08	0.0 - 12.0	Sunny and Hot	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Silty Clay, medium brown, soft, plastic, damp	
2		D-1	4.0 100%			<1		
3								
4	4.0						Grades more dense, and more clay with depth,	
5						<1		
6		D-2	4.0 100%		74SB30-03 (5-7')	65	Grades with red color at 6.0'	
7						20		
8	8.0				74SB30-04 (7-9')	100	Soft, more plastic zone 8-9.0'	
9						68		
10		D-3	4.0 100%			167	Same silty clay as above, stiff, dense	

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB30 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB30

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	4.0 100%			47	*Continued from Sheet 1*	
12	12.0					15	END OF BORING at 12.0'	
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DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB30 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB31

COORDINATES: EAST: 930525.0 NORTH: 807207.0

ELEVATION: SURFACE:

Rig: Geoprobe 6620 DT Track Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/1/08	0.0 - 12.0	Sunny and Hot	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Gravel and Clay, (Fill), brown	
2		D-1	2.5 63%			<1		
3							Clayey Sand, brown, wet	
4	4.0				74SB31-02 (3-5')		Clayey Silt, brown/red, friable, dry	
5							Silty Clay, reddish brown, damp	
6		D-2	4.0 100%		74SB31-03 (5-7')	<1		
7								
8	8.0							
9							some gray color and mottling at 9.0'	
10		D-3	4.0 100%			<1		

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB31 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB31

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	4.0 100%			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
14								
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16								
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30								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB31 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB32

COORDINATES: EAST: 930597.6 NORTH: 807106.4

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/1/08	0.0 - 12.0	Sunny and Hot	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1 2 3 4	4.0	D-1	3.0 75%		74SB32-02 (3-5')	<1	Gravel ,Sand and Clay, friable, loose, dry	
5 6 7 8	8.0	D-2	4.0 100%		74SB32-03 74SB32-03D (5-7')	<1	Clayey Silt, red and brown, medium stiff, little plasticity Silty clay, red/brown/gray, medium stiff, little plasticity, mottling from 6.0' to 12.0'	
9 10		D-3	4.0 100%			<1		

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB32 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB32

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	4.0 100%			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
14								
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DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB32 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB33

COORDINATES: EAST: 930655.7 NORTH: 807033.5

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig								
	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/1/08	0.0 - 12.0	Sunny and Hot	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1, 2, 3, 4	4.0	D-1	4.0 100%		74SB33-01 (1-3') 74SB33-02 (3-5')	<1	Clayey Silt/Silty Clay, red/brown and gray, mottling, soft, some plasticity, damp from 0.0 - 12.0'	
5, 6, 7, 8	8.0	D-2	4.0 100%			<1		
9, 10		D-3	4.0 100%			<1		

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB33 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB33

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	4.0 100%			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
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DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB33 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB34

COORDINATES: EAST: 930708.8 NORTH: 806966.5

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/1/08	0.0 - 12.0	Sunny and Hot	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1, 2, 3, 4	4.0	D-1	4.0 100%		74SB34-00 74SB34-00MS 74SB34-00MSD (0-1') 74SB34-01 (1-3')	<1	Clayey Silt, red and brown, stiff, little plasticity, friable, dry; Grades more clay with depth	
5, 6, 7, 8	8.0	D-2	4.0 100%		74SB34-02 (3-5')	<1	Silty clay, some plasticity, medium stiff, red and brown mottling to 12.0'	
9, 10		D-3	4.0 100%			<1		

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB34 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB34

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	4.0 100%			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
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DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB34 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB35

COORDINATES: EAST: 930781.6 NORTH: 807026.9

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/2/08	0.0 - 12.0	Sunny and Hot	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1, 2, 3, 4	4.0	D-1	4.0 100%		74SB35-01 (1-3')	<1	Clayey Silt, red and brown, medium stiff little plasticity, damp Grades more clay with depth	
5, 6, 7, 8	8.0	D-2	4.0 100%		74SB35-03 (5-7')	<1	Silty Clay, some plasticity, medium stiff red/brown/gray mottling until 12.0'	
9, 10		D-3	4.0 100%			<1		

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB35 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB35

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	4.0 100%			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
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DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB35 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB36

COORDINATES: EAST: 930861.1 NORTH: 807083.6

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig								
	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/2/08	0.0 - 12.0	Sunny and Hot	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1, 2, 3, 4	4.0	D-1	4.0 100%		74SB36-02 (3-5')	<1	Clayey Silt, red and brown, medium stiff, little plasticity, damp	
5, 6, 7, 8	8.0	D-2	4.0 100%			<1	Silty Clay, reddish brown and gray, some plasticity moderately stiff, mottling, damp; Grades more moist, plastic with depth	
9, 10		D-3	4.0 100%		74SB36-05 (9-11')	<1	Groundwater encountered at 9.5 feet, very soft sticky	

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB36 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB36

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	4.0 100%			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
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DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB36 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB37

COORDINATES: EAST: 930943.1 NORTH: 807151.5

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/2/08	0.0 - 12.0	Sunny and Hot	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Clayey Silt, brown, damp, friable, little plasticity	
2		D-1	4.0 100%		74SB37-01 (1-3')	<1		
3							becomes light brown	
4	4.0				74SB37-02 74SB37-02D		becomes red/gray/brown, mottled, more friable	
5					(3-5')			
6		D-2	4.0 100%			<1		
7								
8	8.0						becomes less dense and friable	
9		D-3	4.0 100%			<1		
10								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB37 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB37

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	4.0 100%			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
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DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB37 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB38

COORDINATES: EAST: 931021.8 NORTH: 807196.9

ELEVATION: SURFACE:

Rig: Geoprobe 6620 DT Track Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/2/08	0.0 - 12.0	Sunny and Hot	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Clayey Silt, brown, little plasticity, damp	
2		D-1	4.0 100%		74SB38-01 (1-3')	<1		
3							becomes red and brown, mottled, slightly friable	
4	4.0				74SB38-02 (3-5')			
5							becomes gray/red/brown	
6		D-2	4.0 100%			<1		
7							At 6.5' grade, little sand with clayey silt, poorly sorted	
8	8.0						Sand grades out by 8.0'	
9							becomes more stiff and dense at 8.5'	
10		D-3	4.0 100%			<1		

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB38 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB38

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	4.0 100%			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
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DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB38 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB39

COORDINATES: EAST: 931097.4 NORTH: 807263.9

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/2/08	0.0 - 12.0	Sunny and Hot	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Clayey Silt, medium brown, little plasticity, damp	
2		D-1	4.0 100%			<1		
3							becomes reddish brown, mottled	
4	4.0				74SB39-02 (3-5')			
5								
6		D-2	4.0 100%			<1		
7							becomes dark red/brown/gray, mottled	
8	8.0				74SB39-04 (7-9')			
9		D-3	4.0 100%			<1		
10								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB39 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB39

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	4.0 100%			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
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DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB39 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB40

COORDINATES: EAST: 931164.8 NORTH: 807330.8

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/2/08	0.0 - 12.0	Sunny and Hot	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Clayey Silt, reddish brown, dense, friable some mottling, damp to dry	
2		D-1	4.0 100%			<1		
3					74SB40-02 (3-5')			
4	4.0							
5							Grades softer, less dense at 5.0', more plasticity	
6		D-2	4.0 100%			<1		
7					74SB40-04 (7-9')		Grades very soft at 7.5'	
8	8.0							
9							Clayey Sand and Silt, golden brown, soft, moist to wet	
10		D-3	4.0 100%			<1	Silty Clay, brownish red and gray, soft medium to high plasticity, some mottlling	

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB40 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB40

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	4.0 100%			69	*Continued from Sheet 1* Grades more dense, less plasticity	
12	12.0						END OF BORING at 12.0'	
13								
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DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB40 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB41

COORDINATES: EAST: 931230.7 NORTH: 807413.0

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/2/08	0.0 - 12.0	Sunny and Hot	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Clayey Silt, reddish brown, stiff, low pasticity mottled, damp	
2		D-1	4.0 100%			<1		
3							becomes red/brown/gray, mottled	
4	4.0				74SB41-02 (3-5')			
5							becomes less stiff, softer, friable, moist	
6		D-2	4.0 100%			<1		
7								
8	8.0				74SB41-04 (7-9')		Very soft from 8.0 to 10.0'	
9		D-3	4.0 100%			<1	Possible water zone from 9.8 to 10.0' (very soft and moist)	
10								
							Silty Clay, reddish brown, stiff, damp	

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB41 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB41

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	4.0 100%			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
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DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB41 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74
SO NO.: 111626 BORING NO.: 74SB42
COORDINATES: EAST: 931322.8 NORTH: 807464.5
ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/3/08	0.0 - 12.0	Sunny and Hot	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Clayey Silt, red/brown/gray, mottling, trace sand fragments, damp	
2		D-1	3.7 93%			<1		
3								
4	4.0						becomes more friable with trace gravel	
5								
6		D-2	4.0 100%		74SB42-03 (5-7')	<1		
7								
8	8.0				74SB42-04 (7-9')		At 7.5' more dense, less plasticity	
9							Silty Clay, reddish brown and gray, some plasticity stiff, mottling, damp	
10		D-3	4.0 100%			<1		

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer
DRILLER: William Rodriguez BORING NO.: 74SB42 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB42

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	4.0 100%			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
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DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB42 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB43

COORDINATES: EAST: 931390.2 NORTH: 807538.0

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/3/08	0.0 - 12.0	Sunny and Hot	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1, 2, 3, 4	4.0	D-1	3.8 95%			<1	Clayey Silt, medium brown, stiff, little plasticity damp	
5, 6, 7, 8	8.0	D-2	4.0 100%		74SB43-03 (5-7') 74SB43-04 (7-9')	<1	Clayey Silt with gravel (pea-sized or smaller poorly sorted) red/brown, mottling, damp; Silty Clay, reddish brown and gray, trace to little gravel, stiff, mottling, damp	
9, 10		D-3	4.0 100%			<1		

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB43 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB43

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	4.0 100%			69	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
14								
15								
16								
17								
18								
19								
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22								
23								
24								
25								
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27								
28								
29								
30								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB43 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74
SO NO.: 111626 BORING NO.: 74SB44
COORDINATES: EAST: 931477.4 NORTH: 807585.5
ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/3/08	0.0 - 12.0	Sunny and Hot	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Gravel , sand and clay, brown, damp	
2		D-1	4.0 100%			<1	Clayey Silt, dark brown, tight, dense, little plasticity	
3								
4	4.0						becomes lighter brown at 3.8' and more silt, less plasticity	
5								
6		D-2	4.0 100%			<1		
7								
8	8.0				74SB44-04 (7-9')		becomes softer, more plasticity, damp	
9							Clayey Gravel and Sand, poorly sorted, damp	
10		D-3	4.0 100%		74SB44-05 (9-11')	<1	Clayey Silt, stiff, no to little plasticity	

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer
DRILLER: William Rodriguez BORING NO.: 74SB44 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB44

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	4.0 100%			<1	*Continued from Sheet 1* light reddish gray and brown, mottling	
12	12.0						END OF BORING at 12.0'	
13								
14								
15								
16								
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DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB44 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB45

COORDINATES: EAST: 931610.0 NORTH: 807553.3

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/3/08	5	Sunny and Hot	NA
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Refusal at 4', 5' and 5' at 3 separate holes (concrete and bedrock)	
2								
3								
4								
5	5.0							
6							Refusal at 5' multiple attempts	
7								
8								
9								
10								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB45 SHEET 1 OF 1

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB46

COORDINATES: EAST: 931686.9 NORTH: 807493.0

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/3/08	0.0 - 6.0	Sunny and Hot	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1					NO		Clayey silt, black, moist	
2		D-1	2.5 63%		SAMPL	<1	Clayey Sand and Gravel, grayish brown	
3							wet at 3.0'	
4	4.0							
5					ESCOLLECTED		Clayey silt with gravel, gray, moist	
6		D-2	2.0 50%			<1		
7							GEOPROBE REFUSAL at 6.0'	
8	8.0							
9								
10								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB46 SHEET 1 OF 1

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB47

COORDINATES: EAST: 931843.4 NORTH: 807306.6

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/3/08	0.0 - 7.0	Sunny and Hot	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1					NO		Top soil	
2		D-1	3.8 95%		SAMPL	<1	Gravelly Sand, light gray/brown, damp	
3								
4	4.0							
5					ES		Weathered bedrock, gravel and sand, light brown, primarily rock	
6		D-2	3.0 75%		COLL	<1		
7								
8	8.0				E		GEOPROBE REFUSAL at 7.0'	
9					CTED			
10								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB47 SHEET 1 OF 1

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB48

COORDINATES: EAST: 932003.0 NORTH: 807184.2

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/3/08	0.0 - 8.0	Sunny and Hot	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Gravelly Sand, little clay, gravel poorly sorted, moist	
2		D-1	3.0 75%		74SB48-01 74SB48-01D (1-3')	<1		
3								
4	4.0						Becomes wet, gravelly, sand at 3.0 to 4.0'	
5								
6		D-2	4.0 100%			<1	Clayey Silt, brown, damp	
7								
8	8.0						Gravelly Sand, poorly sorted	
9							END OF BORING at 8.0'	
10								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB48 SHEET 1 OF 1

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB49

COORDINATES: EAST: 932003.0 NORTH: 807184.2

ELEVATION: SURFACE:

Rig: Geoprobe 6620 DT Track Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/3/08	0.0 - 12.0	Sunny and Hot	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Silty Clay, medium stiff ,medium plasticity damp	
2		D-1	4.0 100%			<1	Clayey Silt, red/brown/gray, friable, damp mottling	
3								
4	4.0						Gravelly Silt, reddish brown, poorly sorted, loose	
5							Clayey Silt, red/brown, friable, stiff, dry	
6		D-2	4.0 100%			<1		
7							Grades red/gray/brown mottling	
8	8.0				74SB49-04 (7-9')		Silty Clay, reddish gray and brown, tight, stiff mottling, dry	
9		D-3	4.0 100%		74SB49-05 (9-11')	<1		
10								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB49 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB49

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	4.0 100%			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
14								
15								
16								
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DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB49 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB50

COORDINATES: EAST: 932100.1 NORTH: 807167.9

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/3/08	0.0 - 12.0	Sunny and Hot	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Clayey Sand and Gravel, medium brown, little plasticity, damp	
2		D-1	4.0 100%			<1	Clayey Silt, red/brown, friable, stiff dry, little gravel (pea-sized)	
3								
4	4.0							
5							Grades golden brown and no more gravel, stiff some plasticity	
6		D-2	4.0 100%		74SB50-03 (5-7')	<1		
7								
8	8.0				74SB50-04 (7-9')		Silty Clay, stiff, some plasticity, damp red/brown/gray mottling	
9		D-3	4.0 100%			<1		
10								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB50 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB50

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	4.0 100%			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
14								
15								
16								
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DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB50 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB51

COORDINATES: EAST: 932216.3 NORTH: 807175.1

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/3/08	0.0 - 8.0	Sunny and Hot	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1					74SB51-00 (0-1')		Clayey Silt, brown, dry, friable	
2		D-1	3.4 85%			<1		
3							Gravel, (Fill) gray, dry	
4	4.0						Clayey Silt, brown, sticky, moist	
5								
6		D-2	3.0 75%		74SB51-03 (5-7')	<1	Gravelly Clay, sand, wet, loose at 6.0'	
7							Silty Clay, dark gray and black, soft, moist plastic	
8	8.0							
9							END OF BORING at 8.0'	
10								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB51 SHEET 1 OF 1

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB52

COORDINATES: EAST: 932307.6 NORTH: 807149.7

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/3/08	0.0 - 12.0	Sunny and Hot	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1, 2, 3, 4	4.0	D-1	3.5 88%			<1	Clayey Silt with Sand, medium brown, little plasticity, soft, medium density	
5, 6, 7, 8	8.0	D-2	4.0 100%		74SB52-03 (5-7') 74SB52-04 (7-9')	<1	Clayey Silt, medium brown, soft; Clay gets very soft, moist to wet at 7.5'	
9, 10		D-3	4.0 100%			<1	Silty Clay, reddish gray, stiff, plastic mottling, damp	

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB52 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB52

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	4.0 100%			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
14								
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DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB52 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB53

COORDINATES: EAST: 932397.7290 NORTH: 807094.6190

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5'				5/3/08	0.0 - 12.0	Sunny and Hot	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Clayey Silt, medium brown, soft	
2		D-1	4.0 100%			<1		
3								
4	4.0							
5								
6		D-2	4.0 100%			<1		
7					74SB53-04			
8	8.0				(7-9')		becomes more red and friable	
9								
10		D-3	4.0 100%		74SB53-05 (9-11')	<1		

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB53 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB53

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	4.0 100%			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
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DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB53 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB54

COORDINATES: EAST: 932490.6 NORTH: 807037.6

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/3/08	0.0 - 12.0	Sunny and Hot	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Clayey Silt, dark brown, stiff, damp	
2		D-1	4.0 100%			<1		
3							Grades golden brown	
4	4.0							
5							At 4.5' grades brown and black, small sand and gravel is black, damp, friable	
6		D-2	4.0 100%		74SB54-03 (5-7')	<1		
7							Grades more black with depth	
8	8.0				74SB54-04 (7-9')			
9							becomes brown and red, friable light plasticity, damp	
10		D-3	4.0 100%			<1		

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB54 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB54

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	4.0 100%			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
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DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB54 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB55

COORDINATES: EAST: 932593.2 NORTH: 807013.4

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/3/08	0.0 - 8.0	Sunny and Hot	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Clayey Silt, brown, friable, stiff, dry medium density	
2		D-1	4.0 100%			<1		
3							Grades more plastic and soft	
4	4.0				74SB55-02 (3-5')			
5							At 4.5' Grades with small gravel (trace)	
6		D-2	4.0 100%		74SB55-03 (5-7')	<1		
7							At 7.0' soft, wet	
8	8.0							
9							END OF BORING at 8.0'	
10								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB55 SHEET 1 OF 1

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB56

COORDINATES: EAST: 932692.5 NORTH: 806998.7

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/3/08	0.0 - 12.0	Sunny and Hot	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1, 2, 3		D-1	3.5 88%			<1	Clayey Silt, friable, small sand and gravel, dry	
4	4.0						Silty Clay, dark brown, softer, plastic trace small gravel, damp	
5, 6, 7		D-2	4.0 100%		74SB56-03 (5-7')	<1	Grades to little to some small gravel(pea sized) At 6.0' light brown and red	
8	8.0				74SB56-04 (7-9')			
9		D-3	4.0 100%			<1	Clayey Silt, red and brown	
10							Silty Clay, stiff, red/gray/brown plastic	

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB56 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB56

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	4.0 100%			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
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DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB56 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB57

COORDINATES: EAST: 932795.0 NORTH: 806955.0

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/3/08	0.0 - 12.0	Sunny and Hot	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Clayey Silt, medium brown, little gravel	
2		D-1	4.0 100%			<1		
3							Silty Clay, medium stiff, medium plasticity	
4	4.0						soft, more plastic	
5							At 4.0 to 4.5' also softer	
6		D-2	4.0 100%		74SB57-03 (5-7')	<1		
7								
8	8.0				74SB57-04 (7-9')		8.0 to 9.0' soft zone	
9							Some density, little plastic	
10		D-3	4.0 100%			<1		

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB57 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB57

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	4.0 100%			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
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DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB57 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB58

COORDINATES: EAST: 932866.0 NORTH: 806888.2

ELEVATION: SURFACE:

Rig: Geoprobe 6620 DT Track Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/3/08	0.0 - 12.0	85° Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1, 2, 3, 4	4.0	D-1	3.9 98%			<1	Silty Clay, light brown and red, some sand and pebbles, damp,	
5, 6, 7, 8	8.0	D-2	3.4 85%		74SB58-03 (5-7') 74SB58-04 (7-9')	<1	Sandy Clay, moderately hard at 4.2' becomes dark brown, soft, damp to moist	
9, 10		D-3	3.8 95%			<1	Clayey Sand, medium to dark brown, soft, wet	

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB58 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB58

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11							*Continued from Sheet 1*	
		D-3	3.8			<1	Silty Clay, tan and red, moderate stiff,	
12	12.0		95%				damp, trace light blue clay throughout	
							END OF BORING at 12.0'	
13								
14								
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DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB58 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB59

COORDINATES: EAST: 932914.1 NORTH: 806795.6

ELEVATION: SURFACE:

Rig: Geoprobe 6620 DT Track Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/3/08	0.0 - 12.0	85° Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1, 2, 3, 4	4.0	D-1	3.0 75%			<1	Sandy clay, brown, soft, moist Silty Clay, reddish brown, moderate soft, damp	
5, 6, 7, 8	8.0	D-2	3.5 88%		74SB59-04 (7-9')	<1	Becomes light brown at 4.5', moderate soft to soft damp to moist	
9, 10		D-3	2.1 53%		74SB59-05 (9-11')	<1	Becomes lighter brown, some sand at 9.0'	

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB59 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB59

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	2.1 53%			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
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DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB59 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB60

COORDINATES: EAST: 932968.3 NORTH: 806713.3

ELEVATION: SURFACE:

Rig: Geoprobe 6620 DT Track Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/3/08	0.0 - 12.0	85° Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1, 2, 3, 4	4.0	D-1	2.4 60%			<1	Brown silty clay, damp, moderate soft pebbles Becomes medium brown at 1.5'	
5, 6, 7, 8	8.0	D-2	4.0 100%		74SB60-04 (7-9')	<1	Clay with some Silt, tan and red, stiff, hard, dry Silty Clay, dark brown, some sand, soft, damp	
9, 10		D-3	2.2 55%		74SB60-05 (9-11')	<1		

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB60 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB60

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	2.2 55%			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
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DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB60 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB61

COORDINATES: EAST: 932999.0 NORTH: 806624.8

ELEVATION: SURFACE:

Rig: Geoprobe 6620 DT Track Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/3/08	0.0 - 12.0	85° Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1					74SB61-00 (0-1')		Sandy Clay and Gravel, light brown, moderately hard, damp to dry	
2		D-1	3.4 85%			<1	Gravel and rock, (Fill), sand and pebbles, light green, loose, dry	
3								
4	4.0					80	Silty Clay, soft, dark brown and gray	
5							wet from 4 to 5 feet	
6		D-2	4.0 100%		74SB61-03 (5-7')	5 to 10	becomes moist silty clay at 5 feet, dark brown and medium gray, soft and plastic to 12.0'	
7								
8	8.0				74SB61-04 74SB61-04D (7-9')			
9		D-3	2.8 70%			<1		
10								

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB61 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB61

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	2.8 70%			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
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DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB61 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB62

COORDINATES: EAST: 933039.2 NORTH: 806526.4

ELEVATION: SURFACE:

Rig: Geoprobe 6620 DT Track Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/3/08	0.0 - 10.0	85° Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1, 2, 3, 4	4.0	D-1	2.3 58%			<1	Sandy loam from 0.0' - 2.0' medium brown, damp, moderate stiff cobble at 1.1'; Sand and clay from 1.2' to 5.0', wet from 3.5' to 5.0' green color, moderate soft, some gravel	
5, 6, 7, 8	8.0	D-2	3.2 80%		74SB62-03 (5-7')	<1	Sandy Clay, medium dark brown, moderately soft, dry; At 8.0' becomes soft, saturated, light green and brown	
9, 10	10.0	D-3	1.4 35%			<1		
							GEOPROBE REFUSAL at 10.0'	

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB62 SHEET 1 OF 1

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB63

COORDINATES: EAST: 933066.8 NORTH: 806423.4

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/4/08	0.0 - 12.0	Sunny and Hot	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1, 2, 3, 4	4.0	D-1	3.5 88%			<1	Clayey Silt, friable, little sand, dry Sand, medium brown, some fine gravel, wet	
5, 6, 7, 8	8.0	D-2	4.0 100%		74SB63-03 (5-7') 74SB63-04 (7-9')	<1	Clayey Sand, medium brown, stiff, grades more clay with depth, moist Clayey Silt, medium and golden brown friable, dense, tight, damp	
9, 10		D-3	4.0 100%			<1	Sand, small gravel, well sorted, wet Clayey Silt, medium brown and golden brown, tight and dense, dry	

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB63 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB63

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	4.0 100%			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
14								
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16								
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DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB63 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB64

COORDINATES: EAST: 933139.5 NORTH: 806341.4

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/4/08	0.0 - 10.0	Sunny and Hot	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Top Soil (0.0 to 0.6')	
							Gravel, Sand and Clay, (Fill) poorly sorted gray and brown, loose, dry	
2		D-1	3.0 75%			<1		
3								
4	4.0						becomes damp and a little more clay	
5							Gravelly Silt, some sand, gravel less than peasized poorly sorted, trace clay, light/ dark brown, loose	
6		D-2	4.0 100%		74SB64-03 (5-7')	<1		
7							Grades to little clay, from trace and color to green white and gray, damp	
8	8.0				74SB64-04 (7-9')			
9		D-3	2.0 50%			<1	Grades back to brown	
10	10.0							
							END OF BORING at 10.0'	

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB64 SHEET 1 OF 1

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB65

COORDINATES: EAST: 933243.2 NORTH: 806271.8

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/4/08	0.0 - 10.0	Sunny and Hot	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1, 2, 3, 4 (4.0)	D-1	3.5 88%			<1	Gravelly Sand, (Fill), gray and brown, poorly sorted, loose, dry; becomes brown with some clay	
5, 6, 7, 8 (8.0)	D-2	3.5 88%		74SB65-03 (5-7'); 74SB65-04 (7-9')	<1	Sand, light to golden brown, fine grained well sorted, loose, dry	
9, 10 (10.0)	D-3	2.0 100%			<1		
						END OF BORING at 10.0'	

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB65 SHEET 1 OF 1

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB66

COORDINATES: EAST: 933323.5 NORTH: 806211.4

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/4/08	0.0 - 12.0	Sunny and Hot	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1								
2		D-1	3.2 80%			<1	Clayey Silt, red and brown, dense, dry	
3							Gravelly Silt and Sand, with little clay gray/white, gravel less than peasized	
4	4.0						Clayey Silt, golden brown, dense, friable, dry-damp,	
5								
6		D-2	4.0 100%		74SB66-03 (5-7')	<1		
7							Gravelly Sand and Silt, little clay, pea sized gravel, damp, brown and tan	
8	8.0				74SB66-04 74SB66-04D			
9					(7-9')		Grades to some clay to 12.0'	
10		D-3	4.0 100%			<1		

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB66 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB66

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	4.0 100%			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
14								
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DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB66 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB67

COORDINATES: EAST: 933404.5 NORTH: 806148.1

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/4/08	0.0 - 12.0	Sunny and Hot	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Clayey Silt, trace sand, dense, red brown, damp, grades medium brown at 1.0'	
2		D-1	4.0 100%			<1		
3							Grades less stiff and plasticity at 2.0'	
4	4.0						Softer from 4.0 to 4.5'	
5								
6		D-2	4.0 100%		74SB67-03 (5-7')	<1	Softer from 6.0 to 6.5'	
7							Grades light gray/black/brown, mottling at 6.5'	
8	8.0				74SB67-04 (7-9')		Silty Clay, brown, soft, moist, some plasticity trace small gravel	
9		D-3	4.0 100%			<1	Clayey Silt, dense, stiff, dry, light brown and dark brown mottling	
10								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB67 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB67

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	4.0 100%			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
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DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB67 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB68

COORDINATES: EAST: 933483.1 NORTH: 806085.8

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/4/08	0.0 - 12.0	Sunny and Hot	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Clayey Silt with little to some gravel, red/brown poorly sorted, dense, stiff, dry	
2		D-1	4.0 100%			<1		
3								
4	4.0						Gravel grades out and becomes golden brown	
5							Silty Clay, some plasticity, damp, golden brown	
6		D-2	3.5 88%		74SB68-03 (5-7')	<1		
7							More plastic and softer with black and gray mottling from 6.0 to 7.0'	
8	8.0				74SB68-04 (7-9')		Clayey Silt, stiff, little plasticity, damp	
9		D-3	4.0 100%			<1	Clayey Sand and Silt, soft plastic, wet brown	
10							Clayey Silt, light brown, stiff, dense, mottling, damp to dry	

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB68 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB68

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	4.0 100%			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
14								
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16								
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DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB68 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB69

COORDINATES EAST: 933564.6 NORTH: 806027.1

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/4/08	0.0 - 12.0	Sunny and Hot	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Clayey Silt, brown, stiff, damp	
2		D-1	3.0 75%			<1	Gravelly Sand, loose, dry	
3								
4	4.0						Clay, dark brown, little silt, high plasticity medium density to soft, damp	
5								
6		D-2	4.0 100%		74SB69-03 (5-7')	<1		
7								
8	8.0				74SB69-04 (7-9')		some gray mottling mixed with red and brown clay	
9								
10		D-3	1.0 25%			<1		

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB69 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB69

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	1.0 25%			<1	*Continued from Sheet 1* At 11.5 moist, sticky	
12	12.0						END OF BORING at 12.0'	
13								
14								
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29								
30								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB69 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB70

COORDINATES: EAST: 933643.9 NORTH: 805966.4

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/4/08	0.0 - 12.0	Sunny and Hot	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Top Soil	
2		D-1	4.0 100%			<1	Clayey Silt, trace gravel, stiff, red/brown, damp	
3							Red grades out	
4	4.0						Silty Clay, soft, some plasticity, damp	
5								
6		D-2	4.0 100%		74SB70-03 (5-7')	<1	Grades dark brown from 6.0 to 7.0'	
7							Grades stiff at 7.0'	
8	8.0				74SB70-04		At 8.0 to 8.5' becomes wet, sticky, very soft	
9		D-3	4.0 100%		(7-9')	<1	At 8.5' becomes red/brown, stiff, some plasticity, dense, mottling, damp	
10								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB70 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB70

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	4.0 100%			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
14								
15								
16								
17								
18								
19								
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21								
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30								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB70 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB71

COORDINATES: EAST: 933718.8 NORTH: 805905.1

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/4/08	0.0 - 12.0	Sunny and Hot	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1					74SB71-00 (0-1')		Gravel	
2		D-1	1.8 45%			<1	Clay, dark brown, trace large gravel, soft, very plastic, moist	
3								
4	4.0							
5							becomes harder, some plasticity, damp	
6		D-2	4.0 100%		74SB71-03 74SB71-03MS 74SB71-03MSD (5-7')	<1		
7								
8	8.0				74SB71-04 74SB71-04D		Soft	
9		D-3	4.0 100%		(7-9')	<1	Grades to gold, green, brown, and gray mottling	
10								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB71 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB71

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11							*Continued from Sheet 1*	
		D-3	4.0			<1	Clayey Silt and Sand, little gravel	
12	12.0		100%				gold/brown/gray mottling	
							END OF BORING at 12.0'	
13								
14								
15								
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DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB71 SHEET 2 OI 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB72

COORDINATES: EAST: 933792.0 NORTH: 805842.6

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/5/08	0.0 - 12.0	Sunny and Hot	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Top soil and gravel	
2		D-1	2.5 63%			<1	Clayey Silt, medium brown, stiff, little plasticity, damp	
3								
4	4.0						becomes golden brown	
5							Silty Clay, medium stiff, damp, some plasticity	
6		D-2	4.0 100%		74SB72-03 (5-7')	<1		
7							Clayey Silt, soft, little sand, brown and dark brown mottling, little plasticity	
8	8.0				74SB72-04 (7-9')		Silty Clay, soft medium plasticity, damp gold/gray/brown mottling to 12.0'	
9		D-3	4.0 100%			<1		
10								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB72 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB72

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	4.0 100%			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
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DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB72 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB73

COORDINATES: EAST: 933870.4 NORTH: 805781.6

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/5/08	0.0 - 12.0	Sunny and Hot	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Top soil	
2		D-1	4.0 100%			<1	Clayey Silt, light brown and tan, soft, no plasticity	
3							Grades to little plasticity and medium brown color	
4	4.0						Becomes more dense and more silt in clay matrix	
5							Grades more silt, and fine sand, dense, well sorted light and dark brown	
6		D-2	4.0 100%		74SB73-03 (5-7')	<1		
7								
8	8.0				74SB73-04 (7-9')			
9		D-3	4.0 100%			<1	Grades less silt, stiff, little to no plasticity, damp medium dense	
10								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB73 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB73

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	4.0 100%			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
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DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB73 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB74

COORDINATES: EAST: 933944.8 NORTH: 805716.0

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/5/08	0.0 - 10.0	Sunny and Hot	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
							0.3' Top soil	
1							Silt, trace small gravel, light to medium brown, well sorted, dry	
2		D-1	4.0 100%			<1		
3								
4	4.0						becomes dense, stiff, little clay, friable, dry	
5								
6		D-2	3.0 75%		74SB74-03 (5-7')	<1		
7								
8	8.0				74SB74-04 (7-9')		trace of small pea sized gravel, stiff, dry friable, dense	
9		D-3	2.0 50%			<1		
10	10.0						very hard, silt	
							GEOPROBE REFUSAL at 10.0'	

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB74 SHEET 1 OF 1

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB75

COORDINATES: EAST: 934025.2 NORTH: 805654.9

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/5/08	0.0 - 10.0	Sunny and Hot	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Clayey Silt, stiff, brown	
2		D-1	4.0 100%			<1	Sandy Silt, dry, loose, gray/brown	
3								
4	4.0							
5							Silty Sand, small gravel, dry, loose, brown/gray	
6		D-2	3.0 75%		74SB75-03 (5-7')	<1		
7							Grades little to some gravel, poorly sorted, below 7.0', dry	
8	8.0				74SB75-04 (7-9')			
9		D-3	2.0 100%			<1	becomes medium to golden brown	
10	10.0							
							GEOPROBE REFUSAL at 10.0'	

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB75 SHEET 1 OF 1

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB76

COORDINATES: EAST: 934100.7 NORTH: 805592.9

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5'				5/5/08	0.0 - 12.0	Sunny and Hot	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Clayey Silt and Gravel, damp, brown	
2		D-1	4.0 100%			<1	Clayey Silt and Sand, little gravel (peasized) damp, friable, gray/brown	
3								
4	4.0							
5							Silt, golden brown, well sorted, dry	
6		D-2	4.0 100%		74SB76-03 74SB76-03D (5-7')	<1	Clayey Silt and Sand, little gravel, damp friable, dense, light/dark gray	
7								
8	8.0				74SB76-04 (7-9')			
9		D-3	4.0 100%			<1		
10								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB76 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB76

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	4.0 100%			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
14								
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DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB76 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB77

COORDINATES: EAST: 934176.0 NORTH: 805535.7

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/5/08	0.0 - 12.0	Sunny and Hot	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Clayey Silt and Gravel (Fill), gray/brown dry, loose	
2		D-1	4.0 100%			<1		
3								
4	4.0						Clayey Silt, medium dense to soft, little to some plasticity, damp, brown	
5								
6		D-2	4.0 100%		74SB77-03 (5-7')	<1		
7								
8	8.0				74SB77-04 (7-9')		Very dense, more soft and plastic at 8.0'	
9		D-3	4.0 100%			<1	less clay and more silt, golden brown from 9.0 to 11.0'	
10								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB77 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB77

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11							*Continued from Sheet 1*	
		D-3	4.0			<1	Clayey Silt, dense, stiff, little plasticity, damp	
12	12.0		100%				dark gray	
							END OF BORING at 12.0'	
13								
14								
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16								
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DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB77 SHEET 2 OI 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB78

COORDINATES: EAST: 934268.0 NORTH: 805480.4

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/5/08	0.0 - 5.0	Sunny and Hot	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1					NO		Gravel and Sand (Fill), grayish brown loose, dry, poorly sorted to 5.0'	
2		D-1	2.5 63%		SAMPL	<1		
3								
4	4.0							
5	5.0	D-2	1.0 25%		ES	<1		
6					COLLECTED		GEOPROBE REFUSAL at 5.0'	
7								
8								
9								
10								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB78 SHEET 1 OF 1

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB79

COORDINATES: EAST: 934359.8 NORTH: 805450.3

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/5/08	0.0 - 12.0	Sunny and Hot	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1, 2, 3, 4	4.0	D-1	4.0 100%			<1	Clayey Sand and Gravel, (Fill) gray/brown, loose, poorly sorted, dry Clayey Silt, light gold and brown, dense damp to dry	
5, 6, 7, 8	8.0	D-2	4.0 100%		74SB79-03 (5-7') 74SB79-04 (7-9')	<1	Clay, black to dark green, medium stiff plastic, damp Grades little to some silt in the clay	
9, 10		D-3	4.0 100%			<1	Clayey Silt, gold and brownish green, soft, little plasticity, damp to 12.0'	

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB79 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB79

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	4.0 100%			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
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DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB79 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB80

COORDINATES: EAST: 934513.9 NORTH: 805438.5

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/5/08	0.0 - 12.0	Sunny and Hot	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1, 2, 3, 4	4.0	D-1	4.0 100%			<1	Sand and Gravel, (Fill), gray/brown, dry, poorly sorted	
							Clayey Silt, medium brown, soft, damp, little to trace gravel and sand	
5, 6, 7, 8	8.0	D-2	4.0 100%		74SB80-03 (5-7')	<1		
					74SB80-04 (7-9')		Gravelly Sand, black, loose, dry	
							Clay, soft, plastic, damp to moist	
9, 10		D-3	4.0 100%			<1	Grades medium brown and very soft 10.0 to 11.0'	

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB80 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB80

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11							*Continued from Sheet 1*	
		D-3	4.0			<1	Clayey Silt, little gravel (small), stiff, damp	
12	12.0		100%					
							END OF BORING at 12.0'	
13								
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DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB80 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB81

COORDINATES: EAST: 934611.9 NORTH: 805415.4

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/5/08	0.0 - 12.0	Sunny and Hot	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1					74SB81-00 (0-1')		Gravel, Silt and Sand, (Fill), gray, loose poorly sorted	
2		D-1	3.0 75%			<1		
3							Clayey Silt, little to some sand and gravel soft, damp, brown, little plasticity	
4	4.0							
5								
6		D-2	3.0 75%		74SB81-03 74SB81-03MS 74SB81-03MSD (5-7')	<1		
7							Clayey Sand, with gravel, black, damp	
8	8.0				74SB81-04			
9					74SB81-04D (7-9')		Sand and Gravel, brown, loose, poorly sorted wet	
10		D-3	3.0 75%			<1	Clayey Sand and Gravel, black, no plasticity black, damp	

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB81 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB81

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11							*Continued from Sheet 1*	
		D-3	3.0			<1	Clay, black, soft, plastic	
12	12.0		75%					
							END OF BORING at 12.0'	
13								
14								
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DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB81 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB82

COORDINATES: EAST: 934717.6 NORTH: 805383.1

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/6/08	0.0 - 12.0	Sunny and Hot	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1, 2, 3, 4	4.0	D-1	3.5 88%			<1	Gravel, Silt and Clay, (Fill) gray and brown, damp; Sand, golden brown, fine-grained, well sorted	
5, 6, 7, 8	8.0	D-2	2.0 50%		74SB82-03 74SB82-03MS 74SB82-03MSD (5-7') 74SB82-04 74SB82-04D	<1	Clayey Sand and Gravel, grayish brown gravel (pea sized), moist	
9, 10		D-3	4.0 100%		(7-9')	<1	Clayey Silt, gray, some fine sand, wet; Clay, dark gray/black. soft, plastic, organic odor	

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB82 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB82

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	4.0 100%			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
14								
15								
16								
17								
18								
19								
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21								
22								
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24								
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28								
29								
30								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB82 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB83

COORDINATES: EAST: 934816.0 NORTH: 805356.1

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/6/08	0.0 - 8.0	Sunny and Hot	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Sandy Clay and Gravel, (Fill), gray and brown loose, dry	
2		D-1	3.0 75%			<1		
3								
4	4.0				74SB83-02 74SB83-02MS		Clayey Sand, gray, little gravel, damp to moist	
5					74SB83-02MSD (3-5')		Sand, brown, little to some gravel, wet	
6		D-2	4.0 100%			<1	Clayey Sand, little gravel, brown, damp	
7							Clay, dark gray, very plastic, soft, damp	
8	8.0						Grades red/brown at 7.0'	
9							GEOPROBE REFUSAL at 8.0'	
10								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB83 SHEET 1 OF 1

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB84

COORDINATES: EAST: 934909.3 NORTH: 805322.8

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/6/08	0.0 - 7.5	Sunny and Hot	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Silt	
							Gravelly Silt and Clay, (Fill) medium brown, damp	
2		D-1	3.0 75%			<1		
3							Sand, brown, well sorted, dry	
4	4.0						Clayey Silt, soft, little gravel, some plasticity damp	
5								
6		D-2	3.0 75%		74SB84-03 74SB84-03MS 74SB84-03MSD (5-7')	<1		
7							Grades dark gray to black at 7.5'	
8	8.0						GEOPROBE REFUSAL at 7.5'	
9								
10								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB84 SHEET 1 OF 1

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB85

COORDINATES: EAST: 935006.6 NORTH: 805289.0

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/6/08	0.0 - 12.0	Sunny and Hot	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1								
2		D-1	3.0 75%			<1	Gravel ,Sand and Silt, (Fill), light to dark brown poorly sorted, dry	
3								
4	4.0						Clayey Silt, medium brown, soft, little plasticity little gravel, damp	
5								
6		D-2	2.0 50%		74SB85-03 (5-7')	<1	Clayey Sand, damp-moist, little plasticity, soft, trace gravel	
7								
8	8.0				74SB85-04 (7-9')		Clay, soft, plastic, golden brown	
9								
10		D-3	4.0 100%			<1	Grades black with organic odor, stiff, soft plastic	

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB85 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB85

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	4.0 100%			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
14								
15								
16								
17								
18								
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25								
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30								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB85 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB86

COORDINATES: EAST: 935111.4 NORTH: 805255.3

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig

	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/6/08	0.0 - 12.0	Sunny and Hot	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks: Fuel Odor.

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Gravel, Clay and Sand, (Fill) black and gray	
2		D-1	3.0 75%			<1		
3							Clayey Silt, soft, little gravel, damp, light brown	
4	4.0							
5								
6		D-2	3.2 80%		74SB86-03 74SB86-03D (5-7')	<1	Grades moist at 6.5'	
7							Gravelly Sand, no odor, wet	
8	8.0				74SB86-04 (7-9')			
9		D-3	1.5 38%			52 <1	Sand and Silt, some clay, loose, black, fuel odor	
10								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB86 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB86

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11							*Continued from Sheet 1*	
		D-3	1.5			<1	Clay, soft, moist, plastic, sticky, organic odor	
12	12.0		38%					
							END OF BORING at 12.0'	
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB86 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB87

COORDINATES: EAST: 935208.3 NORTH: 805238.9

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/7/08	0.0 - 12.0	Sunny and Hot	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Sand and Gravel with Clay, (Fill), brown, loos poorly sorted, dry	
2		D-1	4.0 100%			<1	Clayey Silt, medium brown to gold trace to little gravel, no plasticity, damp	
3								
4	4.0							
5							Grades to more clay, with some plasticity, damp to moist	
6		D-2	4.0 100%		74SB87-03 (5-7')	<1		
7							Clay, little gravel, soft, plastic, moist, dark brown and gray	
8	8.0				74SB87-04 (7-9')		Clayey Silt, trace gravel, soft, little plastic organic odor, moist	
9		D-3	4.0 100%			<1		
10								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB87 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB87

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	4.0 100%			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB87 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB88

COORDINATES: EAST: 935298.3 NORTH: 805200.6

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/7/08	0.0 - 8.0	Sunny and Hot	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1								
2		D-1	3.8 95%			<1	Gravel, Sand and Silt, (Fill), brown, some clay, loose, poorly sorted	
3								
4	4.0						Clayey Silt, little gravel, damp, little plastic soft, medium to golden brown	
5								
6		D-2	2.8 70%		74SB88-03 (5-7')	<1		
7								
8	8.0						Becomes wet at 7.0 to 7.5' little sand, gravel, damp, brown	
9							GEOPROBE REFUSAL at 8.0'	
10								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB88 SHEET 1 OF 1

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB89

COORDINATES: EAST: 935377.1 NORTH: 805186.8

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/7/08	0.0 - 8.0	Sunny and Hot	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1								
2		D-1	4.0 100%			<1	Gravel, Clay and Sand, (Fill), brown, damp	
3								
4	4.0						Clayey Silt, little gravel, damp, little plasticity, medium brown	
5								
6		D-2	2.8 70%		74SB89-03 (5-7')	<1		
7							Gravelly Sand, brown, wet	
8	8.0						Clay, little gravel, damp, plastic Grades black, organic odor	
9							END OF BORING at 8.0'	
10								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB89 SHEET 1 OF 1

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB90

COORDINATES: EAST: 935536.3 NORTH: 805138.3

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/7/08	0.0 - 6.0	Sunny and Hot	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Clayey Silt, some gravel, (Fill), brown damp, poorly sorted gravel	
2		D-1	4.0 100%			<1		
3					74SB90-02 (3-5')		Clay,dark brown, trace to little gravel, soft, plastic	
4	4.0							
5							Gravelly Sand, gray, poorly sorted, wet	
6		D-2	4.0 100%			<1	Clayey Sand, little gravel, little plastic	
7							GEOPROBE REFUSAL at 6.0'	
8	8.0							
9								
10								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB90 SHEET 1 OF 1

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB91

COORDINATES EAST: 935586.7 NORTH: 805113.0

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/7/08	0.0 - 8.0	Sunny and Hot	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1					74SB91-00 (0-1')		Gravel, Clay and Silt, (Fill), brownish gray, damp	
2		D-1	3.7 93%			<1		
3							Clayey Silt, little gravel, damp, little plasticity medium stiff	
4	4.0							
5							Soft, some plasticity	
6		D-2	3.2 80%		74SB91-03 74SB91-03D 74SB91-03MS 74SB91-03MSD (5-7')	<1		
7								
8	8.0						Gravelly Sand, medium brown, wet poorly sorted	
9							END OF BORING at 8.0'	
10								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB91 SHEET 1 OF 1

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB92

COORDINATES: EAST: 935686.8 NORTH: 805080.1

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/7/08	0.0 - 12.0	Sunny and Hot	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Gravel, Sand, Silt, (Fill), brownish black, dry poorly sorted	
2		D-1	3.0 75%			<1		
3								
4	4.0						Clayey Silt, medium brown, little gravel, soft, damp	
5								
6		D-2	4.0 100%		74SB92-03 (5-7')	<1		
7					74SB92-04 (7-9')		Silty Clay, soft, plastic, trace, gravel, medium brown Grades red from 6.5 - 7.0'	
8	8.0						Clayey Silt, little to no plasticity, dense, damp golden brown, soft from 8.5 - 9.5'	
9		D-3	4.0 100%			<1	Dense again at 9.5'	
10							Grades red/brown 10.0 - 11.0'	

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB92 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB92

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	4.0 100%			<1	*Continued from Sheet 1* Grades golden brown with light gray mottling from 11.0 - 12.0	
12	12.0						END OF BORING at 12.0'	
13								
14								
15								
16								
17								
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30								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB92 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB93

COORDINATES: EAST: 935781.0 NORTH: 805059.1

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/7/08	0.0 - 12.0	Sunny and Hot	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Gravel, Sand, Silt, (Fill), grayish brown, dry	
2		D-1	3.5 88%			<1		
3							Clayey Silt, golden brown, dense, little to no plasticity, stiff	
4	4.0							
5							some sand and gravel, light brown, dry	
6		D-2	4.0 100%		74SB93-03 (5-7')	<1	Clayey Silt, brownish black, little gravel and silt, friable, dense, dry	
7								
8	8.0				74SB93-04 (7-9')		some, light gray mottling at 6.0' with brown matrix to 12.0'	
9		D-3	4.0 100%			<1		
10								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB93 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB93

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	4.0 100%			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
14								
15								
16								
17								
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19								
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21								
22								
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25								
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29								
30								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB93 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB94

COORDINATES: EAST: 935867.2 NORTH: 805033.6

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/7/08	0.0 - 8.0	Sunny and Hot	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Gravel, Silt and Sand, (Fill), loose, poorly sorted brown and gray, dry	
2		D-1	4.0 100%			<1		
3								
4	4.0							
5							Clayey Silt, brown, dense, friable, damp to dry	
6		D-2	4.0 100%		74SB94-03 (5-7')	<1		
7							Grades less clay, becomes gray, very dense, friable, some fine sand	
8	8.0				74SB94-04 (7-9')			
9							GEOPROBE REFUSAL at 8.0'	
10								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB94 SHEET 1 OF 1

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB95

COORDINATES: EAST: 935965.2 NORTH: 805004.0

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/13/08	0.0 - 12.0	85° Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Sandy loam	
2		D-1	3.9 98%			<1	Sand with some gravel/cobbles, tan, mixed in light brownish orange silty clay	
3								
4	4.0						some light gray gravel #57 size at 4'	
5							Silty Sand, light gray, fine sand, some clay	
6		D-2	3.8 95%		74SB95-03 (5-7')	<1		
7							Clayey Silt, light gray, some sand and carbonate deposits	
8	8.0							
9					74SB95-04 (7-9')		Silty Clay, dark brown and olive, some carbonate deposits	
10		D-3	3.7 93%			<1		
							Silty Sand, dark brown/orange, some gravel	

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB95 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB95

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11							*Continued from Sheet 1*	
		D-3	3.7			<1	Silty Clay, light gray, some sand	
12	12.0		93%					
							END OF BORING at 12.0'	
13								
14								
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29								
30								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB95 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB96

COORDINATES: EAST: 936061.0 NORTH: 804974.9

ELEVATION: SURFACE:

Rig: Geoprobe 6620 DT Track Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/13/08	0.0 - 12.0	85° Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1, 2, 3, 4	4.0	D-1	N/A			<1	Light tan medium sand Gravel size 21A with some coarse sand mixed in light bluish color No recovery	
5, 6, 7, 8	8.0	D-2	N/A		74SB96-03 74SB96-03D (5-7')	<1	Red clay with some silt and some carbonates present	
9, 10		D-3	N/A		74SB96-05 (9-11')	<1	Coarse sand with some gravel and white carbonates present	

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB96 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB96

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	N/A			<1	*Continued from Sheet 1* Dark brown silty clay with some white carbonates present	
12	12.0						END OF BORING at 12.0'	
13								
14								
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DRILLING CO.: BAKER REP.: Joe Burawa

DRILLER: BORING NO.: 74SB96 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB97

COORDINATES: EAST: 936039.6 NORTH: 805117.8

ELEVATION: SURFACE:

Rig: Geoprobe 6620 DT Track Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/5/08	0.0 - 12.0	85° Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Dark brown, soft, damp Gravel from 0.5' to 1.3' gray, loose, dry	
2		D-1	3.3 83%			<1	Silty Clay, red and tan, moderate hard, stiff damp	
3								
4	4.0							
5							Becomes silty clay with some sand at 4.5', light brown, stiff, damp	
6		D-2	4.0 100%		74SB97-03 (5-7')	<1		
7								
8	8.0				74SB97-04 (7-9')			
9		D-3	4.0 100%			<1	Becomes more plastic at 9.0', damp	
10								

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB97 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB97

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	4.0 100%			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
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DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB97 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB98

COORDINATES: EAST: 935978.6 NORTH: 805216.4

ELEVATION: SURFACE:

Rig: Geoprobe 6620 DT Track Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/5/08	0.0 - 12.0	85° Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Dark brown, soft	
							Sand and Gravel, light gray, loose, dry	
2		D-1	3.4 85%			<1		
3								
							Sandy Clay, dark brown, very hard, dry	
4	4.0						Silty Clay, red and tan, moderate hard, stiff, some sand, damp	
5								
6		D-2	4.0 100%		74SB98-03 (5-7')	<1		
7								
8	8.0				74SB98-04 (7-9')			
							At 8.5' becomes medium brown and tan moderate soft, plastic, damp	
9		D-3	4.0 100%			<1		
10								

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB98 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB98

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	4.0 100%			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
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DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB98 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB99

COORDINATES: EAST: 935956.1 NORTH: 805314.6

ELEVATION: SURFACE:

Rig: Geoprobe 6620 DT Track Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/5/08	0.0 - 12.0	85° Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Dark brown, soft, dry	
2		D-1	2.5 63%			<1	Sand, brown, some silt and gravel, (Fill), dry	
3								
4	4.0						Gravel, loose, dry, large rocks	
5							Silty Clay, tan and red, moderate hard, stiff	
6		D-2	4.0 100%		74SB99-03 (5-7')	<1		
7								
8	8.0				74SB99-04 (7-9')			
9		D-3	3.7 93%			<1	Sandy Clay and Clay, clay is light gray to white, the sandy clay is maroon red, damp to moist	
10								

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB99 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB99

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	3.7 93%			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
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DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB99 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB100

COORDINATES: EAST: 935914.4 NORTH: 805405.6

ELEVATION: SURFACE:

Rig: Geoprobe 6620 DT Track Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/5/08	0.0 - 12.0	85° Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Dark brown, soft, damp,	
							Gravel, brownish gray, some sand and clay, hard, dry	
2		D-1	1.5 38%			<1		
3								
4	4.0							
5								
6		D-2	4.0 100%		74SB100-03 (5-7')	<1	Silty Clay, tan and red, moderate hard to hard, damp, trace of sand	
7								
8	8.0				74SB100-04 (7-9')		Becomes lighter in color at 8.0', tan and medium brown, damp, little softer	
9		D-3	0.5 13%			<1		
10								

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB100 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB100

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	0.5 13%			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
14								
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DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB100 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB101

COORDINATES: EAST: 935874.2 NORTH: 805492.7

ELEVATION: SURFACE:

Rig: Geoprobe 6620 DT Track Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/5/08	0.0 - 12.0	85° Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1					74SB101-00 (0-1')		Gravel	
							Sand, brownish gray, some clay	
2		D-1	2.2 55%			<1		
3							Gravel, light gray, loose, dry to 4.2'	
4	4.0							
5							Silty Clay, tan and red, some sand, moderately hard, damp to dry	
6		D-2	3.8 95%		74SB101-03 74SB101-03D 74SB101-03MS 74SB101-03MSD (5-7')	<1		
7								
8	8.0						At 7.5' dark red, silty clay with some white clay damp, damp plastic, moderate soft	
9					74SB101-04 (7-9')			
		D-3	4.0 100%			<1		
10								

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB101 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB101

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	4.0 100%			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
14								
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DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB101 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB102

COORDINATES: EAST: 935874.2 NORTH: 805588.7

ELEVATION: SURFACE:

Rig: Geoprobe 6620 DT Track Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/5/08	0.0 - 12.0	85° Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1, 2, 3, 4	4.0	D-1	3.0 75%			<1	Sand and Gravel, grayish brown, damp to dry, medium grained sand, some silt	
5, 6, 7, 8	8.0	D-2	4.0 100%		74SB102-04 (7-9')	<1	Silty Clay, red and tan, small pebbles, tight, moderate hard, damp	
9, 10		D-3	4.0 100%		74SB102-05 (9-11')	<1	Clay, light gray, mixed with red Sandy Clay, dry, very stiff, dark purple nodules in sandy clay	

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB102 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB102

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	4.0 100%			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
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DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB102 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB103

COORDINATES: EAST: 935788.3 NORTH: 805682.3

ELEVATION: SURFACE:

Rig: Geoprobe 6620 DT Track Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/5/08	0.0 - 12.0	85° Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1 2 3 4	4.0	D-1	2.9 73%			<1	Sand and Gravel, grayish brown, loose, cobbles damp to dry	
5 6 7 8	8.0	D-2	3.6 90%		74SB103-03 (5-7')	<1	Silty Clay, red and tan, moderate hard, some sand, damp	
9 10		D-3	4.0 100%		74SB103-04 (7-9')	<1	Clay, light gray, mixed with Sandy Clay, maroon, plastic, damp, moderate soft, some mottling	

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB103 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB103

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	4.0 100%			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
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DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB103 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB104

COORDINATES: EAST: 935749.4 NORTH: 805773.2

ELEVATION: SURFACE:

Rig: Geoprobe 6620 DT Track Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/5/08	0.0 - 12.0	85° Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Silt Loam, medium brown, damp	
							Sand and Gravel, brownish gray, loose, damp to dry	
2		D-1	3.1 78%			<1		
3								
4	4.0							
5								
6		D-2	2.8 70%		74SB104-03 (5-7')	<1		
7								
8	8.0						Clay, red and white, white clay with maroon sandy clay, medium soft to soft, damp to moist some pebbles to 12.0'	
9		D-3	3.6 90%		74SB104-04 (7-9')	<1		
10								

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB104 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB104

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	3.6 90%			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
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DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB104 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB105

COORDINATES: EAST: 935705.9 NORTH: 805867.5

ELEVATION: SURFACE:

Rig: Geoprobe 6620 DT Track Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/5/08	0.0 - 12.0	85° Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Brown, soft, damp	
2		D-1	2.1 53%			<1	Sand and Gravel, dry, loose, cobbles to approximately 6.0'	
3								
4	4.0							
5								
6		D-2	3.5 88%		74SB105-03 (5-7')	<1		
7							Silty Clay, brown, damp, becomes stained black to 7.0' then red/brown silty clay, moderate hard damp	
8	8.0							
9		D-3	1.8 45%		74SB105-04 (7-9')	<1	Sandy Clay, red(maroon), mixed with Clay, light gray, soft, moist	
10								

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB105 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB105

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	1.8 45%			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
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DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB105 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB106

COORDINATES: EAST: 935664.8 NORTH: 805959.7

ELEVATION: SURFACE:

Rig: Geoprobe 6620 DT Track Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/5/08	0.0 - 12.0	85° Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Silt Loam, brown, soft damp	
2		D-1	2.0 50%		74SB106-01 (1-3')	<1	Sand and Gravel, loose, dry, shell layer from 0.8 to 1.2' then sand and gravel again	
3								
4	4.0							
5								
6		D-2	0.6 15%			<1		
7								
8	8.0						Sandy Clay, maroon, and white/light gray Clay, soft, damp, some silt	
9		D-3	3.0 75%		74SB106-04 (7-9')	<1		
10								

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB106 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB106

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	3.0 75%			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
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DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB106 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB107

COORDINATES: EAST: 935623.5 NORTH: 806053.4

ELEVATION: SURFACE:

Rig: Geoprobe 6620 DT Track Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/6/08	0.0 - 12.0	85° Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Silt Loam, dark brown, soft	
							Sand, brown, some gravel, loose, dry	
2		D-1	2.7 68%			<1	Sand and Gravel, gray, loose, dry	
3								
4	4.0							
5							Silty Clay, reddish brown, with light brown	
							Sandy Clay, moderate stiff, hard, damp to dry	
6		D-2	4.0 100%		74SB107-03 74SB107-03D (5-7')	<1		
7								
							Clay, white/light gray and maroon, stiff	
8	8.0						damp to moist	
9								
		D-3	4.0 100%		74SB107-05 (9-11')	<1		
10								

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB107 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB107

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	4.0 100%			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
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DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB107 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB108

COORDINATES: EAST: 935573.0 NORTH: 806141.7

ELEVATION: SURFACE:

Rig: Geoprobe 6620 DT Track Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/6/08	0.0 - 12.0	85° Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Silt loam, brown, damp	
							Sand and Gravel, brown, loose, dry	
2		D-1	3.0 75%			<1	Silty Clay, light brown	
							Sand and Gravel	
3							Sandy Clay, dark brown, moderately soft, dry	
4	4.0							
5							Silty Clay, light brown and reddish brown, stiff, damp	
6		D-2	4.0 100%		74SB108-03 (5-7')	<1		
7							Clay, light gray and maroon, damp to moist softer, some sand to 12.0'	
8	8.0							
9					74SB108-04 (7-9')			
10		D-3	4.0 100%			<1		

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB108 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB108

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	4.0 100%			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
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DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB108 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB109

COORDINATES: EAST: 935528.7 NORTH: 806182.0

ELEVATION: SURFACE:

Rig: Geoprobe 6620 DT Track Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/6/08	0.0 - 12.0	85° Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Brown, soft, some sand, damp	
							Sand and Gravel	
2		D-1	3.5 88%			<1	Silty Clay, brown, some sand, rocks, damp	
3								
4	4.0						Clay, white and red, moderately hard, some silt damp	
5								
6		D-2	4.0 100%			<1		
7								
8	8.0							
9		D-3	4.0 100%		74SB109-04 (7-9')	<1	At 8.5' becomes light gray and maroon clay, very plastic, damp to 12.0'	
10					74SB109-05 (9-11')			

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB109 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB109

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	4.0 100%			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
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DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB109 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB110

COORDINATES: EAST: 935346.3 NORTH: 806154.5

ELEVATION: SURFACE:

Rig: Geoprobe 6620 DT Track Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/6/08	0.0 - 12.0	85° Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Silt Loam, brown, moderately hard, damp	
2		D-1	4.0 100%			<1	Clay, brown, lean, moderate hard and stiff, damp	
3								
4	4.0						Clayey Sand, light brown, moderate soft to soft, fine to medium grained sand	
5								
6		D-2	4.0 100%			<1		
7								
8	8.0				74SB110-04 (7-9')		Sandy Clay, reddish brown, soft, some pebbles occassional cobbles, damp	
9		D-3	4.0 100%		74SB110-05 (9-11')	<1		
10								

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB110 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB110

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	4.0 100%			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
14								
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DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB110 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB111

COORDINATES: EAST: 935232.3 NORTH: 806145.7

ELEVATION: SURFACE:

Rig: Geoprobe 6620 DT Track Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/7/08	0.0 - 12.0	85° Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1					74SB111-00 (0-1')		Silt Loam mixed with Sand, dark brown, moderate soft, damp	
							Sand, some stones, loose, dry, soft	
2		D-1	2.6 65%			<1	Sandy Clay, light brown,some pebbles, moderately hard, damp	
3								
4	4.0							
5								
6		D-2	2.9 73%		74SB111-03 74SB111-03D 74SB111-03MS 74SB111-03MSD (5-7')	<1		
7								
8	8.0							
9							Silty Clay, brown, at approximately 9.3' becomes more reddish in color, damp, moderate hard some sand	
10		D-3	3.1 78%		74SB111-05 (9-11')	>500		

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB111 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB111

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11							*Continued from Sheet 1*	
		D-3	3.1			5 to 10	Clayey Sand, greenish gray, soft, wet	
12	12.0		78%					
							END OF BORING at 12.0'	
13								
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30								

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB111 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB112

COORDINATES: EAST: 935129.4 NORTH: 806121.1

ELEVATION: SURFACE:

Rig: Geoprobe 6620 DT Track Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/7/08	0.0 - 12.0	85° Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Sandy loam, dark brown, damp to dry, moderate hard	
2		D-1	3.7 93%			<1	Sandy Silt, light brown, some clay, moderate hard dry	
3							cobble from 2.8 to 3.2'	
4	4.0							
5								
6		D-2	4.0 100%			<1		
7							Sandy Clay, medium brown, moderately hard, damp	
8	8.0							
9		D-3	4.0 100%		74SB112-04 (7-9')	<1	Silty Clay, hard, stiff, damp	
10					74SB112-05 (9-11')		Clayey Sand, medium brown, moderately soft, damp	

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB112 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB112

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	4.0 100%			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
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DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB112 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB113

COORDINATES: EAST: 935028.2 NORTH: 806102.1

ELEVATION: SURFACE:

Rig: Geoprobe 6620 DT Track Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/7/08	0.0 - 12.0	85° Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Silt Loam, dark brown, damp, moderate hard, pebbles, roots	
2		D-1	3.5 88%			<1	Sandy Clay, medium brown, damp to dry moderate hard	
3								
4	4.0						harder with more clay at 3.5'	
5							Sand,light gray, loose, dry, shells throughout	
6		D-2	1.7 43%			500		
7								
8	8.0						Clay, dark green/gray, some sand, hydrocarbon odor	
9		D-3	3.4 85%		74SB113-04 (7-9')	1300	Alternating zones of silty clay and sandy clay from 8.0 to 12.0', dark green/gray, pebbles, saprolitic damp to moist	
10					74SB113-05 (9-11')			

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB113 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB113

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	3.4 85%			1100	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
14								
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29								
30								

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB113 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO. 74SB114

COORDINATES: EAST: 935633.6 NORTH: 806314.9

ELEVATION: SURFACE:

Rig: Geoprobe 6620 DT Track Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/13/08	0.0 - 12.0	85° Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Silt Loam and Gravel, hard, dry	
2		D-1	2.6 65%			<1	Sandy Clay, brown, brittle, dry	
3								
4	4.0							
5								
6		D-2	3.8 95%			<1	Silty Clay, brown, moderate soft, mottled, damp to moist	
7								
8	8.0						Sandy Clay, brownish green, soft, damp to moist	
9		D-3	3.7 93%		74SB114-04 (7-9')	500		
10					74SB114-05 (9-11')			

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO. 74SB114 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB114

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11							*Continued from Sheet 1*	
		D-3	3.7			500	Clayey Sand, medium greenish/black,very soft, wet	
12	12.0		93%					
							END OF BORING at 12.0'	
13								
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16								
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DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB114 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB115

COORDINATES: EAST: 935667.3 NORTH: 806409.1

ELEVATION: SURFACE:

Rig: Geoprobe 6620 DT Track Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/13/08	0.0 - 12.0	85° Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1, 2, 3		D-1	2.0 50%			<1	Silty Loam and Gravel, dry, loose, hard	
4	4.0						Sandy Clay, dark brown, hard, some organics, dry,	
5, 6, 7		D-2	4.0 100%		74SB115-03 (5-7')	<1	Silty Sand, orange and brown, moderate hard, some sand, more reddish at 6.0'	
8	8.0							
9, 10		D-3	4.0 100%		74SB115-05 (9-11')	<1	Clay, maroon and light gray, some silt, mottled heavily, moderate soft, damp to moist	

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB115 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB115

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	4.0 100%			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
14								
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16								
17								
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DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB115 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB116

COORDINATES: EAST: 935698.0 NORTH: 806506.7

ELEVATION: SURFACE:

Rig: Geoprobe 6620 DT Track Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/13/08	0.0 - 12.0	85° Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1, 2, 3, 4	4.0	D-1	3.7 93%			<1	Sandy Loam and Gravel, hard, loose, dry	
5, 6, 7, 8	8.0	D-2	4.0 100%			<1	Sandy Clay, reddish brown, soft to medium soft Some mottling at 8.0 to 9.5'	
9, 10		D-3	4.0 100%		74SB116-04 (7-9') 74SB116-05 74SB116-05D (9-11')	<1	Becomes softer and moist at 9.5', more clay, red, white	

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB116 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB116

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11							*Continued from Sheet 1*	
		D-3	4.0			<1	Wet saprolite at 11.0'	
12	12.0		100%					
							END OF BORING at 12.0'	
13								
14								
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DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB116 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB117

COORDINATES: EAST: 935734.7 NORTH: 806605.7

ELEVATION: SURFACE:

Rig: Geoprobe 6620 DT Track Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/13/08	0.0 - 12.0	85° Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1, 2, 3, 4	4.0	D-1	1.9 48%			<1	Sandy Loam, some gravel, loose, dry Sandy Clay, dark brown and red, hard, roots, dry	
5, 6, 7, 8	8.0	D-2	4.0 100%		74SB117-03 (5-7')	<1	Silty Clay, medium orange brown, moderately hard, some sand, damp to moist	
9, 10		D-3	4.0 100%		74SB117-04 (7-9')	<1		

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB117 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB117

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11							*Continued from Sheet 1*	
		D-3	4.0			<1	Clayey Sand, medium gray, some pebbles, wet	
12	12.0		100%					
							END OF BORING at 12.0'	
13								
14								
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29								
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DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB117 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB118

COORDINATES: EAST: 935764.6 NORTH: 806703.7

ELEVATION: SURFACE:

Rig: Geoprobe 6620 DT Track Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/13/08	0.0 - 12.0	85° Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1, 2, 3, 4	4.0	D-1	2.9 73%			<1	Sandy Loam and Gravel, loose, dry	
5, 6, 7, 8	8.0	D-2	4.0 100%		74SB118-03 (5-7')	<1	Silty clay, light brown, hard, damp Reddish brown at 7.0'	
9, 10		D-3	3.5 88%		74SB118-05 (9-11')	300	Sandy Clay, moderate hard, damp saprolitic structure	

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB118 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB118

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	3.5 88%			>50	*Continued from Sheet 1* Saturated at 11.5 to 12.0' dark green and white moderate hard	
12	12.0						END OF BORING at 12.0'	
13								
14								
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DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB118 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB119

COORDINATES: EAST: 935783.7 NORTH: 806804.0

ELEVATION: SURFACE:

Rig: Geoprobe 6620 DT Track Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/13/08	0.0 - 12.0	85° Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1, 2, 3, 4	4.0	D-1	2.5 63%			<1	Sandy Loam and Gravel, loose, dry	
5, 6, 7, 8	8.0	D-2	4.0 100%			<1	Silty clay, medium brown, hard, broken, damp to dry Gravel from 6.8 to 7.4', light gray, loose, dry Sandy Clay, moderate hard, some silt, damp	
9, 10		D-3	4.0 100%		74SB119-04 (7-9') 74SB119-05 (9-11')	<1		

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB119 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB119

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	4.0 100%			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
14								
15								
16								
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30								

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB119 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB120

COORDINATES: EAST: 935791.9 NORTH: 806900.7

ELEVATION: SURFACE:

Rig: Geoprobe 6620 DT Track Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/14/08	0.0 - 12.0	85° Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Sandy Loam and Gravel, loose, dry	
2		D-1	3.8 95%			<1		
3							Sandy Clay, light brown, moderate hard, dry to damp, some silt	
4	4.0							
5							Gravelly zone from 4.8 to 5.1', light gray	
6		D-2	4.0 100%			<1	Sandy Clay, light brown, hard, dry	
7								
8	8.0				74SB120-04 (7-9')			
9							Silty Sand, grayish brown, loose, dry	
10		D-3	4.0 100%		74SB120-05 (9-11')	<1		
							Sand, light brown, moderately hard, damp	

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB120 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB120

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	4.0 100%			<1	Sandy Clay, light brown, moderate hard, some silt damp	
12	12.0						END OF BORING at 12.0'	
13								
14								
15								
16								
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DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB120 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB121

COORDINATES: EAST: 936203.4 NORTH: 804917.5

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/13/08	0.0 - 12.0	83° Mostly Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1					74SB121-00 (0-1')		Sand, dark brown	
2		D-1	N/A			<1	Silty Sand, dark brown, with some carbonate present some gravel interdisperses throughout sand gets coarser with depth	
3								
4	4.0							
5							Silty clay, dark red	
6		D-2	N/A			<1	becomes light tan/brown	
7							Silty Sand, red, medium grained	
8	8.0						Silty Clay, some sand, red and tan	
9		D-3	N/A		74SB121-05 74SB121-05D 74SB121-05MS 74SB121-05MSD (9-11')	<1		
10							Sand layer at 9.5 - 10.0' pink sand, light brown, some silt	

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB121 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB121

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	N/A			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
14								
15								
16								
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29								
30								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB121 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB122

COORDINATES: EAST: 936298.6 NORTH: 804886.5

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/13/08	0.0 - 12.0	83° Mostly Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Sand, dark brown	
2		D-1	3.4 85%			<1	Sand, some silt, light gray	
3								
4	4.0							
5								
6		D-2	3.9 98%		74SB122-03 (5-7')	<1	Silty Clay, orange and gray, some sand, and some carbonates present	
7								
8	8.0				74SB122-04 (7-9')			
9		D-3	3.9 98%			<1	becomes dark gray	
10								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB122 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB122

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	3.9 98%			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
14								
15								
16								
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29								
30								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB122 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO. 74SB123

COORDINATES: EAST: 936398.6 NORTH: 804854.7

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/13/08	0.0 - 12.0	83° Mostly Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1, 2, 3, 4	4.0	D-1	3.8 95%			<1	Sand and Gravel, gray, some cobbles, some carbonates present	
5, 6, 7, 8	8.0	D-2	3.8 95%		74SB123-03 (5-7')	<1	Silty Clay, reddish orange, mottled	
9, 10		D-3	3.8 95%		74SB123-05 (9-11')	<1	Sand, some silt, dark brown Silty Clay, some sand, some carbonates towards bottom of section, light orange	

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO. 74SB123 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB123

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11							*Continued from Sheet 1*	
		D-3	3.8			<1	Sand, light brown medium grained, some silt	
12	12.0		95%				some carbonate and clay present	
							END OF BORING at 12.0'	
13								
14								
15								
16								
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DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB123 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB124

COORDINATES: EAST: 936485.9 NORTH: 804825.5

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/13/08	0.0 - 12.0	83° Mostly Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Dark brown	
2		D-1	3.5 88%			<1	Sand and Gravel, light gray, some cobbles present, some carbonates	
3							Sand, dark brown, some gravel, coarse grained	
4	4.0				74SB124-02 (3-5')			
5							Clayey Silt, dark brown	
6		D-2	3.9 98%			<1		
7								
8	8.0							
9		D-3	3.9 98%		74SB124-05 (9-11')	<1	Sand, dark brown, medium grained, some silt, some carbonates present	
10								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB124 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB124

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	3.9 98%			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
14								
15								
16								
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27								
28								
29								
30								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB124 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB125

COORDINATES: EAST: 936584.7 NORTH: 804792.7

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/13/08	0.0 - 12.0	83° Mostly Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Dark brown	
2		D-1	3.5 88%			<1	Sand and Gravel, coarse grained, carbonate shell materials, light tan	
3							Gravel, light gray	
4	4.0							
5							Silty Clay, light orange, some sparse cobbles	
6		D-2	3.9 98%		74SB125-03 (5-7')	<1		
7							Silty Sand, light orange, some clay, some carbonates present	
8	8.0							
9								
10		D-3	3.8 95%		74SB125-05 (9-11')	<1	Sand, light orange, medium grained, some silt and carbonates, sparse clay, moist	

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB125 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB125

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	3.8 95%			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
14								
15								
16								
17								
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27								
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29								
30								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB125 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB126

COORDINATES: EAST: 936678.2 NORTH: 804758.1

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/14/08	0.0 - 12.0	83° Mostly Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Sand, dark brown	
							Sand, light tan, coarse grained, some cobbles and carbonates	
2		D-1	3.9 98%			<1	Gravel, gray, some sand	
3					74SB126-02 (3-5')			
4	4.0						Silty Clay, dark brown, some interdispersed gravel	
5								
6		D-2	3.9 98%			<1	Silty Sand, light tan, some gravel, and some carbonates, light tan	
7								
8	8.0						Silty clay, dark brown, some sand and gravel	
9								
10		D-3	3.0 75%		74SB126-05 74SB126-05D (9-11')	<1	Sand, light reddish brown, medium grained, with sparse, grayish/blue clay nodules, moist, some gravel	

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB126 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB126

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	3.0 75%			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
14								
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16								
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DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB126 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB127

COORDINATES: EAST: 936772.6 NORTH: 804728.4

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/14/08	0.0 - 12.0	83° Mostly Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Asphalt and Sandy Gravel	
2		D-1	3.9 98%			<1	Silty Clay, light brown becomes dark brownish red	
3								
4	4.0						Silty Sand, brown, some gravel	
5								
6		D-2	3.7 93%		74SB127-03 (5-7')	<1	Silty Sand, brown, some clay nodules and some sparse gravel	
7								
8	8.0				74SB127-04 (7-9')		Saprolite, greenish brown	
9		D-3	N/A			<1	Silty Sand, light tan, some gravel, saprolite	
10								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB127 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB127

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	N/A			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
14								
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DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB127 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB128

COORDINATES: EAST: 936884.7 NORTH: 804699.7

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/14/08	0.0 - 12.0	83° Mostly Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Sand, brown	
							Silty Sand, dark brown, some gravel	
2		D-1	3.6 90%			<1	Sand, light tan, medium grained, sparse cobble and gravel, some silt	
3								
4	4.0						Silty Clay, dark brown	
5								
6		D-2	3.9 98%		74SB128-03 (5-7')	<1	becomes reddish tan	
7								
8	8.0						Silty Sand, tan, medium grained, some clay, some gravel	
9		D-3	N/A		74SB128-05 (9-11')	<1		
10							Silty Sand, light tan, clay nodules/strips more clay present with depth	

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB128 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB128

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	N/A			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB128 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB129

COORDINATES: EAST: 936973.0 NORTH: 804669.9

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/14/08	0.0 - 7.0	83° Mostly Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Sand, dark brown	
							Silty Sand, light brown, some gravel and cobbles	
2		D-1	N/A			<1		
3							becomes silty sand with some clay, brown nodule inclusions, shell fragments, light tan	
4	4.0				74SB129-02 (3-5')			
5								
6		D-2	N/A		74SB129-03 (5-7')	<1	becomes medium grained silty sand, brown, with clay nodules	
7								
8	8.0						GEOPROBE REFUSAL at 7.0'	
9								
10								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB129 SHEET 1 OF 1

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB130

COORDINATES: EAST: 937065.9 NORTH: 804633.8

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/14/08	0.0 - 12.0	83° Mostly Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Sand, dark brown	
							Silty Sand, light brown, some gravel	
2		D-1	3.8 95%			<1	Sand, white,some gravel/cobbles	
3							chuck of asphalt	
4	4.0						Gravel, blue gray	
5							Silty Clay, brown, some gravel and cobbles	
6		D-2	3.9 98%		74SB130-03 (5-7')	<1		
7							Silty Clay, dark brown/gray	
8	8.0							
9							Silty Sand, brown, weathered rock, green inclusions	
10		D-3	3.9 98%		74SB130-05 (9-11')	<1	Silty Sand, reddish brown, some gravel, some cobbles	

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB130 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB130

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	3.9 98%			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
14								
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16								
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27								
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29								
30								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB130 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB131

COORDINATES: EAST: 937027.1 NORTH: 804530.7

ELEVATION: SURFACE:

Rig: Geoprobe 6620 DT Track Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/15/08	0.0 - 12.0	85° Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1					74SB131-00 (0-1')		Silty Sand and Gravel	
2		D-1	4.0 100%			<1	Sandy Clay, medium brown, moderately hard, some stones, dry	
3								
4	4.0						becomes silty clay from 3.1 to 3.3'	
5								
6		D-2	4.0 100%		74SB131-03 74SB131-03D 74SB131-03MS 74SB131-03MSD (5-7')	<1		
7							More clay, rich, grayish brown, at 7.5'	
8	8.0							
9		D-3	4.0 100%		74SB131-05 (9-11')	<1		
10								

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB131 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB131

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	4.0 100%			<1	*Continued from Sheet 1* Sandy clay continued some silty areas, moist to wet at 11.8'	
12	12.0						END OF BORING at 12.0'	
13								
14								
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27								
28								
29								
30								

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB131 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB132

COORDINATES: EAST: 937016.5 NORTH: 804429.8

ELEVATION: SURFACE:

Rig: Geoprobe 6620 DT Track Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/15/08	0.0 - 12.0	85° Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Silt loam, dark brown, moderately hard, dry	
2		D-1	4.0 100%			<1	Silt and Sand, brown, moderately hard, loose	
3								
4	4.0							
5								
6		D-2	4.0 100%			<1		
7								
8	8.0				74SB132-04 (7-9')			
9							Clayey Sand and Silt, brown, dry	
10		D-3	4.0 100%		74SB132-05 (9-11')	<1	Sand and Silt, brown, dry	

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB132 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB132

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	4.0 100%			<1	*Continued from Sheet 1* From 11.0 to 12.0', clay, very dry throughout	
12	12.0						END OF BORING at 12.0'	
13								
14								
15								
16								
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19								
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24								
25								
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27								
28								
29								
30								

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB132 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB133

COORDINATES: EAST: 937007.9 NORTH: 804333.1

ELEVATION: SURFACE:

Rig: Geoprobe 6620 DT Track Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/15/08	0.0 - 12.0	85° Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Sandy Loam, medium dark brown, hard, dry	
2		D-1	3.2 80%			<1	Sandy Silt, grayish brown, some gravel, loose, moderately hard, dry	
3								
4	4.0							
5								
6		D-2	2.7 68%			<1	Sandy Clay, medium greenish gray, saprolite moderate hard, fine to medium grained sand dry	
7								
8	8.0				74SB133-04 (7-9')			
9		D-3	3.3 83%		74SB133-05 (9-11')	<1		
10								

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB133 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB133

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	3.3 83%			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB133 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB134

COORDINATES: EAST: 936982.3 NORTH: 804226.4

ELEVATION: SURFACE:

Rig: Geoprobe 6620 DT Track Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/15/08	0.0 - 12.0	85° Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Silt Loam, dark brown, moderately soft, dry	
							Gravel, gray, loose, dry	
2		D-1	3.1 78%			<1	Sandy Silt, grayish brown, some gravel, loose, dry	
3								
4	4.0							
5							Silty Clay, medium brown, some silt, moderately hard, damp to dry	
6		D-2	3.8 95%			<1		
7								
8	8.0				74SB134-04 (7-9')			
9		D-3	4.0 100%		74SB134-05 (9-11')	<1		
10								

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB134 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB134

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	4.0 100%			<1	*Continued from Sheet 1* Sandy zone from 11.1 to 11.5', damp	
12	12.0						END OF BORING at 12.0'	
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB134 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB135

COORDINATES: EAST: 937058.2 NORTH: 804111.1

ELEVATION: SURFACE:

Rig: Geoprobe 6620 DT Track Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/15/08	0.0 - 12.0	85° Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1, 2, 3, 4	4.0	D-1	3.9 98%			<1	Sandy Loam and gravel to 0.4', dry broken, moderate soft to 0.4' sandy clay medium brown, damp to dry, moderate soft At 1.9' dark brown, silty clay, moderate hard damp to dry, occassional stone	
5, 6, 7, 8	8.0	D-2	4.0 100%		74SB135-03 (5-7')	<1	At 4.6' light green gray sandy clay, saprolite, moderate hard, some iron staining, damp to dry	
9, 10		D-3	4.0 100%		74SB135-05 (9-11')	<1	Becomes sandy silt, saprolite, very dry, moderate soft, gray	

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB135 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB135

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	4.0 100%			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
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25								
26								
27								
28								
29								
30								

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB135 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB136

COORDINATES: EAST: 937036.5 NORTH: 804016.1

ELEVATION: SURFACE:

Rig: Geoprobe 6620 DT Track Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/15/08	0.0 - 12.0	85° Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1, 2, 3, 4	4.0	D-1	3.8 95%			<1	Sandy loam and gravel to 0.5', moderately soft, dry Sandy Clay, greenish gray, moderately hard, broken, damp to dry	
5, 6, 7, 8	8.0	D-2	4.0 100%		74SB136-03 74SB136-03D (5-7')	<1	Occasional cobble throughout at 4.5' Silty clay, dark brown, moderate hard, damp	
9, 10		D-3	3.9 98%		74SB136-05 (9-11')	<1	Mixed with limestone gravel from 10.4 to 12.0' damp	

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB136 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB136

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	3.9 98%			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
14								
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DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB136 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB138

COORDINATES: EAST: 936998.1 NORTH: 803802.3

ELEVATION: SURFACE:

Rig: Geoprobe 6620 DT Track Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/15/08	0.0 - 12.0	85° Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Sandy loam and gravel	
2		D-1	3.5 88%			2	Sandy Clay, brown, moderately soft, damp	
3								
4	4.0						Silty Clay, dark brown turning greenish brown at 5.0' with hydrocarbon odor	
5								
6		D-2	4.0 100%		74SB138-03 (5-7')	90		
7							Sandy Clay, light brown, moderately soft to moderately hard, damp	
8	8.0				74SB138-04 (7-9')			
9		D-3	3.7 93%			<1		
10								

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB138 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB138

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	3.7 93%			<1	*Continued from Sheet 1* Layer of quartz gravel at 11.4' to 11.7' then sandy clay again	
12	12.0						END OF BORING at 12.0'	
13								
14								
15								
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27								
28								
29								
30								

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB138 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB139

COORDINATES: EAST: 936983.2 NORTH: 803700.5

ELEVATION: SURFACE:

Rig: Geoprobe 6620 DT Track Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/15/08	0.0 - 12.0	85° Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Silt loam, dark brown, damp	
2		D-1	3.8 95%			<1	Silty Clay, dark brown, some gravel from 2.1 to 2.3', damp	
3								
4	4.0							
5								
6		D-2	4.0 100%		74SB139-03 (5-7')	<1	Sandy Clay, some gravel, more clay from 7.2 to 9.1', damp to dry, moderate softness to 12.0'	
7								
8	8.0							
9		D-3	3.4 85%		74SB139-05 (9-11')	<1		
10								

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB139 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB139

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	3.4 85%			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
14								
15								
16								
17								
18								
19								
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21								
22								
23								
24								
25								
26								
27								
28								
29								
30								

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB139 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB140

COORDINATES: EAST: 937241.1 NORTH: 804236.1

ELEVATION: SURFACE:

Rig: Geoprobe 6620 DT Track Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/15/08	0.0 - 12.0	85° Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1						Silt Loam and Gravel, brown, broken, dry	
2	D-1	3.6 90%			<1	Sandy Clay, grayish brown, broken, some stones dry	
3							
4 4.0						Saprolite, gray/green weathered into sandy clay, compact and hard	
5							
6	D-2	1.7 43%			<1		
7							
8 8.0				74SB140-04 (7-9')			
9							
10	D-3	3.0 75%		74SB140-05 (9-11')	<1		
						Sandy Silt, soft, loose, some rock fragments, dry	

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB140 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB140

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	3.0 75%			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
14								
15								
16								
17								
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DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB140 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB141

COORDINATES: EAST: 937356.2 NORTH: 804247.3

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/14/08	0.0 - 12.0	83° Mostly Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1		D-1	3.8 95%		74SB141-00 (0-1')	<1	Sandy, dark brown	
2							Sand, meedium grained,some gravel, sparse cobbles light tan	
3								
4	4.0						Silty Sand, brownish gray, fine grained, some clay, some gravel	
5		D-2	3.8 95%		74SB141-03 74SB141-03MS 74SB141-03MSD (5-7')	<1		
6							Gravel and cobble at 6'	
7								
8	8.0						Sand, light brown, medium grained, some gravel and sparse cobbles present, some blue gravel	
9		D-3	3.0 75%		74SB141-05 74SB141-05D (9-11')	<1		
10							Silty Sand, brown, some chips, bedrock in the bottom of core	

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB141 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB141

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	3.0 75%			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
14								
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DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB141 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB142

COORDINATES: EAST: 937403.3 NORTH: 804157.2

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig								
	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/14/08	0.0 - 9.0	83° Mostly Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Sandy, dark brown	
2		D-1	3.8 95%			<1	Silty Sand, gray, some gravel	
3							Silty Sand, light brown, some gravel and clay inclusions, carbonate materials present	
4	4.0				74SB142-02 (3-5')		Silty Clay, reddish brown, some gravel	
5							Silty Sand, brown, some gravel	
6		D-2	3.9 98%			<1		
7							Silty Sand, brown, some clay, some carbonate, saprolite large angular cobbles, some gravel	
8	8.0				74SB142-04 (7-9')			
9	9.0	D-3	1.0 25%				Clayey Silt, dark reddish orange, some cobbles and clay nodules, some carbonate	
10							REFUSAL at 9.0'	

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB142 SHEET 1 OF 1

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB143

COORDINATES: EAST: 937450.1 NORTH: 804066.3

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/14/08	0.0 - 8.5	83° Mostly Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Sandy Top Soil, dark brown	
							Silty Sand, brown, some gravel	
2		D-1	3.5 88%			<1	Sand, white, fine grained, some white cobbles and gravel	
3							Gravel #57 angular, bluish gray	
4	4.0				74SB143-02 (3-5')		Silty Clay, reddish brown, some sparse gravel	
5								
6		D-2	N/A			<1	Silty Sand, red and light brown, some clay inclusions, sparse gravel and some sparse carbonates	
7								
8	8.0				74SB143-04 (7-9')			
	8.5	D-3						
9							REFUSAL at 8.5'	
10								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB143 SHEET 1 OF 1

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB144

COORDINATES: EAST: 937494.2 NORTH: 803972.7

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/14/08	0.0 - 12.0	83° Mostly Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Silty Sand, dark brown, some gravel	
2		D-1	3.0 75%			<1	Sand, white, some white gravel, some coarse carbonates present	
3							Gravel, grayish blue, angular #21A, some coarse brown sand present	
4	4.0							
5							Silty Clay, dark red	
6		D-2	N/A		74SB144-03 (5-7')	<1	Clay, light brown and gray, mottled, some sand some silt, very sparse gravel	
7								
8	8.0							
9							Silty Clay, brown,	
		D-3	N/A		74SB144-05 (9-11')	<1	Sand, brown, coarse grained, some clay inclusions some carbonates present, some gravels, some weathered bedrock	
10							Silty Clay, light gray, some sand, some gravel	

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB144 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB144

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	N/A			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
14								
15								
16								
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23								
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27								
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29								
30								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB144 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB146

COORDINATES: EAST: 937586.3 NORTH: 803784.6

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/15/08	0.0 - 12.0	83° Mostly Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Sandy, dark brown	
							Silty Sand, brown, some gravel	
							Sand, white, coarse grained, some white gravel	
2		D-1	3.6 90%				Gravel, some sand matrix, gravel #57	
3								
4	4.0				74SB146-02 74SB146-02D (3-5')	220	Silty Clay, orange, some gravel and asphalt mixed in	
5								
6		D-2	3.9 98%			<1	Silty clay, bluish green, with sparse sand	
7								
8	8.0						Sandy Silt, light brown	
9		D-3	N/A		74SB146-05 (9-11')	<1	Sandy Silt, light brown with some greenish blue clay inclusions	
10								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB146 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB146

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	N/A			<1	*Continued from Sheet 1* Silty Clay, light tan	
12	12.0						END OF BORING at 12.0'	
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB146 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB147

COORDINATES: EAST: 937620.5 NORTH: 803686.5

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/15/08	0.0 - 12.0	83° Mostly Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Silty Sand, dark brown	
2		D-1	3.8 95%			<1	Sand, medium brown, medium grained, some gravel	
							Gravel with sand matrix #57	
3							Silty Sand, light brownish-red, some clay	
4	4.0						Silty Clay, bluish brown, some gravel	
5							Clayey Sand, dark brown, some gravel	
6		D-2	3.8 95%		74SB147-03 (5-7')	<1	Clay, bluish green, some silt, some sparse sand	
7								
8	8.0				74SB147-04 (7-9')		Sandy Clay, bluish green, trace silt	
9		D-3	3.0 75%			<1	Sand, brown, coarse grained, some silt, sparse clay nodules, some gravel	
10								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB147 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB147

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3				<1	*Continued from Sheet 1*	
12	12.0						Clayey Silt, bluish green, some sand, more sand towards the bottom	
							END OF BORING at 12.0'	
13								
14								
15								
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25								
26								
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28								
29								
30								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB147 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB148

COORDINATES: EAST: 937651.4 NORTH: 803587.9

ELEVATION: SURFACE:

Rig: Truck Rig 5600	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/15/08	0.0 - 12.0	83° Mostly Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Sandy Top Soil, light brown	
2		D-1	3.5 88%			N/A	Silty Sand, light tan, some gravel and cobble	
3							Sand and Gravel, brown, angular Gravel 21A with some sand in matrix, light blue	
4	4.0				74SB148-02 (3-5')		Sandy Silt, brown, some weathered bedrock inclusions (saprolitic)	
5							Silty Sand, light brown, some gravel	
6		D-2	3.5 88%			N/A		
7								
8	8.0				74SB148-04 (7-9')		Sand, light brown, medium grained	
9							Silty Clay, bluish green, sparse sand	
10		D-3	3.4 85%			N/A	Saturated below 10.0' (wet)	

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB148 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB148

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	3.4 85%			N/A	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
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29								
30								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB148 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB149

COORDINATES: EAST: 937663.6 NORTH: 803484.6

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/15/08	0.0 - 12.0	83° Mostly Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Sand, brown	
							Silty Sand, dark brown to black	
2		D-1	3.6 90%			<1	Sand and Gravel, white, medium grained, some cobbles,shell material, and carbonates	
3								
4	4.0						Clayey Silt with Gravel, dark brown	
5							Clay, bluish green, some red inclusions	
6		D-2	3.5 88%			<1	Clayey Sand, bluish green, some sparse gravel	
7								
8	8.0				74SB149-04 (7-9')			
9		D-3	3.8 95%			<1	Saturated at 9.0'	
10							Clay, bluish green, some sand	

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB149 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB149

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11							*Continued from Sheet 1*	
		D-3	3.8		74SB149-06	<1	Gravelly Clay, black and bluish green	
12	12.0		95%		(11-13')			
							END OF BORING at 12.0'	
13								
14								
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17								
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22								
23								
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27								
28								
29								
30								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB149 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB150

COORDINATES: EAST: 937662.5 NORTH: 803380.9

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/15/08	0.0 - 12.0	83° Mostly Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Sandy Top Soil, brown	
2		D-1	3.6 90%			<1	Silty Sand, light tan, some gravel, coarse grained carbonates towards the bottom, light tan	
3								
4	4.0				74SB150-02 (3-5')		Gravel, bluish gray and reddish orange, some cobbles	
5							Sandy Clay, light gray, some bluish green clay nodules and some gravel	
6		D-2	N/A			<1		
7							Moist at 6.0'	
8	8.0						Silty Clay, greenish blue/brown, some sand	
9		D-3	4.0 100%			<1		
10								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB150 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB150

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	4.0 100%		74SB150-06 (11-13')	<1	*Continued from Sheet 1* Saturated at 11.5'	
12	12.0						END OF BORING at 12.0'	
13								
14								
15								
16								
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19								
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22								
23								
24								
25								
26								
27								
28								
29								
30								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB150 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74
SO NO.: 111626 BORING NO.: 74SB152
COORDINATES: EAST: 937619.9 NORTH: 803184.1
ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/15/08	0.0 - 12.0	83° Mostly Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1		D-1	3.6 90%			<1	Sandy Top Soil, dark brown	
2							Silty Sand, brown, some gravel	
3							Gravel, bluish gray, some brown medium sand	
4	4.0						Sandy Silt, light brown, some clay, carbonates present and sparse gravel	
5		D-2	N/A		74SB152-03 (5-7')	<1	Sandy Clay, brown	
							Silty Clay, dark red, some gravel and sand	
6							Silty Clay, brownish red, sparse sand	
7								
8	8.0						Silty Clay, possible weathered bedrock, bluish green to 12.0'	
9		D-3	N/A		74SB152-05 (9-11')	<1		
10								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver
DRILLER: Juan Negron BORING NO.: 74SB152 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB152

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	N/A			<1	*Continued from Sheet 1* Moist at 11.0'	
12	12.0						END OF BORING at 12.0'	
13								
14								
15								
16								
17								
18								
19								
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21								
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25								
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28								
29								
30								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB152 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB153

COORDINATES: EAST: 937601.1 NORTH: 803084.7

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/15/08	0.0 - 12.0	83° Mostly Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Sandy Top Soil, dark brown	
							Sandy Clay, dark brown	
2		D-1	3.6 90%			<1	Silty Sand, black and white, some gravel	
3								
4	4.0				74SB153-02 (3-5')			
5							Silty Clay, brown with some bluish streaks	
6		D-2	4.0 100%			<1		
7								
8	8.0				74SB153-04 (7-9')			
9								
10		D-3	3.9 98%			<1	Clayey Sand, orangish brown, some weathered bedrock inclusions	

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB153 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB153

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11							*Continued from Sheet 1*	
		D-3	3.9			<1		
12	12.0		98%					
							END OF BORING at 12.0'	
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB153 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB154

COORDINATES: EAST: 937588.4 NORTH: 802983.8

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/15/08	0.0 - 11.0	83° Mostly Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Sandy Top Soil, dark brown	
							Sand , medium brown, medium grained, some gravel	
2		D-1	3.7 93%			<1	Sand and Gravel, white becomes bluish green at 1.5' becomes tan at 2.0' Gravel matrix #57	
3								
4	4.0						Clay, dark red, some sand,	
5								
6		D-2	4.0 100%			<1		
7							Silty Clay, brown, some greenish blue inclusions some carbonates sparse, some sparse sand	
8	8.0				74SB154-04 (7-9')			
9								
10		D-3	3.0 75%		74SB154-05 (9-11')	<1	Sand, dark brown, some bluish gray gravel #57	

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB154 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB154

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11							*Continued from Sheet 1*	
		D-3	3.0			<1	REFUSAL at 11.0'	
12	12.0		75%					
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB154 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB155

COORDINATES: EAST: 937566.3 NORTH: 802884.4

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/15/08	0.0 - 12.0	83° Mostly Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
						Silty Sand, dark brown	
1						Sand and gravel, light tan	
2	D-1	3.4 85%			<1	some dark brown sand at 1.5'	
						some bluish gray gravel at 2.0'	
3							
4 4.0						Silty Clay, brown	
5						Saprolite, greenish gray, weathered bedrock, some sand	
6	D-2	3.5 88%			<1		
7							
8 8.0				74SB155-04 (7-9')	120	Silty Clay, brown, some sand	
9	D-3	N/A		74SB155-05 (9-11')	<1	becomes dark green	
10					110		

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB155 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB155

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	N/A			<1	*Continued from Sheet 1* Saprolite bluish green clay with brown inclusions, some cobbles	
12	12.0						END OF BORING at 12.0'	
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB155 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB156

COORDINATES: EAST: 937541.2 NORTH: 802786.9

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/15/08	0.0 - 12.0	83° Mostly Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Sandy Topsoil, dark brown	
							Sand and Gravel, brown, some carbonates	
2		D-1	3.7 93%			<1	becomes light with some shell fragments	
3							carbonates present	
4	4.0						Gravel, bluish gray, some cobbles	
5							Silty Clay, brown, some sand	
6		D-2	3.8 95%					
7								
8	8.0				74SB156-04 (7-9')	108	Sandy Clay, greenish blue, some gravel and cobbles	
							Silty Sand, light brown, some gravel, coarse grained	
9							Clayey Silt, bluish gray, some gravel and some carbonates	
		D-3	3.9 98%		74SB156-05	240		
10					74SB156-05D (9-11')	235	Sandy Clay, bluish green, some silt, some sparse gravel, dry	

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB156 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB156

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	3.9 98%			90	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
14								
15								
16								
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19								
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29								
30								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB156 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB157

COORDINATES: EAST: 937514.2 NORTH: 802688.7

ELEVATION: SURFACE:

Rig: Geoprobe 6620 DT Track Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/14/08	0.0 - 10.0	85° Sunny	
Length	5'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1 2 3 4 5	5.0	D-1	N/A			<1	Silty Clay, (Fill), brown, trace fine sand, trace fine rock fragments	
6 7 8 9 10	10.0	D-2	N/A		74SB157-04 (7-9') 74SB157-05 (9-11')	<1	Silt and Clay, green	
							END OF BORING at 10.0'	

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Ed Kleinkauf

DRILLER: Abraham Nunez BORING NO.: 74SB157 SHEET 1 OF 1

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB158

COORDINATES: EAST: 937447.9 NORTH: 802495.3

ELEVATION: SURFACE:

Rig: Geoprobe 6620 DT Track Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/14/08	0.0 - 10.0	83° Partly Cloudy	
Length	5'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1 2 3 4 5	5.0	D-1	N/A			<1	Silty Clay, brown/tan, trace of fine sand	
6 7 8 9 10	10.0	D-2	N/A		74SB158-03 (5-7') 74SB158-04 (7-9')	<1	Silt and Clay, gray, trace little rock fragments and gravel	
							END OF BORING at 10.0'	

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Ed Kleinkauf

DRILLER: Abraham Nunez BORING NO.: 74SB158 SHEET 1 OF 1

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB159

COORDINATES: EAST: 937429.4 NORTH: 802396.2

ELEVATION: SURFACE:

Rig: Geoprobe 6620 DT Track Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/14/08	0.0 - 10.0	85° Sunny	
Length	5'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1, 2, 3, 4, 5 (5.0)	D-1	N/A			<1	Sand, gray/light gray/white, fine grained little/some silt; Silty clay/silt and clay, brown, trace fine sand	
6, 7, 8, 9, 10 (10.0)	D-2	N/A		74SB159-03 (5-7'); 74SB159-05 (9-11')	<1	Silt/Clayey Silt, gray, trace fine sand	
						END OF BORING at 10.0'	

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Ed Kleinkauf

DRILLER: Abraham Nunez BORING NO.: 74SB159 SHEET 1 OF 1

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB160

COORDINATES: EAST: 937421.5 NORTH: 802295.4

ELEVATION: SURFACE:

Rig: Geoprobe 6620 DT Track Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/14/08	0.0 - 10.0	85° Partly Cloudy	
Length	5'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1 2 3 4 5	5.0	D-1	N/A			<1	Sand and Clayey Silt, gray/brown/medium gray some fine gravel and rock fragments	
6 7 8 9 10	10.0	D-2	N/A		74SB160-04 (7-9') 74SB160-05 (9-11')	<1		
							END OF BORING at 10.0'	

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Ed Kleinkauf

DRILLER: Abraham Nunez BORING NO.: 74SB160 SHEET 1 OF 1

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB161

COORDINATES: EAST: 939628.4 NORTH: 804992.8

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/16/08	0.0 - 12.0	83° Mostly Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1		D-1	3.0 75%		74SB161-00 74SB161-00D (0-1')	<1	Sandy, brown	
2							Sand and Gravel, bluish gray, cobbles present	
3							Sand, white, some shell material and coral, some white gravel	
4	4.0							
5		D-2	3.8 95%			<1		
6								
7					74SB161-04 74SB161-04D (7-9')		Gravel, bluish gray, some brown sand, some clay silt layers, dry	
8	8.0							
9		D-3	3.0 75%		74SB161-05 74SB161-05D 74SB161-05MS 74SB161-05MSD (9-11')	<1	Sandy Silt,brown, some clay, some gravel and cobbles present	
10							Silty Clay, light brown, some carbonate and weathered bedrock	

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB161 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB161

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	3.0 75%			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
14								
15								
16								
17								
18								
19								
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24								
25								
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27								
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29								
30								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB161 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB162

COORDINATES: EAST: 939576.3 NORTH: 804895.3

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/16/08	0.0 - 12.0	83° Mostly Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Sand, dark brown	
							Sand, light gray, coarse grained, some gravel and clay	
2		D-1	3.6 90%			<1	Silty Sand, brown, some gravel, some silt	
3								
4	4.0						Sandy Clay, rust colored, some gravel	
5								
6		D-2	N/A			<1		
7							Silty Sand, light brown, some gravel	
8	8.0				74SB162-04 (7-9')			
9								
10		D-3	N/A		74SB162-05 (9-11')	<1	Silty Sand, orangish brown, some weathered bedrock, saprolite inclusions, more inclusions with depth	

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB162 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB162

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	N/A			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB162 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB163

COORDINATES: EAST: 939524.1 NORTH: 804813.2

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/16/08	0.0 - 9.5	83° Mostly Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Sand, dark brown	
2		D-1	3.8 95%			<1	Silty Sand, light brown, some gravel and a few cobbles	
3							Clayey Silt, rust colored, sparse gravel	
4	4.0							
5							Sand, reddish brown, medium to coarse grained, some gravel	
6		D-2	3.9 98%		74SB163-03 (5-7')	<1		
7							Silty Sand, brown, fine grained, some carbonates some weathered saprolite	
8	8.0				74SB163-04 (7-9')		Gravel, bluish gray	
9	9.5	D-3	1.5 38%			<1	Sand, brown, medium grained, some weathered bedrock, carbonate inclusions	
10							REFUSAL at 9.5'	

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB163 SHEET 1 OF 1

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB164

COORDINATES: EAST: 939483.4 NORTH: 804719.0

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/16/08	0.0 - 12.0	83° Mostly Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Sand, dark brown	
							Clayey Silt, brown, some sand	
2		D-1	3.8 95%			<1	Gravel, bluish gray	
3							Silty Clay, orange, some sparse sand and gravel	
4	4.0							
5								
6		D-2	4.0 100%			<1		
7								
8	8.0				74SB164-04 (7-9')		Sand and Gravel, brown sand and bluish gray gravel, medium grained sand	
9		D-3	3.8 95%		74SB164-05 (9-11')	<1	Sandy silt, brown, some clay	
10							Silty Sand, light brown, some clay and saprolite inclusions	

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB164 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB164

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11							*Continued from Sheet 1*	
		D-3	3.8			<1	Silty Clay and saprolite/weathered, bluish green	
12	12.0		95%					
							END OF BORING at 12.0'	
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB164 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB165

COORDINATES: EAST: 937070.7 NORTH: 802804.0

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/16/08	0.0 - 12.0	83° Mostly Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Silty Sand, brown becomes lighter brown	
2		D-1	3.8 95%			<1		
3							Silty Clay, dark red, some sand and gravel interdispersed	
4	4.0							
5							Silty Clay, orange, some sand and gravel	
6		D-2	3.7 93%			<1	Solid bluish gray rock coral from 6 to 6.5'	
7								
8	8.0				74SB165-04 (7-9')		Sandy Silt, orange, some fine sand, sparse gravel	
9		D-3	3.8 95%		74SB165-05 (9-11')	<1		
10								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB165 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB165

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11							*Continued from Sheet 1*	
		D-3	3.8			<1	Clay, light orange, some silt	
12	12.0		95%					
							END OF BORING at 12.0'	
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB165 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB166

COORDINATES: EAST: 939390.3 NORTH: 804447.7

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/16/08	0.0 - 11.0	83° Mostly Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Sand, brown	
2		D-1	3.8 95%			<1	Sand and Gravel, brownish medium sand, bluish gray Sand, light brown, medium grained, some clay nodules	
3								
4	4.0						Sandy Clay, orange	
5								
6		D-2	3.5 88%			<1		
7					74SB166-04 74SB166-04D (7-9')		Sandy Silt brown, some sparse gravel Saprolite, bluish green, some weathered bedrock	
8	8.0							
9		D-3	3.0 75%		74SB166-05 (9-11')	<1	Some bluish green clay inclusions disperse	
10								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB166 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB166

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11							*Continued from Sheet 1*	
		D-3	3.0			<1	GEOPROBE REFUSAL at 11.0'	
12	12.0		75%					
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB166 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB167

COORDINATES: EAST: 939325.1 NORTH: 804370.0

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/16/08	0.0 - 12.0	83° Mostly Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1, 2, 3, 4	4.0	D-1	3.0 75%			<1	Sand and Gravel, light bluish gray Sand, brown, coarse grained, some granite pieces	
5, 6, 7, 8	8.0	D-2	3.8 95%		74SB167-04 (7-9')	<1	Sandy Clay, dark brown, sparse gravel Silty Clay, brown, some sparse sand, some weathered bedrock, saprolite inclusions	
9, 10		D-3	3.0 75%		74SB167-05 (9-11')	<1	Sand and Silt, saprolite inclusions, orange bedrock saprolite inclusions increases with depth Localized fracturing	

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB167 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB167

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	3.0 75%			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB167 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB169

COORDINATES: EAST: 939136.0 NORTH: 804344.0

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/16/08	0.0 - 12.0	83° Mostly Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Sandy, dark brown	
2		D-1	3.5 88%			<1	Sand and Gravel, fine grained sand, few cobbles	
3								
4	4.0						Sand and Gravel, brown, few cobbles	
5								
6		D-2	3.9 98%			<1	Silty Clay, orange, some sparse sand	
7								
8	8.0				74SB169-04 (7-9')			
9		D-3	3.0 75%		74SB169-05 (9-11')	<1	Silty Clay, orange, some saprolite inclusions sparse gravel, few clay nodules	
10								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB169 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB169

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11	D-3	3.0 75%			<1	*Continued from Sheet 1*	
12 12.0						END OF BORING at 12.0'	
13							
14							
15							
16							
17							
18							
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29							
30							

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB169 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB170

COORDINATES: EAST: 939036.3 NORTH: 804354.4

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/17/08	0.0 - 12.0	83° Mostly Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Sand, dark brown	
							Sand, light brown, coarse grained	
2		D-1	3.4 85%			<1	Sand, light brown, fine grained, some gravel	
3							Silty Clay, light brown/orange, some gravel	
4	4.0						Sand, light brown, fine grained, some gravel	
5								
6		D-2	3.9 98%			<1	Silty Clay, light brown/orange, some sparse sand, some gray blue clay lenses	
7								
8	8.0				74SB170-04 (7-9')			
9		D-3	3.9 98%		74SB170-05 (9-11')	<1	Silt and Clay, orange and gray, weathered bedrock saprolite present throughout	
10								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB170 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB170

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	3.9 98%			<1	*Continued from Sheet 1* Silty Clay, orange and gray, some red gravel	
12	12.0						END OF BORING at 12.0'	
13								
14								
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30								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB170 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB171

COORDINATES: EAST: 938807.9 NORTH: 804360.2

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/17/08	0.0 - 12.0	83° Mostly Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Sandy, dark brown	
2		D-1	3.0 75%			<1		
3							Sand, light brown, coarse grained, some gravel	
							Gravel, bluish gray, some sand matrix,	
4	4.0						Sandy Silt, dark red, some sand and sparse gravel throughout	
5								
6		D-2	3.5 88%			<1		
7					74SB171-04 74SB171-04MS 74SB171-04MSD		Clayey Silt, dark red, some sand	
8	8.0							
9					(7-9')			
10		D-3	3.5 88%		74SB171-05 74SB171-05D (9-11')	<1	Clay, red and orange, some silt, sparse sand	

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB171 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB171

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	3.5 88%			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
14								
15								
16								
17								
18								
19								
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21								
22								
23								
24								
25								
26								
27								
28								
29								
30								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB171 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB172

COORDINATES: EAST: 938710.6 NORTH: 804371.6

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/17/08	0.0 - 12.0	83° Mostly Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1, 2, 3, 4	4.0	D-1	3.4 85%			<1	Clayey Silt, reddish brown, some gravel and sand throughout	
5, 6, 7, 8	8.0	D-2	3.9 98%		74SB172-04 (7-9')	<1	Silty Clay and Silt, red, some brown clay nodules and lenses	
9, 10		D-3	3.9 98%		N/A	<1	Clay, red and white, stiff	

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB172 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB172

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	3.9 98%			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
14								
15								
16								
17								
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19								
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25								
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27								
28								
29								
30								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB172 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB173

COORDINATES: EAST: 938609.7 NORTH: 804394.9

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/17/08	0.0 - 12.0	83° Mostly Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Silty Clay, dark red	
2		D-1	3.6 90%			<1	Clayey Silt, red, some organic material and some sand	
3							Clay, reddish orange and bluish gray, some carbonate inclusions, sparse sand	
4	4.0							
5								
6		D-2	3.8 95%			<1		
7								
8	8.0				74SB173-04 (7-9')		become light tan and red, some gravel	
9								
10		D-3	3.6 90%		74SB173-05 (9-11')	<1	some saprolite bedrock inclusions, greenish gray	

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB173 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB173

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	3.6 90%			<1	*Continued from Sheet 1*	
12	12.0						Saprolite, greenish gray, hard	
							END OF BORING at 12.0'	
13								
14								
15								
16								
17								
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19								
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21								
22								
23								
24								
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27								
28								
29								
30								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB173 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB174

COORDINATES: EAST: 938513.3 NORTH: 804377.1

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/17/08	0.0 - 12.0	83° Mostly Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Sandy, dark brown	
2		D-1	3.6 90%			<1	Sand and Gravel, white/bluish gray, few cobbles	
3								
4	4.0						Silty Clay, reddish orange, interdispersed sand and gravel	
5								
6		D-2	3.5 88%			<1	Sand, white/light tan, medium grained	
7							Silty Clay, red, some brownish tan clay inclusions	
8	8.0				74SB174-04 (7-9')			
9		D-3	N/A		74SB174-05 (9-11')	408		
10						1104	Silty Clay, bluish green, weathered bedrock, saprolite, greenish-blue throughout	

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB174 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB174

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	N/A			1145	*Continued from Sheet 1*	
12	12.0					450		
							END OF BORING at 12.0'	
13								
14								
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29								
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DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB174 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB175

COORDINATES: EAST: 938418.2 NORTH: 804365.7

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/17/08	0.0 - 12.0	83° Mostly Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Sandy, dark brown	
							Silty Clay, brown, some gravel	
2		D-1	3.9 98%			<1		
3							Clay, red and brown, stiff	
4	4.0							
5							Clayey Silt, brownish red, some sparse sand	
6		D-2	3.8 95%			<1		
7								
8	8.0				74SB175-04 (7-9')		Clayey Silt, light tan, some sand, weathered bedrock/saprolite inclusion	
9								
10		D-3	3.8 95%		74SB175-05 (9-11')	<1	Silty Clay and Saprolite, greenish blue, some brownish tan fine sand,	

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB175 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB175

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	3.8 95%			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
14								
15								
16								
17								
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29								
30								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB175 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB176

COORDINATES: EAST: 938333.0 NORTH: 804306.6

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/17/08	0.0 - 12.0	83° Mostly Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1, 2, 3, 4	4.0	D-1	N/A			<1	Silty clay, dark brown, some gravel becomes brown with sparse sand	
							Sandy Silt, brown, some gravel, some weathered bedrock	
5, 6, 7, 8	8.0	D-2	N/A		74SB176-04 (7-9')	<1		
							Gravel, bluish gray, hard	
9, 10		D-3	3.9 98%		74SB176-05 74SB176-05D (9-11')	<1	Sandy Silt, brown, some interdispersed gravel and weathered bedrock fragments	

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB176 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB176

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	3.9 98%			<1	*Continued from Sheet 1*	
12	12.0						Saprolite, greenish gray, hard	
							END OF BORING at 12.0'	
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
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25								
26								
27								
28								
29								
30								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB176 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB177

COORDINATES: EAST: 938246.1 NORTH: 804265.5

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/17/08	0.0 - 12.0	83° Mostly Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Silty Sand, dark brown	
2		D-1	3.8 95%			<1	Sandy Silt, dark brown, some clay and some gravel	
3							Silty Clay, orangish brown, sparse sand	
4	4.0							
5								
6		D-2	N/A			<1	Clayey Silt, orange brown, sparse sand	
7								
8	8.0				74SB177-04 (7-9')			
9		D-3	N/A		74SB177-05 (9-11')	<1	Silty Sand, light brown, medium grained, some gravel and some saprolite and bedrock inclusions	
10								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB177 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB177

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	N/A			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
14								
15								
16								
17								
18								
19								
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22								
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28								
29								
30								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB177 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB178

COORDINATES: EAST: 938165.0 NORTH: 804217.3

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/19/08	0.0 - 12.0	83° Mostly Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Sandy, dark brown	
2		D-1	3.8 95%			<1		
3							Sandy Silt, brown, some clay	
4	4.0							
5							Silty Sand, brown, some gravel	
6		D-2	3.8 95%			<1		
7								
8	8.0				74SB178-04 (7-9')		Silty Sand, brown, some gravel, some weathered bedrock/saprolite inclusions, some gravel increasing with depth	
9		D-3	3.8 95%		74SB178-05 (9-11')	<1		
10								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB178 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB178

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	3.8 95%			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB178 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74
SO NO.: 111626 BORING NO.: 74SB179
COORDINATES: EAST: 938078.1 NORTH: 804175.7
ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/19/08	0.0 - 12.0	83° Mostly Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Sandy, dark brown	
2		D-1	3.8 95%			<1	Sandy Silt, dark brown, some clay and gravel	
3							Silty Clay, brown, sparse gravel	
4	4.0							
5								
6		D-2	N/A			<1		
7							Sand, light brown, medium to fine grained, some gravel, few saprolite inclusions	
8	8.0				74SB179-04 (7-9')			
9		D-3	N/A		74SB179-05 (9-11')	<1		
10								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver
DRILLER: Juan Negron BORING NO.: 74SB179 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB179

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	N/A			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB179 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB180

COORDINATES: EAST: 937988.4 NORTH: 804124.8

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/19/08	0.0 - 12.0	83° Mostly Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Sandy, brown	
							Gravel, hard, loose	
							Silty Sand, brown, some clay and gravel	
2		D-1	3.8 95%			<1	Sandy Silt, dark brown	
3							Silty Clay, orangish brown, sparse sand inclusions	
4	4.0							
5							Sand, light brown, medium to fine grained, some silt	
6		D-2	3.8 95%			<1		
7								
8	8.0				74SB180-04 (7-9')			
9							some clay and bedrock inclusions	
		D-3	N/A		74SB180-05 (9-11')	<1		
10								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB180 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB180

COORDINATES: EAST: 937988.4 NORTH: 804124.8

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/19/08	0.0 - 12.0	83° Mostly Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Sandy, brown	
							Gravel, hard, loose	
							Silty Sand, brown, some clay and gravel	
2		D-1	3.8 95%			<1	Sandy Silt, dark brown	
3							Silty Clay, orangish brown, sparse sand inclusions	
4	4.0							
5							Sand, light brown, medium to fine grained, some silt	
6		D-2	3.8 95%			<1		
7								
8	8.0				74SB180-04 (7-9')			
9							some clay and bedrock inclusions	
		D-3	N/A		74SB180-05 (9-11')	<1		
10								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB180 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB181

COORDINAT EAST: 937896.4 NORTH: 804087.3

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/19/08	0.0 - 10.0	83° Mostly Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1					74SB181-00 (0-1')	<1	Sandy, brown	
							Gravel, bluish gray, hard	
2		D-1	3.9 98%				Silty Clay, brownish orange	
3								
4	4.0						Sandy Silt, brownish orange, some gravel	
5							Gravel, bluish gray, hard	
6		D-2	3.8 95%			<1	Sandy Silt, light brown, some clay	
7					74SB181-04 74SB181-04MS 74SB181-04MSD (7-9')			
8	8.0							
9		D-3	2.0 50%		74SB181-05 74SB181-05D (9-11')	<1	Silty Sand, light brown, some weathered bedrock inclusions	
10	10.0							
							REFUSAL at 10.0'	

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB181 SHEET 1 OF 1

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB182

COORDINATES: EAST: 937806.7720 NORTH: 804044.9150

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/19/08	0.0 - 12.0	83° Mostly Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Sandy, brown	
							Gravel, bluish gray, hard	
2		D-1	3.6 90%			<1	Silty Clay, bluish gray, sparse sand and gravel	
3								
4	4.0						Silty, light brownish orangish, medium to fine grained sand with sparse weathered rock inclusions	
5								
6		D-2	3.9 98%			<1		
7								
8	8.0				74SB182-04 (7-9')		Clayey Silt, orangish brown, saprolite/weathered rock inclusions	
9		D-3	N/A		74SB182-05 (9-11')	<1		
10							Silty Clay and Saprolite, light orangish brown	

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB182 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB182

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	N/A			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
14								
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16								
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DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB182 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB183

COORDINATES: EAST: 937721.1 NORTH: 804007.3

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/19/08	0.0 - 12.0	83° Mostly Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Sandy, dark brown	
2		D-1	3.9 98%			<1	Silty Clay, orangish brown, sparse sand	
3								
4	4.0						Clayey Silt, orange brown, some sand, weathered bedrock inclusions	
5								
6		D-2	3.9 98%			<1		
7								
8	8.0				74SB183-04 (7-9')			
9		D-3	N/A		74SB183-05 (9-11')	<1	Saprolite, greenish gray, clayey weathered bedrock, some layers of brownish orange silty clay	
10								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB183 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB183

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	N/A			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
14								
15								
16								
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28								
29								
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DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB183 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB184

COORDINATES: EAST: 937627.5 NORTH: 803951.3

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/19/08	0.0 - 12.0	83° Mostly Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Sandy, dark brown	
							Gravel/stone, grayish blue, hard	
2		D-1	3.6 90%			<1	Silty Sand, light brown, some gravel, few cobbles	
3								
4	4.0							
5							Silty Clay, orangish brown, sparse sand	
6		D-2	3.6 90%			<1		
7								
8	8.0				74SB184-04 (7-9')		Clayey Silt, orange, some sand, some saprolite/ weathered rock inclusions	
9		D-3	N/A		74SB184-05 (9-11')	<1	Clay content increases with depth	
10								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB184 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB184

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	N/A			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
14								
15								
16								
17								
18								
19								
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21								
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23								
24								
25								
26								
27								
28								
29								
30								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB184 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB185

COORDINATES: EAST: 937189.6 NORTH: 804608.6

ELEVATION: SURFACE:

Rig: Geoprobe 6620 DT Track Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/19/08	0.0 - 12.0	85° Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Sand, (Fill), brown, fine grained, little silt	
2		D-1	N/A			<1	Sand, white, fine to coarse grained	
3								
4	4.0							
5								
6		D-2	N/A		74SB185-03 (5-7')	<1		
7								
8	8.0						Silty Clay, dark brown/black	
9		D-3	N/A		74SB185-05 (9-11')	<1	Sand, white, fine to coarse grained	
10							Silty Clay, brown	

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Ed Kleinkauf

DRILLER: Abraham Nunez BORING NO.: 74SB185 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB185

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	N/A			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Ed Kleinkauf

DRILLER: Abraham Nunez BORING NO.: 74SB185 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB186

COORDINATES: EAST: 937284.2 NORTH: 804599.2

ELEVATION: SURFACE:

Rig: Geoprobe 6620 DT Track Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/19/08	0.0 - 12.0	85° Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1, 2, 3, 4	4.0	D-1	N/A			<1	Sand and Gravel, (Fill), low recovery Silty Clay, brown	
5, 6, 7, 8	8.0	D-2	N/A		74SB186-03 (5-7')	<1		
9, 10		D-3	N/A		74SB186-05 (9-11')	<1	becomes more tan in color	

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Ed Kleinkauf

DRILLER: Abraham Nunez BORING NO.: 74SB186 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB186

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	N/A			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Ed Kleinkauf

DRILLER: Abraham Nunez BORING NO.: 74SB186 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB187

COORDINATES: EAST: 937387.2 NORTH: 804613.0

ELEVATION: SURFACE:

Rig: Geoprobe 6620 DT Track Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/19/08	0.0 - 12.0	85° Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Silty clay, (Fill), rock fragments	
2		D-1	N/A			<1		
3								
4	4.0						Silty Clay, grayish brown, some fine to coarse sand rock fragments	
5								
6		D-2	N/A		74SB187-03 (5-7')	<1		
7							Silty Clay, grayish brown	
8	8.0				74SB187-04 (7-9')			
9		D-3	N/A			<1	Clayey Silt and Silt, brown and tan, trace fine sand	
10							becomes greenish gray and white	

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Ed Kleinkauf

DRILLER: Abraham Nunez BORING NO.: 74SB187 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB187

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	N/A			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
14								
15								
16								
17								
18								
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24								
25								
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28								
29								
30								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Ed Kleinkauf

DRILLER: Abraham Nunez BORING NO.: 74SB187 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB188

COORDINATES EAST: 937484.0 NORTH: 804617.9

ELEVATION: SURFACE:

Rig: Geoprobe 6620 DT Track Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/19/08	0.0 - 12.0	85° Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Sand, Silt, (Fill), dark brown	
2		D-1	N/A			<1	Sand, tan and light brown, some silt, fine to coarse grained	
3								
4	4.0							
5								
6		D-2	N/A		74SB188-03 (5-7')	<1	Clayey Silt and Silt, brown/dark brown, some clay	
7							Silty Clay, dark brown/gray	
8	8.0				74SB188-04 (7-9')		Silty Clay, brownish gray and red	
9		D-3	N/A			<1		
10								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Ed Kleinkauf

DRILLER: Abraham Nunez BORING NO.: 74SB188 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB188

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	N/A			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
14								
15								
16								
17								
18								
19								
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21								
22								
23								
24								
25								
26								
27								
28								
29								
30								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Ed Kleinkauf

DRILLER: Abraham Nunez BORING NO.: 74SB188 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB189

COORDINATES: EAST: 937584.1 NORTH: 804620.9

ELEVATION: SURFACE:

Rig: Geoprobe 6620 DT Track Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/19/08	0.0 - 12.0	85° Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Fill, dark brown	
2		D-1	N/A			<1	Silty Clay, red, dry	
3								
4	4.0						Silty Clay/Clay, brown, dry	
5							Silty Clay, reddish gray and brown, moist	
6		D-2	N/A		74SB189-03 (5-7')	<1		
7								
8	8.0							
9		D-3	N/A		74SB189-05 (9-11')	<1		
10							Silt/Clayey Silt, brown/tan/yellowish brown	

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Ed Kleinkauf

DRILLER: Abraham Nunez BORING NO.: 74SB189 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB189

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	N/A			<1	*Continued from Sheet 1* Silt, green/gray/white, some clay	
12	12.0						END OF BORING at 12.0'	
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Ed Kleinkauf

DRILLER: Abraham Nunez BORING NO.: 74SB189 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB190

COORDINATES: EAST: 937683.5 NORTH: 804620.6

ELEVATION: SURFACE:

Rig: Geoprobe 6620 DT Track Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/19/08	0.0 - 12.0	85° Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1, 2, 3, 4	4.0	D-1	N/A			<1	Silty Clay, (Fill), brown, some fine sand, some fine gravel and rock fragments, dry	
5, 6, 7, 8	8.0	D-2	N/A		74SB190-03 (5-7')	<1	Silty Clay, reddish brown, some fine sand, dry	
9, 10		D-3	N/A		74SB190-05 (9-11')	<1		

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Ed Kleinkauf

DRILLER: Abraham Nunez BORING NO.: 74SB190 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB190

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	N/A			<1	*Continued from Sheet 1* becomes grayish brown and moist	
12	12.0						END OF BORING at 12.0'	
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Ed Kleinkauf

DRILLER: Abraham Nunez BORING NO.: 74SB190 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB191

COORDINATES: EAST: 937783.8 NORTH: 804619.6

ELEVATION: SURFACE:

Rig: Geoprobe 6620 DT Track Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/19/08	0.0 - 12.0	85° Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1					74SB191-00 (0-1')		Sandy, (Fill), brown	
2		D-1	N/A			<1	Silty Clay, red, dry	
3								
4	4.0							
5							Sand, white, fine to coarse grained, fine gravel rock fragments, dry	
6		D-2	N/A		74SB191-03 74SB191-03D (5-7')	<1		
7							Silty Clay, red/gray/tan	
8	8.0							
9					74SB191-05 74SB191-05MS 74SB191-05MSD (9-11')		Sand, white and tan, fine to coarse grained	
		D-3	N/A			<1		
10							Silty Clay, reddish gray	

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Ed Kleinkauf

DRILLER: Abraham Nunez BORING NO.: 74SB191 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB191

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	N/A			<1	*Continued from Sheet 1* Clayey Silt, brown to brownish yellow	
12	12.0						END OF BORING at 12.0'	
13								
14								
15								
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19								
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23								
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29								
30								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Ed Kleinkauf

DRILLER: Abraham Nunez BORING NO.: 74SB191 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB192

COORDINATES: EAST: 937878.8 NORTH: 804607.2

ELEVATION: SURFACE:

Rig: Geoprobe 6620 DT Track Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/19/08	0.0 - 12.0	85° Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Sand, (Fill), brown, some silt, some clay	
2		D-1	N/A			<1	Silty Clay, red, dry	
3								
4	4.0							
5							Sand, white, fine to coarse grained, fine gravel rock fragments, dry	
6		D-2	N/A		74SB192-03 (5-7')	<1		
7							Silty Clay, red/gray/tan	
8	8.0							
9		D-3	N/A		74SB192-05 (9-11')	<1	Silty Clay, some occassional red fine coarsed sand seams, thin, red/gray/tan	
10								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Ed Kleinkauf

DRILLER: Abraham Nunez BORING NO.: 74SB192 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB192

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	N/A			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
14								
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16								
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29								
30								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Ed Kleinkauf

DRILLER: Abraham Nunez BORING NO.: 74SB192 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB193

COORDINATES: EAST: 937983.8 NORTH: 804590.0

ELEVATION: SURFACE:

Rig: Geoprobe 6620 DT Track Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/20/08	0.0 - 12.0	85° Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1, 2		D-1	N/A			<1	Gravel, (Fill), brown, some silt and clay, rock fragments, dry	
3							Silt and Clay, reddish brown	
4	4.0						Silty Clay, brown	
5, 6, 7		D-2	N/A		74SB193-03 (5-7')	<1	becomes reddish brown, moist	
8	8.0						Saprolite, greenish gray, some sand and clay	
9, 10		D-3	N/A		74SB193-05 (9-11')	<1		

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Ed Kleinkauf

DRILLER: Abraham Nunez BORING NO.: 74SB193 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB193

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	N/A			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
14								
15								
16								
17								
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19								
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23								
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25								
26								
27								
28								
29								
30								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Ed Kleinkauf

DRILLER: Abraham Nunez BORING NO.: 74SB193 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB194

COORDINATES: EAST: 938080.3 NORTH: 804565.3

ELEVATION: SURFACE:

Rig: Geoprobe 6620 DT Track Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/20/08	0.0 - 12.0	83° Mostly Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1, 2		D-1	N/A			<1	Sand and Gravel, (Fill), brown, some silt and clay, rock fragments, dry	
3, 4	4.0						Silty Clay, brown becomes reddish brown	
5, 6, 7, 8	8.0	D-2	N/A		74SB194-03 (5-7')	<1	becomes moist, reddish gray, occasional coarse seam	
9, 10		D-3	N/A		74SB194-05 (9-11')	<1	Clayey Silt and Clay, yellowish brown/tan, wet	

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Ed Kleinkauf

DRILLER: Abraham Nunez BORING NO.: 74SB194 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB194

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	N/A			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Ed Kleinkauf

DRILLER: Abraham Nunez BORING NO.: 74SB194 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB195

COORDINATES: EAST: 938176.2 NORTH: 804535.0

ELEVATION: SURFACE:

Rig: Geoprobe 6620 DT Track Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/20/08	0.0 - 12.0	85° Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1, 2, 3, 4	4.0	D-1	N/A			<1	Silty Clay, (Fill), brown, some fine grained sand Silty Clay, brown	
5, 6, 7, 8	8.0	D-2	N/A		74SB195-03 (5-7')	<1	becomes brown and white	
9, 10		D-3	N/A		74SB195-05 (9-11')	<1	becomes wet	

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Ed Kleinkauf

DRILLER: Abraham Nunez BORING NO.: 74SB195 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB195

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	N/A			<1	*Continued from Sheet 1* becomes gray	
12	12.0						END OF BORING at 12.0'	
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Ed Kleinkauf

DRILLER: Abraham Nunez BORING NO.: 74SB195 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB196

COORDINATES: EAST: 938272.3 NORTH: 804498.8

ELEVATION: SURFACE:

Rig: Geoprobe 6620 DT Track Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/20/08	0.0 - 12.0	85° Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Sand, (Fill), brown, fine grained sand, some clay and silt	
2		D-1	N/A			<1	Silty Clay, brown	
3								
4	4.0							
5							Silty Sand, brown/gray/red	
6		D-2	N/A		74SB196-03 74SB196-03D (5-7')	<1		
7								
8	8.0						Clayey Silt/Silt and Clay, tan/yellowish brown	
9		D-3	N/A		74SB196-05 (9-11')	<1		
10								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Ed Kleinkauf

DRILLER: Abraham Nunez BORING NO.: 74SB196 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB196

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	N/A			<1	*Continued from Sheet 1* becomes gray	
12	12.0						END OF BORING at 12.0'	
13								
14								
15								
16								
17								
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22								
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28								
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30								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Ed Kleinkauf

DRILLER: Abraham Nunez BORING NO.: 74SB196 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB197

COORDINATES: EAST: 938372.5 NORTH: 804456.3

ELEVATION: SURFACE:

Rig: Geoprobe 6620 DT Track Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/20/08	0.0 - 12.0	85° Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1, 2, 3, 4	4.0	D-1	N/A			<1	Sand and Gravel, brown, some silt and clay, and rock fragments, some silt and clay, brown; Silty Clay/Clay and Silt, brown; Silty Clay, brown/reddish brown/gray	
5, 6, 7, 8	8.0	D-2	N/A		74SB197-03 (5-7')	<1		
9, 10		D-3	N/A		74SB197-05 (9-11')	<1		

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Ed Kleinkauf

DRILLER: Abraham Nunez BORING NO.: 74SB197 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB197

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	N/A			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Ed Kleinkauf

DRILLER: Abraham Nunez BORING NO.: 74SB197 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB200

COORDINAT EAST: 937295.3 NORTH: 802893.8

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/18/08	0.0 - 12.0	83° Mostly Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Sandy, brown	
2		D-1	3.9 98%			<1	Gravel, bluish gray, fine to medium sand matrix	
3								
4	4.0						Silt and Clay, brown, some gravel	
5								
6		D-2	3.8 95%			<1		
7							Silty Clay, bluish green, some sand and gravel	
8	8.0				74SB200-04 (7-9')			
9		D-3	3.8 95%		74SB200-05 (9-11')	<1	Sand, medium gray, medium grained, saturated below 9.5'	
10								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB200 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB200

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	3.8 95%			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
14								
15								
16								
17								
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23								
24								
25								
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27								
28								
29								
30								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB200 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB201

COORDINATES: EAST: 937221.0 NORTH: 802967.5

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/18/08	0.0 - 12.0	83° Mostly Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1					74SB201-00 (0-1')		Silty Sand Topsoil, brown	
2		D-1	3.9 98%			<1	Sandy Silt, brown, some gravel	
3								
4	4.0						Clayey Silt and Gravel, light brown and brown	
5								
6		D-2	3.7 93%			<1	Silty Clay, dark brown	
7					74SB201-04 74SB201-04D (7-9')		Sandy Silt, brownish orange, some clay, some gravel and cobbles	
8	8.0							
9		D-3	3.7 93%		74SB201-05 74SB201-05MS 74SB201-05MSD (9-11')	<1	Silty Clay, dark brown, some gravel, bluish green clay nodules, moist at 8.0'	
10							Sand, white and gray, medium grained, some silt some clay, saturated at 10.0'	

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB201 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB201

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	3.7 93%			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB201 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB202

COORDINATES: EAST: 937146.7 NORTH: 803031.0

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/18/08	0.0 - 12.0	83° Mostly Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Sandy Topsoil, brown	
2		D-1	3.4 85%			<1	Sandy Silt, brown	
3							Gravel, bluish gray, some clay nodules, sand matrix, few cobbles	
4	4.0							
5								
6		D-2	3.8 95%			<1	Sandy Silt, brownish orange, some clay and gravel	
7								
8	8.0				74SB202-04 (7-9')		Sandy Clay, bluish green, some silt, few cobbles some gravel, clay increases with depth	
9		D-3	3.6 90%		74SB202-05 (9-11')	<1	Moist at 9.0'	
10								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB202 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB202

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	3.6 90%			<1	*Continued from Sheet 1* Sand, white and gray, medium grained	
12	12.0						END OF BORING at 12.0'	
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB202 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB203

COORDINATES: EAST: 937080.3 NORTH: 803087.7

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/18/08	0.0 - 12.0	83° Mostly Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Sandy, brown	
2		D-1	3.5 88%			<1	Sandy Silt and Gravel, light brown, few cobbles interdispersed	
3								
4	4.0						Silty Sand, light orangish brown, some gravel few cobbles interdispersed	
5							Clay, brown/red/white, saprolite inclusion	
6		D-2	3.9 98%			<1		
7								
8	8.0				74SB203-04 (7-9')		Silty Clay, greenish blue, some red clay inclusions	
9		D-3	3.8 95%		74SB203-05 (9-11')	<1		
10							Sand, white and gray, medium grained, sparse gravel clay inclusions	

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB203 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB203

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	3.8 95%			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
14								
15								
16								
17								
18								
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22								
23								
24								
25								
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27								
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29								
30								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB203 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB204

COORDINATES: EAST: 937000.7 NORTH: 803162.0

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/18/08	0.0 - 12.0	83° Mostly Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Silty Sand, light brown	
2		D-1	3.6 90%			<1		
3							Sandy Silt, light brown and orange, some clay gravel interdispersed	
4	4.0							
5							Gravelly/Sandy Silt, dark red	
6		D-2	3.9 98%			<1		
7							Silty Clay, dark greenish brown, some gravel interdispersed	
8	8.0				74SB204-04 (7-9')		Silty Clay, green/blue/white, some sand, some weathered bedrock, saprolite inclusions	
9		D-3	3.8 95%		74SB204-05 (9-11')	<1		
10							Sandy Silt, light brown, saprolite inclusions	

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB204 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB204

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	3.8 95%			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB204 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB205

COORDINATES: EAST: 936923.7 NORTH: 803228.8

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/18/08	0.0 - 12.0	83° Mostly Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Sandy Topsoil, dark brown	
2		D-1	3.9 98%			<1	Sandy Silt, brown, some gravel	
3								
4	4.0						Silty Sand, light orange, fine grained, layer of gravel from 4.6 to 4.8'	
5								
6		D-2	3.8 95%			<1		
7								
8	8.0				74SB205-04 (7-9')			
9							some inderdispersed gravel and clay nodules	
10		D-3	3.8 95%		74SB205-05 (9-11')	<1	Saprolite, some gravel, quartz cobbles, some sand, saturated at 10.5'	

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB205 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB205

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	3.8 95%			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB205 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB206

COORDINATES: EAST: 802210.8 NORTH: 937443.2

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/19/08	0.0 - 12.0	83° Mostly Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Topsoil, dark brown	
							Silty Sand, brown	
2		D-1	3.8 95%			<1	Sand, tan, some gravel, cobble	
3							Bluish gray cobble	
4	4.0							
5								
6		D-2	3.8 95%			<1	Gravel, some brown silty clay	
7							Clay, orangish brown	
8	8.0				74SB206-04 74SB206-04D		Asphalt and Gravel	
9		D-3	3.8 95%		(7-9') 74SB206-05 (9-11')	<1	Clayey Silt, light bluish gray, some gravel	
10							Sandy Silt, orange, sparse gravel	

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB206 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB206

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	3.8 95%			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
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27								
28								
29								
30								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB206 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB207

COORDINATES: EAST: 937531.6 NORTH: 802149.9

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/19/08	0.0 - 10.0	83° Mostly Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Silty Sand Topsoil, dark brown	
2		D-1	3.8 95%			<1	Gravel, bluish gray	
3							Silty Sand, brown, fine to medium grained	
4	4.0							
5								
6		D-2	3.8 95%			<1	Gravel, bluish gray, orange clay in matrix	
7								
8	8.0				74SB207-04 (7-9')		becomes sandy silt matrix	
9								
10	10.0	D-3	2.0 50%		74SB207-05 (9-11')	<1		
							REFUSAL at 10.0'	

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB207 SHEET 1 OF 1

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB209

COORDINATES: EAST: 937692.1 NORTH: 802015.7

ELEVATION: SURFACE:

Rig: Truck Rig 5600	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/19/08	0.0 - 12.0	83° Mostly Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Sandy Topsoil, dark brown	
2		D-1	3.8 95%			<1	Silty Sand, light brown, some gravel becomes brown with a few cobbles	
3							Sandy Silt, bluish gray, sparse gravel, weathered bedrock inclusions	
4	4.0							
5								
6		D-2	3.8 95%			<1	Sandy Silt, brown, some gravel, few cobbles	
7								
8	8.0				74SB209-04 (7-9')			
9		D-3	3.8 95%		74SB209-05 (9-11')	<1	Silty Clay, bluish gray, mottled Damp at 9.5'	
10							Sandy Silt, bluish gray, some saprolite incluisons Saturated at 11.0'	

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB209 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB209

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	3.8 95%			<1	*Continued from Sheet 1* saturated at 11'	
12	12.0						END OF BORING at 12.0'	
13								
14								
15								
16								
17								
18								
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20								
21								
22								
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25								
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27								
28								
29								
30								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB209 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB210

COORDINATES: EAST: 937778.0 NORTH: 801952.6

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/18/08	0.0 - 12.0	83° Mostly Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Sand, brown	
							Gravelly Sand, light brown	
2		D-1	3.6 90%			<1	Gravelly Silt, light brown with gray, some sand lenses	
3								
4	4.0							
5							Sandy silt, light brown, some gravel	
6		D-2	3.9 98%			10	Sandy Silt, grayish green, some gravel	
7						1040		
8	8.0				74SB210-04 (7-9')	1149		
9		D-3	N/A		74SB210-05 (9-11')	78		
10						380		

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB210 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB210

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	N/A			780	*Continued from Sheet 1*	
							Sandy Silt, light brownish orange, some clay	
12	12.0					780		
							END OF BORING at 12.0'	
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
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24								
25								
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28								
29								
30								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB210 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB211

COORDINATES: EAST: 937856.4 NORTH: 801888.3

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/19/08	0.0 - 8.5	83° Mostly Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1					74SB211-00 (0-1')		Sandy Topsoil, brown	
							Sandy Silt, brown, some clay and gravel	
2		D-1	3.7 93%			<1		
3							Gravelly Silt, bluish green	
4	4.0							
5					74SB211-03 74SB211-03D (5-7')			
6		D-2	3.6 90%			<1	Sandy Silt, brown, some gravel and weathered bedrock	
7					74SB211-04 74SB211-04MS 74SB211-04MSD (7-9')			
8	8.0							
	8.5	D-3				6		
9							REFUSAL at 8.5'	
10								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB211 SHEET 1 OF 1

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB212

COORDINATES: EAST: 937940.8 NORTH: 800867.2

ELEVATION: SURFACE:

Rig: Geoprobe 6620 DT Track Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/19/08	0.0 - 12.0	88° Humid	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks: Poor recovery, rock and what was recovered was saturated. No hydrocarbon odor.

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1 2 3 4 (4.0)	S-1	2.0 50%		NO SAMPLES COLLECTED	<1	Rock, (Fill), some gravel, some silt and sand, dry	
5 6 7 8 (8.0)	S-2	0.8 20%			<1	Sandy Clay, greenish brown, soft, fine to medium grained sand, saturated	
9 10	S-3	2.2 55%			<1		

DRILLING CO.: GeoEnviro Tech, Inc. BAKER REP.: Mark DeJohn

DRILLER: William Rodriguez BORING NO.: 74SB212 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB212

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		S-3	2.2 55%			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								

DRILLING CO.: GeoEnviro Tech, Inc. BAKER REP.: Mark DeJohn

DRILLER: William Rodriguez BORING NO.: 74SB212 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB213

COORDINATES: EAST: 938019.0 NORTH: 800935.1

ELEVATION: SURFACE:

Rig: Geoprobe 6620 DT Track Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/19/08	0.0 - 12.0	88° Humid	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1, 2, 3, 4	4.0	D-1	2.9 73%			<1	Rock, (Fill), gray, loose, some silt and sand, dry to 1.5'; Sandy Clay, iron stained, mixed with rock compact, hard, damp; Sand, light brown, loose, dry	
5, 6, 7, 8	8.0	D-2	2.8 70%		74SB213-03 (5-7')	10	Sandy Clay, greenish gray, somemixed clay wet at 6.5', one inch of weathered product at 6.5'	
9, 10		D-3	1.8 45%			10 to 20		

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB213 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB213

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	1.8 45%			10 to 20	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB213 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB214

COORDINATES: EAST: 938082.8 NORTH: 801018.0

ELEVATION: SURFACE:

Rig: Geoprobe 6620 DT Track Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/19/08	0.0 - 5.0	85° Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Sandy Clay and rock mixed to 3.5', (Fill), brown	
2		D-1	N/A			<1		
3								
4	4.0						becomes, hard, light brown, iron stained, less rock	
		D-2	N/A			<1		
5	5.0						Bedding sand at 4.5', no hydrocarbon odor	
6							GEOPROBE REFUSAL at 5.0'	
7								
8								
9								
10								

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB214 SHEET 1 OF 1

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB215

COORDINATES: EAST: 938151.1 NORTH: 801127.6

ELEVATION: SURFACE:

Rig: Geoprobe 6620 DT Track Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/19/08	0.0 - 12.0	85° Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Silty Sand and Gravel, gray, loose, dry	
2		D-1	2.3 58%			<1	Sandy Clay, brownish gray, moderate hard, damp	
3								
4	4.0							
5								
6		D-2	1.6 40%		74SB215-03 (5-7')	<1	Sandy Clay and Rock, dark gray and greenish brown	
7								
8	8.0						Moist at 7.0'	
9		D-3	2.7 68%			<1	Wet at 9.0'	
10								

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB215 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB215

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	2.7 68%			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB215 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO. 74SB216

COORDINATES: EAST: 801211.8 NORTH: 938213.6

ELEVATION: SURFACE:

Rig: Geoprobe 6620 DT Track Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/19/08	0.0 - 12.0	85° Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Silty Sand and Rock, hard, dry	
2		D-1	2.6 65%			<1		
3							Sandy Clay, grayish black, some rock, moderate soft, moist	
4	4.0							
5								
6		D-2	2.0 50%		74SB216-03 (5-7')	<1		
7								
8	8.0						Silty Clay, becomes greenish black, moderate soft	
9		D-3	3.6 90%		74SB216-05 74SB216-05D (9-11')	20 to 40		
10								

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP. Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO. 74SB216 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB216

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	3.6 90%			200	*Continued from Sheet 1* Hydrocarbon stains from 11.4 to 11.8', saprolite rock at 11.8' weathered rock and sandy clay	
12	12.0						END OF BORING at 12.0'	
13								
14								
15								
16								
17								
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29								
30								

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB216 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB217

COORDINATES: EAST: 801299.3 NORTH: 938268.2

ELEVATION: SURFACE:

Rig: Geoprobe 6620 DT Track Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/19/08	0.0 - 6.0	85° Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks: Moved 3 times, same result.

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1					NO		Sandy Clay, brown, with gravel, dry	
2		D-1	2.8 70%		SAMPLES	<1	dry, hard grayish brown then sandy clay with gravel at 3.0'	
3								
4	4.0						Sandy Clay, brown, with gravel, dry	
5		D-2	2.0 50%			<1		
6	6.0				C		Large cobble at 6.0'	
7					OLLECTED		GEOPROBE REFUSAL at 6.0'	
8								
9								
10								

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB217 SHEET 1 OF 1

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74
SO NO.: 111626 BORING NO.: 74SB218
COORDINATES: EAST: 938328.2 NORTH: 801383.5
ELEVATION: SURFACE:

Rig: Geoprobe 6620 DT Track Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/19/08	0.0 - 12.0	85° Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Sand and Rocks, gray, hard, dry	
2		D-1	3.3 83%			<5	Sandy Clay, light brown, hard, brittle, broken some rocks throughout, dry	
3								
4	4.0							
5							Sandy Silt, medium brown, some clay, moderate hard, damp, becomes greenish gray and strong odor around 5.0'	
6		D-2	4.0 100%		74SB218-03 (5-7')	>700		
7						40		
8	8.0							
9		D-3	4.0 100%		74SB218-05 (9-11')	50	Silty Sand, moderate hard, damp to moist, saprolitic structure	
10								

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa
DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB218 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB218

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	4.0 100%			50	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
14								
15								
16								
17								
18								
19								
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21								
22								
23								
24								
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29								
30								

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB218 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB219

COORDINATES: EAST: 937999.2 NORTH: 800856.7

ELEVATION: SURFACE:

Rig: Geoprobe 6620 DT Track Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/19/08	0.0 - 3.0	85° Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1		D-1	3.0 75%		NO SAMPLES COLLECTED	<1	Sand and Rocks, (Fill), hard, loose, dry	
2							some sandy clay at 2.0'	
3	3.0							
4							GEOPROBE REFUSAL at 3.0'	
5								
6								
7								
8								
9								
10								

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB219 SHEET 1 OF 1

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB220

COORDINATES: EAST: 938066.6 NORTH: 800943.2

ELEVATION: SURFACE:

Rig: Geoprobe 6620 DT Track Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/19/08	0.0 - 3.0	85° Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1	D-1	3.0 75%		NO SAMPLES COLLECTED	<1	Silty Sand and Gravel, gray, loose, hard, dry	
2						some clay at 2.0', medium brown mixed in	
3							
4						GEOPROBE REFUSAL at 3.0'	
5							
6							
7							
8							
9							
10							

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB220 SHEET 1 OF 1

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB221

COORDINATES EAST: 938127.2 NORTH: 800999.8

ELEVATION: SURFACE:

Rig: Geoprobe 6620 DT Track Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/20/08	0.0 - 12.0	85° Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1					74SB221-00		Sand and Silt, brownish gray, some gravel	
					74SB221-00D (0-1')		Sandy Clay, dark brown, some gravel	
2		D-1	3.1 78%			<1		
3								
4	4.0				74SB221-02 74SB221-02D			
5					74SB221-02MS 74SB221-02MSD (3-5')		Sandy Clay, medium brown, soft, damp, some rock some bedding sand	
6		D-2	2.2 55%			>50	Free product at 5.5', weathered, dark brown	
7								
8	8.0							
9								
10		D-3	0.8 20%			>200		

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB221 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB221

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	0.8 20%			>200	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
14								
15								
16								
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29								
30								

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB221 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74
SO NO.: 111626 BORING NO.: 74SB222
COORDINATES: EAST: 938187.4 NORTH: 801084.2
ELEVATION: SURFACE:

Rig: Geoprobe 6620 DT Track Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/20/08	0.0 - 12.0	85° Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1, 2, 3, 4	4.0	D-1	2.3 58%			<1	Silt and Sand, light brown, some mixed gravel loose, dry; some clay at 1.8'; Sand, light brown, soft, loose, dry	
5, 6, 7, 8	8.0	D-2	2.8 70%		74SB222-03 (5-7')	20, 50	Free product at 6.5', moist to wet	
9, 10		D-3	2.0 50%			>50	Sandy Clay, greenish gray, saturated, strong hydrocarbon odor	

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa
DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB222 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB222

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	2.0 50%			>50	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
14								
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29								
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DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB222 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB223

COORDINATES EAST: 938245.7 NORTH: 801171.2

ELEVATION: SURFACE:

Rig: Geoprobe 6620 DT Track Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/20/08	0.0 - 12.0	85° Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1						Sandy Loam to 0.2'	
						Sandy Clay, light brown, broken, dry	
2	D-1	3.2 80%			>1	Sand and Silt, light grayish brown, mixed with gravel, modeately soft	
3							
4 4.0						Bedding Sand, light brown, loose and dry	
5					<10		
6	D-2	2.8 70%		74SB223-03 (5-7')	>100	Silty Clay, medium brown, moderately soft, damp	
7						hydrocarbon impact at 6.0' greenish black, moist	
8 8.0							
9						Sandy Clay, greenish black, saturated	
10	D-3	1.5 38%			>200	oil mixed with water	

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB223 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB223

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	1.5 38%			>200	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
14								
15								
16								
17								
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21								
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28								
29								
30								

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB223 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB224

COORDINATES: EAST: 938306.7 NORTH: 801255.8

ELEVATION: SURFACE:

Rig: Geoprobe 6620 DT Track Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/20/08	0.0 - 12.0	85° Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1, 2, 3, 4	4.0	D-1	2.5 63%			<1	Sandy Clay and Gravel, grayish brown, moderate hard to moderate soft, dry	
5, 6, 7, 8	8.0	D-2	4.0 100%		74SB224-04 (7-9')	2	Sand and Silt, greenish gray, trace gravel; Silty Clay, very hard, compact saprolite structure, damp	
9, 10		D-3	3.9 98%		74SB224-05 (9-11')	20 >40	Sandy Clay, greenish gray, moderate hard, damp, rock fragments throughout, saprolite structure, damp to moist at 9.0'	

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB224 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB224

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	3.9 98%			>40	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
14								
15								
16								
17								
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29								
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DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB224 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB225

COORDINATES EAST: 938364.7 NORTH: 801340.0

ELEVATION: SURFACE:

Rig: Geoprobe 6620 DT Track Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/20/08	0.0 - 12.0	85° Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Sandy Loam to 0.3'	
							Sand and silt, light gray, some gravel, loose, dry	
2		D-1	2.6 65%			<1	Sandy Clay, medium brown, moderately hard, some gravel, dry	
3								
4	4.0							
5								
6		D-2	2.2 55%			<1		
7								
8	8.0				74SB225-04 (7-9')		At 7.0' dark brown, moist	
9		D-3	4.0 100%		74SB225-05 (9-11')	<1		
10								
							Silty Clay, medium brown, some sand, damp	

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB225 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB225

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11	D-3	4.0 100%			<1	*Continued from Sheet 1*	
12 (12.0)						END OF BORING at 12.0'	
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB225 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74
SO NO.: 111626 BORING NO.: 74SB226
COORDINATES: EAST: 938411.1 NORTH: 801404.5
ELEVATION: SURFACE:

Rig: Geoprobe 6620 DT Track Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/20/08	0.0 - 12.0	85° Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1, 2, 3, 4	4.0	D-1	4.0 100%			2	Sand and Silt, medium to light gray brown, some mixed gravel, loose, dry	
5, 6, 7, 8	8.0	D-2	1.0 25%		74SB226-04	10	Sandy Clay, greenish gray, some mixed gravel, moderate soft, becomes very soft, damp to moist at 4.5'	
9, 10		D-3	4.0 100%		(7-9') 74SB226-05 74SB226-05D (9-11')	>100	Saprolite, greenish gray, tight, damp, strong hydrocarbon odor	

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa
DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB226 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB226

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	4.0 100%			>100	*Continued from Sheet 1* Becomes light brown at 11.5'	
12	12.0						END OF BORING at 12.0'	
13								
14								
15								
16								
17								
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23								
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25								
26								
27								
28								
29								
30								

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB226 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB227

COORDINATES: EAST: 937941.0 NORTH: 801822.3

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/20/08	0.0 - 12.0	83° Mostly Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Sand, dark brown	
							Sandy Silt and Gravel, orangish brown, some clay	
2		D-1	3.6 90%			<1		
3								
4	4.0							
5								
6		D-2	3.9 98%			<1		
7							Silty Sand, bluish green, some odor detected but no PID readings	
8	8.0				74SB227-04 (7-9')			
9						10	some clay nodules and gravel, brownsih orange	
10		D-3	3.6 90%		74SB227-05 (9-11')	550		
						421	Sandy Silt, bluish gray, some clay and gravel	

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB227 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB227

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	3.8 95%			189	*Continued from Sheet 1*	
12	12.0					20		
							END OF BORING at 12.0'	
13								
14								
15								
16								
17								
18								
19								
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21								
22								
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25								
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28								
29								
30								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB227 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB228

COORDINATES: EAST: 938023.9 NORTH: 801764.0

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/20/08	0.0 - 12.0	83° Mostly Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Sandy, dark brown	
							Gravel, bluish gray, loose, hard	
2		D-1	3.5 88%			<1	Silty Clay, orangish brown	
3								
4	4.0							
5							Silty Sand, orangish brown, some clay	
6		D-2	3.6 90%			<1		
7								
8	8.0				74SB228-04 (7-9')		Gravelly Silt and Clay, bluish green with hydrocarbon staining, saturated	
9		D-3	3.6 90%		74SB228-05 (9-11')	132		
10						156		

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB228 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB228

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	3.6 90%			18	*Continued from Sheet 1*	
12	12.0					20	END OF BORING at 12.0'	
13								
14								
15								
16								
17								
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24								
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27								
28								
29								
30								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB228 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74
SO NO.: 111626 BORING NO.: 74SB229
COORDINATES: EAST: 938109.0 NORTH: 801704.1
ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/20/08	0.0 - 12.0	83° Mostly Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Sandy, dark brown	
							Gravelly Sand, brown, some silt	
2		D-1	3.6 90%			<1	Silt, orangish brown, some sand/gravel/cobbles	
3								
4	4.0							
5							Silty Clay, orangish brown, some sand and gravel	
6		D-2	3.8 95%			<1		
7							Saturated at 7.0'	
					74SB229-04 (7-9')			
8	8.0						Clayey Silt, bluish brown, sparse sand	
9							Sand, light brown, some gravel	
		D-3	3.8 95%		74SB229-05 (9-11')	<1		
10							Clayey Silt, bluish green, some saprolite inclusions	

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver
DRILLER: Juan Negron BORING NO.: 74SB229 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB229

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	3.8 95%			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB229 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB230

COORDINATES: EAST: 938145.2 NORTH: 801593.4

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/20/08	0.0 - 12.0	83° Mostly Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Sandy, dark brown	
							Sand and Gravel, light tan becomes white in color	
2		D-1	3.6 90%			<1		
3							Silty Clay, orangish brown	
4	4.0							
5								
6		D-2	3.4 85%			<1		
7								
8	8.0				74SB230-04 (7-9')	5	Saturated at 8.0'	
9		D-3	N/A		74SB230-05 (9-11')	190	Sandy Silt, bluish green	
10						1350		

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB230 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB230

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	N/A			15	*Continued from Sheet 1*	
12	12.0					7		
							END OF BORING at 12.0'	
13								
14								
15								
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27								
28								
29								
30								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB230 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB231

COORDINATES: EAST: 939622.2 NORTH: 798940.5

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/20/08	0.0 - 12.0	83° Mostly Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1					74SB231-00 (0-1')		Silty Sand, brown	
							Sandy Clay and Gravel, grayish brown	
2		D-1	3.2 80%			<1		
3								
4	4.0							
5							Sand, light tan/white, some interdispersed sparse gravel/shell fragments	
6		D-2	3.3 83%			<1	Damp at 6.0'	
7					74SB231-04 74SB231-04MS 74SB231-04MSD (7-9')			
8	8.0							
9								
10		D-3	3.4 85%		74SB231-05 74SB231-05D (9-11')	<1	Silty Sand, orangish brown, some gravel Saturated at 10.0'	

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB231 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB231

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	3.4 85%			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
14								
15								
16								
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30								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB231 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB232

COORDINATES: EAST: 939711.4 NORTH: 799000.7

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/20/08	0.0 - 12.0	83° Mostly Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Sand, brown	
							Sand, brown, some silt, some gravel	
2		D-1	3.5 88%			<1		
3								
4	4.0							
							becomes finer grained, lighter brown, and shell frags	
5								
6		D-2	3.4 85%			<1		
7							Saturated at 7.0'	
8	8.0				74SB232-04 (7-9')		Silt and Sand, bluish gray, sand increases with depth	
9								
10		D-3	3.4 85%		74SB232-05 (9-11')	<1	Sandy Silt, bluish gray, some gravel and shell fragments	

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB232 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB232

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	3.4 85%			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB232 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB233

COORDINATES: EAST: 939793.5 NORTH: 799061.9

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/20/08	0.0 - 12.0	83° Mostly Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Sand, dark brown	
							Gravel, gray, some brown silt	
2		D-1	3.3 83%			<1	Silty Sand and Gravel, brown, fine grained sand becomes orangish brown, some shells, some gravel	
3								
4	4.0							
5							Sand, medium tan, medium grained, sparse gravel	
6		D-2	3.3 83%			<1		
7								
8	8.0				74SB233-04 (7-9')		Silty Sand, brown	
9								
10		D-3	3.5 88%		74SB233-05 (9-11')	<1	Sand, bluish gray, some silt, some gravel and shell fragments	

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB233 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB233

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	3.5 88%			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
14								
15								
16								
17								
18								
19								
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28								
29								
30								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB233 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB234

COORDINATES EAST: 939866.7 NORTH: 799138.0

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/20/08	0.0 - 12.0	83° Mostly Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1						Sandy, dark brown	
2	D-1	3.2 80%			<1	Sand and Gravel, tan	
3							
4 (4.0)						Silty Clay, reddish brown, with lenses and gravel interdisperses	
5							
6	D-2	3.6 90%			<1		
7							
8 (8.0)				74SB234-04 (7-9')			
9							
10	D-3	3.0 75%		74SB234-05 (9-11')	<1	becomes grayish brown Saturated at 10.8'	

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB234 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB234

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	3.0 75%			<1	*Continued from Sheet 1*	
12	12.0						Silt and Gravel, reddish brown	
							END OF BORING at 12.0'	
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
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27								
28								
29								
30								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB234 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB235

COORDINATES: EAST: 939930.5 NORTH: 799222.6

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/20/08	0.0 - 12.0	83° Mostly Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Sandy, dark brown	
2		D-1	3.0 75%			<1	Silty Sand, light brown, some gravel	
3								
4	4.0							
5							Sand, light tan, some gravel and some silt	
6		D-2	2.9 73%			<1		
7								
8	8.0				74SB235-04 (7-9')			
9							Clayey Sand, light tan	
10		D-3	3.0 75%		74SB235-05 (9-11')	<1	Silty Clay, light blue Saturated at 10.0'	

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB235 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB235

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	3.0 75%			<1	*Continued from Sheet 1*	
12	12.0						Silty Sand, light blue, fine grained sand, wet	
							END OF BORING at 12.0'	
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB235 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB236

COORDINATES: EAST: 939991.1 NORTH: 799304.4

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/21/08	0.0 - 12.0	83° Mostly Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Sandy, dark brown	
							Sand, brown, medium grained, some gravel, shell and coral fragments	
2		D-1	3.5 88%			<1		
3								
4	4.0						becomes white/tan with clay nodules	
5								
6		D-2	3.4 85%			<1	Silty Clay, light tan	
7							Sand, light tan, medium grained	
					74SB236-04		Moist at 7.0'	
8	8.0				(7-9')			
9								
		D-3	3.0 75%		74SB236-05 74SB236-05D	<1	becomes light bluish gray, some silt	
10					(9-11')		some shell and coral Saturated at 10'	

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB236 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB236

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	3.0 75%			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
14								
15								
16								
17								
18								
19								
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21								
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29								
30								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB236 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB237

COORDINATES: EAST: 940047.9 NORTH: 799386.1

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/21/08	0.0 - 12.0	83° Mostly Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Sandy, dark brown	
							Sandy Silt, brown, some sand and gravel, some clay inclusions	
2		D-1	3.6 90%			<1	Gravel, dark brown	
3								
4	4.0							
5							Light tan sand with some shell fragments and sparse coral	
6		D-2	3.6 90%			<1		
7								
8	8.0				74SB237-04 (7-9')		Saturated at 7.5'	
9								
10		D-3	2.9 73%		74SB237-05 (9-11')	<1	becomes light bluish gray, some silt shell fragments, bluish gray clay nodules	

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB237 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB237

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	2.9 73%			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
14								
15								
16								
17								
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29								
30								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB237 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB238

COORDINATES: EAST: 940107.0 NORTH: 799466.5

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/21/08	0.0 - 12.0	83° Mostly Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Sandy, brown	
							Silty Sand, brown, fine grained sand, some gravel	
2		D-1	3.5 88%			<1		
3								
4	4.0						Sand, light tan, some silt and clay some shell fragments	
5								
6		D-2	3.4 85%			<1	Saturated at 6.5'	
7							Silty Sand, gray, sparse coral and shell material some clay nodules	
8	8.0				74SB238-04 (7-9')			
9							Sand, bluish gray, some silt and coral	
10		D-3	3.7 93%		74SB238-05 (9-11')	<1	Clayey Silt, bluish gray	

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB238 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB238

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	3.7 93%			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB238 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB239

COORDINATES: EAST: 940146.4 NORTH: 799550.1

ELEVATION: SURFACE:

Rig: Truck Rig 5600	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/21/08	0.0 - 12.0	83° Mostly Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Silty Topsoil, brown	
							Silty Sand, brown, fine grained	
2		D-1	3.6 90%			<1	Gravelly Sand, brown	
3								
4	4.0						Sand, brown/tan, fine to medium grained, some gravel/shell and coral fragments becomes reddish orange at 5'	
5								
6		D-2	2.8 70%			<1	Sand and Gravel, orangish brown, some shells coarse grained sand	
7								
8	8.0				74SB239-04 (7-9')		Clayey Silt, blue/gray, some lenses of light tan medium to fine sand	
9		D-3	2.8 70%		74SB239-05 (9-11')	<1		
10								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB239 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB239

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-4	2.8 70%			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB239 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74
SO NO.: 111626 BORING NO.: 74SB240
COORDINATES: EAST: 940223.1 NORTH: 799635.0
ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/21/08	0.0 - 12.0	83° Mostly Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab for CTO-225.	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Silty Sand, brown	
							Silty Sand and Gravel, dark brown/orange, fine grained	
2		D-1	3.3 83%			<1	Sand, brown, fine grained, some shell fragments and sparse gravel	
3							Gravel, bluish gray	
4	4.0						Silty Sand, brown, some shell fragments and coral	
5								
6		D-2	1.0 25%			<1		
7								
8	8.0				74SB240-04 (7-9')			
9							Sand, tan, medium to coarse grained, some shell fragments, saturated at 8.0'	
		D-3	3.8 95%		74SB240-05 (9-11')	<1		
10							become bluish gray, some silt	

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver
DRILLER: Juan Negron BORING NO.: 74SB240 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB240

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	3.8 95%			<1	*Continued from Sheet 1* Fine light gray silty sand	
12	12.0						END OF BORING at 12.0'	
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB240 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB241

COORDINATES: EAST: 940294.6 NORTH: 799736.2

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/21/08	0.0 - 12.0	83° Mostly Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1					74SB241-00 (0-1')		Sandy Topsoil, dark brown	
							Sand and Gravel, brown	
2		D-1	3.5 88%			<1	Clayey Silt and Gravel, orangish brown	
3							Silt and Gravel, dark brown/black	
4	4.0							
5							Silty Sand, dark brown, some clay and gravel	
6		D-2	3.4 85%			<1		
7					74SB241-04 74SB241-04D (7-9')		saturated at 6.5' becomes light tan	
8	8.0							
9		D-3	3.3 83%		74SB241-05 74SB241-05MS 74SB241-05MSD (9-11')	<1	Sand, light tan, coarse grained, some shell fragments and coral	
10							becomes bluish gray	

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB241 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB241

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	3.3 83%			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB241 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB242

COORDINATES: EAST: 940355.0 NORTH: 799851.4

ELEVATION: SURFACE:

Rig: Geoprobe 5400 Truck Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/21/08	0.0 - 4.0	83° Mostly Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1					NO		Sandy, dark brown	
							Silty Sand, brown, some gravel	
2		D-1	3.8 95%		SAMPL	<1	becomes light brown	
3								
4	4.0						becomes dark brown, some clay, some gravel	
5					ES		REFUSAL at 4.0'	
6					COLLECTED			
7								
8								
9								
10								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: J. Oliver

DRILLER: Juan Negron BORING NO.: 74SB242 SHEET 1 OF 1

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB243

COORDINATES: EAST: 940413.3 NORTH: 799941.1

ELEVATION: SURFACE:

Rig: Geoprobe 6620 DT Track Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/20/08	0.0 - 2.3	83° Mostly Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1	D-1	N/A		NO SAMPLES COLLECTED	<1	Silty Clay, (Fill), brown, some sand	
2						becomes reddish brown and gray	
3						GEOPROBE REFUSAL at 2.3'	
4							
5							
6							
7							
8							
9							
10							

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Ed Kleinkauf

DRILLER: Abraham Nunez BORING NO.: 74SB243 SHEET 1 OF 1

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB244

COORDINATES: EAST: 940391.2 NORTH: 800008.1

ELEVATION: SURFACE:

Rig: Geoprobe 6620 DT Track Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/20/08	0.0 - 12.0	83° Mostly Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1, 2, 3, 4 (4.0)	D-1	N/A		NO SAMPLES COLLECTED	<1	Silty Clay, (Fill), brown, some fine sand, rock fragments	
5, 6, 7, 8 (8.0)	D-2	N/A			<1	"VOID" rods and barrel dropped under own weight	
9, 10	D-3	N/A			<1	Sand, rock fragments, saturated	

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Ed Kleinkauf

DRILLER: Abraham Nunez BORING NO.: 74SB244 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB244

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	N/A			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Ed Kleinkauf

DRILLER: Abraham Nunez BORING NO.: 74SB244 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB245

COORDINATES: EAST: 940309.5 NORTH: 800065.1

ELEVATION: SURFACE:

Rig: Geoprobe 6620 DT Track Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/21/08	0.0 - 12.0	85° Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1, 2, 3, 4	4.0	D-1	N/A			<1	Sand, (Fill), brown, fine gravel and rock fragments, some silt and clay, dry	
5, 6, 7, 8	8.0	D-2	N/A		74SB245-03 (5-7')	<1		
9, 10		D-3	N/A		74SB245-05 (9-11')	<1		

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Ed Kleinkauf

DRILLER: Abraham Nunez BORING NO.: 74SB245 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB245

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	N/A			<1	*Continued from Sheet 1* becomes dark gray	
12	12.0						END OF BORING at 12.0'	
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
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DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Ed Kleinkauf

DRILLER: Abraham Nunez BORING NO.: 74SB245 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB246

COORDINATES: EAST: 940230.3 NORTH: 800122.9

ELEVATION: SURFACE:

Rig: Geoprobe 6620 DT Track Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/21/08	0.0 - 12.0	85° Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1, 2, 3, 4	4.0	D-1	N/A			<1	Sand, (Fill), light brown/tan/white fine rock fragments, trace gravel, little silt and clay dry	
5, 6, 7, 8	8.0	D-2	N/A		74SB246-03 74SB246-03D (5-7')	<1	Groundwater at 8.5'	
9, 10		D-3	N/A		74SB246-05 (9-11')	<1		

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Ed Kleinkauf

DRILLER: Abraham Nunez BORING NO.: 74SB246 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB246

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	N/A			<1	*Continued from Sheet 1* becomes gray fine sand and rock fragments	
12	12.0						END OF BORING at 12.0'	
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Ed Kleinkauf

DRILLER: Abraham Nunez BORING NO.: 74SB246 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB247

COORDINATES EAST: 940148.8 NORTH: 800179.8

ELEVATION: SURFACE:

Rig: Geoprobe 6620 DT Track Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/21/08	0.0 - 12.0	85° Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Topsoil, (Fill), black	
							Sand, (Fill), white, trace silt, fine grained	
2		D-1				<1	becomes brown with rock fragments	
3								
4	4.0							
5								
6		D-2			74SB247-03 (5-7')	<1		
7								
8	8.0						Groundwater at 7.5'	
9		D-3				<1		
10								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Ed Kleinkauf

DRILLER: Abraham Nunez BORING NO.: 74SB247 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB247

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11	D-3				<1	*Continued from Sheet 1*	
12 12.0						END OF BORING at 12.0'	
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Ed Kleinkauf

DRILLER: Abraham Nunez BORING NO.: 74SB247 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB248

COORDINATES EAST: 940069.0 NORTH: 800235.4

ELEVATION: SURFACE:

Rig: Geoprobe 6620 DT Track Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/21/08	0.0 - 12.0	85° Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Sand, (Fill), white/tan/light brown, trace silt rock fragments	
2		D-1				<1		
3								
4	4.0							
5								
6		D-2			74SB248-03 (5-7')	<1		
7								
8	8.0						Groundwater at 8.0'	
9		D-3				<1		
10							Silty Clay, dark gray, rock fragments ,some sand	

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Ed Kleinkauf

DRILLER: Abraham Nunez BORING NO.: 74SB248 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB248

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3				<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Ed Kleinkauf

DRILLER: Abraham Nunez BORING NO.: 74SB248 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB249

COORDINATES: EAST: 939989.9 NORTH: 800292.4

ELEVATION: SURFACE:

Rig: Geoprobe 6620 DT Track Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/21/08	0.0 - 12.0	85° Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Sand, (Fill), white/tan/light brown rock fragments, little silt and clay	
2		D-1				<1		
3								
4	4.0							
5								
6		D-2			74SB249-03 (5-7')	<1		
7								
8	8.0						Groundwater at 8.0'	
9		D-3				<1		
10							becomes gray	

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Ed Kleinkauf

DRILLER: Abraham Nunez BORING NO.: 74SB249 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB249

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3				<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
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27								
28								
29								
30								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Ed Kleinkauf

DRILLER: Abraham Nunez BORING NO.: 74SB249 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB250

COORDINATES: EAST: 939907.8 NORTH: 800347.7

ELEVATION: SURFACE:

Rig: Geoprobe 6620 DT Track Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/21/08	0.0 - 12.0	85° Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Sand, (Fill), white/tan, little rock fragments fragments, little silt and clay	
2		D-1				<1		
3								
4	4.0							
5								
6		D-2			74SB250-03 (5-7')	<1		
7								
8	8.0						Groundwater 8.0'	
9		D-3			74SB250-05 (9-11')	<1		
10							Rock Fragments and Sand, (Fill), dark gray	

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Ed Kleinkauf

DRILLER: Abraham Nunez BORING NO.: 74SB250 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB250

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3				<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Ed Kleinkauf

DRILLER: Abraham Nunez BORING NO.: 74SB250 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB251

COORDINATES: EAST: 939827.6 NORTH: 800404.8

ELEVATION: SURFACE:

Rig: Geoprobe 6620 DT Track Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/21/08	0.0 - 12.0	85° Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1					74SB251-00 (0-1')		Sand, (Fill), white/tan/light brown little silt and clay, dry	
2		D-1				<1		
3								
4	4.0							
5								
6		D-2			74SB251-03 74SB251-03D (5-7')	<1		
7								
8	8.0						Groundwater at 8.0'	
9		D-3			74SB251-05 74SB251-05MS 74SB251-05MSD (9-11')	<1		
10								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Ed Kleinkauf

DRILLER: Abraham Nunez BORING NO.: 74SB251 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB251

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3				<1	*Continued from Sheet 1*	
12	12.0						Sand and Rock Fragments, gray	
							END OF BORING at 12.0'	
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Ed Kleinkauf

DRILLER: Abraham Nunez BORING NO.: 74SB251 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB252

COORDINATES: EAST: 939747.3 NORTH: 800462.9

ELEVATION: SURFACE:

Rig: Geoprobe 6620 DT Track Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/21/08	0.0 - 12.0	85° Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Sand, (Fill), white/tan/ light brown, little silt and clay, fine grained, dry	
2		D-1	N/A			<1		
3								
4	4.0							
5								
6		D-2	N/A		74SB252-03 (5-7')	<1		
7								
8	8.0							
9		D-3	N/A			<1	Groundwater at 8.5'	
10								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Ed Kleinkauf

DRILLER: Abraham Nunez BORING NO.: 74SB252 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB252

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	N/A			<1	*Continued from Sheet 1*	
12	12.0						Sand and Rock Fragments, dark/medium gray, fine grained	
							END OF BORING at 12.0'	
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Ed Kleinkauf

DRILLER: Abraham Nunez BORING NO.: 74SB252 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB253

COORDINATES: EAST: 939665.1 NORTH: 800522.2

ELEVATION: SURFACE:

Rig: Geoprobe 6620 DT Track Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/21/08	0.0 - 12.0	85° Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1, 2, 3, 4	4.0	D-1				<1	Sand, (Fill), white/tan/light brown, little silt and clay, fine grained, dry	
5, 6, 7, 8	8.0	D-2			74SB253-03 (5-7')	<1	Groundwater at 8.0'	
9, 10		D-3				<1		

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Ed Kleinkauf

DRILLER: Abraham Nunez BORING NO.: 74SB253 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB253

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3				<1	*Continued from Sheet 1*	
12	12.0						Sand and Rock Fragments, gray, fine to coarse grained	
13							END OF BORING at 12.0'	
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Ed Kleinkauf

DRILLER: Abraham Nunez BORING NO.: 74SB253 SHEET 2 OI 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB254

COORDINATES: EAST: 939584.0 NORTH: 800584.8

ELEVATION: SURFACE:

Rig: Geoprobe 6620 DT Track Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/21/08	0.0 - 12.0	85° Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1, 2		D-1				<1	Sand, (Fill), brown/tan, fine grained, rock fragn little/some silt and clay, dry	
3, 4	4.0						Silty Clay, (Fill), brown, little fine sand and rock fragments, dry to moist	
5, 6, 7, 8	8.0	D-2			74SB254-03 (5-7')	<1		
9, 10		D-3				<1	Groundwater at 8.5'	

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Ed Kleinkauf

DRILLER: Abraham Nunez BORING NO.: 74SB254 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB254

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3				<1	*Continued from Sheet 1* Silt/Clayey Silt, green	
12	12.0						END OF BORING at 12.0'	
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Ed Kleinkauf

DRILLER: Abraham Nunez BORING NO.: 74SB254 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB255

COORDINATES: EAST: 800639.1 NORTH: 939503.4

ELEVATION: SURFACE:

Rig: Geoprobe 6620 DT Track Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/21/08	0.0 - 12.0	85° Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Sand, (Fill), brown, fine grained, little rock fragments, some silty clay, dry	
2		D-1				<1	becomes orangish brown	
3								
4	4.0							
5							Silty Clay, (Fill), brown/yellowish brown, little fine sand, trace of rock fragments, dry	
6		D-2			74SB255-03 (5-7')	<1		
7								
8	8.0							
							Groundwater at 8.5'	
9		D-3				<1	Clayey Silt, brown/yellow, trace fine sand	
10							becomes green/white, wet	

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Ed Kleinkauf

DRILLER: Abraham Nunez BORING NO.: 74SB255 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB255

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11	D-3				<1	*Continued from Sheet 1*	
12 12.0						END OF BORING at 12.0'	
13	files for CTO-225. Please edit and return as soon						
14							
15							
16							
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18							
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25							
26							
27							
28							
29							
30							

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Ed Kleinkauf

DRILLER: Abraham Nunez BORING NO.: 74SB255 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74
SO NO.: 111626 BORING NO.: 74SB256
COORDINATES: EAST: 939419.8 NORTH: 800700.6
ELEVATION: SURFACE:

Rig: Geoprobe 6620 DT Track Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/21/08	0.0 - 12.0	85° Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1, 2, 3, 4	4.0	D-1	3.6 90%			<1	Sandy Gravel and Clay, grayish brown, broken, dry	
5, 6, 7, 8	8.0	D-2	1.5 38%		74SB256-03 74SB256-03D (5-7')	<1	Sandy Clay, medium brown, some gravel, medium grained sand, damp; Silty Clay, dark brown, very soft, sticky some sand throughout	
9, 10		D-3	2.2 55%		74SB256-04 (7-9')	<1		

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa
DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB256 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB256

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	2.2 55%			<5	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB256 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74
SO NO.: 111626 BORING NO.: 74SB257
COORDINATES: EAST: 939337.7 NORTH: 800758.8
ELEVATION: SURFACE:

Rig: Geoprobe 6620 DT Track Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/21/08	0.0 - 12.0	85° Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1					NO		Silty Sand and Gravel, light gray, loose, dry	
2		D-1	3.5 88%		SAMPL	<1		
3							Clay and Gravel, medium brown, damp	
4	4.0						Sand and Coral, wet	
5					ES		Sand, medium grained, soft, loose, coral fragments, wet	
6		D-2	0.5 13%		COLL	<1		
7								
8	8.0				E			
9					CTE			
10		D-3	0.6 15%		D	<1		

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa
DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB257 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB257

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	0.6 15%			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB257 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB258

COORDINATES: EAST: 939257.6 NORTH: 800814.9

ELEVATION: SURFACE:

Rig: Geoprobe 6620 DT Track Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/21/08	0.0 - 12.0	85° Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1, 2, 3, 4	4.0	D-1	3.7 93%			<1	Silty Sand and Gravel, grayish brown, some clay, very dry	
5, 6, 7, 8	8.0	D-2	4.0 100%		74SB258-03 (5-7')	<1	Sand, tan, loose, some rocks, dry; Silty Clay, medium green brown, moderately soft moist	
9, 10		D-3	4.0 100%		74SB258-05 (9-11')	<5	Saprolite, greenish gray, hard, damp to dry	

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB258 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB258

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11	D-3	4.0 100%			<5	*Continued from Sheet 1*	
12 12.0						END OF BORING at 12.0'	
13							
14							
15							
16							
17							
18							
19							
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23							
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25							
26							
27							
28							
29							
30							

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB258 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB259

COORDINATES EAST: 939173.2 NORTH: 800875.2

ELEVATION: SURFACE:

Rig: Geoprobe 6620 DT Track Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/21/08	0.0 - 12.0	85° Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1						Sandy Loam, grayish brown, moderately hard, dry	
2	D-1	3.2 80%			<1	Sandy Clay and Gravel, brown, moderately soft, coral fragments, dry	
3							
4 4.0							
5						Sandy Clay, medium brown, black and tan sand throughout, damp	
6	D-2	2.2 55%		74SB259-03 (5-7')	<1		
7							
8 8.0							
9				74SB259-04 (7-9')			
10	D-3	1.8 45%			750	Wet at 9.5', hydrocarbon staining, greenish black	

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB259 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB259

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	1.8 45%			750	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
14								
15								
16								
17								
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24								
25								
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27								
28								
29								
30								

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB259 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB260

COORDINATES: EAST: 939093.9 NORTH: 800933.8

ELEVATION: SURFACE:

Rig: Geoprobe 6620 DT Track Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/21/08	0.0 - 12.0	85° Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Sandy Loam, dark brown, soft, dry	
2		D-1	2.3 58%			<1	Silty Sand, gray brown, loose, some gravel, dry	
3							Sandy Clay, greenish brown, very soft, damp gravel throughout	
4	4.0							
5								
6		D-2	1.8 45%		74SB260-03 (5-7')	<10		
7								
8	8.0							
9		D-3	3.6 90%		74SB260-04 (7-9')	>100	Sand, brown, soft, medium grained, wet	
10							Clayey Sand, greenish black, soft wet	

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB260 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB260

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	3.6 90%			>100	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
14								
15								
16								
17								
18								
19								
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21								
22								
23								
24								
25								
26								
27								
28								
29								
30								

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB260 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB261

COORDINATES EAST: 939009.5 NORTH: 800994.4

ELEVATION: SURFACE:

Rig: Geoprobe 6620 DT Track Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/21/08	0.0 - 12.0	85° Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1					74SB261-00 (0-1')		Sandy Loam, dark brown, loose, broken, dry	
2		D-1	3.6 90%			<1	Silty Sand, brown, some gravel, loose, dry	
3								
4	4.0						Sand, tan, soft, loose	
5								
6		D-2	1.2 30%		74SB261-03 74SB261-03D 74SB261-03MS 74SB261-03MSD (5-7')	>10	Sandy Clay, greenish black, soft, rocks and cobbles throughout, damp to moist	
7								
8	8.0							
9		D-3	1.0 25%			>300	Free product and water at 9'	
10								

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB261 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB261

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11	D-3	1.0 25%			>300	*Continued from Sheet 1*	
12 12.0						END OF BORING at 12.0'	
13							
14							
15							
16							
17							
18							
19							
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21							
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23							
24							
25							
26							
27							
28							
29							
30							

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB261 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB262

COORDINATES EAST: 938931.0 NORTH: 801049.7

ELEVATION: SURFACE:

Rig: Geoprobe 6620 DT Track Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/21/08	0.0 - 12.0	85° Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Sandy Loam, dark brown	
							Silty Sand, gray brown, soft, broken, loose, dry	
2		D-1	3.8 95%			<1		
3							Sandy Clay, medium to dark brown, some gravel, soft, damp	
4	4.0							
5							Mixed with bedding sand from 4.5' to 8.5' rocks from 5.0 to 8.5' poor recovery	
6		D-2	2.2 55%		74SB262-03 (5-7')	<1		
7								
8	8.0							
9								
10		D-3	1.0 25%			>700	Wet at 9.0' with free product	

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB262 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB262

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	1.0 25%			>700	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
14								
15								
16								
17								
18								
19								
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21								
22								
23								
24								
25								
26								
27								
28								
29								
30								

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB262 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB263

COORDINATES: EAST: 938844.6 NORTH: 801112.5

ELEVATION: SURFACE:

Rig: Geoprobe 6620 DT Track Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/21/08	0.0 - 12.0	85° Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1, 2, 3, 4	4.0	D-1	3.8 95%			<1	Sandy Loam and Gravel, light grayish brown broken, dry	
5, 6, 7, 8	8.0	D-2	2.5 63%		74SB263-03 (5-7') 74SB263-04 (7-9')	<1	Sand, light brown, soft, loose, damp	
9, 10		D-3	2.2 55%			>30	Silty Sand, medium brown, little clay, loose, soft becomes greenish gray	

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB263 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB263

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11	D-3	2.2 55%			>50	*Continued from Sheet 1* Wet at 11.0' hydrocarbon odor	
12 12.0						END OF BORING at 12.0'	
13							
14							
15							
16							
17							
18							
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30							

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB263 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB264

COORDINATES EAST: 938765.2 NORTH: 801165.7

ELEVATION: SURFACE:

Rig: Geoprobe 6620 DT Track Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/21/08	0.0 - 12.0	85° Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Sandy Loam and Gravel, gray brown, loose, dry	
2		D-1	3.3 83%			<1		
3							becomes light gray at 2.5'	
4	4.0						Sandy Clay, brown, moderately soft, damp	
5								
6		D-2	3.1 78%		74SB264-03 (5-7')	<1	becomes greenish brown at 6.0'	
7								
8	8.0				74SB264-04 (7-9')		mixed with light gray sand from 7.0 to 8.0'	
9								
10		D-3	3.8 95%			>300	Sandy Clay, gray brown, very soft, wet	

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB264 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB264

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	3.8 95%			>300	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
14								
15								
16								
17								
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29								
30								

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB264 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB265

COORDINATES: EAST: 938682.5 NORTH: 801223.5

ELEVATION: SURFACE:

Rig: Geoprobe 6620 DT Track Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/20/08	0.0 - 12.0	85° Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1, 2, 3, 4	4.0	D-1	2.6 65%			<1	Sandy Silt, brownish gray, loose, dry some clay at 3', moderately soft	
5, 6, 7, 8	8.0	D-2	1.8 45%		74SB265-03 74SB265-03D (5-7') 74SB265-04 (7-9')	>100	Sandy Clay, greenish gray, damp strong hydrocarbon odor	
9, 10		D-3	2.0 50%			>200	Wet at 9.0', large gravel mixed with sandy clay	

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB265 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB265

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	2.0 50%			>200	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
14								
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16								
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DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB265 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74
SO NO.: 111626 BORING NO.: 74SB266
COORDINATES: EAST: 938599.3 NORTH: 801282.4
ELEVATION: SURFACE:

Rig: Geoprobe 6620 DT Track Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/20/08	0.0 - 12.0	85° Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1, 2, 3, 4	4.0	D-1	3.6 90%			<5	Sandy Silt, brown, some gravel, loose some clay at 3'	
5, 6, 7, 8	8.0	D-2	1.5 38%		74SB266-03 (5-7')	>40	Sandy Clay, greenish brown, some silt, soft, damp Free product at 6.5', wet, strong odor	
9, 10		D-3	1.0 25%			>400		

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa
DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB266 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB266

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11	D-3	1.0 25%			>400	*Continued from Sheet 1*	
12 12.0						END OF BORING at 12.0'	
13							
14							
15							
16							
17							
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29							
30							

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB266 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB267

COORDINATES: EAST: 938520.5 NORTH: 801339.0

ELEVATION: SURFACE:

Rig: Geoprobe 6620 DT Track Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/20/08	0.0 - 12.0	85° Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Sandy Silt, light gray, some clay and gravel, hard, loose, dry	
2		D-1	3.7 93%			5		
3							Clay, grayish green, hard	
4	4.0				74SB267-02 (3-5')			
5								
6		D-2	2.5 63%		74SB267-03 (5-7')	>50	becomes dark green/gray at 5.0', damp to moist	
7							becomes medium brown at 6.0' some sand greenish brown at 6.5'	
8	8.0						Sandy Clay, green, gravel, wet free product, oily hydrocarbon	
9		D-3	1.2 30%			>800		
10								

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB267 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB267

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	1.2 30%			>800	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
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29								
30								

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB267 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74
SO NO.: 111626 BORING NO.: 74SB268
COORDINATES: EAST: 938327.3 NORTH: 801468.8
ELEVATION: SURFACE:

Rig: Geoprobe 6620 DT Track Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/20/08	0.0 - 12.0	85° Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Sandy Loam and Gravel, gray/brown, moderately hard, broken, dry	
2		D-1	3.1 78%			5	Sandy Clay, medium to dark brown, moderately soft, damp	
3								
4	4.0							
5								
6		D-2	3.5 88%		74SB268-03 (5-7')	>50	becomes greenish gray at 6.0'	
7							rock fragments and hydrocarbon odor at 7'	
8	8.0							
9		D-3	4.0 100%		74SB268-05 (9-11')	>700	Saprolite, brown/green, moderately soft, moist	
10								

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa
DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB268 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB268

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	4.0 100%			>700	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
14								
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29								
30								

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB268 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB269

COORDINATES: EAST: 938256.2 NORTH: 801517.9

ELEVATION: SURFACE:

Rig: Geoprobe 6620 DT Track Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/20/08	0.0 - 12.0	85° Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1, 2, 3, 4	4.0	D-1	2.2 55%			<1	Silty Sand, medium brown, loose, dry gravel throughout to 0.8' , becomes light gray	
5, 6, 7, 8	8.0	D-2	2.8 70%		74SB269-04 (7-9')	50	Sandy Clay, dark brown, stones throughout, some odor, soft, damp to moist	
9, 10		D-3	3.5 88%		74SB269-05 (9-11')	>500	Silty Clay, greenish gray, very soft, damp to n	

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB269 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB269

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	3.5 88%			>500	*Continued from Sheet 1* Wet at 11.0', strong hydrocarbon odor, brownish green, very soft	
12	12.0						END OF BORING at 12.0'	
13								
14								
15								
16								
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29								
30								

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB269 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB270

COORDINATES: EAST: 936908.7 NORTH: 803491.6

ELEVATION: SURFACE:

Rig: Geoprobe 6620 DT Track Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/28/08	0.0 - 12.0	85° Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Sandy Loam and Gravel, gray brown, hard, di	
2		D-1	2.7 68%			<1	Clay, tan and red, moderately hard, damp	
3								
4	4.0						Becomes very soft at 4.0', poor recovery	
5								
6		D-2	0.2 5%			<1		
7								
8	8.0				74SB270-04 (7-9')			
9		D-3	4.0 100%		74SB270-05 (9-11')	<1	becomes darker red and white, moderate soft, damp to moist	
10							becomes stiffer at 10.5'	

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB270 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB270

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	4.0 100%			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
14								
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DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB270 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB271

COORDINATES EAST: 936873.6 NORTH: 803388.0

ELEVATION: SURFACE:

Rig: Geoprobe 6620 DT Track Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/28/08	0.0 - 12.0	85° Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1					74SB271-00 (0-1')		Sandy Loam and Gravel, gray brown	
2		D-1	3.7 93%			<1	Clay, tan and red, moderately hard, damp	
3								
4	4.0							
5							Becomes softer and sticky at 4.0', iron staining throughout, moderate soft to soft	
6		D-2	4.0 100%		74SB271-03 74SB271-03D 74SB271-03MS 74SB271-03MSD (5-7')	<1		
7								
8	8.0							
9		D-3	4.0 100%		74SB271-05 (9-11')	<1	some brown to tan silt, and sand throughout the red/white clay from 8.0 to 12.0', moderate soft, damp to moist, variegated	
10								

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB271 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB271

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11	D-3	4.0 100%			<1	*Continued from Sheet 1*	
12 (12.0)						END OF BORING at 12.0'	
13							
14							
15							
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30							

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB271 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB272

COORDINATES: EAST: 936774.5 NORTH: 803386.0

ELEVATION: SURFACE:

Rig: Geoprobe 6620 DT Track Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/28/08	0.0 - 12.0	85° Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Sandy Loam and Gravel, gray brown, soft, dry	
2		D-1	2.8 70%			<1	Sandy Clay, dark brown	
3							Silty Clay, medium yellow brown, hard dry	
4	4.0							
5							Clayey Sand, medium brown, damp	
6		D-2	4.0 100%			<1	Sandy Clay, tan, some silt, hard, damp	
7								
8	8.0				74SB272-04 (7-9')			
9		D-3	4.0 100%		74SB272-05 (9-11')	<1		
10							Saprolite, olive brown, hard, damp	

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB272 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB272

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	4.0 100%			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
14								
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16								
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23								
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28								
29								
30								

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB272 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB274

COORDINATES EAST: 936558.2 NORTH: 803388.9

ELEVATION: SURFACE:

Rig: Geoprobe 6620 DT Track Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/28/08	0.0 - 12.0	85° Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Sandy Clay and Gravel, gray brown, hard, dry	
2		D-1	3.9 98%			<1	Silty Clay, brown to gray, hard to very hard, damp	
3								
4	4.0							
5							Sand, greenish gray, rock fragments, hard, iron staining, damp to dry	
6		D-2	4.0 100%		74SB274-03 (5-7')	<1		
7								
8	8.0							
9							Clayey Sand, reddish brown and white, quartz sand, soft, damp	
10		D-3	4.0 100%		74SB274-05 (9-11')	<1		

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB274 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB274

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		D-3	4.0 100%			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
14								
15								
16								
17								
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21								
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28								
29								
30								

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB274 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB275

COORDINATES: EAST: 936454.6 NORTH: 803392.9

ELEVATION: SURFACE:

Rig: Geoprobe 6620 DT Track Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/28/08	0.0 - 8.0	85° Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1, 2, 3, 4	4.0	D-1	N/A			<1	Gravel and Silt, gray, hard Sandy Clay, medium brown, moderately hard iron staining, damp	
5, 6, 7, 8	8.0	D-2	N/A		74SB275-03 74SB275-03D (5-7')	<1	Silty Clay, medium brown, some sand, moderately soft, damp Bedrock, light gray, very hard, weathered	
9, 10							GEOPROBE REFUSAL at 8.0'	

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB275 SHEET 1 OF 1

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB276

COORDINATES: EAST: 936354.4 NORTH: 803416.4

ELEVATION: SURFACE:

Rig: Geoprobe 6620 DT Track Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/28/08	0.0 - 3.0	85° Sunny	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1					NO SAMPLES COLLECTED		Sandy Loam and Gravel, gray brown	
2		D-1	3.0 75%			<1	Clay, medium to dark brown, moderate hard, damp	
3							light gray bedrock at 3'	
4	4.0						GEOPROBE REFUSAL at 3.0'	
5								
6								
7								
8								
9								
10								

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez-Rodriguez BORING NO.: 74SB276 SHEET 1 OF 1

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB277

COORDINATES: EAST: 936292.1 NORTH: 803502.4

ELEVATION: SURFACE:

Rig: Geoprobe 6620 DT Track Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/28/08	0.0 - 6.0	80° Cloudy	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1, 2, 3, 4	4.0	S-1	3.1 78%		74SB277-02 (3-5')	<1	Gravel, gray to brown, some silt, trace clay, damp	
							Clay, brown, some fine gravel, trace silt, dry	
5, 6, 7, 8	8.0	S-2	1.9 48%			<1	GEOPROBE REFUSAL at 6.0'	
9, 10								

DRILLING CO.: GeoEnviro Tech, Inc. BAKER REP.: Mark DeJohn

DRILLER: William Rodriguez BORING NO.: 74SB277 SHEET 1 OF 1

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB278

COORDINATES EAST: 803580.8 NORTH: 803580.8

ELEVATION: SURFACE:

Rig: Geoprobe 6620 DT Track Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/28/08	0.0 - 7.0	80° Cloudy	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1, 2, 3, 4	4.0	S-1	3.2 80%			<1	Gravel, gray/bown, little silt, damp; Saprolite, tan/brown, weathered bedrock; Gravel, gray	
5, 6, 7, 8	8.0	S-2	3.0 75%		78SB278-03 (5-7')	<1	GEOPROBE REFUSAL at 7.0'	
9, 10								

DRILLING CO.: GeoEnviro Tech, Inc. BAKER REP.: Mark DeJohn

DRILLER: William Rodriguez BORING NO.: 74SB278 SHEET 1 OF 1

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB279

COORDINATES EAST: 936170.6 NORTH: 803666.3

ELEVATION: SURFACE:

Rig: Geoprobe 6620 DT Track Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/28/08	0.0 - 12.0	80° Cloudy	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1, 2, 3, 4	4.0	S-1	4.0 100%			<1	Gravel, gray, some fine grained sand, little silt, dry Clay, brown, trace silt, damp Sand, gray brown, coarse grained, some silt, damp	
5, 6, 7, 8	8.0	S-2	3.4 85%		74SB279-03 (5-7')	<1	Saprolite, tan/light brown, damp	
9, 10		S-3	3.4 85%		74SB279-05 (9-11')	<1		

DRILLING CO.: GeoEnviro Tech, Inc. BAKER REP.: Mark DeJohn

DRILLER: William Rodriguez BORING NO.: 74SB279 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB279

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		S-3	3.4 85%			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
14								
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16								
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DRILLING CO.: GeoEnviro Tech, Inc. BAKER REP.: Mark DeJohn

DRILLER: William Rodriguez BORING NO.: 74SB279 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB280

COORDINATES EAST: 936107.3 NORTH: 803748.3

ELEVATION: SURFACE:

Rig: Geoprobe 6620 DT Track Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/28/08	0.0 - 12.0	80° Cloudy	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Gravel, gray, some silt, fine grained, damp	
2		S-1	4.0 100%			<1	Clay, dark brown, little silt, trace fine gravel, damp	
3					74SB280-02 (3-5')			
4	4.0							
5							becomes olive, trace silt, mottled, moist	
6		S-2	3.7 93%			<1		
7								
8	8.0							
9		S-3	3.5 88%		74SB280-05 (9-11')	<1		
10							gravelly zone from 9.5 to 10'	

DRILLING CO.: GeoEnviro Tech, Inc. BAKER REP.: Mark DeJohn

DRILLER: William Rodriguez BORING NO.: 74SB280 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB280

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		S-3	3.5 88%			<1	*Continued from Sheet 1* Saprolite, tan/gray/brown, damp	
12	12.0						END OF BORING at 12.0'	
13								
14								
15								
16								
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28								
29								
30								

DRILLING CO.: GeoEnviro Tech, Inc. BAKER REP.: Mark DeJohn

DRILLER: William Rodriguez BORING NO.: 74SB280 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB281

COORDINATES EAST: 936068.3 NORTH: 803833.3

ELEVATION: SURFACE:

Rig: Geoprobe 6620 DT Track Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/28/08	0.0 - 12.0	80° Cloudy	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1					74SB281-00 (0-1')		Gravel, gray, little fine grained sand, damp	
2		S-1	4.0 100%			<1	Clay, olive, trace fine sand, mottled, damp	
3								
4	4.0				74SB281-02 (3-5')			
5							some gravel, brown/gray (gravel), damp	
6		S-2	3.2 80%			<1		
7							little silt, brown/gray & brown/black, damp	
8	8.0							
9		S-3	4.0 100%		74SB281-05 74SB28-05D 74SB281-05MS 74SB281-05MSD (9-11')	<1	Bedrock, brown/rust with black vertical fracture traces, weathered, damp	
10								

DRILLING CO.: GeoEnviro Tech, Inc. BAKER REP.: Mark DeJohn

DRILLER: William Rodriguez BORING NO.: 74SB281 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB281

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11	S-3	4.0 100%			<1	*Continued from Sheet 1*	
12 (12.0)						END OF BORING at 12.0'	
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							

DRILLING CO.: GeoEnviro Tech, Inc. BAKER REP.: Mark DeJohn

DRILLER: William Rodriguez BORING NO.: 74SB281 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB282

COORDINATES: EAST: 936074.7 NORTH: 803935.2

ELEVATION: SURFACE:

Rig: Geoprobe 6620 DT Track Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/28/08	0.0 - 12.0	80° Cloudy	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Gravel, gray, coarse grained, trace silt, damp	
2		S-1	2.4 60%			<1	Clay, gray, little silt, trace fine gravel, damp	
3					74SB282-02 (3-5')			
4	4.0						Saprolite, gray, damp	
5								
6		S-2	3.2 80%			<1		
7								
8	8.0							
9								
10		S-3	1.6 40%		74SB282-05 (9-11')	<1		

DRILLING CO.: GeoEnviro Tech, Inc. BAKER REP.: Mark DeJohn

DRILLER: William Rodriguez BORING NO.: 74SB282 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB282

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		S-3	1.6 40%				*Continued from Sheet 1* fine to coarse grained gravel zone, gray, damp	
12	12.0						END OF BORING at 12.0'	
13								
14								
15								
16								
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22								
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25								
26								
27								
28								
29								
30								

DRILLING CO.: GeoEnviro Tech, Inc. BAKER REP.: Mark DeJohn

DRILLER: William Rodriguez BORING NO.: 74SB282 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB283

COORDINATES: EAST: 936086.1 NORTH: 804040.9

ELEVATION: SURFACE:

Rig: Geoprobe 6620 DT Track Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/28/08	0.0 - 7.0	80° Cloudy	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1, 2, 3, 4 (4.0)	S-1	3.5 88%		74SB283-02 (3-5')	<1	Gravel, gray, fine grained, little clay, trace fine sand dry	
5, 6, 7, 8 (8.0)	S-2	3.0 75%			<1	GEOPROBE REFUSAL at 7.0'	
9, 10							

DRILLING CO.: GeoEnviro Tech, Inc. BAKER REP.: Mark DeJohn

DRILLER: William Rodriguez BORING NO.: 74SB283 SHEET 1 OF 1

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB284

COORDINATES EAST: 936084.3 NORTH: 804128.1

ELEVATION: SURFACE:

Rig: Geoprobe 6620 DT Track Rig	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2.5"				5/28/08	0.0 - 12.0	80° Cloudy	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Gravel, dark brown, fine grained, little silt, damp	
2		S-1	4.0 100%			<1	Clay, reddish brown, trace silt, damp	
3					74SB284-02 (3-5')			
4	4.0						Bedrock, tan/light brown, weathered, damp	
5								
6		S-2	3.2 85%			<1		
7								
8	8.0							
9		S-3	NA		74SB284-05 (9-11')	<1	gravelly zone, gray, dry from 9.1' to 9.4'	
10								

DRILLING CO.: GeoEnviro Tech, Inc. BAKER REP.: Mark DeJohn

DRILLER: William Rodriguez BORING NO.: 74SB284 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB284

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		S-3	N/A			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								

DRILLING CO.: GeoEnviro Tech, Inc. BAKER REP.: Mark DeJohn

DRILLER: William Rodriguez BORING NO.: 74SB284 SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB285

COORDINATES: EAST: 936088.2 NORTH: 804222.3

ELEVATION: SURFACE:

Rig: Geoprobe 6620 DT Track Rig

	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	2"				5/28/08	0.0 - 12.0	80° Cloudy	
Length	4'							
Type	Acetate							
Hammer Wt.								
Fall								

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
BG/PS = Background/Point Source
ppm = parts per million

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1							Gravel, gray, fine grained, trace clay, damp	
							Clay, dark brown, trace silt, damp	
2		S-1	3.8 95%			<1		
3					74SB285-02 (3-5')		Saprolite, light brown and tan, hard, damp	
4	4.0							
5								
6		S-2	3.4 85%			<1		
7								
8	8.0							
9								
10		S-3	3.5 88%		74SB285-05 (9-11')	<1	becomes softer	

DRILLING CO.: GeoEnviro Tech, Inc. BAKER REP.: Mark DeJohn

DRILLER: William Rodriguez BORING NO.: 74SB285 SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB285

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
11		S-3	3.5 88%			<1	*Continued from Sheet 1*	
12	12.0						END OF BORING at 12.0'	
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								

DRILLING CO.: GeoEnviro Tech, Inc. BAKER REP.: Mark DeJohn

DRILLER: William Rodriguez BORING NO.: 74SB285 SHEET 2 OF 2

Well Construction Records

Baker

Michael Baker Jr., Inc.

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT:	Naval Activity Puerto Rico - SWMU 74		
PROJ. NO.:	111626	BORING NO.:	74SB05
COORDINATES:	EAST: 931435.9	NORTH:	807972.4
ELEVATION:	SURFACE: 124.58	TOP OF PVC CASING:	127.13

Rig: Geoprobe 66DT	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	3"	--	4.25"	--	4/29/2008	0.0 - 14.0	85° Sunny	
Length	4'	--	5'	--				
Type	--	--	HSA	--				
Hammer Wt.	--	--	--	--				
Fall	--	--	--	--				

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

WELL INFORMATION

Type	Diam.	Top Depth (Ft.)	Bottom Depth (Ft.)
Schedule 40 PVC Riser	1.5"	0	4.0
Schedule 40 PVC Screen	1.5"	4.0	14.0

Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Well Installation Detail	Elevation (Ft. MSL)
1, 2, 3, 4 (4.0)	D-1	3.0 75%		74SB05-01 74SB05-01D (2-3') 74SB05-02 (3-4')	74.0	Gravelly Clay & Silt, (Fill), fuel odor	1.5" PVC Riser; Bentonite 1 to 3'; Sand 3 to 14'	
5, 6, 7, 8 (8.0)	D-2	2.5 63%			25.0	Gravelly Sand, little Silt & Clay, wet at 5-6'; Clayey Silt, red & brown, gray mottled, dry, med-low plasticity	1.5" PVC Screen	
9, 10	D-3	4.0 100%			<1	less plasticity, more dry and dense, very tight		

DRILLING CO.:	GeoEnviroTech, Inc.	BAKER REP.:	Chris Kupfer
DRILLER:	William Rodriguez	BORING NO.: 74SB05	SHEET 1 OF 2

Baker

Michael Baker Jr., Inc.

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB05

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm) ps/bg	Visual Description	Well Installation Detail	Elevation (Ft. MSL)
11		D-3	4.0 100%			<1	*Continue from page 1*	1.5" PVC Screen; Sand	
12	12.0								
13									
14	14.0								
15							Bottom of Well @ 14.0'		
16									
17									
18									
19									
20									
21									
22									
23									
24									

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Chris Kupfer

DRILLER: William Rodriguez BORING NO.: 74SB05 SHEET 2 OF 2

Baker

Michael Baker Jr., Inc.

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT:	Naval Activity Puerto Rico - SWMU 74		
PROJ. NO.:	111626	BORING NO.:	74SB09
COORDINATES:	EAST: 931112.0	NORTH:	807735.4
ELEVATION:	SURFACE: 126.30	TOP OF PVC CASING:	129.25

Rig:	Geoprobe 66DT				Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
	MC Sampler	Casing	Augers	Core Barrel				
Size (ID)	3"	--	4.25"	--	5/4/2008	0.0 - 16.0	85° Sunny	
Length	4'	--	5'	--				
Type	--	--	HSA	--				
Hammer Wt.	--	--	--	--				
Fall	--	--	--	--				

Remarks:

SAMPLE TYPE

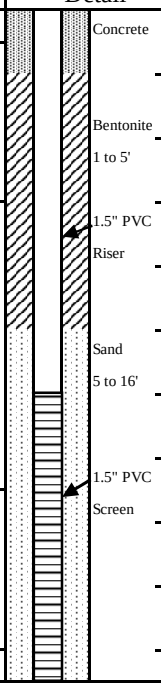
S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

WELL INFORMATION

Type	Diam.	Top Depth (Ft.)	Bottom Depth (Ft.)
Schedule 40 PVC Riser	1.5"	0	6.0
Schedule 40 PVC Screen	1.5"	6.0	16.0

Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description
1, 2, 3, 4 (4.0)	D-1	3.0 75%		74SB09-02 (3-5')	<1	Gravel, Sand and Clay, (Fill), medium brown, dry; Silty Clay, golden brown, stiff, slight plasticity, grades more softer and more plasticity, damp to dry
5, 6, 7, 8 (8.0)	D-2	4.0 100%			<1	Grades medium brown ,moist, and more plastic with depth
9, 10	D-3	4.0 100%		74SB09-05 (9-11')	<1	Silty Sand with little Clay, wet

Well Installation Detail



Elevation (Ft. MSL)

DRILLING CO.:	JFA Geological & Environmental Scientists	BAKER REP.	Joe Burawa
DRILLER:	Domingo Gonzalez - Rodiguez	BORING NO.	74SB09 SHEET 1 OF 2

Baker

Michael Baker Jr., Inc.

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB09

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm) ps/bg	Visual Description	Well Installation Detail	Elevation (Ft. MSL)
11		D-3	4.0 100%			<1	*Continue from page 1*		
12	12.0							1.5" PVC Screen	
13		A	NA						
14								Sand 5 to 16'	
15									
16	16.0								
17							Bottom of Well @ 16'		
18									
19									
20									
21									
22									
23									
24									

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez - Rodiguez BORING NO.: 74SB09 SHEET 2 OF 2

Baker

Michael Baker Jr., Inc.

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT:	Naval Activity Puerto Rico - SWMU 74		
PROJ. NO.:	111626	BORING NO.:	74SB137
COORDINATES:	EAST: 937011.02	NORTH:	803929.06
ELEVATION:	SURFACE:	TOP OF PVC CASING:	

Rig: Geoprobe 66DT								
	MC Sampler	**Casing**	**Augers**	**Core Barrel**	**Date**	**Progress (Ft.)**	**Weather**	**Depth to Water (Ft.)**
Size (ID)	3"	--	4.25"	--	5/15/2008	0.0 - 20.0	85° Sunny	
Length	4'	--	5'	--				
Type	--	--	HSA	--				
Hammer Wt.	--	--	--	--				
Fall	--	--	--	--				

Remarks:

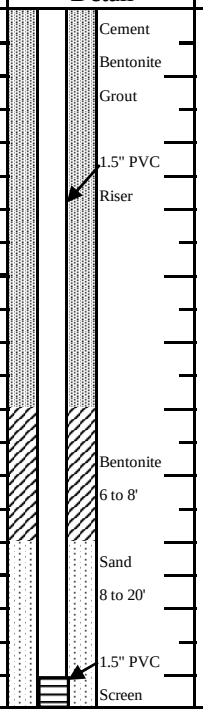
SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

WELL INFORMATION

Type	Diam.	Top Depth (Ft.)	Bottom Depth (Ft.)
Schedule 40 PVC Riser	1.5"	0	10.0
Schedule 40 PVC Screen	1.5"	10.0	20.0

Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Well Installation Detail	Elevation (Ft. MSL)
1, 2, 3, 4 (4.0)	D-1	3.7 93%			<1	Sandy Loam and gravel to 0.7' Sandy Clay, greenish gray dry to damp moderate hard, stones	Cement Bentonite Grout; 1.5" PVC Riser	
5, 6, 7, 8 (8.0)	D-2	4.0 100%		74SB137-03 (5-7') 74SB137-04 (7-9')	<1	Silty Clay, dark brown, moderate hard, damp, occasional stones	Bentonite 6 to 8'	
9, 10	D-3	4.0 100%			<1	Sandy Clay, medium brown, gray, damp to dry, moderate soft	Sand 8 to 20'; 1.5" PVC Screen	



DRILLING CO.:	JFA Geological & Environmental Scientists	BAKER REP.:	Joe Burawa
DRILLER:	Domingo Gonzalez - Rodriguez	BORING NO.:	74SB137 SHEET 1 OF 2

Baker

Michael Baker Jr., Inc.

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB137

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm) ps/bg	Visual Description	Well Installation Detail	Elevation (Ft. MSL)
11		D-3	4.0 100%			<1	*Continue from page 1*		
12	12.0								
13		D-4	4.0 100%			<1	Saprolite, greenish gray, weathered rock, rock fragments, sand and clay, moist inside, moderate hard	Sand 8 to 20'	
14									
15							Some iron staining		
16	16.0							1.5" PVC Screen	
17		D-5	4.0 100%			<1	No hydrocarbon odor		
18									
19									
20	20.0								
21							Bottom of Well @ 20'		
22									
23									
24									

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez - Rodriguez BORING NO.: 74SB137 SHEET 2 OF 2

Baker

Michael Baker Jr., Inc.

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT:	Naval Activity Puerto Rico - SWMU 74		
PROJ. NO.:	111626	BORING NO.:	74SB145
COORDINATES: EAST:	937527.59	NORTH:	803887.09
ELEVATION: SURFACE:	112.34	TOP OF PVC CASING:	114.87

Rig: Geoprobe 66DT	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	3"	--	4.25"	--	5/16/2008	0.0 - 20.0	85° Sunny	
Length	4'	--	5'	--				
Type	--	--	HSA	--				
Hammer Wt.	--	--	--	--				
Fall	--	--	--	--				

Remarks:

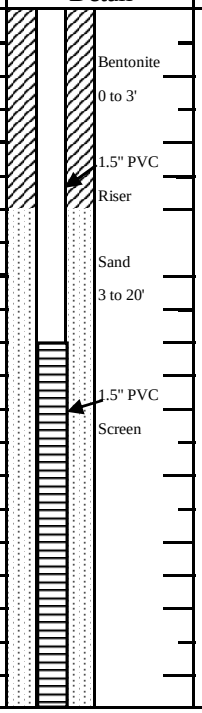
SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

WELL INFORMATION

Type	Diam.	Top Depth (Ft.)	Bottom Depth (Ft.)
Schedule 40 PVC Riser	1.5"	0	5.0
Schedule 40 PVC Screen	1.5"	5.0	20.0

Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Well Installation Detail	Elevation (Ft. MSL)
1, 2, 3, 4 (4.0)	D-1	4.0 100%			<1	Silty Clay (Fill), brown, trace fine sand, roots; Sand, white/tan, fine-grained trace silt, dry	Bentonite 0 to 3'; 1.5" PVC Riser; Sand 3 to 20'	
5, 6, 7, 8 (8.0)	D-2	4.0 100%			<1	Silty Clay, brown, trace fine sand	1.5" PVC Screen	
9, 10	D-3	4.0 100%		74SB145-05 (9-11')	<1			



DRILLING CO.:	GeoEnviroTech, Inc.	BAKER REP.:	Ed Kleinkauf
DRILLER:	Abraham Nunez	BORING NO.: 74SB145	SHEET 1 OF 2

Baker

Michael Baker Jr., Inc.

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB145

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm) ps/bg	Visual Description	Well Installation Detail	Elevation (Ft. MSL)
11 – 12 (12.0)	D-3	4.0 100%			<1	*Continue from page 1*		
13 – 16 (16.0)	D-4	N/A			<1	Clayey Silt, gray	Sand 3 to 20'; 1.5" PVC Screen	
17 – 20 (20.0)	D-5	N/A		74SB145-09 (17-19')	<1	becomes tan/yellowish brown		
21 – 24						Bottom of Well at 20'		

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Ed Kleinkauf

DRILLER: Abraham Nunez BORING NO.: 74SB145 SHEET 2 OF 2

Baker

Michael Baker Jr., Inc.

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT:	Naval Activity Puerto Rico - SWMU 74		
PROJ. NO.:	111626	BORING NO.:	74SB151
COORDINATES: EAST:	937646.68	NORTH:	803297.46
ELEVATION: SURFACE:	109.75	TOP OF PVC CASING:	112.37

Rig: Geoprobe 66DT	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	3"	--	4.25"	--	5/15/2008	0.0 - 10.0	85° Sunny	
Length	4'	--	5'	--				
Type	--	--	HSA	--				
Hammer Wt.	--	--	--	--				
Fall	--	--	--	--				

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

WELL INFORMATION

Type	Diam.	Top Depth (Ft.)	Bottom Depth (Ft.)
Schedule 40 PVC Riser	1.5"	0	3.0
Schedule 40 PVC Screen	1.5"	3.0	10.0

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Well Installation Detail	Elevation (Ft. MSL)
1					74SB151-00 (0-1')		Silty Clay, brown, little to some fine sand, trace rock fragments	Concrete	
2		D-1	N/A		74SB151-01	<1		Bentonite 1 to 2'	
3					74SB151-01D 74SB151-01MS 74SB151-01MSD			1.5" PVC Riser	
4	4.0				(1-3')		water at 4'		
5									
6		D-2	N/A			<1		Sand 2 to 10'	
7									
8	8.0							1.5" PVC Screen	
9		D-3	N/A			<1	Clayey Silt, blue/gray		
10	10.0								
							Bottom of Well at 10'		

DRILLING CO.:	GeoEnviroTech, Inc.	BAKER REP.:	Ed Kleinkauf
DRILLER:	Abraham Nunez	BORING NO.: 74SB151	SHEET 1 OF 1

Baker

Michael Baker Jr., Inc.

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT:	Naval Activity Puerto Rico - SWMU 74		
PROJ. NO.:	111626	BORING NO.:	74SB22
COORDINATES:	EAST: 930389.63	NORTH:	807625.80
ELEVATION:	SURFACE: 134.04	TOP OF PVC CASING:	137.06

Rig: Geoprobe 66DT	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	3"	--	4.25"	--	5/3/2008	0.0 - 16.0	85° Sunny	
Length	4'	--	5'	--				
Type	--	--	HSA	--				
Hammer Wt.	--	--	--	--				
Fall	--	--	--	--				

Remarks:

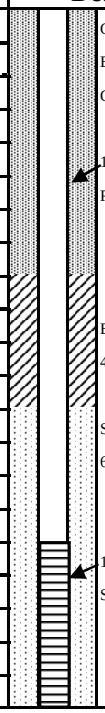
SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

WELL INFORMATION

Type	Diam.	Top Depth (Ft.)	Bottom Depth (Ft.)
Schedule 40 PVC Riser	1.5"	0	8.0
Schedule 40 PVC Screen	1.5"	8.0	16.0

Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Well Installation Detail	Elevation (Ft. MSL)
1, 2, 3, 4 (4.0)	D-1	4.0 100%		74SB22-00 (0-1')	<1	Silty clay, dark brown, moderate stiff, damp; medium brown, silty clay with sand stiff, some gravel, damp	Cement; Bentonite; Grout; 1.5" PVC Riser	
5, 6, 7, 8 (8.0)	D-2	3.0 75%		74SB22-03 74SB22-03D 74SB22-03MS 74SB22-03MSD (5-7') 74SB22-04 (7-9')	>200	Clay, medium brown, soft damp to moist, hydrocarbon staining, some sand	Bentonite 4 to 6'; Sand 6 to 16'; 1.5" PVC Screen	
9, 10	D-3	2.0 50%			>300	Sandy Clay, moderate soft damp to moist; Some light blue clay at 10.0' soft		



DRILLING CO.:	JFA Geological & Environmental Scientists	BAKER REP.:	Joe Burawa
DRILLER:	Domingo Gonzalez - Rodiguez	BORING NO.:	74SB22

Baker

Michael Baker Jr., Inc.

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB22

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm) ps/bg	Visual Description	Well Installation Detail	Elevation (Ft. MSL)
11		D-3	2.0 50%			>300	*Continue from page 1*		
12	12.0								
13		D-4	4.0 100%			>300	Same sandy clay, with light blue clay, some silt, soft, damp to moist	Sand 6 to 16'	
14								1.5" PVC Screen	
15									
16	16.0								
17							Bottom of Well @ 16'		
18									
19									
20									
21									
22									
23									
24									

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez - Rodiguez BORING NO.: 74SB22 SHEET 2 OF 2

Baker

Michael Baker Jr., Inc.

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT:	Naval Activity Puerto Rico - SWMU 74		
PROJ. NO.:	111626	BORING NO.:	74SB236
COORDINATES:	EAST: 939989.73	NORTH:	799305.42
ELEVATION:	SURFACE: 111.21	TOP OF PVC CASING:	113.95

Rig: Geoprobe 66DT								
	MC Sampler	**Casing**	**Augers**	**Core Barrel**	**Date**	**Progress (Ft.)**	**Weather**	**Depth to Water (Ft.)**
Size (ID)	3"	--	3.25"	--	5/29/2008	0.0 - 15.0	85° Sunny	
Length	4'	--	5'	--				
Type	--	--	HSA	--				
Hammer Wt.	--	--	--	--				
Fall	--	--	--	--				

Remarks:

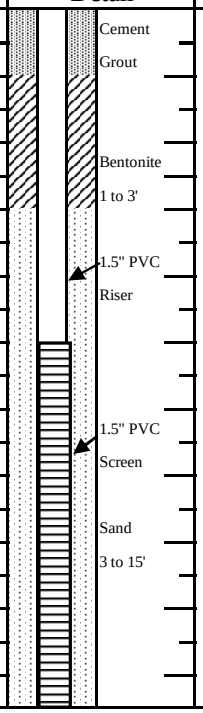
SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

WELL INFORMATION

Type	Diam.	Top Depth (Ft.)	Bottom Depth (Ft.)
Schedule 40 PVC Riser	1.5"	0	5.0
Schedule 40 PVC Screen	1.5"	5.0	15.0

Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Well Installation Detail	Elevation (Ft. MSL)
1, 2, 3, 4 (4.0)	S-1	1.4 35%			<1	Sand, tan/brown, fine-grained fine gravel, damp Tan; damp		
5, 6, 7, 8 (8.0)	S-2	2.4 60%		74SB236-04 (7-9')	<1	trace silt, tan with browm layers, damp		
9, 10	S-3	2.1 53%		74SB236-05 74SB236-05D (9-11')	<1			



DRILLING CO.:	GeoEnviroTech, Inc.	BAKER REP.:	Mark DeJohn
DRILLER:	Abraham Nunez	BORING NO.:	74SB236 SHEET 1 OF 2

Baker

Michael Baker Jr., Inc.

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB236

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm) ps/bg	Visual Description	Well Installation Detail	Elevation (Ft. MSL)
11		S-3	2.1 53%			<1	*Continue from page 1*	Sand 3 to 15'	
12	12.0						Wet		
13		S-4	4.0 100%			<1	SIlT; trace clay; gray; moist	1.5" PVC Screen	
14									
15									
16	16.0						Bottom of Well at 15' PEAT, dark brown, damp		
17									
18									
19									
20									
21									
22									
23									
24									

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Mark DeJohn

DRILLER: Abraham Nunez BORING NO.: 74SB236 SHEET 2 OF 2

Baker

Michael Baker Jr., Inc.

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT:	Naval Activity Puerto Rico - SWMU 74		
PROJ. NO.:	111626	BORING NO.:	74SB246
COORDINATES:	EAST: 940226.79	NORTH:	800121.97
ELEVATION:	SURFACE: 110.66	TOP OF PVC CASING:	112.32

Rig: Geoprobe 66DT	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	3"	--	3.25"	--	5/29/2008	0.0 - 13.0	85° Sunny	
Length	4'	--	5'	--				
Type	--	--	HSA	--				
Hammer Wt.	--	--	--	--				
Fall	--	--	--	--				

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

WELL INFORMATION

Type	Diam.	Top Depth (Ft.)	Bottom Depth (Ft.)
Schedule 40 PVC Riser	1.5"	0	8.0
Schedule 40 PVC Screen	1.5"	8.0	13.0

Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Well Installation Detail	Elevation (Ft. MSL)
1, 2, 3, 4 (4.0)	S-1	2.4 60%			<1	Gravel, gray, fine, little fine sand, trace coarse gravel and clay gray, damp	Cement Bentonite Grout; 1.5" PVC Riser	
5, 6, 7, 8 (8.0)	S-2	1.6 40%		74SB246-03 74SB246-03D (5-7')	<1	Sand, fine-grained. trace coarse sand and coral fragments, tan, damp; Wet	Bentonite 4 to 6'; Sand 6 to 13'; 1.5" PVC Screen	
9, 10	S-3	1.5 38%		74SB246-05 (9-11')	<1	Gravel, coarse, some fine gravel, trace coarse sand and clay, dark gray, wet		

DRILLING CO.:	GeoEnviroTech, Inc.	BAKER REP.	Mark DeJohn
DRILLER:	Abraham Nunez	BORING NO.	74SB246 SHEET 1 OF 2

Baker

Michael Baker Jr., Inc.

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB246

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
ps/bg = point source/background

Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm) ps/bg	Visual Description	Well Installation Detail	Elevation (Ft. MSL)
11						*Continue from page 1*	1.5" PVC	
12 (12.0)	S-3	1.5 38%			<1	Bedrock, broken Gabbro hard	Screen	
13							Sand 6 to 13'	
14	S-4	2.5 63%			<1	Bottom of Well at 13'	Backfill	
15 (15.5)								
16						Geoprobe refusal at 15.5'		
17								
18								
19								
20								
21								
22								
23								
24								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Mark DeJohn

DRILLER: Abraham Nunez BORING NO.: 74SB246 SHEET 2 OF 2

Baker

Michael Baker Jr., Inc.

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT:	Naval Activity Puerto Rico - SWMU 74		
PROJ. NO.:	111626	BORING NO.:	74SB256
COORDINATES:	EAST: 939419.05	NORTH:	800695.98
ELEVATION:	SURFACE: 110.87	TOP OF PVC CASING:	114.33

Rig: Geoprobe 66DT	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	3"	--	3.25"	--	5/29/2008	0.0 - 20.0	85° Sunny	
Length	4'	--	5'	--				
Type	--	--	HSA	--				
Hammer Wt.	--	--	--	--				
Fall	--	--	--	--				

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

WELL INFORMATION

Type	Diam.	Top Depth (Ft.)	Bottom Depth (Ft.)
Schedule 40 PVC Riser	1.5"	0	10.0
Schedule 40 PVC Screen	1.5"	10.0	20.0

Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Well Installation Detail	Elevation (Ft. MSL)
1, 2, 3, 4 (4.0)	S-1	3.0 75%			<1	Silt Loam, dark brown damp; some gravel Sand, fine and coarse grained trace clay; brown and gray layering some gravel, damp Gravel, fine and coarse, gray, hard	Cement Bentonite Grout 1.5" PVC Riser	
5, 6, 7, 8 (8.0)	S-2	0.7 18%		74SB256-03 74SB256-03D (5-7')	<1	Gravel, coarse, trace fine gravel and fine coarse sand, gray dry	Bentonite 6 to 8'	
9, 10	S-3	0.0 0%		74SB256-04 (7-9')	<1		Sand 8 to 20' 1.5" PVC Screen	

DRILLING CO.:	GeoEnviroTech, Inc.	BAKER REP.:	Mark DeJohn
DRILLER:	Abraham Nunez	BORING NO.: 74SB256	SHEET 1 OF 2

Baker

Michael Baker Jr., Inc.

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB256

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm) ps/bg	Visual Description	Well Installation Detail	Elevation (Ft. MSL)
11		S-3	0.0 0%			<1	*Continue from page 1*	1.5" PVC Screen	
12	12.0								
13		S-4	3.0 75%			<1	Clay; trace fine gravel and fine coarsed sand, gray, dry	Sand 8 to 20'	
14									
15									
16	16.0								
17		S-5	4.0 100%			<1			
18									
19									
20	20.0						Peat; dark brown; moist		
21							Bottom of Well at 20'		
22									
23									
24									

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Mark DeJohn

DRILLER: Abraham Nunez BORING NO.: 74SB256 SHEET 2 OF 2

Baker

Michael Baker Jr., Inc.

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT:	Naval Activity Puerto Rico - SWMU 74		
PROJ. NO.:	111626	BORING NO.:	74SB26
COORDINATES:	EAST: 930366.80	NORTH:	807549.01
ELEVATION:	SURFACE: 134.16	TOP OF PVC CASING:	137.15

Rig: Geoprobe 66DT	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	3"	--	4.25"	--	5/3/2008	0.0 - 20.0	85° Sunny	
Length	4'	--	5'	--				
Type	--	--	HSA	--				
Hammer Wt.	--	--	--	--				
Fall	--	--	--	--				

Remarks:

SAMPLE TYPE

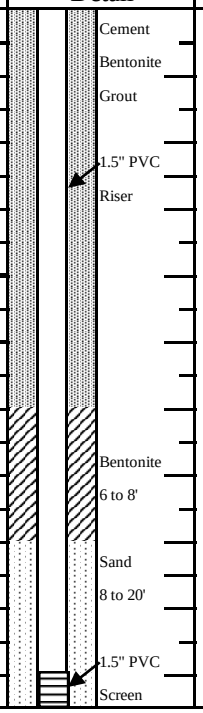
S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

WELL INFORMATION

Type	Diam.	Top Depth (Ft.)	Bottom Depth (Ft.)
Schedule 40 PVC Riser	1.5"	0	10.0
Schedule 40 PVC Screen	1.5"	10.0	20.0

Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description
1, 2, 3, 4 (4.0)	D-1	3.0 75%		74SB26-02 74SB26-02D (3-5')	<1 / 60.0	Silty Clay, dark brown, some gravel, stiff, damp. At 2.5' becomes dark gray, soft damp, less gravel
5, 6, 7, 8 (8.0)	D-2	4.0 100%			>200	Clay, stiff, medium gray damp. Silty Clay, light brown and red, moderate soft, damp, plastic
9, 10	D-3	4.0 100%		74SB26-05 (9-11')	>300	

Well Installation Detail



Elevation (Ft. MSL)

DRILLING CO.:	JFA Geological & Environmental Scientists	BAKER REP.:	Joe Burawa
DRILLER:	Domingo Gonzalez - Rodiguez	BORING NO.:	74SB26 SHEET 1 OF 2

Baker

Michael Baker Jr., Inc.

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB26

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm) ps/bg	Visual Description	Well Installation Detail	Elevation (Ft. MSL)
11		D-3	4.0 100%			>300	*Continue from page 1* Some blue gray clay at 11.0'		
12	12.0								
13		D-4	4.0 100%			100-500	Silty clay, some sand, moderate stiff, damp to moist	Sand 8 to 20'	
14									
15									
16	16.0								
17		A	N/A			N/A		1.5" PVC Screen	
18									
19									
20	20.0								
21							Bottom of Well @ 20'		
22									
23									
24									

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez - Rodiguez BORING NO.: 74SB26 SHEET 2 OF 2

Baker

Michael Baker Jr., Inc.

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT:	Naval Activity Puerto Rico - SWMU 74			
PROJ. NO.:	111626		BORING NO.:	74SB273
COORDINATES:	EAST:	936677.62	NORTH:	803390.71
ELEVATION:	SURFACE:	117.50	TOP OF PVC CASING:	120.31

Rig: Geoprobe 66DT								
	MC Sampler	**Casing**	**Augers**	**Core Barrel**	**Date**	**Progress (Ft.)**	**Weather**	**Depth to Water (Ft.)**
Size (ID)	3"	--	4.25"	--	5/28/2008	0.0 - 20.0	85° Sunny	
Length	4'	--	5'	--				
Type	--	--	HSA	--				
Hammer Wt.	--	--	--	--				
Fall	--	--	--	--				

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

WELL INFORMATION

Type	Diam.	Top Depth (Ft.)	Bottom Depth (Ft.)
Schedule 40 PVC Riser	1.5"	0	10.0
Schedule 40 PVC Screen	1.5"	10.0	20.0

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Well Installation Detail	Elevation (Ft. MSL)
1 2 3 4	4.0	D-1	4.0 100%			<1	Sandy Clay, some gravel, hard, loose dry saprolitic structure greenish brown and white specks Iron staining and dry to moist	Cement Bentonite Grout 1.5" PVC Riser	
5 6 7 8	8.0	D-2	4.0 100%		74SB273-04 (7-9')	<1	At 3.5' to 4.2' more greenish gray color at 4.2' hard	Bentonite 6 to 8'	
9 10		D-3	4.0 100%		74SB273-05 (9-11')	<1	Rocky alternating layers of brown clay, greenish gray, hard, saprolite structure, damp, rock fragments throughout	Sand 8 to 20' 1.5" PVC Screen	

DRILLING CO.:	JFA Geological & Environmental Scientists	BAKER REP.:	Joe Burawa
DRILLER:	Domingo Gonzalez - Rodiguez	BORING NO.: 74SB273	SHEET 1 OF 2

Baker

Michael Baker Jr., Inc.

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB273

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm) ps/bg	Visual Description	Well Installation Detail	Elevation (Ft. MSL)
11		D-3	4.0 100%			<1	*Continue from page 1*		
12	12.0								
13		D-4	N/A			<1	Saprolite, damp to moist, iron staining throughout, rock fragments	Sand 8 to 20'	
14									
15									
16	16.0								
17		D-5	N/A			<1		1.5" PVC Screen	
18									
19									
20	20.0								
21							Bottom of Well at 20'		
22									
23									
24									

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez - Rodiguez BORING NO.: 74SB273 SHEET 2 OF 2

Baker

Michael Baker Jr., Inc.

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT:	Naval Activity Puerto Rico - SWMU 74		
PROJ. NO.:	111626	BORING NO.:	74SB285
COORDINATES:	EAST: 936088.66	NORTH:	804221.65
ELEVATION:	SURFACE: 133.99	TOP OF PVC CASING:	136.64

Rig: Geoprobe 66DT	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	3"	--	4.25"	--	5/27/2008	0.0 - 20.0	85° Sunny	
Length	4'	--	5'	--				
Type	--	--	HSA	--				
Hammer Wt.	--	--	--	--				
Fall	--	--	--	--				

Remarks:

SAMPLE TYPE

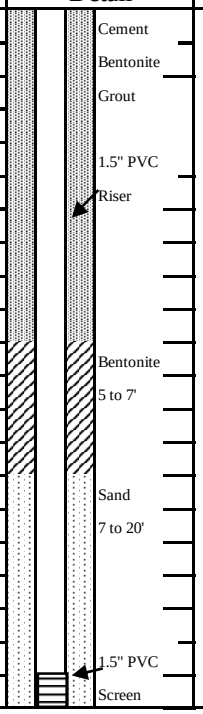
S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

WELL INFORMATION

Type	Diam.	Top Depth (Ft.)	Bottom Depth (Ft.)
Schedule 40 PVC Riser	1.5"	0	10.0
Schedule 40 PVC Screen	1.5"	10.0	20.0

Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description
1	D-1	3.1 78%		74SB285-02 (3-5')	<1	Gravel, fine, trace clay, gray damp
2						Clay, trace silt, dark brown, damp
3						
4 (4.0)						Saprolite, weathered bedrock light brown to tan, damp, soft
5	D-2	3.7 93%			200.0	
6						
7						
8 (8.0)						
9	D-3	4.0 100%		74SB285-05 (7-9')	200.0	softer at 9'
10						

Well Installation Detail



Elevation (Ft. MSL)

DRILLING CO.:	GeoEnviroTech, Inc.	BAKER REP.:	Mark DeJohn
DRILLER:	William Rodriguez	BORING NO.:	74SB285 SHEET 1 OF 2

Baker

Michael Baker Jr., Inc.

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB285

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm) ps/bg	Visual Description	Well Installation Detail	Elevation (Ft. MSL)
11		D-3	4.0 100%			<1	*Continue from page 1* Harder at 11'		
12	12.0								
13		D-4	N/A			<1		1.5" PVC Screen	
14									
15									
16	16.0								
17		D-5	N/A			<1		Sand 7 to 20'	
18									
19									
20	20.0								
21							Bottom of Well at 20'		
22									
23									
24									

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Mark DeJohn

DRILLER: William Rodriguez BORING NO. 74SB285 SHEET 2 OF 2

Baker

Michael Baker Jr., Inc.

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT:	Naval Activity Puerto Rico - SWMU 74		
PROJ. NO.:	111626	BORING NO.:	74SB34
COORDINATES:	EAST: 930669.29	NORTH:	806990.06
ELEVATION:	SURFACE: 126.77	TOP OF PVC CASING:	129.13

Rig: Geoprobe 66DT	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	3"	--	4.25"	--	5/3/2008	0.0 - 12.0	85° Sunny	
Length	4'	--	5'	--				
Type	--	--	HSA	--				
Hammer Wt.	--	--	--	--				
Fall	--	--	--	--				

Remarks:

SAMPLE TYPE

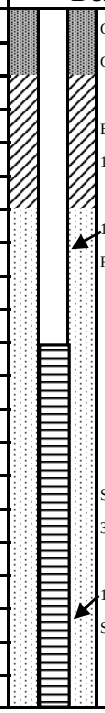
S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

WELL INFORMATION

Type	Diam.	Top Depth (Ft.)	Bottom Depth (Ft.)
Schedule 40 PVC Riser	1.5"	0	5.0
Schedule 40 PVC Screen	1.5"	5.0	15.0

Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description
1	D-1	5.0 100%		74SB34-00 74SB34-00MS 74SB34-00MSD (0-1')	<1	Sandy Loam
2						Clay, light gray, with silt, mottled damp, stiff, low plasticity
3				74SB34-01 (1-3')		
4						
5				74SB34-02 (3-5')		medium stiff, medium plasticity damp to moist, light gray to maroon
6	D-2	5.0 100%			<1	
7						
8						
9						
10						little silt, moist, maroon and little gray, mottled

Well Installation Detail



Elevation (Ft. MSL)

DRILLING CO.:	GeoEnviroTech, Inc.	BAKER REP.:	Robert Roselius
DRILLER:	Abraham Nasser	BORING NO.: 74SB34	SHEET 1 OF 2

Baker

Michael Baker Jr., Inc.

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB34

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
ps/bg = point source/background

Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm) ps/bg	Visual Description	Well Installation Detail	Elevation (Ft. MSL)
11						*Continue from page 1*		
12	D-3	3.0 100%		N/A	<1		Sand 3 to 15.5'	
13	13.0							
14	A	N/A		N/A			1.5" PVC Screen	
15	15.5							
16						Bottom of Well @ 15.5'		
17								
18								
19								
20								
21								
22								
23								
24								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Robert Roselius

DRILLER: Abraham Nasser BORING NO. 74SB34 SHEET 2 OF 2

Baker

Michael Baker Jr., Inc.

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT:	Naval Activity Puerto Rico - SWMU 74		
PROJ. NO.:	111626	BORING NO.:	74SB57
COORDINATES:	EAST: 932795.00	NORTH:	806955.00
ELEVATION:	SURFACE: 112.69	TOP OF PVC CASING:	115.33

Rig:	Geoprobe 66DT							
	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	3"	--	4.25"	--	5/4/2008	0.0 - 11.0	85° Sunny	
Length	4'	--	5'	--				
Type	--	--	HSA	--				
Hammer Wt.	--	--	--	--				
Fall	--	--	--	--				

Remarks:

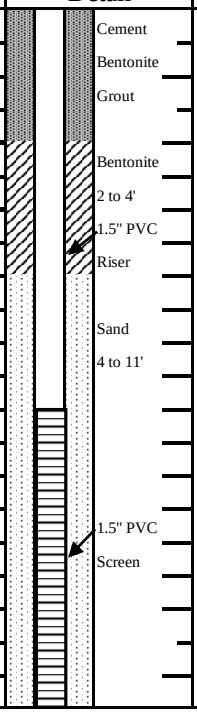
SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

WELL INFORMATION

Type	Diam.	Top Depth (Ft.)	Bottom Depth (Ft.)
Schedule 40 PVC Riser	1.5"	0	6.0
Schedule 40 PVC Screen	1.5"	6.0	11.0

Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1, 2, 3, 4 (4.0)	D-1	4.0 100%			<1	Clayey Silt, medium brown some gravel; Silty Clay, brownish red, medium stiff, medium plasticity; soft, more plastic	
5, 6, 7, 8 (8.0)	D-2	4.0 100%		74SB57-03 (5-7'); 74SB57-04 (7-9')	<1	At 4.0 to 4.5' also softer; 8.0 to 9.0' soft zone	
9, 10	D-3	4.0 100%			<1	Some density, little plastic	



DRILLING CO.:	GeoEnviroTech, Inc.	BAKER REP.:	Robert Roselius
DRILLER:	Abraham Nasser	BORING NO.:	74SB57 SHEET 1 OF 2

Baker

Michael Baker Jr., Inc.

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB57

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm) ps/bg	Visual Description	Well Installation Detail	Elevation (Ft. MSL)
11		D-3	4.0				*Continue from page 1*		
			100%			<1	Bottom of well @ 11.0'		
12	12.0								
13									
14									
15									
16									
17									
18									
19									
20									
21									
22									
23									
24									

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Robert Roselius

DRILLER: Abraham Nasser BORING NO. 74SB57 SHEET 2 OF 2

Baker

Michael Baker Jr., Inc.

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT:	Naval Activity Puerto Rico - SWMU 74		
PROJ. NO.:	111626	BORING NO.:	74SB74
COORDINATES:	EAST: 933946.18	NORTH:	805713.62
ELEVATION:	SURFACE: 111.11	TOP OF PVC CASING:	113.89

Rig: Geoprobe 66DT	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	3"	--	4.25"	--	5/28/2008	0.0 - 20.0	85° Sunny	
Length	4'	--	5'	--				
Type	--	--	HSA	--				
Hammer Wt.	--	--	--	--				
Fall	--	--	--	--				

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

WELL INFORMATION

Type	Diam.	Top Depth (Ft.)	Bottom Depth (Ft.)
Schedule 40 PVC Riser	1.5"	0	14.0
Schedule 40 PVC Screen	1.5"	14.0	24.0

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Well Installation Detail	Elevation (Ft. MSL)
1 2 3 4	4.0	D-1	4.0 100%			<1	Sandy Clay Silt, trace small gravel, dry, well sorted, light to medium brown Grades little clay, dense, stiff, dry friable	Cement Bentonite Grout	
5 6 7 8	8.0	D-2	3.0 75%		74SB74-03 (5-7') 74SB74-04 (7-9')	<1	Grades trace small pea sized gravel stiff, dry, friable, dense	1.5" PVC Riser	
9 10		D-3	2.0 50%			<1	Very hard, silt	Bentonite	

DRILLING CO.:	JFA Geological & Environmental Scientists	BAKER REP.:	Joe Burawa
DRILLER:	Domingo Gonzalez - Rodiguez	BORING NO.: 74SB74	SHEET 1 OF 2

Baker

Michael Baker Jr., Inc.

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB74

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm) ps/bg	Visual Description	Well Installation Detail	Elevation (Ft. MSL)
11		D-3	2.0 50%			<1	*Continue from page 1*	1.5" PVC Riser	
12	12.0								
13		D-4	N/A			<1	Sandy Clay, medium to light brown, pebbles throughout, light gray precipitate, moderate hard		
14									
15								Sand 12 to 24'	
16	16.0								
17		D-5	N/A			<1	visibly moist to wet from 16.0 to 17.0' and 20. to 21.5'	1.5" PVC Screen	
18									
19									
20	20.0								
21		D-6	N/A			<1			
22									
23									
24	24.0								
25							Bottom of Well at 24'		
26									

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez - Rodiguez BORING NO.: 74SB74 SHEET 2 OF 2

Baker

Michael Baker Jr., Inc.

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT:	Naval Activity Puerto Rico - SWMU 74		
PROJ. NO.:	111626	BORING NO.:	74SB84
COORDINATES:	EAST: 934910.54	NORTH:	805325.28
ELEVATION:	SURFACE: 108.29	TOP OF PVC CASING:	111.49

Rig: Geoprobe 66DT								
	MC Sampler	**Casing**	**Augers**	**Core Barrel**	**Date**	**Progress (Ft.)**	**Weather**	**Depth to Water (Ft.)**
Size (ID)	3"	--	4.25"	--	5/14/2008	0.0 - 20.0	85° Sunny	
Length	4'	--	5'	--				
Type	--	--	HSA	--				
Hammer Wt.	--	--	--	--				
Fall	--	--	--	--				

Remarks:

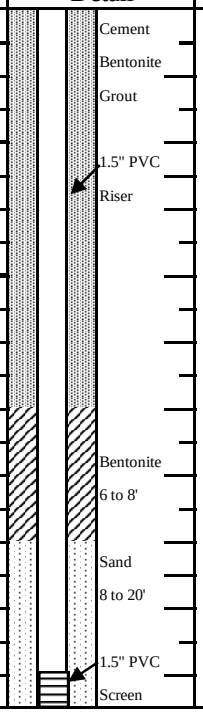
SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

WELL INFORMATION

Type	Diam.	Top Depth (Ft.)	Bottom Depth (Ft.)
Schedule 40 PVC Riser	1.5"	0	10.0
Schedule 40 PVC Screen	1.5"	10.0	20.0

Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Well Installation Detail	Elevation (Ft. MSL)
1, 2, 3, 4 (4.0)	D-1	2.2 55%			<1	Sandy loam and gravel; Sand, brown, medium grained, loose, dry	Cement Bentonite Grout; 1.5" PVC Riser	
5, 6, 7, 8 (8.0)	D-2	2.8 70%		74SB84-03 (5-7')	15to30	Silty Clay, greenish black, very soft, moist, some sand	Bentonite 6 to 8'; Sand 8 to 20'	
9, 10	D-3	4.0 100%			<1		1.5" PVC Screen	



DRILLING CO.:	JFA Geological & Environmental Scientists	BAKER REP.:	Joe Burawa
DRILLER:	Domingo Gonzalez - Rodiguez	BORING NO.:	74SB84 SHEET 1 OF 2

Baker

Michael Baker Jr., Inc.

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB84

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm) ps/bg	Visual Description	Well Installation Detail	Elevation (Ft. MSL)
11		D-3	4.0 100%			<1	*Continue from page 1*		
12	12.0								
13		D-4	3.0 75%			<1		Sand 8 to 20'	
14									
15									
16	16.0						Clay, with some silt very soft, sticky, moist	1.5" PVC Screen	
17		D-5	3.4 85%			<1			
18									
19									
20	20.0								
21							Bottom of Well @ 20'		
22									
23									
24									

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez - Rodiguez BORING NO.: 74SB84 SHEET 2 OF 2

Baker

Michael Baker Jr., Inc.

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT:	Naval Activity Puerto Rico - SWMU 74		
PROJ. NO.:	111626	BORING NO.:	74VP1Ab/9
COORDINATES:	EAST: 935196.05	NORTH:	806138.41
ELEVATION:	SURFACE: 117.03	TOP OF PVC CASING:	119.32

Rig: Geoprobe 66DT

	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	3"	--	4.25"	--	5/13/2008	0.0 - 22.0	85° Sunny	
Length	4'	--	5'	--				
Type	--	--	HSA	--				
Hammer Wt.	--	--	--	--				
Fall	--	--	--	--				

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

WELL INFORMATION

Type	Diam.	Top Depth (Ft.)	Bottom Depth (Ft.)
Schedule 40 PVC Riser	1.5"	0	7.0
Schedule 40 PVC Screen	1.5"	7.0	22.0

Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Well Installation Detail	Elevation (Ft. MSL)
1, 2, 3, 4 (4.0)	D-1	3.1 78%		NO SAMPLES	<1	Sand, fine grained some silt & clay, brown; Sand, little silt, dry, white/tan, light brown	Cement; Bentonite; Grout; 1.5" PVC Riser	
5, 6, 7, 8 (8.0)	D-2	3.7 93%		COLLECTED	<1	Clayey Silt, trace fine sand, slightly moist, brown	Bentonite 1 to 10'	
9, 10	D-3	4.0 100%			<1	becomes green/white at 9'	Sand 10 to 22'	

DRILLING CO.:	GeoEnviroTech, Inc.	BAKER REP.:	Ed Kleinkauf
DRILLER:	Abraham Nunez	BORING NO.: 74VP1Ab/9	SHEET 1 OF 2

Baker

Michael Baker Jr., Inc.

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74VP1Ab/9

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm) ps/bg	Visual Description	Well Installation Detail	Elevation (Ft. MSL)
11		D-3	4.0 100%			<1	*Continue from page 1*		
12	12.0						becomes very hard at 12'	1.5" PVC Screen	
13		D-4				3.4			
14						4.0		Sand 10 to 22'	
15						<1			
16	16.0								
17		D-5				2.4			
18						58.0			
19						185.0 1733.0 234.0			
20	20.0					1.4			
21		D-6				<1			
22							Silty Clay, brown , hard		
23							Bottom of Well at 22'		
24									

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Ed Kleinkauf

DRILLER: Abraham Nunez BORING NO.: 74VP1Ab/9 SHEET 2 OF 2

Baker

Michael Baker Jr., Inc.

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT:	Naval Activity Puerto Rico - SWMU 74		
PROJ. NO.:	111626	BORING NO.:	74VP1Ba/9
COORDINATES:	EAST: 935077.91	NORTH:	806095.08
ELEVATION:	SURFACE: 116.42	TOP OF PVC CASING	119.37

Rig:	Geoprobe 66DT				Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
	MC Sampler	Casing	Augers	Core Barrel				
Size (ID)	3"	--	4.25"	--	5/13/2008	0.0 - 22.0	85° Sunny	
Length	4'	--	5'	--				
Type	--	--	HSA	--				
Hammer Wt.	--	--	--	--				
Fall	--	--	--	--				

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

WELL INFORMATION

Type	Diam.	Top Depth (Ft.)	Bottom Depth (Ft.)
Schedule 40 PVC Riser	1.5"	0	12.0
Schedule 40 PVC Screen	1.5"	12.0	22.0

Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Well Installation Detail	Elevation (Ft. MSL)
1, 2, 3, 4 (4.0)	D-1	4.0 100%			<1	Sandy Loam, brown Sand, fine grained, some silt, white/light brown	Cement Bentonite Grout 1.5" PVC Riser	
5, 6, 7, 8 (8.0)	D-2	4.0 100%			<1	Clayey Silt, trace of fine sand slightly moist, brown		
9, 10	D-3	4.0 100%		74GWVP1Ba/9-05 74GWVP1Ba/9-05D (9-11)	<1	becomes green/white	Bentonite 8 to 10' Sand 10 to 22'	

DRILLING CO.:	JFA Geological & Environmental Scientists	BAKER REP.:	Joe Burawa
DRILLER:	Domingo Gonzalez - Rodiguez	BORING NO.:	74VP1Ba/9 SHEET 1 OF 2

Baker

Michael Baker Jr., Inc.

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74VP1Ba/9

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm) ps/bg	Visual Description	Well Installation Detail	Elevation (Ft. MSL)
11		D-3	4.0 100%			<1	*Continue from page 1*		
12	12.0								
13		D-4	4.0 100%			3.4		1.5" PVC Screen	
14						4.0			
15						<1		Sand 10 to 22'	
16	16.0								
17		D-5	4.0 100%		74GWVP1Ba/9-09 (17-19)	2.4	very hard		
18						<1			
19						185.0 ~1733			
20	20.0					234.0 1.4	very hard		
21		D-6	N/A						
22	22.0						Silty Clay, hard, brown		
23							Bottom of Well at 22'		
24									

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Birawa

DRILLER: Domingo Gonzalez - Rodiguez BORING NO.: 74VP1Ba/9 SHEET 2 OF 2

Baker

Michael Baker Jr., Inc.

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT:	Naval Activity Puerto Rico - SWMU 74		
PROJ. NO.:	111626	BORING NO.:	74VP1Bb/9
COORDINATES:	EAST: 935060.06	NORTH:	806107.46
ELEVATION:	SURFACE: 115.77	TOP OF PVC CASING:	118.57

Rig: Geoprobe 66DT	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	3"	--	4.25"	--	5/28/2008	0.0 - 20.0	85° Sunny	
Length	4'	--	5'	--				
Type	--	--	HSA	--				
Hammer Wt.	--	--	--	--				
Fall	--	--	--	--				

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

WELL INFORMATION

Type	Diam.	Top Depth (Ft.)	Bottom Depth (Ft.)
Schedule 40 PVC Riser	1.5"	0	14.0
Schedule 40 PVC Screen	1.5"	14.0	24.0

Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Well Installation Detail	Elevation (Ft. MSL)
1, 2, 3, 4 (4.0)	D-1	3.5 88%			<1	Silt Loam, dark brown; Sandy Clay, brown, pebbles, damp to dry; Silty Clay, dark brown, dry moderate hard; Clayey Sand, light brown, moderate soft, dry to damp	Cement; Bentonite; Grout; 1.5" PVC Riser	
5, 6, 7, 8 (8.0)	D-2	4.0 100%			<1			
9, 10	D-3	4.0 100%			60.0	Sandy Clay, greenish gray moderately hard, some silt, damp		

DRILLING CO.:	JFA Geological & Environmental Scientists	BAKER REP.:	Joe Burawa
DRILLER:	Domingo Gonzalez - Rodiguez	BORING NO.:	74VP1Bb/9

Baker

Michael Baker Jr., Inc.

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74VP1Bb/9

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm) ps/bg	Visual Description	Well Installation Detail	Elevation (Ft. MSL)
11		D-3	4.0 100%			20.0	*Continue from page 1*	Bentonite 10 to 12'	
12	12.0								
13		D-4	4.0 100%			>200	Silty Clay, brown, stiff, damp to moist	Sand 12 to 24'	
14									
15								1.5" PVC Screen	
16	16.0								
17		D-5	4.0 100%			>300	Silty Clay, brown to greenish gray, moist soft, hydrocarbon odor		
18									
19									
20	20.0								
21		D-6	4.0 100%			>300	Sandy Clay, very soft to soft, moist to wet, swelling clay		
22									
23									
24	24.0								
25							Bottom of Well at 24'		

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez - Rodiguez BORING NO.: 74VP1Bb/9 SHEET 2 OF 2

Baker

Michael Baker Jr., Inc.

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT:	Naval Activity Puerto Rico - SWMU 74		
PROJ. NO.:	111626	BORING NO.:	74VP1Ca/9
COORDINATES:	EAST: 935276.7	NORTH:	806137.2
ELEVATION:	SURFACE: 114.75	TOP OF PVC CASING:	117.34

Rig: Geoprobe 66DT	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	3"	--	4.25"	--	5/6/2008	0.0 - 24.0	85° Sunny	
Length	4'	--	5'	--				
Type	--	--	HSA	--				
Hammer Wt.	--	--	--	--				
Fall	--	--	--	--				

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

WELL INFORMATION

Type	Diam.	Top Depth (Ft.)	Bottom Depth (Ft.)
Schedule 40 PVC Riser	1.5"	0	12.0
Schedule 40 PVC Screen	1.5"	12.0	22.0

Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Well Installation Detail	Elevation (Ft. MSL)
1						Sand, brown, silt, fine sand, clay	Cement	
							Bentonite	
							Grout	
2						SILT, fine sand, little clay, tan and brown, dry to damp		
		D-1	N/A		<1		1.5" PVC	
3							Riser	
4							Bentonite	
							3 to 5'	
5	5.0							
							Sand	
6						SILT, fine sand, little clay, tan and brown, dry to damp, fill, light gray	5 to 12'	
7								
		D-2	N/A		<1	SILT, fine sand, dark gray and olive	1.5" PVC	
8							Screen	
9						Maroon CLAY, white beach sand		
10	10.0					FILL, dry to damp		

DRILLING CO.:	GeoEnviroTech, Inc.	BAKER REP.:	Robert Roselius
DRILLER:	Abraham Nasser	BORING NO.:	74VP1Ca/9

SHEET 1 OF 2

Baker

Michael Baker Jr., Inc.

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74VP1Ca/9

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm) ps/bg	Visual Description	Well Installation Detail	Elevation (Ft. MSL)
11							*Continue from page 1*		
							FILL, maroon clay, olive silts and sand, slight odor		
12		D-3	5.0 100%			30 to 800		1.5" PVC Screen	
13									
14								Sand 5 to 12'	
15	15								
16							FILL, maroon clay, olive silts and sand, slight odor		
17		D-4	4.0 100%			90 to 900			
18									
19	19.0								
20						50+	FILL, maroon clay, olive silts and sand, slight odor, saturated		
21		D-5	5.0 100%						
22						<1	NATIVE, SILT and CLAY, yellow and orange/tan, mottled		
23							Bottom of Well at 22'		
24	24.0								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Robert Roselius

DRILLER: Abraham Nasser BORING NO.: 74VP1Ca/9 SHEET 2 OF 2

Baker

Michael Baker Jr., Inc.

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT:	Naval Activity Puerto Rico - SWMU 74		
PROJ. NO.:	111626	BORING NO.:	74VP1Cb/9
COORDINATES:	EAST: 935255.2	NORTH:	806149.9
ELEVATION:	SURFACE: 116.30	TOP OF PVC CASING:	118.79

Rig:	Geoprobe 66DT				Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
	MC Sampler	Casing	Augers	Core Barrel				
Size (ID)	3"	--	4.25"	--	5/7/2008	0.0 - 22.0	85° Sunny	
Length	4'	--	5'	--				
Type	--	--	HSA	--				
Hammer Wt.	--	--	--	--				
Fall	--	--	--	--				

Remarks: PID Malfunction, petro odor throughout last 10 feet

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

WELL INFORMATION

Type	Diam.	Top Depth (Ft.)	Bottom Depth (Ft.)
Schedule 40 PVC Riser	1.5"	0	12.0
Schedule 40 PVC Screen	1.5"	12.0	22.0

Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Well Installation Detail	Elevation (Ft. MSL)
1						Sandy Clay, dark brown	Bentonite 0 to 10'	
2	D-1	4.2 84%			<1	Clay (Fill), yellow and tan, some medium sand, dry to damp		
3				74GWVP1Cb/9-02 (3-5')				
4							1.5" PVC Riser	
5								
6								
7	D-2	5.0 100%		74GWVP1Cb/9-04 (7-9')	<1			
8								
9								
10						Sand, greenish gray, some small white shells, damp		

DRILLING CO.:	GeoEnviroTech, Inc.	BAKER REP.	Robert Roselius
DRILLER:	Abraham Nasser	BORING NO. 74VP1Cb/9	SHEET 1 OF 2

Baker

Michael Baker Jr., Inc.

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74VP1Cb/9

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
ps/bg = point source/background

Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm) ps/bg	Visual Description	Well Installation Detail	Elevation (Ft. MSL)
11						*Continue from page 1*		
12						Gravel, light gray to white fine grained		
13	D-3	3.4 68%			<1		1.5" PVC Screen	
14						Clay and Silt, olive gray mottled	Sand 10 to 22'	
15								
16						becomes wet at 15'		
17								
18	D-4	5.0 100%			<1			
19						petroleum odor noted		
20								
21	A	N/A			<1			
22								
23						Bottom of Well at 22'		
24								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Robert Roselius

DRILLER: Abraham Nasser BORING NO.: 74VP1Cb/9 SHEET 2 OF 2

Baker

Michael Baker Jr., Inc.

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT:	Naval Activity Puerto Rico - SWMU 74		
PROJ. NO.:	111626	BORING NO.:	74VP2a/9
COORDINATES: EAST:	935874.3757	NORTH:	806831.834
ELEVATION: SURFACE:	119.62	TOP OF PVC CASING:	

Rig: Geoprobe 66DT	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	3"	--	4.25"	--	5/14/2008	0.0 - 24.0	85° Sunny	
Length	4'	--	5"	--				
Type	--	--	HSA	--				
Hammer Wt.	--	--	--	--				
Fall	--	--	--	--				

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

WELL INFORMATION

Type	Diam.	Top Depth (Ft.)	Bottom Depth (Ft.)
Schedule 40 PVC Riser	1.5"	0	12.0
Schedule 40 PVC Screen	1.5"	12.0	22.0

Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Well Installation Detail	Elevation (Ft. MSL)
1, 2, 3, 4 (4.0)	D-1	N/A			<1	Silty Clay (Fill), trace fine sand, visible moisture, brown	Cement Bentonite Grout; 1.5" PVC Riser	
5, 6, 7, 8 (8.0)	D-2	N/A			<1	Sand, light brown/tan, fine grained some silty clay; dry Silt, light brown/tan, trace fine sand, dry to visible moist		
9, 10	D-3	N/A			<1		Bentonite 8 to 10'	

DRILLING CO.:	GeoEnviroTech, Inc.	BAKER REP.:	Ed Kleinkauf
DRILLER:	Abraham Nunez	BORING NO.:	74VP2a/9 SHEET 1 OF 2

Baker

Michael Baker Jr., Inc.

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74VP2a/9

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm) ps/bg	Visual Description	Well Installation Detail	Elevation (Ft. MSL)
11		D-3	N/A			<1	*Continue from page 1*		
12	12.0						Silty clay, trace fine sand green/white, saprolitic structure		
13		D-4	N/A			1.6		1.5" PVC Screen	
14						806.0		Sand 10 to 22'	
15					74GWVP2a/9-08 (15-17')	917.0			
						496.0			
16	16.0					~1185			
17		D-5	N/A			~2246			
						~2375			
						~1139			
18						271.0			
						517.0			
19						716.0			
					74GWVP2a/9-10 (19-21')	13.3			
20	20.0					30.9			
21		D-6	N/A			17.3			
						45.2			
						48.6			
22	22.0					13.0			
23							Bottom of Well at 22'		
24	24.0								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Ed Kleinkauf

DRILLER: Abraham Nunez BORING NO.: 74VP2a/9 SHEET 2 OF 2

Baker

Michael Baker Jr., Inc.

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT:	Naval Activity Puerto Rico - SWMU 74		
PROJ. NO.:	111626	BORING NO.:	74VP2b/9
COORDINATES: EAST:	935854.9962	NORTH:	806837.5166
ELEVATION: SURFACE:	119.70	TOP OF PVC CASING:	

Rig:	Geoprobe 66DT				Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
	MC Sampler	Casing	Augers	Core Barrel				
Size (ID)	3"	--	4.25"	--	5/14/2008	0.0 - 22.0	85° Sunny	
Length	4'	--	5'	--				
Type	--	--	HSA	--				
Hammer Wt.	--	--	--	--				
Fall	--	--	--	--				

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

WELL INFORMATION

Type	Diam.	Top Depth (Ft.)	Bottom Depth (Ft.)
Schedule 40 PVC Riser	1.5"	0	12.0
Schedule 40 PVC Screen	1.5"	12.0	22.0

Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Well Installation Detail	Elevation (Ft. MSL)
1, 2, 3, 4 (4.0)	D-1	N/A		NO SAMPLE	<1	Silty Clay, dark brown, trace fine sand, (Fill)	Cement Bentonite Grout; 1.5" PVC Riser	
5, 6, 7, 8 (8.0)	D-2	N/A		ESCOLLE	<1	Clayey Silt, trace fine sand trace fine gravel, rock fragments gray/light green		
9, 10	D-3	N/A		CTED	<1		Bentonite 8 to 10'	

DRILLING CO.:	GeoEnviroTech, Inc.	BAKER REP.:	Ed Kleinkauf
DRILLER:	Abraham Nunez	BORING NO.:	74VP2b/9 SHEET 1 OF 2

Baker

Michael Baker Jr., Inc.

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74VP2b/9

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
ps/bg = point source/background

Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm) ps/bg	Visual Description	Well Installation Detail	Elevation (Ft. MSL)
11					72.6	*Continue from page 1*		
	D-3	N/A			22.4	Silty Clay, trace fine		
12	12.0					sand, green, slight odor		
13							1.5" PVC Screen	
					<1			
14	D-4	N/A						
15						becomes light green/brown	Sand	
					6.3	white	10 to 22'	
16	16.0							
17					8.8			
18	D-5	N/A			155.0			
					49.0			
19								
					<1	becomes moist		
20	20.0							
21	D-6	N/A			<1			
22	22.0							
23						Bottom of Well at 22'		
24								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Ed Kleinkauf

DRILLER: Abraham Nunez BORING NO.: 74VP2b/9 SHEET 2 OF 2

Baker

Michael Baker Jr., Inc.

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT:	Naval Activity Puerto Rico - SWMU 74		
PROJ. NO.:	111626	BORING NO.:	74VP05a
COORDINATES: EAST:	937104.9	NORTH:	804638.3
ELEVATION: SURFACE:	124.35	TOP OF PVC CASING:	126.84

Rig: Geoprobe 66DT	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	3"	--	4.25"	--	5/16/2008	0.0 - 23.0	85° Sunny	
Length	4'	--	5'	--				
Type	--	--	HSA	--				
Hammer Wt.	--	--	--	--				
Fall	--	--	--	--				

Remarks:

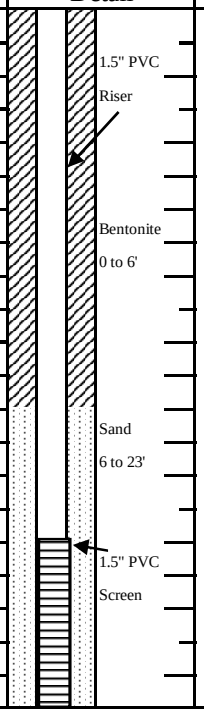
SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

WELL INFORMATION

Type	Diam.	Top Depth (Ft.)	Bottom Depth (Ft.)
Schedule 40 PVC Riser	1.5"	0	8.0
Schedule 40 PVC Screen	1.5"	8.0	23.0

Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Well Installation Detail	Elevation (Ft. MSL)
1, 2, 3, 4 (4.0)	D-1	4.0 100%			<1	Silty Clay (Fill), trace fine sand brown; Sand, fine grained, some silty clay dry, brown/medium brown		
5, 6, 7, 8 (8.0)	D-2	4.0 100%		74GWVP05a-04 (7-9')	<1	Silty Clay, brown, dry		
9, 10	D-3	4.0 100%			<1	trace fine sand, slightly moist, tan/light brown/yellowish brown		



DRILLING CO.:	GeoEnviroTech, Inc.	BAKER REP.:	Ed Kleinkauf
DRILLER:	Abraham Nunez	BORING NO.:	74VP05a SHEET 1 OF 2

Baker

Michael Baker Jr., Inc.

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74VP05a

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm) ps/bg	Visual Description	Well Installation Detail	Elevation (Ft. MSL)
11		D-3				<1	*Continue from page 1*		
12	12.0								
13		D-4				<1		Sand 6 to 23'	
14									
15									
16	16.0								
17		D-5			74GWVP05a-09 (17-19')	<1		1.5" PVC Screen	
18									
19									
20	20.0								
21		D-6				<1			
22									
23	23.0								
24							Bottom of Well at 23'		

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Ed Kleinkauf

DRILLER: Abraham Nunez BORING NO.: 74VP05a SHEET 2 OF 2

Baker

Michael Baker Jr., Inc.

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT:	Naval Activity Puerto Rico - SWMU 74		
PROJ. NO.:	111626	BORING NO.:	74VP05b
COORDINATES: EAST:	937093.3	NORTH:	804655.1
ELEVATION: SURFACE:	123.92	TOP OF PVC CASING:	126.51

Rig: Geoprobe 66DT	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	3"	--	4.25"	--	5/16/2008	0.0 - 20.0	85° Sunny	
Length	4'	--	5'	--				
Type	--	--	HSA	--				
Hammer Wt.	--	--	--	--				
Fall	--	--	--	--				

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

WELL INFORMATION

Type	Diam.	Top Depth (Ft.)	Bottom Depth (Ft.)
Schedule 40 PVC Riser	1.5"	0	10.0
Schedule 40 PVC Screen	1.5"	10.0	20.0

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Well Installation Detail	Elevation (Ft. MSL)
1					NO		Silty Clay (Fill), trace fine sand trace fine rock fragments,brown	Concrete	
2		D-1			SAMPL	<1		Bentonite Grout	
3								1.5" PVC Riser	
4	4.0								
5		D-2			ES				
6					COLLE	<1			
7							becomes dark brown	Bentonite 6 to 8'	
8	8.0								
9		D-3			CTED	<1	becomes brown/yellowish brown	Sand 8 to 20'	
10								1.5" PVC Screen	

DRILLING CO.:	GeoEnviroTech, Inc.	BAKER REP.:	Ed Kleinkauf
DRILLER:	Abraham Nunez	BORING NO.: 74VP05b	SHEET 1 OF 2

Baker

Michael Baker Jr., Inc.

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74VP05b

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm) ps/bg	Visual Description	Well Installation Detail	Elevation (Ft. MSL)
11		D-3				<1	*Continue from page 1*		
12	12.0								
13		D-4				<1		Sand 8 to 20'	
14									
15									
16	16.0								
17		D-5				<1	becomes brown	1.5" PVC Screen	
18							becomes brown/yellowish brown		
19									
20	20.0								
21							Bottom of Well at 20'		
22									
23									
24									

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Ed Kleinkauf

DRILLER: Abraham Nunez BORING NO.: 74VP05b SHEET 2 OF 2

Baker

Michael Baker Jr., Inc.

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT:	Naval Activity Puerto Rico - SWMU 74		
PROJ. NO.:	111626	BORING NO.:	74VP6Aa
COORDINATES: EAST:	938049.2	NORTH:	804219.2
ELEVATION: SURFACE:	124.21	TOP OF PVC CASING	127.81

Rig: Geoprobe 66DT	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	3"	--	4.25"	--	5/17/2008	0.0 - 22.0	85° Sunny	
Length	4'	--	5'	--				
Type	--	--	HSA	--				
Hammer Wt.	--	--	--	--				
Fall	--	--	--	--				

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

WELL INFORMATION

Type	Diam.	Top Depth (Ft.)	Bottom Depth (Ft.)
Schedule 40 PVC Riser	1.5"	0	12.0
Schedule 40 PVC Screen	1.5"	12.0	22.0

Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Well Installation Detail	Elevation (Ft. MSL)
1, 2, 3, 4 (4.0)	D-1				<1	Silty Clay (Fill), trace fine sand, rock fragments, dry, brown	Cement Bentonite Grout; 1.5" PVC Riser	
5, 6, 7, 8 (8.0)	D-2			74GWVP6Aa-04 (7-9')	<1	light brown/tan		
9, 10	D-3				<1		Sand 10 to 22'	

DRILLING CO.:	GeoEnviroTech, Inc.	BAKER REP.:	Ed Kleinkauf
DRILLER:	Abraham Nunez	BORING NO.: 74VP6Aa	SHEET 1 OF 2

Baker

Michael Baker Jr., Inc.

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74VP6Aa

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
ps/bg = point source/background

Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm) ps/bg	Visual Description	Well Installation Detail	Elevation (Ft. MSL)
11 – 12 (12.0)	D-3				<1	*Continue from page 1*		
13 – 16 (16.0)	D-4			74GWVP6Aa-07 (13-15')	<1		1.5" PVC Screen; Sand 10 to 22'	
17 – 20 (20.0)	D-5				<1	SOFTER from 16.0 to 19.0'		
21 – 22 (22.0)	A	N/A				Clayey Silt, trace rock fragments, brown		
23 – 24						Bottom of Well at 22'		

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Ed Kleinkauf

DRILLER: Abraham Nunez BORING NO.: 74VP6Aa SHEET 2 OF 2

Baker

Michael Baker Jr., Inc.

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT:	Naval Activity Puerto Rico - SWMU 74		
PROJ. NO.:	111626	BORING NO.:	74VP6Ab
COORDINATES: EAST:	938092.6	NORTH:	804252.3
ELEVATION: SURFACE:	122.61	TOP OF PVC CASING:	125.26

Rig: Geoprobe 66DT

	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	3"	--	4.25"	--	5/19/2008	0.0 - 16.5	85° Sunny	
Length	4'	--	5'	--				
Type	--	--	HSA	--				
Hammer Wt.	--	--	--	--				
Fall	--	--	--	--				

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

WELL INFORMATION

Type	Diam.	Top Depth (Ft.)	Bottom Depth (Ft.)
Schedule 40 PVC Riser	1.5"	0	6.5
Schedule 40 PVC Screen	1.5"	6.5	16.5

Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Well Installation Detail	Elevation (Ft. MSL)
1				N	1.3	Silty Clay, brown/medium brown	Cement Grout	
				O	0.4			
					14.2		1.5" PVC Riser	
2		D-1	N/A	S	27.7	Clayey Silt, reddish brown, some silt, dry		
				A	8.2			
3				M	8.5		Bentonite 2.5 to 4.5'	
				P	6.4			
4	4.0			L	1.8			
				E	1.3			
5				S	1.9		Sand 4.5 to 16.5'	
					4.7			
6		D-2	N/A	C	3.4			
				O				
7				L			1.5" PVC Screen	
				L	<1			
8	8.0			E		quartz fragments at 8.0'		
				C				
9				T				
		D-3	N/A	E	<1			
10				D				

DRILLING CO.:	GeoEnviroTech, Inc.	BAKER REP.:	Ed Kleinkauf
DRILLER:	Abraham Nunez	BORING NO.: 74VP6Ab	SHEET 1 OF 2

Baker

Michael Baker Jr., Inc.

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74VP6Ab

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm) ps/bg	Visual Description	Well Installation Detail	Elevation (Ft. MSL)
11		D-3	N/A			<1	*Continue from page 1* Brown/reddish brown/red		
12	12.0								
13		D-4	N/A			<1	brown/yellowish brown/tan rock fragments, moist	Sand 4.5 to 16.5'	
14									
15									
							Sand, rock fragments, moist		
16	16.0						Silty Clay, green/white trace		
	16.5	A	NA			<1	fine sand, hard, moist		
17							Bottom of Well at 16.5'		
18									
19									
20									
21									
22									
23									
24									

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Ed Kleinkauf

DRILLER: Abraham Nunez BORING NO.: 74VP6Ab SHEET 2 OF 2

Baker

Michael Baker Jr., Inc.

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT:	Naval Activity Puerto Rico - SWMU 74		
PROJ. NO.:	111626	BORING NO.:	74VP6Ba
COORDINATES: EAST:	938922.0	NORTH:	804368.9
ELEVATION: SURFACE:	113.53	TOP OF PVC CASING:	115.94

Rig: Geoprobe 66DT	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	3"	--	4.25"	--	5/17/2008	0.0 - 15.0	85° Sunny	
Length	4'	--	5'	--				
Type	--	--	HSA	--				
Hammer Wt.	--	--	--	--				
Fall	--	--	--	--				

Remarks:

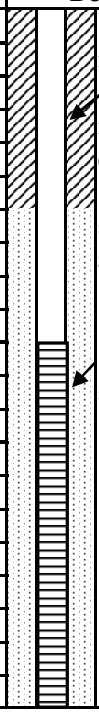
SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

WELL INFORMATION

Type	Diam.	Top Depth (Ft.)	Bottom Depth (Ft.)
Schedule 40 PVC Riser	1.5"	0	5.0
Schedule 40 PVC Screen	1.5"	5.0	15.0

Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Well Installation Detail	Elevation (Ft. MSL)
1, 2, 3, 4 (4.0)	D-1	N/A			<1	Sandy Clay, dark brown; Sand, brown/light brown/tan little clayey silt, fine grained, dry	1.5" PVC Riser; Bentonite 0 to 3'; Sand 3 to 15'	
5, 6, 7, 8 (8.0)	D-2	N/A		74GWVP6Ba-03 (5-7'); 74GWVP6Ba-04 (7-9')	<1	Silty Clay, brown; Clayey Silt, brown/tan/light trace fine sand, clayier zone at 9.0'	1.5" PVC Screen	
9, 10	D-3	N/A			<1	Wet at 9.0'		



DRILLING CO.:	GeoEnviroTech, Inc.	BAKER REP.:	Ed Kleinkauf
DRILLER:	Abraham Nunez	BORING NO.: 74VP6Ba	SHEET 1 OF 2

Baker

Michael Baker Jr., Inc.

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74VP6Ba

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm) ps/bg	Visual Description	Well Installation Detail	Elevation (Ft. MSL)
11		D-3	N/A			<1	*Continue from page 1*		
12	12.0								
13		A	N/A			<1		Sand 3 to 15'	
14									
15	15.0								
16							Bottom of Well at 15'		
17									
18									
19									
20									
21									
22									
23									
24									

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Ed Kleinkauf

DRILLER: Abraham Nunez BORING NO.: 74VP6Ba SHEET 2 OF 2

Baker

Michael Baker Jr., Inc.

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT:	Naval Activity Puerto Rico - SWMU 74		
PROJ. NO.:	111626	BORING NO.:	74VP6Ca
COORDINATES: EAST:	939451.0	NORTH:	804630.1
ELEVATION: SURFACE:	119.35	TOP OF PVC CASING:	121.98

Rig: Geoprobe 66DT	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	3"	--	4.25"	--	5/17/2008	0.0 - 20.0	85° Sunny	
Length	4'	--	5'	--				
Type	--	--	HSA	--				
Hammer Wt.	--	--	--	--				
Fall	--	--	--	--				

Remarks:

SAMPLE TYPE

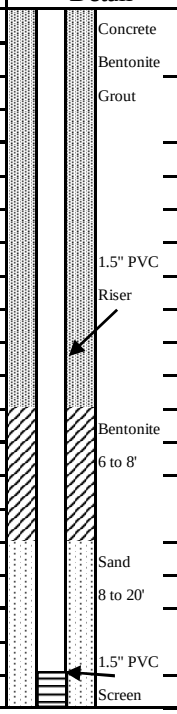
S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

WELL INFORMATION

Type	Diam.	Top Depth (Ft.)	Bottom Depth (Ft.)
Schedule 40 PVC Riser	1.5"	0	10.0
Schedule 40 PVC Screen	1.5"	10.0	20.0

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description
1					NO		Silty Clay (Fill), brown/light brown fine sand and fine gravel, rock fragments, dry
2		D-1			SAMPLE	<1	
3							Clayey Silt, light brown, some fine sand, dry
4	4.0						
5					S		
6		D-2			COLLECTED	<1	
7							Silty Clay, brown
8	8.0						
9							Wet at 9.0'
10		D-3				<1	Clayey Silt, green/white thin fine sand seams

Well Installation Detail



Elevation (Ft. MSL)

DRILLING CO.:	GeoEnviroTech, Inc.	BAKER REP.:	Ed Kleinkauf
DRILLER:	Abraham Nunez	BORING NO.:	74VP6Ca SHEET 1 OF 2

Baker

Michael Baker Jr., Inc.

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74VP6Ca

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm) ps/bg	Visual Description	Well Installation Detail	Elevation (Ft. MSL)
11		D-3				<1	*Continue from page 1*		
12	12.0								
13		D-4				<1	brown trace fine sand	1.5" PVC Screen	
14									
15							green	Sand 8 to 20'	
16	16.0								
17		D-5				<1			
18							brown/red		
19									
20	20.0								
21							Bottom of Well at 20'		
22									
23									
24									

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Ed Kleinkauf

DRILLER: Abraham Nunez BORING NO.: 74VP6Ca SHEET 2 OF 2

Baker

Michael Baker Jr., Inc.

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT:	Naval Activity Puerto Rico - SWMU 74		
PROJ. NO.:	111626	BORING NO.:	74VP6Cb
COORDINATES: EAST:	939448.0	NORTH:	804654.3
ELEVATION: SURFACE:	118.46	TOP OF PVC CASING:	121.29

Rig: Geoprobe 66DT	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	3"	--	4.25"	--	5/17/2008	0.0 - 20.0	85° Sunny	
Length	4'	--	5'	--				
Type	--	--	HSA	--				
Hammer Wt.	--	--	--	--				
Fall	--	--	--	--				

Remarks:

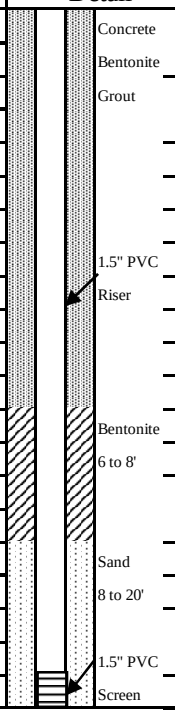
SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

WELL INFORMATION

Type	Diam.	Top Depth (Ft.)	Bottom Depth (Ft.)
Schedule 40 PVC Riser	1.5"	0	10.0
Schedule 40 PVC Screen	1.5"	10.0	20.0

Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Well Installation Detail	Elevation (Ft. MSL)
1, 2, 3, 4 (4.0)	D-1	N/A			<1	Sand (Fill), brown fine grained, rock fragments, dry; Silty Clay, trace fine sand, dry, thin rock fragment zones, dry to visibly moist	Concrete; Bentonite Grout; 1.5" PVC Riser	
5, 6, 7, 8 (8.0)	D-2	N/A		74GWVP6Cb-04 (7-9')	<1	brown/reddish brown, dry to visibly moist	Bentonite 6 to 8'; Sand 8 to 20'	
9, 10	D-3	N/A			<1	Clayey Silt, brown/tan/yellow trace fine sand	1.5" PVC Screen	



DRILLING CO.:	GeoEnviroTech, Inc.	BAKER REP.:	Ed Kleinkauf
DRILLER:	Abraham Nunez	BORING NO.: 74VP6Cb	SHEET 1 OF 2

Baker

Michael Baker Jr., Inc.

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74VP6Cb

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm) ps/bg	Visual Description	Well Installation Detail	Elevation (Ft. MSL)
11		D-3	N/A			<1	*Continue from page 1* green/white		
12	12.0								
13		D-4	N/A		74GWVP6Cb-07 (13-15')	<1	Wet at 13.5' green/white	Sand 8 to 20'	
14									
15									
16	16.0								
17		D-5	N/A			<1	Silt, brownish red, damp to moist	1.5" PVC Screen	
18									
19									
20	20.0								
21							Bottom of Well at 20'		
22									
23									
24									

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Ed Kleinkauf

DRILLER: Abraham Nunez BORING NO.: 74VP6Cb SHEET 2 OF 2

Baker

Michael Baker Jr., Inc.

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

PROJ. NO.: 111626 BORING NO.: 74VP07b

COORDINATES: EAST: NORTH:

ELEVATION: SURFACE: TOP OF PVC CASING:

Rig: Geoprobe 66DT	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	3"	--	4.25"	--	5/15/2008	0.0 - 10.0	85° Sunny	
Length	4'	--	5'	--				
Type	--	--	HSA	--				
Hammer Wt.	--	--	--	--				
Fall	--	--	--	--				

Remarks:

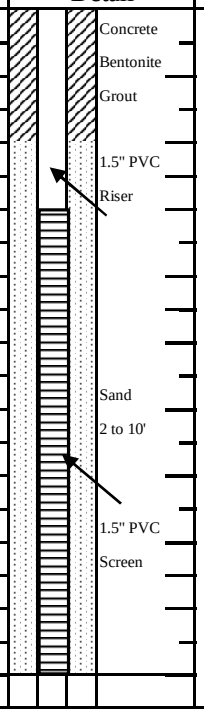
SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

WELL INFORMATION

Type	Diam.	Top Depth (Ft.)	Bottom Depth (Ft.)
Schedule 40 PVC Riser	1.5"	0	3.0
Schedule 40 PVC Screen	1.5"	3.0	10.0

Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description
1, 2, 3, 4 (4.0)	D-1	N/A		NO SAMPLE	<1	Silty clay, trace fine sand, brown Silt, clayey silt, trace fine coarse sand, rock fragments, tan
5, 6, 7, 8 (8.0)	D-2	N/A		ESCOLLE	<1	Groundwater at 4' Silt, clayey silt, trace fine coarse sand, rock fragments, tan Silty clay, red/brown/blue
9, 10	D-3	N/A		CTED	<1	Silty clay, blue
						Bottom of well at 10'



Well Installation Detail

Elevation (Ft. MSL)

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Ed Kleinkauf

DRILLER: Abraham Nunez BORING NO.: 74VP07b SHEET 1 OF 1

Baker

Michael Baker Jr., Inc.

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT:	Naval Activity Puerto Rico - SWMU 74		
PROJ. NO.:	111626	BORING NO.:	74VP08a
COORDINATES: EAST:	937489.3	NORTH:	802589.1
ELEVATION: SURFACE:	115.24	TOP OF PVC CASING:	117.84

Rig: Geoprobe 66DT	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	3"	--	4.25"	--	5/16/2008	0.0 - 20.0	85° Sunny	
Length	4'	--	5'	--				
Type	--	--	HSA	--				
Hammer Wt.	--	--	--	--				
Fall	--	--	--	--				

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

WELL INFORMATION

Type	Diam.	Top Depth (Ft.)	Bottom Depth (Ft.)
Schedule 40 PVC Riser	1.5"	0	14.5
Schedule 40 PVC Screen	1.5"	14.5	24.5

Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Well Installation Detail	Elevation (Ft. MSL)
1, 2, 3, 4 (4.0)	D-1	N/A			<1	Silty Clay (Fill), trace fine sand trace fine gravel, rock fragments, brown/dark brown	Concrete, Bentonite, Grout, 1.5" PVC Riser	
5, 6, 7, 8 (8.0)	D-2	N/A			<1, 9.8	Low recovery (~18")		
9, 10	D-3	N/A			<1			

DRILLING CO.:	GeoEnviroTech, Inc.	BAKER REP.:	Ed Kleinkauf
DRILLER:	Abraham Nunez	BORING NO.: 74VP08a	SHEET 1 OF 2

Baker

Michael Baker Jr., Inc.

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74VP08a

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm) ps/bg	Visual Description	Well Installation Detail	Elevation (Ft. MSL)
11		D-3	N/A			<1	*Continue from page 1*	Bentonite 10.5 to 12.5'	
12	12.0								
13		D-4	N/A		74GWVP08a-07 (13-15')	<1		Sand 12.5 to 24.5'	
14									
15						731.0	Silty Clay, brown	1.5" PVC Screen	
16	16.0					8.2			
17		D-5	N/A		74GWVP08a-10 (19-21')	<1			
18									
19									
20	20.0								
21		D-6	N/A			<1	more silt		
22									
23									
24	24.0								
	24.5	A	NA						
25							Bottom of Well at 24.5'		

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Ed Kleinkauf

DRILLER: Abraham Nunez BORING NO.: 74VP08a SHEET 2 OF 2

Baker

Michael Baker Jr., Inc.

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT:	Naval Activity Puerto Rico - SWMU 74		
PROJ. NO.:	111626	BORING NO.:	74VP08b
COORDINATES: EAST:	937477.3	NORTH:	802616.0
ELEVATION: SURFACE:	114.34	TOP OF PVC CASING:	116.98

Rig: Geoprobe 66DT	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	3"	--	4.25"	--	5/15/2008	0.0 - 24.0	85° Sunny	
Length	4'	--	5'	--				
Type	--	--	HSA	--				
Hammer Wt.	--	--	--	--				
Fall	--	--	--	--				

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

WELL INFORMATION

Type	Diam.	Top Depth (Ft.)	Bottom Depth (Ft.)
Schedule 40 PVC Riser	1.5"	0	14.0
Schedule 40 PVC Screen	1.5"	14.0	24.0

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Well Installation Detail	Elevation (Ft. MSL)
1					NO		Silty Clay (Fill), brown/reddish brown, trace fine sand, dry	Concrete, Bentonite, Grout	
2		D-1	N/A		SAMPL	<1			
3									
4	4.0							1.5" PVC Riser	
5					ES				
6		D-2	N/A		COLLE	<1			
7									
8	8.0					480.0	less to no sand		
9		D-3	N/A		CTED	5.6 / 15.0	Clayey Silt, green		
10								Bentonite 10 to 12'	

DRILLING CO.:	GeoEnviroTech, Inc.	BAKER REP.	Ed Kleinkauf
DRILLER:	Abraham Nunez	BORING NO. 74VP08b	SHEET 1 OF 2

Baker

Michael Baker Jr., Inc.

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74VP08b

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm) ps/bg	Visual Description	Well Installation Detail	Elevation (Ft. MSL)
11		D-3	N/A			75.0	*Continue from page 1*		
12	12.0					~1164			
13		D-4	N/A			518.0 320.0 262.0 204.0 129.0		Sand 12 to 24'	
14									
15								1.5" PVC Screen	
16	16.0					<1	Brown/tan/yellowish brown		
17		D-5	N/A				Silty Clay, brown		
18						<1	trace fine sand brown/tan/light gray		
19							trace of rock fragments		
20	20.0								
21		D-6	N/A				red/brown		
22						<1	Clayey Silt, gray/brown/red		
23									
24	24.0								
25							Bottom of Well at 24'		

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Ed Kleinkauf

DRILLER: Abraham Nunez BORING NO.: 74VP08b SHEET 2 OF 2

Baker

Michael Baker Jr., Inc.

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT:	Naval Activity Puerto Rico - SWMU 74		
PROJ. NO.:	111626	BORING NO.:	74VP9a/JP5 HILL
COORDINATES:	EAST: 937074.7	NORTH:	804180.9
ELEVATION:	SURFACE: 137.04	TOP OF PVC CASING:	140.04

Rig: Geoprobe 66DT	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	3"	--	4.25"	--	5/28/2008	0.0 - 20.0	85° Sunny	
Length	4'	--	5'	--				
Type	--	--	HSA	--				
Hammer Wt.	--	--	--	--				
Fall	--	--	--	--				

Remarks:

SAMPLE TYPE

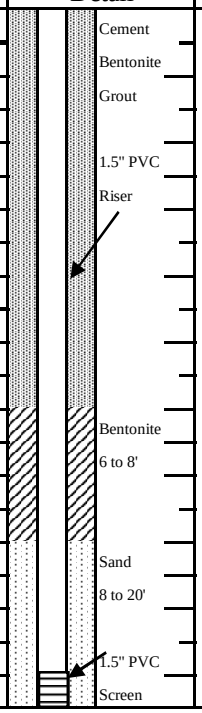
S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

WELL INFORMATION

Type	Diam.	Top Depth (Ft.)	Bottom Depth (Ft.)
Schedule 40 PVC Riser	1.5"	0	10.0
Schedule 40 PVC Screen	1.5"	10.0	20.0

Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description
1, 2, 3, 4 (4.0)	D-1	3.8 95%		NO SAMPLE	2 to 5	Silty Loam, some gravel; Sandy Clay, medium brown, dry, broken
5, 6, 7, 8 (8.0)	D-2	4.0 100%		NO SAMPLE COLLECTED	20 to 30	Saprolite, medium green, sandy clay, damp
9, 10	D-3	2.8 70%		NO SAMPLE COLLECTED	200.0	

Well Installation Detail



Elevation (Ft. MSL)

DRILLING CO.:	JFA Geological & Environmental Scientists	BAKER REP.:	Joe Burawa
DRILLER:	Domingo Gonzalez - Rodiguez	BORING NO.:	74VP9a/JP5 HILL

Baker

Michael Baker Jr., Inc.

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74VP9a/JP5 HILL

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm) ps/bg	Visual Description	Well Installation Detail	Elevation (Ft. MSL)
11		D-3	2.8 70%			200.0	*Continue from page 1*		
12	12.0								
13		D-4	2.7 68%			500.0	Becomes moist at 14.0'	Sand 8 to 20'	
14									
15									
16	16.0							1.5" PVC Screen	
17		D-5	3.2 80%			500.0			
18									
19									
20	20.0								
21							Bottom of Well at 20'		
22									
23									
24									

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez - Rodiguez BORING NO.: 74VP9a/JP5 HILL SHEET 2 OF 2

Baker

Michael Baker Jr., Inc.

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT:	Naval Activity Puerto Rico - SWMU 74		
PROJ. NO.:	111626	BORING NO.:	74VP9b/JP5 HILL
COORDINATES:	EAST: 937104.9	NORTH:	804227.2
ELEVATION:	SURFACE: 136.39	TOP OF PVC CASING:	139.27

Rig: Geoprobe 66DT	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	3"	--	4.25"	--	5/16/2008	0.0 - 20.0	85° Sunny	
Length	4'	--	5'	--				
Type	--	--	HSA	--				
Hammer Wt.	--	--	--	--				
Fall	--	--	--	--				

Remarks:

SAMPLE TYPE

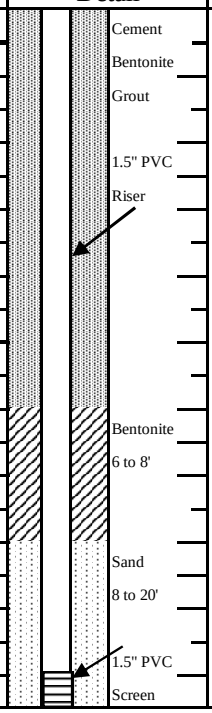
S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

WELL INFORMATION

Type	Diam.	Top Depth (Ft.)	Bottom Depth (Ft.)
Schedule 40 PVC Riser	1.5"	0	10.0
Schedule 40 PVC Screen	1.5"	10.0	20.0

Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1, 2, 3, 4 (4.0)	D-1	4.0 100%			5.0	Sandy Loam and Gravel; Sandy Clay, greenish brown, cobbles, damp to dry, moderate hard	
5, 6, 7, 8 (8.0)	D-2	4.0 100%		74GWVP9b/JP5-03 (5-7')	90.0	Saprolite, greenish gray rock fragments throughout	
9, 10	D-3	4.0 100%		74GWVP9b/JP5-05 (9-11')	200.0	Moderate hard to hard depending on rock content	

Well Installation Detail



DRILLING CO.:	JFA Geological & Environmental Scientists	BAKER REP.:	Joe Burawa
DRILLER:	Domingo Gonzalez - Rodiguez	BORING NO.:	74VP9b/JP5 HILL SHEET 1 OF 2

Baker

Michael Baker Jr., Inc.

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74VP9b/JP5 HILL

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm) ps/bg	Visual Description	Well Installation Detail	Elevation (Ft. MSL)
11		D-3	4.0 100%			200.0	*Continue from page 1*		
12	12.0						Damp to moist at 12.0'		
13		D-4	4.0 100%			300.0	Hydrocarbon odor	Sand 8 to 20'	
14									
15									
16	16.0							1.5" PVC Screen	
17		D-5	4.0 100%			300.0			
18									
19									
20	20.0								
21							Bottom of Well at 20'		
22									
23									
24									

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez - Rodiguez BORING NO.: 74VP9b/JP5 HILL SHEET 2 OF 2

Baker

Michael Baker Jr., Inc.

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT:	Naval Activity Puerto Rico - SWMU 74		
PROJ. NO.:	111626	BORING NO.:	74VP10a/DFM
COORDINATES:	EAST: 937510.5	NORTH:	802451.0
ELEVATION:	SURFACE: 117.68	TOP OF PVC CASING:	120.67

Rig: Geoprobe 66DT	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	3"	--	4.25"	--	5/28/2008	0.0 - 20.0	85° Sunny	
Length	4'	--	5'	--				
Type	--	--	HSA	--				
Hammer Wt.	--	--	--	--				
Fall	--	--	--	--				

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

WELL INFORMATION

Type	Diam.	Top Depth (Ft.)	Bottom Depth (Ft.)
Schedule 40 PVC Riser	1.5"	0	11.0
Schedule 40 PVC Screen	1.5"	11.0	21.0

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Well Installation Detail	Elevation (Ft. MSL)
1					NO		Silty Loam, dark brown, damp moderate soft	Concrete	
2		D-1	3.5 88%		SAMPL	~10	Sandy Clay, light brown, fine grained sand, moderate soft, damp	Bentonite Grout	
3								1.5" PVC Riser	
4	4.0								
5					ES		Silty Clay, some sand, greenish gray, hard		
6		D-2	3.8 95%		COL	~30			
7									
8	8.0				LE			Bentonite 7 to 9'	
9					CTE				
10		D-3	4.0 100%		D	~90		Sand 9 to 21'	

DRILLING CO.:	JFA Geological & Environmental Scientists	BAKER REP.	Joe Burawa
DRILLER:	Domingo Gonzalez - Rodiguez	BORING NO.	74VP10a/DFM

Baker

Michael Baker Jr., Inc.

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74VP10a/DFM

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
ps/bg = point source/background

Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm) ps/bg	Visual Description	Well Installation Detail	Elevation (Ft. MSL)
11 – 12.0	D-3	4.0 100%			~90	*Continue from page 1*	1.5" PVC Screen	
12 – 16.0	D-4	4.0 100%			>3000	Sandy Silt, some clay damp to moist Saprolite, strong hydrocarbon odor, greenish gray and white	Sand 9 to 21'	
16 – 20.0	D-5	4.0 100%			~900	Becomes olive green and white at 18.3'		
20 – 21.0	A	NA						
21 – 24						Bottom of Well at 21'		

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez - Rodiguez BORING NO.: 74VP10a/DFM SHEET 2 OF 2

Baker

Michael Baker Jr., Inc.

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT:	Naval Activity Puerto Rico - SWMU 74		
PROJ. NO.:	111626	BORING NO.:	74VP10a/JP5 HILL
COORDINATES: EAST:	937020.6	NORTH:	803895.4
ELEVATION: SURFACE:	131.93	TOP OF PVC CASING:	134.86

Rig: Geoprobe 66DT	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	3"	--	4.25"	--	5/16/2008	0.0 - 20.0	85° Sunny	
Length	4'	--	5'	--				
Type	--	--	HSA	--				
Hammer Wt.	--	--	--	--				
Fall	--	--	--	--				

Remarks:

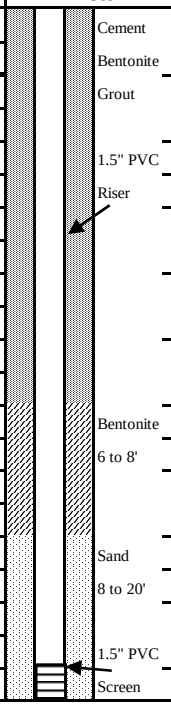
SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

WELL INFORMATION

Type	Diam.	Top Depth (Ft.)	Bottom Depth (Ft.)
Schedule 40 PVC Riser	1.5"	0	10.0
Schedule 40 PVC Screen	1.5"	10.0	20.0

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Well Installation Detail	Elevation (Ft. MSL)
1, 2, 3, 4	4.0	D-1	4.0 100%			15.0	Sandy Loam; Sandy Clay, medium gray brown, damp to dry, some stones throughout, moderate hard	Cement; Bentonite; Grout; 1.5" PVC Riser	
5, 6, 7, 8	8.0	D-2	4.0 100%		74GWVP10a/JP5-04 (7-9')	2.0	dark green and gray, soft, damp	Bentonite 6 to 8'	
9, 10		D-3	4.0 100%		74GWVP10a/JP5-05 (9-11')	150.0	some gravel	Sand 8 to 20'; 1.5" PVC Screen	



DRILLING CO.:	JFA Geological & Environmental Scientists	BAKER REP.	Joe Burawa
DRILLER:	Domingo Gonzalez - Rodiguez	BORING NO.	74VP10a/JP5 HILL

SHEET 1 OF 2

Baker

Michael Baker Jr., Inc.

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74VP10a/JP5 HILL

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm) ps/bg	Visual Description	Well Installation Detail	Elevation (Ft. MSL)
11							*Continue from page 1*		
		D-3	3.4			150.0	wet at 11.5		
12	12.0		85%						
13						500.0		Sand	
14		D-4	1.2				gravel, soft, wet/moist, some	8 to 20'	
			30%				silt		
15									
16	16.0							1.5" PVC	
								Screen	
17									
18		D-5	2.0			2.0			
			50%						
19									
20	20.0								
							Bottom of Well at 20'		
21									
22									
23									
24									

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez - Rodiguez BORING NO.: 74VP10a/JP5 HILL SHEET 2 OF 2

Baker

Michael Baker Jr., Inc.

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT:	Naval Activity Puerto Rico - SWMU 74		
PROJ. NO.:	111626	BORING NO.:	74VP10b/DFM
COORDINATES: EAST:	937519.3	NORTH:	802433.4
ELEVATION: SURFACE:	120.30	TOP OF PVC CASING:	123.02

Rig: Geoprobe 66DT	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	3"	--	4.25"	--	5/17/2008	0.0 - 18.0	85° Sunny	
Length	4'	--	5'	--				
Type	--	--	HSA	--				
Hammer Wt.	--	--	--	--				
Fall	--	--	--	--				

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

WELL INFORMATION

Type	Diam.	Top Depth (Ft.)	Bottom Depth (Ft.)
Schedule 40 PVC Riser	1.5"	0	8.0
Schedule 40 PVC Screen	1.5"	8.0	18.0

Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Well Installation Detail	Elevation (Ft. MSL)
1, 2, 3, 4 (4.0)	D-1	4.0 100%			<1	Sandy Loam and Gravel damp, dark brown, soft; Sandy Clay, olive brown, damp, moderately soft, medium grained sand, some silt	Concrete; Bentonite Grout; 1.5" PVC Riser	
5, 6, 7, 8 (8.0)	D-2	4.0 100%		74GWVP10b/DFM-04 (7-9')	<1	cobble, broken, hard, gray; rock fragments, grayish brown clay and gray rock, damp to dry	Bentonite 4 to 6'; Sand 6 to 18'; 1.5" PVC Screen	
9, 10	D-3	4.0 100%		74GWVP10b/DFM-05 (9-11')	<1			

DRILLING CO.:	JFA Geological & Environmental Scientists	BAKER REP.	Joe Burawa
DRILLER:	Domingo Gonzalez - Rodiguez	BORING NO.	74VP10b/DFM SHEET 1 OF 2

Baker

Michael Baker Jr., Inc.

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74VP10b/DFM

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm) ps/bg	Visual Description	Well Installation Detail	Elevation (Ft. MSL)
11		D-3	4.0 100%			140.0	*Continue from page 1*		
12	12.0						Saprolite, clay and sand gray, green		
13		D-4	4.0 100%			>2000		Sand 6 to 18'	
14							Variated colors from 14.5 to 16.0', moist		
15								1.5" PVC Screen	
16	16.0								
17		D-5	4.0 100%			500.0	some clay, moist strong hydrocarbon odor		
18									
19							Bottom of Well at 18'		
20	20.0								
21									
22									
23									
24									

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez - Rodiguez BORING NO.: 74VP10b/DFM SHEET 2 OF 2

Baker

Michael Baker Jr., Inc.

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT:	Naval Activity Puerto Rico - SWMU 74		
PROJ. NO.:	111626	BORING NO.:	74VP11a
COORDINATES:	EAST: 936104.6	NORTH:	804976.2
ELEVATION:	SURFACE: 116.19	TOP OF PVC CASING:	118.64

Rig: Geoprobe 66DT	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	3"	--	4.25"	--	5/6/2008	0.0 - 19.0	85° Sunny	
Length	4'	--	5'	--				
Type	--	--	HSA	--				
Hammer Wt.	--	--	--	--				
Fall	--	--	--	--				

Remarks:

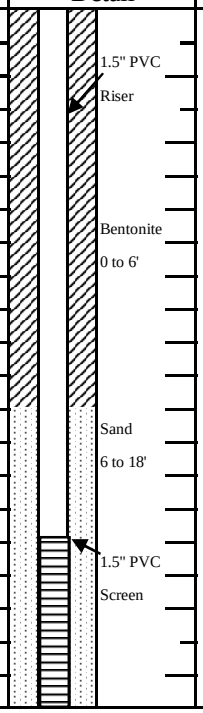
SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

WELL INFORMATION

Type	Diam.	Top Depth (Ft.)	Bottom Depth (Ft.)
Schedule 40 PVC Riser	1.5"	0	8.0
Schedule 40 PVC Screen	1.5"	8.0	18.0

Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1						Sandy Clay, dark brown	
2	D-1	5.0 100%			<1	Clay, some silt, mottled, soft medium plasticity, damp, light gray maroon	
3							
4							
5 5.0							
6	D-2	4.6 92%		74GWVP11a-03 (5-7')	<1	trace fine sand soft, medium plasticity, damp	
7							
8				74GWVP11a-04 (7-9')		medium plasticity, damp moderate stiff, orange, light gray, tan	
9							
10 10.0							



DRILLING CO.:	GeoEnviroTech, Inc.	BAKER REP.:	Robert Roselius
DRILLER:	Abraham Nasser	BORING NO.: 74VP11a	SHEET 1 OF 2

Baker

Michael Baker Jr., Inc.

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74VP11a

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
ps/bg = point source/background

Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm) ps/bg	Visual Description	Well Installation Detail	Elevation (Ft. MSL)
11						*Continue from page 1*		
12						silt and clay lenses damp, orange, tan, light gray, stiff, blocky		
13	D-3	4.7 94%			<1		Sand 6 to 18'	
14						mottled black inclusions		
15								
16							1.5" PVC Screen	
17	D-4	4.0 100%			<1			
18								
19						Bottom of Well at 18'		
20						GEOPROBE REFUSAL at 19.0'		
21								
22								
23								
24								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Robert Roselius

DRILLER: Abraham Nasser BORING NO.: 74VP11a SHEET 2 OF 2

Baker

Michael Baker Jr., Inc.

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT:	Naval Activity Puerto Rico - SWMU 74		
PROJ. NO.:	111626	BORING NO.:	74VP11a/JP5 HILL
COORDINATES:	EAST: 936932.1	NORTH:	803622.8
ELEVATION:	SURFACE: 127.78	TOP OF PVC CASING:	130.78

Rig: Geoprobe 66DT	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	3"	--	4.25"	--	5/16/2008	0.0 - 19.8	85° Sunny	
Length	4'	--	5'	--				
Type	--	--	HSA	--				
Hammer Wt.	--	--	--	--				
Fall	--	--	--	--				

Remarks:

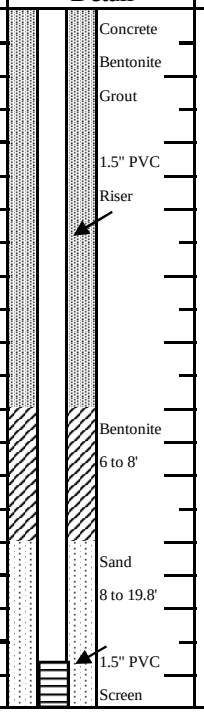
SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

WELL INFORMATION

Type	Diam.	Top Depth (Ft.)	Bottom Depth (Ft.)
Schedule 40 PVC Riser	1.5"	0	9.8
Schedule 40 PVC Screen	1.5"	9.8	19.8

Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Well Installation Detail	Elevation (Ft. MSL)
1, 2, 3, 4 (4.0)	D-1	3.0 75%		NO SAMPLE	<1	Sandy Loam and Gravel, brownish gray, dry, broken; Sandy Clay, light brown, some silt, damp to dry, moderate hard	Concrete; Bentonite Grout; 1.5" PVC Riser	
5, 6, 7, 8 (8.0)	D-2	2.0 50%		ESCOLLE	<1		Bentonite 6 to 8'; Sand 8 to 19.8'	
9, 10	D-3	2.8 70%		CTED	<1	Silty Sand, some clay, moderate hard, tightly packed; Saprolite, greenish gray/brown	1.5" PVC Screen	



DRILLING CO.:	JFA Geological & Environmental Scientists	BAKER REP.:	Joe Burawa
DRILLER:	Domingo Gonzalez - Rodiguez	BORING NO.:	74VP11a/JP5 HILL

Baker

Michael Baker Jr., Inc.

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74VP11a/JP5 HILL

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm) ps/bg	Visual Description	Well Installation Detail	Elevation (Ft. MSL)
11		D-3	2.8 70%			<1	*Continue from page 1*		
12	12.0								
13		D-4	4.0 100%			<1	Damp to moist at 14.0'	Sand 8 to 19.8'	
14									
15									
16	16.0								
17		D-5	4.0 100%			<1		1.5" PVC Screen	
18									
19									
20	20.0								
21							Bottom of Well at 19.8'		
22									
23									
24									

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez - Rodiguez BORING NO.: 74VP11a/JP5 HILL SHEET 2 OF 2

Baker

Michael Baker Jr., Inc.

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT:	Naval Activity Puerto Rico SWMU 74		
PROJ. NO.:	111626	BORING NO.:	74VP11b
COORDINATES:	EAST: 936103.4	NORTH:	804997.4
ELEVATION:	SURFACE: 117.77	TOP OF PVC CASING:	120.35

Rig:	Geoprobe 66DT				Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
	MC Sampler	Casing	Augers	Core Barrel				
Size (ID)	3"	--	4.25"	--	5/6/2008	0.0 - 30.0	85° Sunny	
Length	5'	--	5'	--				
Type	--	--	HSA	--				
Hammer Wt.	--	--	--	--				
Fall	--	--	--	--				

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

WELL INFORMATION

Type	Diam.	Top Depth (Ft.)	Bottom Depth (Ft.)
Schedule 40 PVC Riser	1.5"	0	15.0
Schedule 40 PVC Screen	1.5"	15.0	30.0

Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Well Installation Detail	Elevation (Ft. MSL)
1						Sandy Clay, dark brown	1.5" PVC Riser	
2	D-1	2.6 52%				Silty Clay, maroon, some gravel GRAVEL		
3								
4							Bentonite 0 to 13'	
5						Clay, some silt, maroon with little little gray, dry to damp		
6						Clay and Silt, blocky, mottled, damp light gray and maroon, low plasticity		
7	D-2	4.6 92%						
8								
9						stiff, medium plasticity		
10								

DRILLING CO.:	GeoEnviroTech, Inc.	BAKER REP.:	Robert Roselius
DRILLER:	Abraham Nasser	BORING NO.:	74VP11b SHEET 1 OF 2

Baker

Michael Baker Jr., Inc.

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT: Naval Activity Puerto Rico SWMU 74

SO NO.: 111626 BORING NO.: 74VP11b

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
ps/bg = point source/background

Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm) ps/bg	Visual Description	Well Installation Detail	Elevation (Ft. MSL)
11						*Continued from Sheet 1*		
12	D-3	5.0 100%			<1		1.5" PVC Riser	
13							Sand 13 to 30'	
14								
15 / 15.0							1.5" PVC Screen	
16	D-4	5.0 100%			<1			
17								
18								
19						mottled, light gray, dark gray		
20 / 20.0								
21	D-5	5.0 100%			<1			
22								
23								
24								
25 / 25.0								
26	D-6	5.0 100%			30+	light gray, tan, medium stiffness, medium plasticity		
27								
28					<1			
29								
30 / 30.0								
						Bottom of Well at 30'		

Baker

Michael Baker Jr., Inc.

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT:	Naval Activity Puerto Rico - SWMU 74		
PROJ. NO.:	111626	BORING NO.:	74VP11b/JP5 HILL
COORDINATES:	EAST: 936934.1	NORTH:	803588.9
ELEVATION:	SURFACE: 126.80	TOP OF PVC CASING:	129.75

Rig: Geoprobe 66DT	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	3"	--	4.25"	--	5/17/2008	0.0 - 20.0	85° Sunny	
Length	4'	--	5'	--				
Type	--	--	HSA	--				
Hammer Wt.	--	--	--	--				
Fall	--	--	--	--				

Remarks:

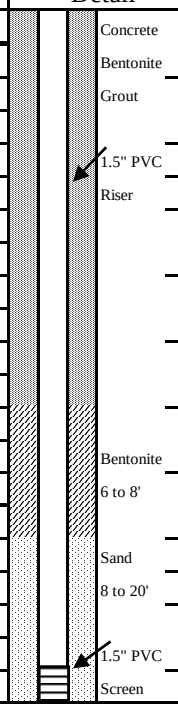
SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

WELL INFORMATION

Type	Diam.	Top Depth (Ft.)	Bottom Depth (Ft.)
Schedule 40 PVC Riser	1.5"	0	10.0
Schedule 40 PVC Screen	1.5"	10.0	20.0

Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Well Installation Detail	Elevation (Ft. MSL)
1, 2, 3, 4 (4.0)	D-1	4.0 100%			<1	Sandy Loam and Gravel; Sandy Clay and Gravel, sand zones throughout, damp to dry, moderate soft, gray/brown	Concrete; Bentonite Grout; 1.5" PVC Riser	
5, 6, 7, 8 (8.0)	D-2	4.0 100%		74GWVP11b/JP5-04 (7-9')	<1	Saprolite, light greenish brown, moderate hard, damp	Bentonite 6 to 8'; Sand 8 to 20'; 1.5" PVC Screen	
9, 10	D-3	4.0 100%		74GWVP11b/JP5-05 (9-11')	<1			



DRILLING CO.:	JFA Geological & Environmental Scientists	BAKER REP.:	Joe Burawa
DRILLER:	Domingo Gonzalez - Rodiguez	BORING NO.:	74VP11b/JP5 HILL

Baker

Michael Baker Jr., Inc.

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74VP11b/JP5 HILL

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm) ps/bg	Visual Description	Well Installation Detail	Elevation (Ft. MSL)
11		D-3	4.0 100%			<1	*Continue from page 1*		
12	12.0								
13		D-4	3.3 83%			<1	Becomes soft and damp to moist at 12.5'	Sand 8 to 20'	
14									
15									
16	16.0							1.5" PVC Screen	
17		D-5	2.2 55%			<1	No hydrocarbon odor		
18									
19									
20	20.0								
21							Bottom of Well at 20'		
22									
23									
24									

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez - Rodiguez BORING NO.: 74VP11b/JP5 HILL SHEET 2 OF 2

Baker

Michael Baker Jr., Inc.

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT:	Naval Activity Puerto Rico - SWMU 74		
PROJ. NO.:	111626	BORING NO.:	74VP1982
COORDINATES:	EAST: 938186.3	NORTH:	801645.1
ELEVATION:	SURFACE: 111.85	TOP OF PVC CASING:	114.84

Rig: Geoprobe 66DT	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	3"	--	4.25"	--	5/19/2008	0.0 - 20.0	85° Sunny	
Length	4'	--	5'	--				
Type	--	--	HSA	--				
Hammer Wt.	--	--	--	--				
Fall	--	--	--	--				

Remarks:

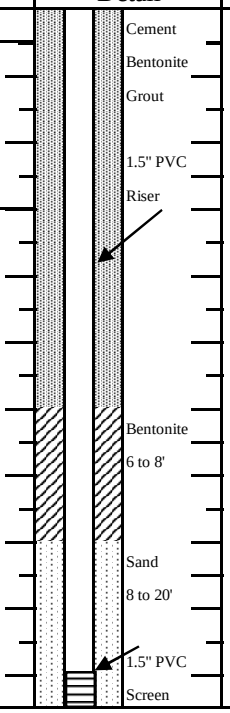
SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

WELL INFORMATION

Type	Diam.	Top Depth (Ft.)	Bottom Depth (Ft.)
Schedule 40 PVC Riser	1.5"	0	10.0
Schedule 40 PVC Screen	1.5"	10.0	20.0

Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Elevation (Ft. MSL)
1, 2, 3, 4 (4.0)	D-1	3.3 83%			>1	Sandy Silt, brown, dry, loose; Sand and Gravel, light gray loose, dry, coral and shell fragments; Sandy Clay and Gravel, green gray, strong hydrocarbon odor	
5, 6, 7, 8 (8.0)	D-2	3.2 80%		74GWVP1982-03 (5-7')	~500		
9, 10	D-3	3.2 80%		74GWVP1982-05 (9-11')	>5	green/brown, very soft, damp to moist	



DRILLING CO.:	JFA Geological & Environmental Scientists	BAKER REP.:	Joe Burawa
DRILLER:	Domingo Gonzalez - Rodiguez	BORING NO.:	74VP1982 SHEET 1 OF 2

Baker

Michael Baker Jr., Inc.

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74VP1982

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm) ps/bg	Visual Description	Well Installation Detail	Elevation (Ft. MSL)
11		D-3	3.2 80%			>5	*Continue from page 1*		
12	12.0								
13		D-4	2.0 50%			>5	wet at 13' very soft, dark green/gray		
14								Sand 8 to 20'	
15									
16	16.0						Saprolite, hard, moist strong hydrocarbon odor some sand and clay zones rock fragments, brownish green		
17		D-5	3.6 90%			>700		1.5" PVC Screen	
18									
19									
20	20.0								
21							Bottom of Well at 20'		
22									
23									
24									

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez - Rodiguez BORING NO.: 74VP1982 SHEET 2 OF 2

Baker

Michael Baker Jr., Inc.

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT:	Naval Activity Puerto Rico - SWMU 74		
PROJ. NO.:	111626	BORING NO.:	74VP19a
COORDINATES:	EAST: 938430.4333	NORTH:	802214.6478
ELEVATION:	SURFACE:	TOP OF PVC CASING:	

Rig: Geoprobe 66DT	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	3"	--	4.25"	--	5/18/2008	0.0 - 18.0	85° Sunny	
Length	4'	--	5'	--				
Type	--	--	HSA	--				
Hammer Wt.	--	--	--	--				
Fall	--	--	--	--				

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

WELL INFORMATION

Type	Diam.	Top Depth (Ft.)	Bottom Depth (Ft.)
Schedule 40 PVC Riser	1.5"	0	5.0
Schedule 40 PVC Screen	1.5"	5.0	15.0

Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Well Installation Detail	Elevation (Ft. MSL)
1, 2, 3, 4 (4.0)	D-1	2.1 53%		NO SAMPLE	<1	Sandy Loam; Sandy Clay, brown, dry	1.5" PVC Riser; Bentonite 2 to 4'	
5, 6, 7, 8 (8.0)	D-2	4.0 100%		ESCOLLE	<1	Grayish brown, moderate hard, damp, some cobbles at 4.8'; Silty Clay, dark brown, damp moderate hard, pebbles with iron staining, slightly mottled; Becomes soft and moist at 7.8'	1.5 "PVC Screen; Sand 4 to 15'	
9, 10	D-3	3.0 75%		CTED	<1	Sand, some coarse gravel, wet; Saprolite, hard, damp, some rock		

DRILLING CO.:	JFA Geological & Environmental Scientists	BAKER REP.:	Joe Burawa
DRILLER:	Domingo Gonzalez - Rodiguez	BORING NO.:	74VP19a SHEET 1 OF 2

Baker

Michael Baker Jr., Inc.

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74VP19a

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm) ps/bg	Visual Description	Well Installation Detail	Elevation (Ft. MSL)
11		D-3	3.0 75%			<1	*Continue from page 1*	Sand 4 to 15'; 1.5" PVC Screen	
12	12.0								
13		D-4	2.2 55%			<1			
14									
15									
16	16.0						Bottom of Well at 15'		
17		D-5	3.4 85%			<1		Backfill	
18									
19							Cobbles at 19.0' then saprolite, brown and white clay and sand, damp to dry, hard, brittle		
20	20.0								
21							END OF BORING at 20.0		
22									
23									
24									

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez - Rodiguez BORING NO.: 74VP19a SHEET 2 OF 2

Baker

Michael Baker Jr., Inc.

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT:	Naval Activity Puerto Rico - SWMU 74		
PROJ. NO.:	111626	BORING NO.:	74VP19b
COORDINATES:	EAST: 938426.9220	NORTH:	802182.7165
ELEVATION:	SURFACE:	TOP OF PVC CASING:	

Rig: Geoprobe 66DT	**MC Sampler**	**Casing**	**Augers**	**Core Barrel**	**Date**	**Progress (Ft.)**	**Weather**	**Depth to Water (Ft.)**
Size (ID)	3"	--	4.25"	--	5/18/2008	0.0 - 15.0	85° Sunny	
Length	4'	--	5'	--				
Type	--	--	HSA	--				
Hammer Wt.	--	--	--	--				
Fall	--	--	--	--				

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

WELL INFORMATION

Type	Diam.	Top Depth (Ft.)	Bottom Depth (Ft.)
Schedule 40 PVC Riser	1.5"	0	5.0
Schedule 40 PVC Screen	1.5"	5.0	15.0

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Well Installation Detail	Elevation (Ft. MSL)
1 2 3		D-1	4.0 100%			10.0	Sandy Loam and Gravel brownish orange, moderate soft damp	1.5" PVC Riser Bentonite 4 - 6'	
4	4.0						Sandy Clay, moist, free product, gravel throughout		
5 6 7		D-2	4.0 100%		74GWVP19b-03 (5-7')	>3000		Sand 4 o 15' 1.5" PVC Screen	
8	8.0								
9 10		D-3	4.0 100%		74GWVP19b-05 (9-11')	>1000	Silty Clay, some gravel greenish gray, damp plasticity, moderate soft		

DRILLING CO.:	JFA Geological & Environmental Scientists	BAKER REP.:	Joe Burawa
DRILLER:	Domingo Gonzalez - Rodiguez	BORING NO.:	74VP19b SHEET 1 OF 2

Baker

Michael Baker Jr., Inc.

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74VP19b

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm) ps/bg	Visual Description	Well Installation Detail	Elevation (Ft. MSL)
11		D-3	4.0 100%			>1000	*Continue from page 1*	1.5" PVC Screen	
12	12.0						Saprolite, damp to moist, rock fragments lighter in color with depth, sandier, brown and green	Sand 4 o 15'	
13		D-4	4.0 100%			<1			
14									
15									
16	16.0						Bottom of Well at 15'		
17		D-5	4.0 100%			<1		Backfill	
18									
19									
20	20.0								
21									
22									
23									
24									

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez - Rodiguez BORING NO.: 74VP19b SHEET 2 OF 2

Baker

Michael Baker Jr., Inc.

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT:	Naval Activity Puerto Rico - SWMU 74		
PROJ. NO.:	111626	BORING NO.:	74VP1a
COORDINATES:	EAST: 931542.86	NORTH:	807652.44
ELEVATION:	SURFACE: 124.10	TOP OF PVC CASING:	126.42

Rig:	Geoprobe 66DT				Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
	MC Sampler	Casing	Augers	Core Barrel				
Size (ID)	3"	--	4.25"	--	5/3/2008	0.0 - 12.0	85° Sunny	
Length	4'	--	5'	--				
Type	--	--	HSA	--				
Hammer Wt.	--	--	--	--				
Fall	--	--	--	--				

Remarks:

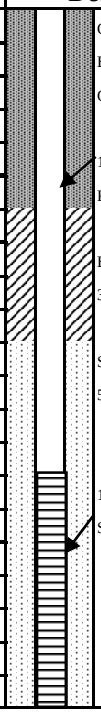
SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

WELL INFORMATION

Type	Diam.	Top Depth (Ft.)	Bottom Depth (Ft.)
Schedule 40 PVC Riser	1.5"	0	7.0
Schedule 40 PVC Screen	1.5"	7.0	12.0

Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Well Installation Detail	Elevation (Ft. MSL)
1, 2, 3, 4 (4.0)	D-1	4.0 100%			<1	Sandy Loam; Clay, some gravel, brown, damp; Silty Clay, blockey, dry to damp, maroon; Silt, some gravel, light gray to brown, damp	Cement; Bentonite; Grout; 1.5" PVC Riser; Bentonite 3 to 5'; Sand 5 to 12'; 1.5" PVC Screen	
5, 6, 7, 8 (8.0)	D-2	0.4 10%			<1			
9, 10	D-3	0.9 23%			<1	Sand, some gravel, saturated, very hard to push near 12.0'		



DRILLING CO.:	GeoEnviroTech, Inc.	BAKER REP.:	Robert Roselius
DRILLER:	Abraham Nasser	BORING NO.:	74VP1a SHEET 1 OF 2

Baker

Michael Baker Jr., Inc.

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74VP1a

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm) ps/bg	Visual Description	Well Installation Detail	Elevation (Ft. MSL)
11		D-3	0.9			<1	*Continue from page 1*	Sand 5 to 12'	
12	12.0		23%						
							Bottom of Well at 12'		
13									
14									
15									
16									
17									
18									
19									
20									
21									
22									
23									
24									

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Robert Roselius

DRILLER: Abraham Nasser BORING NO. 74VP1a SHEET 2 OF 2

Baker

Michael Baker Jr., Inc.

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT:	Naval Activity Puerto Rico - SWMU 74		
PROJ. NO.:	111626	BORING NO.:	74VP1Aa/9
COORDINATES:	EAST: 935187.63	NORTH:	806118.58
ELEVATION:	SURFACE: 116.53	TOP OF PVC CASIN	119.23

Rig: Geoprobe 66DT	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	3"	--	4.25"	--	5/7/2008	0.0 - 24.0	85° Sunny	
Length	4'	--	5'	--				
Type	--	--	HSA	--				
Hammer Wt.	--	--	--	--				
Fall	--	--	--	--				

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

WELL INFORMATION

Type	Diam.	Top Depth (Ft.)	Bottom Depth (Ft.)
Schedule 40 PVC Riser	1.5"	0	14.0
Schedule 40 PVC Screen	1.5"	14.0	24.0

Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Well Installation Detail	Elevation (Ft. MSL)
1						Sandy Clay	Cement Grout	
2						Sand, white, some silt, shells	Bentonite 1 to 12'	
3	D-1	4.4 88%			<1	Clay, some silt, hard, dry to damp, orange/brown		
4							1.5" PVC Riser	
5								
6				74GWVP1Aa/9-03 (5-7')		Sand, fine grained, orange/tan		
7						Sand and Gravel, coarse grained		
8	D-2	5.0 100%		74GWVP1Aa/9-04 (7-9')	<1			
9								
10						Silt, gray/olive, some clay white mottling, damp		

DRILLING CO.:	GeoEnviroTech, Inc.	BAKER REP.:	Robert Roselius
DRILLER:	Abraham Nasser	BORING NO.: 74VP1Aa/9	SHEET 1 OF 2

Baker

Michael Baker Jr., Inc.

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74VP1Aa/9

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm) ps/bg	Visual Description	Well Installation Detail	Elevation (Ft. MSL)
11						*Continue from page 1*		
12						slight hydocarbon odor		
13	D-3	4.1 82%			60+		Sand 12 to 24'	
14								
15							1.5" PVC Screen	
16								
17						becomes tan and orange		
18	D-4	5.0 100%			560+			
19								
20								
21								
22	D-5	0.2 4%			0.5+			
23								
24								
25						Bottom of Well at 24'		

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Robert Roselius

DRILLER: Abraham Nasser BORING NO. 74VP1Aa/9 SHEET 2 OF 2

Baker

Michael Baker Jr., Inc.

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT:	Naval Activity Puerto Rico - SWMU 74		
PROJ. NO.:	111626	BORING NO.:	74VP1b
COORDINATES:	EAST: 931542.96	NORTH:	807622.73
ELEVATION:	SURFACE: 124.16	TOP OF PVC CASING:	126.22

Rig: Geoprobe 66DT	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	3"	--	4.25"	--	5/3/2008	0.0 - 12.0	85° Sunny	
Length	4'	--	5'	--				
Type	--	--	HSA	--				
Hammer Wt.	--	--	--	--				
Fall	--	--	--	--				

Remarks:

SAMPLE TYPE

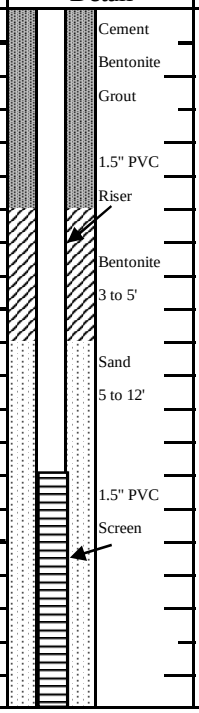
S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

WELL INFORMATION

Type	Diam.	Top Depth (Ft.)	Bottom Depth (Ft.)
Schedule 40 PVC Riser	1.5"	0	7.0
Schedule 40 PVC Screen	1.5"	7.0	12.0

Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description
1, 2, 3, 4 (4.0)	D-1	3.4 85%			<1	Sandy Clay; Silt, some gravel, (Fill)
5, 6, 7, 8 (8.0)	D-2	2.4 60%		74GWVP1b-03 74GWVP1b-03D (5-7') 74GWVP1b-04 (7-9')	<1	Clay, orange, some coarse gravel damp
9, 10	D-3	0.8 20%			<1	Clay with coarse sand, orange brown, medium soft, moist

Well Installation Detail



Elevation (Ft. MSL)

DRILLING CO.:	GeoEnviroTech, Inc.	BAKER REP.:	Robert Roselius
DRILLER:	Abraham Nasser	BORING NO.: 74VP1b	SHEET 1 OF 2

Baker

Michael Baker Jr., Inc.

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74VP1b

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm) ps/bg	Visual Description	Well Installation Detail	Elevation (Ft. MSL)
11		D-3	0.8			<1	*Continue from page 1* moderately soft, wet	Sand 5 to 12'	
12	12.0		20%						
							Bottom of Well at 12'		
13									
14									
15									
16									
17									
18									
19									
20									
21									
22									
23									
24									

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Robert Roselius

DRILLER: Abraham Nasser BORING NO. 74VP1b SHEET 2 OF 2

Baker

Michael Baker Jr., Inc.

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT:	Naval Activity Puerto Rico - SWMU 74		
PROJ. NO.:	111626	BORING NO.:	74VP20
COORDINATES:	EAST: 938238.8502	NORTH:	801733.884
ELEVATION:	SURFACE:	TOP OF PVC CASING:	

Rig: Geoprobe 66DT	**MC Sampler**	**Casing**	**Augers**	**Core Barrel**	**Date**	**Progress (Ft.)**	**Weather**	**Depth to Water (Ft.)**
Size (ID)	3"	--	4.25"	--	5/19/2008	0.0 - 20.0	85° Cloudy	
Length	4'	--	5'	--				
Type	--	--	HSA	--				
Hammer Wt.	--	--	--	--				
Fall	--	--	--	--				

Remarks:

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

WELL INFORMATION

Type	Diam.	Top Depth (Ft.)	Bottom Depth (Ft.)
Schedule 40 PVC Riser	1.5"	0	10.0
Schedule 40 PVC Screen	1.5"	10.0	20.0

Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Well Installation Detail	Elevation (Ft. MSL)
1						Sandy Loam and Gravel, brown, broken, moderate hard	Concrete Bentonite Grout	
2	D-1	2.9 73%				Coral Fragments and Gravel some sandy clay, olive		
3					20.0		1.5" PVC Riser	
4	4.0					Sandy Clay, some silt, iron stained, some gravel		
5								
6	D-2	4.0 100%			2.0	Silty Clay, some sand dark gray, brown, very soft, damp to moist	Bentonite 5 to 7'	
7								
8	8.0					STIFF, moderate soft	Sand 7 to 20'	
9								
10	D-3	4.0 100%		74GWVP20-05 (9-11')	5.0		1.5" PVC Screen	

DRILLING CO.:	JFA Geological & Environmental Scientists	BAKER REP.:	Joe Burawa
DRILLER:	Domingo Gonzalez - Rodiguez	BORING NO.: 74VP20	SHEET 1 OF 2

Baker

Michael Baker Jr., Inc.

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74VP20

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm) ps/bg	Visual Description	Well Installation Detail	Elevation (Ft. MSL)
11		D-3	4.0 100%		74GWVP20-06 (11-13')	5.0	*Continue from page 1*		
12	12.0								
13		D-4	3.5 88%			500.0 >1200	Sandy Clay, moderate hard, medium grained sand, green, gray, brown, damp to moist, hydrocarbon odor saprolitic structure	Sand 7 to 20'	
14									
15									
16	16.0								
17		D-5	1.5 38%			>2000		1.5" PVC Screen	
18									
19									
20	20.0								
21							Bottom Of Well At 20'		
22									
23									
24									

DRILLING CO.: JFA Geological & Environmental Scientists BAKER REP.: Joe Burawa

DRILLER: Domingo Gonzalez - Rodiguez BORING NO.: 74VP20 SHEET 2 OF 2

Baker

Michael Baker Jr., Inc.

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT:	Naval Activity Puerto Rico - SWMU 74		
PROJ. NO.:	111626	BORING NO.:	74VP2a
COORDINATES:	EAST: 935874.4	NORTH:	806831.2
ELEVATION:	SURFACE: 119.62	TOP OF PVC CASING:	122.13

Rig: Geoprobe 66DT	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	3"	--	4.25"	--	4/28/2008	0.0 - 24.0	85° Sunny	
Length	4'	--	5'	--				
Type	--	--	HSA	--				
Hammer Wt.	--	--	--	--				
Fall	--	--	--	--				

Remarks:

SAMPLE TYPE

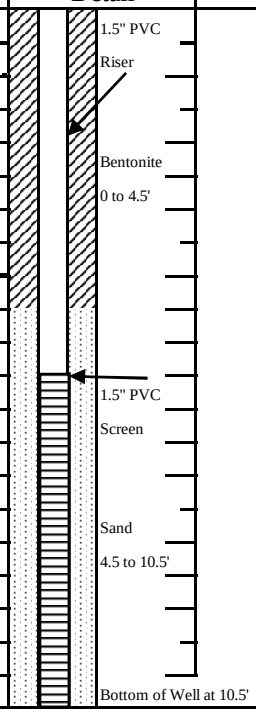
S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

WELL INFORMATION

Type	Diam.	Top Depth (Ft.)	Bottom Depth (Ft.)
Schedule 40 PVC Riser	1.5"	0	5.5
Schedule 40 PVC Screen	1.5"	5.5	10.5

Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description
1, 2, 3, 4 (4.0)	D-1	3.8 95%			<1	Clay, with silt to fine sand, trace coarse sand, brown, damp Clay, some silt, friable, blocky, dry to damp, light gray to maroon
5, 6, 7, 8 (8.0)	D-2	2.0 50%			<1	Sand and Gravel, fine grained, brown wet at 7.5'
9, 10	D-3	1.9 48%			<1	

Well Installation Detail



Elevation (Ft. MSL)

DRILLING CO.:	GeoEnviroTech, Inc.	BAKER REP.:	Robert Roselius
DRILLER:	Abraham Nasser	BORING NO.:	74VP2a

SHEET 1 OF 2

Baker

Michael Baker Jr., Inc.

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74VP2a

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm) ps/bg	Visual Description	Well Installation Detail	Elevation (Ft. MSL)
11	D-3				<1	*Continue from page 1*		
12						GEOPROBE REFUSAL at 11.0'		
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Robert Roselius

DRILLER: Abraham Nasser BORING NO.: 74VP2a SHEET 2 OF 2

Baker

Michael Baker Jr., Inc.

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT:	Naval Activity Puerto Rico - SWMU 74		
PROJ. NO.:	111626	BORING NO.:	74VP2b
COORDINATES:	EAST: 935855.5	NORTH:	806837.3
ELEVATION:	SURFACE: 119.70	TOP OF PVC CASING:	122.27

Rig: Geoprobe 66DT	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	3"	--	4.25"	--	4/28/2008	0.0 - 16.0	85° Sunny	
Length	4'	--	5'	--				
Type	--	--	HSA	--				
Hammer Wt.	--	--	--	--				
Fall	--	--	--	--				

Remarks:

SAMPLE TYPE

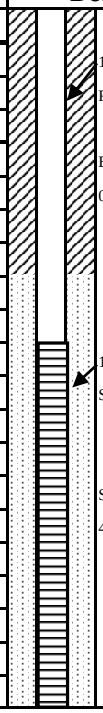
S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

WELL INFORMATION

Type	Diam.	Top Depth (Ft.)	Bottom Depth (Ft.)
Schedule 40 PVC Riser	1.5"	0	5.0
Schedule 40 PVC Screen	1.5"	5.0	15.0

Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description
1 2 3 4 (4.0)	D-1	3.4 85%		74GWVP2b-01 (1-3')	<1	Sandy Clay, dark brown Clay, little silt, hard, blocky light gray to maroon Silt, gray to brown, some gravel dry
5 6 7 8 (8.0)	D-2	2.4 60%		74GWVP2b-03 (5-7')	<1	becomes wet at 7.5'
9 10	D-3	0.8 20%			<1	

Well Installation Detail



Elevation (Ft. MSL)

DRILLING CO.:	GeoEnviroTech, Inc.	BAKER REP.:	Robert Roselius
DRILLER:	Abraham Nasser	BORING NO.: 74VP2b	SHEET 1 OF 2

Baker

Michael Baker Jr., Inc.

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74VP2b

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm) ps/bg	Visual Description	Well Installation Detail	Elevation (Ft. MSL)
11		D-3	0.8 20%			<1	*Continue from page 1*	Sand 4 to 15'	
12	12.0								
13		D-4	2.8 70%			<1	Clay, mottled, light gray to maroon, damp	1.5" PVC Screen	
14									
15									
16	16.0						Bottom of Well at 15'		
17									
18									
19									
20									
21									
22									
23									
24									

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Robert Roselius

DRILLER: Abraham Nasser BORING NO.: 74VP2b SHEET 2 OF 2

Baker

Michael Baker Jr., Inc.

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT:	Naval Activity Puerto Rico - SWMU 74		
PROJ. NO.:	111626	BORING NO.:	74VP3a
COORDINATES:	EAST: 933061.97	NORTH:	806425.08
ELEVATION:	SURFACE: 112.45	TOP OF PVC CASING:	114.94

Rig: Geoprobe 66DT	**MC Sampler**	**Casing**	**Augers**	**Core Barrel**	**Date**	**Progress (Ft.)**	**Weather**	**Depth to Water (Ft.)**
Size (ID)	3"	--	4.25"	--	5/5/2008	0.0 - 16.0	85° Sunny	
Length	4'	--	5'	--				
Type	--	--	HSA	--				
Hammer Wt.	--	--	--	--				
Fall	--	--	--	--				

Remarks:

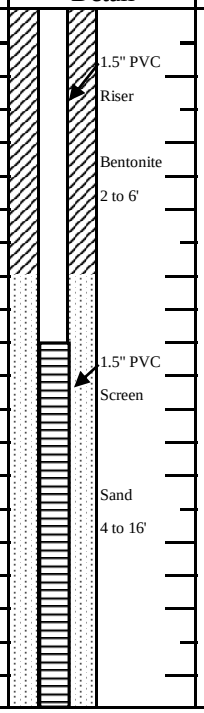
SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

WELL INFORMATION

Type	Diam.	Top Depth (Ft.)	Bottom Depth (Ft.)
Schedule 40 PVC Riser	1.5"	0	6.0
Schedule 40 PVC Screen	1.5"	6.0	16.0

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Well Installation Detail	Elevation (Ft. MSL)
1 2 3 4	4.0	D-1				<1			
5 6 7 8	8.0	D-2				<1			
9 10		D-3				<1			



DRILLING CO.:	GeoEnviroTech, Inc.	BAKER REP.:	Robert Roselius
DRILLER:	Abraham Nasser	BORING NO.:	74VP3a

Baker

Michael Baker Jr., Inc.

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT:	Naval Activity Puerto Rico - SWMU 74		
PROJ. NO.:	111626	BORING NO.:	74SB109
COORDINATES:	EAST: 935532.1	NORTH:	806188.5
ELEVATION:	SURFACE: 109.37	TOP OF PVC CASING:	112.55

Rig: Geoprobe 66DT	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	3"	--	4.25"	--	5/5/2008	0.0 - 12.0	85° Sunny	
Length	4'	--	5'	--				
Type	--	--	HSA	--				
Hammer Wt.	--	--	--	--				
Fall	--	--	--	--				

Remarks:

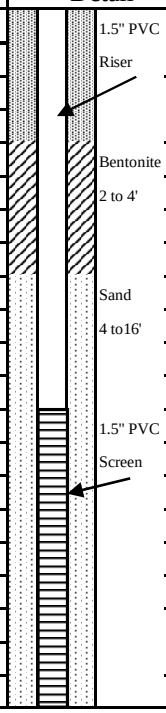
SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

WELL INFORMATION

Type	Diam.	Top Depth (Ft.)	Bottom Depth (Ft.)
Schedule 40 PVC Riser	1.5"	0	6.0
Schedule 40 PVC Screen	1.5"	6.0	16.0

Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description	Well Installation Detail	Elevation (Ft. MSL)
1, 2, 3, 4 (4.0)	D-1	N/A			<1	Silt, loam and gravel Silty clay, reddish tan, hard, dry	1.5" PVC Riser; Bentonite 2 to 4'	
5, 6, 7, 8 (8.0)	D-2	N/A		74SB109-04 (7-9')	<1	Soft silty clay, mottled, beige/red	Sand 4 to16'; 1.5" PVC Screen	
9, 10	D-3	N/A		74SB109-05 (9-11')	<1	Clay, light blue, red silty clay some sand throughout, medium soft, damp to moist		



DRILLING CO.:	GeoEnviroTech, Inc.	BAKER REP.:	Robert Roselius
DRILLER:	Abraham Nasser	BORING NO.:	74SB109

Baker

Michael Baker Jr., Inc.

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74SB109

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm) ps/bg	Visual Description	Well Installation Detail	Elevation (Ft. MSL)
11		D-3	N/A			<1	*Continue from page 1*		
12	12.0								
13		D-4	N/A			<1	More plasticity, softer hydrocarbon odor	Sand 4 to16'	
14									
15									
16	16.0								
17							Bottom of well at 16'		
18									
19									
20									
21									
22									
23									
24									

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Robert Roselius

DRILLER: Abraham Nasser BORING NO. 74SB109 SHEET 2 OF 2

Baker

Michael Baker Jr., Inc.

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74VP3a

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm) ps/bg	Visual Description	Well Installation Detail	Elevation (Ft. MSL)
11		D-3				<1	*Continue from page 1*		
12	12.0							Sand 4 to 16'	
13		D-4				<1		1.5" PVC Screen	
14									
15									
16	16.0						Bottom of Well at 16'		
17									
18									
19									
20									
21									
22									
23									
24									

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Robert Roselius

DRILLER: Abraham Nasser BORING NO.: 74VP3a SHEET 2 OF 2

Baker

Michael Baker Jr., Inc.

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT:	Naval Activity Puerto Rico - SWMU 74		
PROJ. NO.:	111626	BORING NO.:	74VP3b
COORDINATES:	EAST: 933062.89	NORTH:	806398.16
ELEVATION:	SURFACE: 112.72	TOP OF PVC CASING:	115.27

Rig: Geoprobe 66DT	MC Sampler	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	3"	--	4.25"	--	5/5/2008	0.0 - 14.0	85° Sunny	
Length	4'	--	5'	--				
Type	--	--	HSA	--				
Hammer Wt.	--	--	--	--				
Fall	--	--	--	--				

Remarks:

SAMPLE TYPE

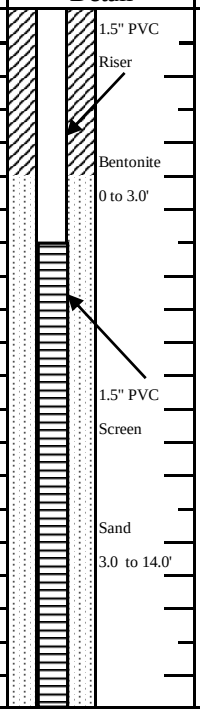
S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

WELL INFORMATION

Type	Diam.	Top Depth (Ft.)	Bottom Depth (Ft.)
Schedule 40 PVC Riser	1.5"	0	4.0
Schedule 40 PVC Screen	1.5"	4.0	14.0

Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description
1, 2, 3, 4 (4.0)	D-1				<1	Clay, trace gravel, light gray, brown, tan, dry to damp Clay, trace gravel, light gray, brown, tan, dry to damp
5, 6, 7, 8 (8.0)	D-2			74GWVP3b-03 (5-7')	200+ 200+	Silt, coarse sand, petro odor Silt, coarse sand, petro odor damp to moist
9, 10	D-3			74GWVP3b-04 (7-9')	<1	

Well Installation Detail



Elevation (Ft. MSL)

DRILLING CO.:	GeoEnviroTech, Inc.	BAKER REP.:	Robert Roselius
DRILLER:	Abraham Nasser	BORING NO.: 74VP3b	SHEET 1 OF 2

Baker

Michael Baker Jr., Inc.

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT:	Naval Activity Puerto Rico - SWMU 74		
PROJ. NO.:	111626	BORING NO.:	74VP3b/9
COORDINATES:	EAST: 935548.8	NORTH:	806196.3
ELEVATION:	SURFACE: 109.61	TOP OF PVC CASING:	112.77

Rig: Geoprobe 66DT	**MC Sampler**	**Casing**	**Augers**	**Core Barrel**	**Date**	**Progress (Ft.)**	**Weather**	**Depth to Water (Ft.)**
Size (ID)	3"	--	4.25"	--	5/3/2008	0.0 - 12.0	85° Sunny	
Length	4'	--	5'	--				
Type	--	--	HSA	--				
Hammer Wt.	--	--	--	--				
Fall	--	--	--	--				

Remarks:

SAMPLE TYPE

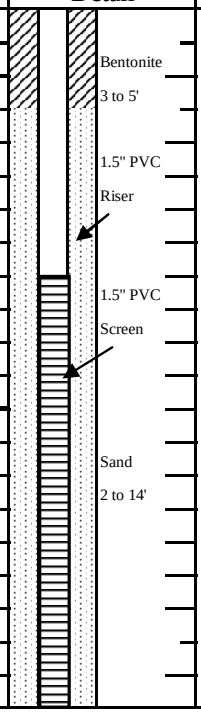
S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston
N = No Sample

WELL INFORMATION

Type	Diam.	Top Depth (Ft.)	Bottom Depth (Ft.)
Schedule 40 PVC Riser	1.5"	0	7.0
Schedule 40 PVC Screen	1.5"	7.0	12.0

Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm)	Visual Description
1, 2, 3, 4 (4.0)	D-1	3.1 78%			<1	Sandy Clay, dark brown; Clay (Fill), light gray, fine gravel, dry to damp
5, 6, 7, 8 (8.0)	D-2	3.7 93%			200.0	Silt, light gray, petroleum odor some sand, dry
9, 10	D-3	4.0 100%		74GWVP3b/9-05 (9-11')	200.0	beocmes damp to moist

Well Installation Detail



Elevation (Ft. MSL)

DRILLING CO.:	GeoEnviroTech, Inc.	BAKER REP.:	Robert Roselius
DRILLER:	Abraham Nasser	BORING NO.:	74VP3b/9

SHEET 1 OF 2

Baker

Michael Baker Jr., Inc.

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74VP3b/9

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Direct Push P = Piston N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
ps/bg = point source/background

Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm) ps/bg	Visual Description	Well Installation Detail	Elevation (Ft. MSL)
11		D-3				10 to 11	*Continue from page 1*		
12	12.0							Sand 2 to 14'	
13		A	NA		74GWVP3b/9-07 (13-15')			1.5" PVC Screen	
14	14.0								
15							Bottom of Well at 14'		
16									
17									
18									
19									
20									
21									
22									
23									
24									

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Robert Roselius

DRILLER: Abraham Nasser BORING NO.: 74VP3b/9 SHEET 2 OF 2

Baker

Michael Baker Jr., Inc.

TEST BORING AND WELL CONSTRUCTION RECORD

PROJECT: Naval Activity Puerto Rico - SWMU 74

SO NO.: 111626 BORING NO.: 74VP3b

SAMPLE TYPE	DEFINITIONS
S = Split Spoon A = Auger	SPT = Standard Penetration Test (ASTM D1586)
T = Shelby Tube W = Wash	PID = Photo Ionization Detector Measurement
R = Air Rotary C = Core	MSL = Mean Sea Level
D = Direct Push P = Piston N = No Sample	ps/bg = point source/background

Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft.,%)	SPT	Lab ID	PID (ppm) ps/bg	Visual Description	Well Installation Detail	Elevation (Ft. MSL)
11	D-3				<1	*Continue from page 1*		
12						Silty, fine sand, brown		
13							Sand 3 to 14'	
14								
15						Bottom of Well at 14'		
16								
17								
18								
19								
20								
21								
22								
23								
24								

DRILLING CO.: GeoEnviroTech, Inc. BAKER REP.: Robert Roselius

DRILLER: Abraham Nasser BORING NO.: 74VP3b SHEET 2 OF 2

Chain-of-Custody Forms

Serial Number 004547

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

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5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165 74-001

○ Alternate Laboratory Name/Location

Phone:
Fax:

PROJECT REFERENCE	PROJECT NO.	PROJECT LOCATION (STATE)
NAPR 7 Site Investigation	111626	PR

TAL (LAB) PROJECT MANAGER	P.O. NUMBER	CONTRACT NO.
Kathy E. Smith		

CLIENT (SITE) PM	CLIENT PHONE	CLIENT FAX
Mark Kimes	412.337.7465	

CLIENT NAME	CLIENT E-MAIL
Michael Baker Jr., Inc.	mkimes@mbakercorp.com

CLIENT ADDRESS: 100 Airside Dr., Moon Township, PA 15108

COMPANY CONTRACTING THIS WORK (if applicable): Michael Baker Jr., Inc.

PAGE 1 OF 1

STANDARD REPORT DELIVERY ⊗
DATE DUE 28 Day TAT

EXPEDITED REPORT DELIVERY (SURCHARGE) ○
DATE DUE _____

NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

PRESERVATIVE

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G) INDICATE	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT, ...)	App IX VOCs	App IX SVOCs	LL PAHs	App IX Metals (Total)	App IX Metals (Dissolved)	TPH GRO	TPH DRO	App IX Pesticides	App IX PCBs	TOC	REMARKS
4/28/08	1350	74SB01-00	G		X			3		✓	1		3	✓				✓ = Same container
	1355	74SB01-02	G		X			3		✓	1		3	✓				✓ = Same container
	1525	74SB01-04	G		X			3		✓	1		3	✓				✓ = Same container
	1450	74SB02-03	G		X			3			1		3	1				
	1500	74SB02-05	G		X			3			1		3	1				
	1525	74SB04-01	G		X			3			1		3	1				
	1540	74SB04-04	G		X			3			1		3	1				
4/28/08		74TB01	G	X									3					

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
			Mark E. K	4/29/08	1800			

RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME
	4/28/08	0700						

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SAVANNAH LOG NO.	LABORATORY REMARKS
Jan Homsly	4/30/08	0908	YES ○ NO ○		680-36289	Temp (°C): 0.4, 1.4, 1.8, 2.2, 3.6, 3.8

TAL8240-680 (1207)

Serial Number 005102

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

FedEx Airbill No.: 8617 8652 7535

TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

74-002

Alternate Laboratory Name/Location
Phone:
Fax:

PROJECT REFERENCE: NAPR 7 Site Investigation	PROJECT NO.: 111626	PROJECT LOCATION (STATE): PR
TAL (LAB) PROJECT MANAGER: Kathy E. Smith	P.O. NUMBER	CONTRACT NO.
CLIENT (SITE) PM: Mark Kimes	CLIENT PHONE: 412.337.7465	CLIENT FAX
CLIENT NAME: Michael Baker Jr., Inc.	CLIENT E-MAIL: mkimes@mbakercorp.com	
CLIENT ADDRESS: 100 Airside Dr., Moon Township, PA 15108		
COMPANY CONTRACTING THIS WORK (if applicable): Michael Baker Jr., Inc.		

PAGE 1 OF 3

STANDARD REPORT DELIVERY ☒
DATE DUE 28 Day TAT
EXPEDITED REPORT DELIVERY (SURCHARGE) ○
DATE DUE

NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G) INDICATE	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT, ...)	App IX VOCs	App IX SVOCs	LL PAHs	App IX Metals (Total)	App IX Metals (Dissolved)	TPH GRO	TPH DRO	App IX Pesticides	App IX PCBs	TOC	REMARKS
								PRESERVATIVE										
								NUMBER OF CONTAINERS SUBMITTED										
4/29/08	0750	74SB 05 -01	G		✓			3			1		3	1				
	0755	74SB 05 -01D	G		✓			3			1		3	1				
	0815	74SB 05 -02	G		✓			3			1		3	1				
	1005	74SB 06-01	G		✓			3			1		3	1				
	1010	74SB 06-01MS	G		✓			3			1		3	1				
	1000	74SB 06-02	G		✓			3			1		3	1				
	1330	74SB 07-02	G		✓			3			1		3	1				
	1335	74SB 07-04	G		✓			3			1		3	1				
	1415	74SB 09-02	G		✓			3			1		3	1				
	1420	74SB 09-05	G		✓			3			1		3	1				
	1445	74SB 10-02	G		✓			3			1		3	1				
4/29/08	1500	74SB 10-04	G		✓			3			1		3	1				

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
			Mark E. Kimes	5/1/08	1500			
RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME
[illegible]	4/29/08	0700						

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SAVANNAH LOG NO.	LABORATORY REMARKS
[illegible]	5/2/08	0914	YES ○ NO ○		680-36360	

TAL8240-680 (1207)

Serial Number 005103

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

FedEx Airbill No.: 8617 8652 7535

TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

74-002

Alternate Laboratory Name/Location

Phone:
Fax:

PROJECT REFERENCE: NAPR 7 Site Investigation	PROJECT NO.: 111626	PROJECT LOCATION (STATE): PR
TAL (LAB) PROJECT MANAGER: Kathy E. Smith	P.O. NUMBER:	CONTRACT NO.:
CLIENT (SITE) PM: Mark Kimes	CLIENT PHONE: 412.337.7465	CLIENT FAX:
CLIENT NAME: Michael Baker Jr., Inc.	CLIENT E-MAIL: mkimes@mbakercorp.com	
CLIENT ADDRESS: 100 Airside Dr., Moon Township, PA 15108		
COMPANY CONTRACTING THIS WORK (if applicable): Michael Baker Jr., Inc.		

PAGE 2 OF 3

STANDARD REPORT DELIVERY ☒

DATE DUE 28 Day TAT

EXPEDITED REPORT DELIVERY (SURCHARGE) ○

DATE DUE _____

NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

MATRIX TYPE: COMPOSITE (C) OR GRAB (G) INDICATE; AQUEOUS (WATER); SOLID OR SEMISOLID; AIR; NONAQUEOUS LIQUID (OIL, SOLVENT, ...)

REQUIRED ANALYSIS / NUMBER OF CONTAINERS SUBMITTED

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G)	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT, ...)	App IX VOCs	App IX SVOCs	LL PAHs	App IX Metals (Total)	App IX Metals (Dissolved)	TPH GRO	TPH DRO	App IX Pesticides	App IX PCBs	TOC	REMARKS
								PRESERVATIVE										
4/30/08	0815	74SB11-02	G		✓			3			1		3	1				
		74SB11-04	G		✓			3		✓	1		3	✓				
		74SB11-04D	G		✓			3		✓	1		3	✓				
		74SB11-04MS/MSD	G		✓					✓	~~1~~ Quick Silver			✓				
		74SB12-03	G		✓			3			1		3	1				
		74SB12-05	G		✓			3			1		3	1				
		74SB13-00	G		✓			3			1		3	1				
		74SB13-00D	G		✓			3			1		3	1				
		74SB13-00MS/MSD	G		✓			3			1		3	1				
		74SB13-02	G		✓			3			1		3	1				
		74SB13-04	G		✓			3			1		3	1				
4/30/08	1100	74SB14-02	G		✓			3			1		3	1				

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
			[signature]	5/1/08	1500			
RECEIVED BY: (SIGNATURE)	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**
[signature]	4/28/08	0700						

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SAVANNAH LOG NO.	LABORATORY REMARKS
[signature]	5/2/08	0914	YES ○ NO ○		680-36360	

TAL8240-680 (1207)

Serial Number 005104

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

FedEx Airbill No.: 8617 8652 7535

(X) TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165 74-002

( ) Alternate Laboratory Name/Location

Phone:
Fax:

PROJECT REFERENCE: NAPR 7 Site Investigation	PROJECT NO.: 111626	PROJECT LOCATION (STATE): PR
TAL (LAB) PROJECT MANAGER: Kathy E. Smith	P.O. NUMBER:	CONTRACT NO.:
CLIENT (SITE) PM: Mark Kimes	CLIENT PHONE: 412.337.7465	CLIENT FAX:
CLIENT NAME: Michael Baker Jr., Inc.	CLIENT E-MAIL: mkimes@mbakercorp.com	
CLIENT ADDRESS: 100 Airside Dr., Moon Township, PA 15108		
COMPANY CONTRACTING THIS WORK (if applicable): Michael Baker Jr., Inc.		

PAGE 3 OF 3

STANDARD REPORT DELIVERY (X)
DATE DUE 28 Day TAT
EXPEDITED REPORT DELIVERY (SURCHARGE) ( )
DATE DUE _____

NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

MATRIX TYPE: COMPOSITE (C) OR GRAB (G) INDICATE; AQUEOUS (WATER); SOLID OR SEMISOLID; AIR; NONAQUEOUS LIQUID (OIL, SOLVENT, ...)

REQUIRED ANALYSIS / NUMBER OF CONTAINERS SUBMITTED

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G)	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT, ...)	App IX VOCs	App IX SVOCs	LL PAHs	App IX Metals (Total)	App IX Metals (Dissolved)	TPH GRO	TPH DRO	App IX Pesticides	App IX PCBs	TOC	REMARKS
4/30/08	1110	74SB14-03	G		✓			3			1		3	1				
	1130	74SB15-02	G		✓			3			1		3	1				
	1140	74SB15-03	G		✓			3			1		3	1				
	1500	74SB16-02	G		✓			3			1		3	1				
	1510	74SB16-04	G		✓			3		✓	1		3	✓				
	1515	74SB16-04D	G		✓			3		✓	1		3	✓				
		74TB02	G	✓				3					3					

PRESERVATIVE

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
			Mark E. K	5/1/08	1500			
RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME
[signature]	4/28/08	0700						

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SAVANNAH LOG NO.	LABORATORY REMARKS
[signature]	5/2/08	0914	YES ( ) NO ( )		680-36360	

TAL8240-680 (1207)

Serial Number 005106

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

FedEx Airbill No.: 8617 8652 8005

TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

74-003

Alternate Laboratory Name/Location

Phone:
Fax:

PROJECT REFERENCE	PROJECT NO.	PROJECT LOCATION (STATE)
NAPR 7 Site Investigation	111626	PR

TAL (LAB) PROJECT MANAGER	P.O. NUMBER	CONTRACT NO.
Kathy E. Smith		

CLIENT (SITE) PM	CLIENT PHONE	CLIENT FAX
Mark Kimes	412.337.7465	

CLIENT NAME	CLIENT E-MAIL
Michael Baker Jr., Inc.	mkimes@mbakercorp.com

CLIENT ADDRESS: 100 Airside Dr., Moon Township, PA 15108

COMPANY CONTRACTING THIS WORK (if applicable): Michael Baker Jr., Inc.

PAGE 1 OF 3

STANDARD REPORT DELIVERY ⊗
DATE DUE 28 Day TAT

EXPEDITED REPORT DELIVERY (SURCHARGE) ○
DATE DUE

NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

PRESERVATIVE: one 5/1/08

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G) INDICATE	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT, ...)	App IX VOCs	App IX SVOCs	LL PAHs	App IX Metals (Total)	App IX Metals (Dissolved)	TPH GRO	TPH DRO	App IX Pesticides	App IX PCBs	TOC	REMARKS
								NUMBER OF CONTAINERS SUBMITTED										
5/1/08	0940	74SB30-03	G		✓			3	1		1		3	1				
	0950	74SB30-04	G		✓			3	1		1		3	1				
	1040	74SB31-02	G		✓			3	1	✓	1		3	1				
	1050	74SB31-03	G		✓			3	1		1		3	1				
	1115	74SB32-02	G		✓			3	1		1		3	1				
	1120	74SB32-03	G		✓			3	1		1		3	1				
	1130	74SB32-03D	G		✓			3	1		1		3	1				
	1350	74SB33-01	G		✓			3	1		1		3	1				
	1400	74SB33-02	G		✓			3	1		1		3	1				
	1410	74SB34-00	G		✓			3	1		1		3	1				
	1410	74SB34-00MS/MSD	G		✓			3 3	1		1		3 3	1				
5/1/08	1450	74SB34-01	G		✓			3	1		1		3	1				

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
			Mark Kimes	5/2/08	1500			

RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME
[signature]	4/28/08	0700						

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SAVANNAH LOG NO.	LABORATORY REMARKS
[signature]	5/5/08	0909	YES ○ NO ○		680-36419	

TAL8240-680 (1207)

Serial Number 005107

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

FedEx Airbill No.: 8617 8652 8005

☒ TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

74-003

○ Alternate Laboratory Name/Location

Phone:
Fax:

PROJECT REFERENCE	PROJECT NO.	PROJECT LOCATION (STATE)
NAPR 7 Site Investigation	111626	PR

TAL (LAB) PROJECT MANAGER	P.O. NUMBER	CONTRACT NO.
Kathy E. Smith		

CLIENT (SITE) PM	CLIENT PHONE	CLIENT FAX
Mark Kimes	412.337.7465	

CLIENT NAME	CLIENT E-MAIL
Michael Baker Jr., Inc.	mkimes@mbakercorp.com

CLIENT ADDRESS: 100 Airside Dr., Moon Township, PA 15108

COMPANY CONTRACTING THIS WORK (if applicable): Michael Baker Jr., Inc.

PAGE 2 OF 3

STANDARD REPORT DELIVERY ☒
DATE DUE 28 Day TAT

EXPEDITED REPORT DELIVERY (SURCHARGE) ○
DATE DUE _____

NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

PRESERVATIVE: ice 5/1/08

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G) INDICATE	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT, ...)	App IX VOCs	App IX SVOCs	LL PAHs	App IX Metals (Total)	App IX Metals (Dissolved)	TPH GRO	TPH DRO	App IX Pesticides	App IX PCBs	TOC	REMARKS
5/1/08	1500	74SB34-02	G		X			3	4	✓	1		3	1				
	0820	74SB28-02	G		X			3			1		3	1				
	0830	74SB28-04	G		X			3			1		3	1				
	0900	74SB29-03	G		X			3			1		3	1				
5/1/08	0905	74SB29-05	G		X			3			1		3	1				
5/2/08	0750	74SB35-01	G		✓			3			1		3	1				
	0800	74SB35-03	G		✓			3			1		3	1				
	0840	74SB36-02	G		✓			3			1		3	1				
	0845	74SB36-05	G		✓			3			1		3	1				
	0920	74SB37-01	G		✓			3			1		3	1				
	0930	74SB37-02	G		✓			3			1		3	1				
5/2/08	0935	74SB37-02D	G		✓			3			1		3	1				

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
			Mark E. Kimes	5/2/08	1500			

RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME
	4/28/08	0700						

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SAVANNAH LOG NO.	LABORATORY REMARKS
KH	5/5/08	0909	YES ○ NO ○		600-36419	

TAL8240-680 (1207)

Serial Number 005110

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

FedEx Airbill No.: 8617 8652 8005

TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

74-003

Alternate Laboratory Name/Location

Phone:
Fax:

PROJECT REFERENCE: NAPR 7 Site Investigation	PROJECT NO.: 111626	PROJECT LOCATION (STATE): PR
TAL (LAB) PROJECT MANAGER: Kathy E. Smith	P.O. NUMBER:	CONTRACT NO.:
CLIENT (SITE) PM: Mark Kimes	CLIENT PHONE: 412.337.7465	CLIENT FAX:
CLIENT NAME: Michael Baker Jr., Inc.	CLIENT E-MAIL: mkimes@mbakercorp.com	
CLIENT ADDRESS: 100 Airside Dr., Moon Township, PA 15108		
COMPANY CONTRACTING THIS WORK (if applicable): Michael Baker Jr., Inc.		

PAGE 3 OF 3

STANDARD REPORT DELIVERY ☒

DATE DUE 28 Day TAT

EXPEDITED REPORT DELIVERY (SURCHARGE) ○

DATE DUE _____

NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

MATRIX TYPE: COMPOSITE (C) OR GRAB (G) INDICATE; AQUEOUS (WATER); SOLID OR SEMISOLID; AIR; NONAQUEOUS LIQUID (OIL, SOLVENT, ...)

REQUIRED ANALYSIS

PRESERVATIVE

NUMBER OF CONTAINERS SUBMITTED

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G)	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT, ...)	App IX VOCs	App IX SVOCs	LL PAHs	App IX Metals (Total)	App IX Metals (Dissolved)	TPH GRO	TPH DRO	App IX Pesticides	App IX PCBs	TOC	REMARKS
5/2/08	1000	74SB38-01	G		✓			3			1		3	1				
	1005	74SB38-02	G		✓			3			1		3	1				
	1030	74SB39-02	G		✓			3			1		3	1				
	1040	74SB39-04	G		✓			3			1		3	1				
	1110	74SB40-02	G		✓			3			1		3	1				
5/2/08	1120	74SB40-04	G		✓			3			1		3	1				
5/2/08		74TB03	G	✓				3					3					

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
[signature]			[signature]	5/2/08	1500			
RECEIVED BY: (SIGNATURE)	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**
[signature]	4/28/08	0700						

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SAVANNAH LOG NO.	LABORATORY REMARKS
[signature]	5/5/08	0909	YES ○ NO ○		680-36419	

TAL8240-680 (1207)

Serial Number 005195

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

FedEx Airbill No.: 8617 8652 7991

TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

74-004

Alternate Laboratory Name/Location

Phone:
Fax:

PROJECT REFERENCE	PROJECT NO.	PROJECT LOCATION (STATE)
NAPR 7 Site Investigation	111626	PR

TAL (LAB) PROJECT MANAGER	P.O. NUMBER	CONTRACT NO.
Kathy E. Smith		

CLIENT (SITE) PM	CLIENT PHONE	CLIENT FAX
Mark Kimes	412.337.7465	

CLIENT NAME	CLIENT E-MAIL
Michael Baker Jr., Inc.	mkimes@mbakercorp.com

CLIENT ADDRESS: 100 Airside Dr., Moon Township, PA 15108

COMPANY CONTRACTING THIS WORK (if applicable): Michael Baker Jr., Inc.

PAGE 1 OF 7

STANDARD REPORT DELIVERY ☒

DATE DUE ~~28 Day TAT~~

EXPEDITED REPORT DELIVERY (SURCHARGE) ○

DATE DUE _____

NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

MATRIX TYPE: COMPOSITE (C) OR GRAB (G) INDICATE; AQUEOUS (WATER); SOLID OR SEMISOLID; AIR; NONAQUEOUS LIQUID (OIL, SOLVENT, ...)

REQUIRED ANALYSIS: App IX VOCs; ~~App IX SVOCs~~ 5/5/08; LL PAHs; App IX Metals (Total); App IX Metals (Dissolved); TPH GRO; TPH DRO; App IX Pesticides; App IX PCBs; TOC

PRESERVATIVE

NUMBER OF CONTAINERS SUBMITTED

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G)	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT, ...)	App IX VOCs	~~App IX SVOCs~~	LL PAHs	App IX Metals (Total)	App IX Metals (Dissolved)	TPH GRO	TPH DRO	App IX Pesticides	App IX PCBs	TOC	REMARKS
5/3/08	830	74VP2B-01	G		X			3	1		1		3	1				
↓	840	74VP2B-03	G		X			3	1		1		3	1				
	1130	74VP1B-03	G		X			3	1		1		3	1				
	1130	74VP1B-03D	G		X			3	1		1		3	1				
	1145	74VP1B-04	G		X			3	1		1		3	1				
↓	1645	74VP1B-04X	G		X			3	1		1		3	1				
5/2/08	1330	74SB41-02	G		X			3	1		1		3	1				
↓	1340	74SB41-04	G		X			3	1		1		3	1				
5/3/08	1215	74SB22-00	G		X			3		✓	1		3	✓				
↓	1245	74SB22-03	G		X			3		✓	1		3	✓				
	1245	74SB22-03D	G		X			3		✓	1		3	✓				
↓	1245	74SB22-03 ms	G		X			3			~~1~~ Kamek		3					

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
			Michael E. Kimes	5/5/08	1500			

RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME
[signature]	4/28/08	0700						

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SAVANNAH LOG NO.	LABORATORY REMARKS
KG	5/6/08	0915	YES ○ NO ○		60-36426	Cooler temps: 0.4 | 0.6 0.4 | 0.4 | 0.8 | 0.6 | 1.4 | 1.4 | 0.6 | 0.6 | 0.6 | 0.6 | 0.4

TAL 8240-580 (1207)

Serial Number 005194

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

FedEx Airbill No.: 8617 8652 2991

TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

74-004

Alternate Laboratory Name/Location

Phone:
Fax:

PROJECT REFERENCE	PROJECT NO.	PROJECT LOCATION (STATE)
NAPR 7 Site Investigation	111626	PR
TAL (LAB) PROJECT MANAGER: Kathy E. Smith	P.O. NUMBER	CONTRACT NO.
CLIENT (SITE) PM: Mark Kimes	CLIENT PHONE: 412.337.7465	CLIENT FAX
CLIENT NAME: Michael Baker Jr., Inc.	CLIENT E-MAIL: mkimes@mbakercorp.com	
CLIENT ADDRESS: 100 Airside Dr., Moon Township, PA 15108		
COMPANY CONTRACTING THIS WORK (if applicable): Michael Baker Jr., Inc.		

PAGE 2 OF 7

STANDARD REPORT DELIVERY ⊗

DATE DUE ~~28 Day TAT~~

EXPEDITED REPORT DELIVERY (SURCHARGE) ○

DATE DUE _____

NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G) INDICATE	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT, ...)	App IX VOCs	App IX SVOCs	LL PAHs	App IX Metals (Total)	App IX Metals (Dissolved)	TPH GRO	TPH DRO	App IX Pesticides	App IX PCBs	TOC	REMARKS
								PRESERVATIVE										
								NUMBER OF CONTAINERS SUBMITTED										
5/3/08	1245	74SB22-03 MSD	G		X			3					3					
	1245	74SB22-03 MS/MSD	G		X					✓	1		~~X~~	✓				
	1300	74SB22-04	G		X			3		✓	1		3	✓				
	1145	74SB23-02	G		X			3		✓	1		3	✓				
	1155	74SB23-03	G		X			3		✓	1		3	✓				
	1015	74SB24-03	G		X			3		✓	1		3	✓				
	1020	74SB24-05	G		X			3		✓	1		3	✓				
	0945	74SB25-04	G		X			3		✓	1		3	✓				
	0950	74SB25-05	G		X			3		✓	1		3	✓				
	0905	74SB26-02	G		X			3			1		3	1				
	0905	74SB26-02D	G		X			3			1		3	1				
	0915	74SB26-05	G		X			3			1		3	1				

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
			Mark E. Kimes	5/5/08	1500			
RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME
[signature]	4/28/08	0700						

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SAVANNAH LOG NO.	LABORATORY REMARKS
[signature]	5/6/08	0915	YES ○ NO ○		60-36426	

TAL8240-680 (1207)

Serial Number 005193

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

FedEx Airbill No.: 8617 8652 7991

TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

74-004

Alternate Laboratory Name/Location

Phone:
Fax:

PROJECT REFERENCE: NAPR 7 Site Investigation	PROJECT NO.: 111626	PROJECT LOCATION (STATE): PR
TAL (LAB) PROJECT MANAGER: Kathy E. Smith	P.O. NUMBER:	CONTRACT NO.:
CLIENT (SITE) PM: Mark Kimes	CLIENT PHONE: 412.337.7465	CLIENT FAX:
CLIENT NAME: Michael Baker Jr., Inc.	CLIENT E-MAIL: mkimes@mbakercorp.com	
CLIENT ADDRESS: 100 Airside Dr., Moon Township, PA 15108		
COMPANY CONTRACTING THIS WORK (if applicable): Michael Baker Jr., Inc.		

PAGE 3 OF 7

STANDARD REPORT DELIVERY ☒

DATE DUE ~~28 Day TAT~~

EXPEDITED REPORT DELIVERY (SURCHARGE) ○

DATE DUE _____

NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	MATRIX TYPE: COMPOSITE (C) OR GRAB (G) INDICATE	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT, ...)	App IX VOCs	App IX SVOCs	LL PAHs	App IX Metals (Total)	App IX Metals (Dissolved)	TPH GRO	TPH DRO	App IX Pesticides	App IX PCBs	TOC	REMARKS
								PRESERVATIVE										
								NUMBER OF CONTAINERS SUBMITTED										
5/3/08	0835	745B27-03	G		X			3			1		3	1				
	0845	745B27-05	G		X			3			1		3	1				
	0805	745B42-03	G		X			3			1		3	1				
	0810	745B42-04	G		X			3			1		3	1				
	0840	745B43-03	G		X			3			1		3	1				
	0845	745B43-04	G		X			3			1		3	1				
	0915	745B44-04	G		X			3			1		3	1				
	0920	745B44-05	G		X			3			1		3	1				
	1045	745B48-01	G		X			3			1		3	1				
	1050	745B48-01D	G		X			3			1		3	1				
	1110	745B49-04	G		X			3			1		3	1				
	1115	745B49-05	G		X			3			1		3	1				

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
			Mark E. Kimes	5/5/08	1500			
RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME
	4/28/08	0700						

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SAVANNAH LOG NO.	LABORATORY REMARKS
	5/6/08	0915	YES ○ NO ○		680-36426	

TAL8240-680 (1207)

Serial Number 005192

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

FedEx Airbill No.: 8617 8652 7991

TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

74-004

Alternate Laboratory Name/Location
Phone:
Fax:

PROJECT REFERENCE	PROJECT NO.	PROJECT LOCATION (STATE)
NAPR 7 Site Investigation	111626	PR
TAL (LAB) PROJECT MANAGER: Kathy E. Smith	P.O. NUMBER	CONTRACT NO.
CLIENT (SITE) PM: Mark Kimes	CLIENT PHONE: 412.337.7465	CLIENT FAX
CLIENT NAME: Michael Baker Jr., Inc.	CLIENT E-MAIL: mkimes@mbakercorp.com	
CLIENT ADDRESS: 100 Airside Dr., Moon Township, PA 15108		
COMPANY CONTRACTING THIS WORK (if applicable): Michael Baker Jr., Inc.		

PAGE 4 OF 7

STANDARD REPORT DELIVERY ☒

DATE DUE ~~28 Day TAT~~

EXPEDITED REPORT DELIVERY (SURCHARGE) ○

DATE DUE _____

NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G) INDICATE	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT, ...)	App IX VOCs	App IX SVOCs	LL PAHs	App IX Metals (Total)	App IX Metals (Dissolved)	TPH GRO	TPH DRO	App IX Pesticides	App IX PCBs	TOC	REMARKS
								PRESERVATIVE										
								NUMBER OF CONTAINERS SUBMITTED										
5/3/08	1140	745B50-03	G		X			3			1		3	1				
	1150	745B50-04	G		X			3			1		3	1				
	1200	745B51-00	G		X			3			1		3	1				
	1330	745B51-~~00~~ JHB 03	G		X			3			1		3	1				
	1400	745B52-03	G		X			3			1		3	1				
	1405	745B52-04	G		X			3			1		3	1				
	1415	745B53-04	G		X			3			1		3	1				
	1420	745B53-05	G		X			3			1		3	1				
	1435	745B54-03	G		X			3			1		3	1				
	1440	745B54-04	G		X			3			1		3	1				
	1450	745B55-02	G		X			3			1		3	1				
	1455	745B55-03	G		X			3			1		3	1				

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
			Mark E. Kimes	5/5/08	1500			
RECEIVED BY: (SIGNATURE)	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**
[signature]	4/28/08	0700						

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SAVANNAH LOG NO.	LABORATORY REMARKS
KL	5/6/08	0915	YES ○ NO ○		680-36426	

TAL8240-680 (1207)

Serial Number 005191

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

FedEx Airbill No.: 8617 8652 7991

TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

74-004

Alternate Laboratory Name/Location

Phone:
Fax:

PROJECT REFERENCE	PROJECT NO.	PROJECT LOCATION (STATE)
NAPR 7 Site Investigation	111626	PR

TAL (LAB) PROJECT MANAGER	P.O. NUMBER	CONTRACT NO.
Kathy E. Smith		

CLIENT (SITE) PM	CLIENT PHONE	CLIENT FAX
Mark Kimes	412.337.7465	

CLIENT NAME	CLIENT E-MAIL
Michael Baker Jr., Inc.	mkimes@mbakercorp.com

CLIENT ADDRESS: 100 Airside Dr., Moon Township, PA 15108

COMPANY CONTRACTING THIS WORK (if applicable): Michael Baker Jr., Inc.

PAGE 5 OF 7

STANDARD REPORT DELIVERY ⊗

DATE DUE ~~28 Day TAT~~

EXPEDITED REPORT DELIVERY (SURCHARGE) ○

DATE DUE _____

NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

MATRIX TYPE: COMPOSITE (C) OR GRAB (G) INDICATE; AQUEOUS (WATER); SOLID OR SEMISOLID; AIR; NONAQUEOUS LIQUID (OIL, SOLVENT, ...)

REQUIRED ANALYSIS / NUMBER OF CONTAINERS SUBMITTED

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G)	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT, ...)	App IX VOCs	App IX SVOCs	LL PAHs	App IX Metals (Total)	App IX Metals (Dissolved)	TPH GRO	TPH DRO	App IX Pesticides	App IX PCBs	TOC	REMARKS
								PRESERVATIVE										
5/3/08	1500	745B56-03	G		X			3			1		3	1				
	1505	745B56-04	G		X			3			1		3	1				
	1530	745B57-03	G		X			3			1		3	1				
	1540	745B57-04	G		X			3			1		3	1				
	1545	745B58-03	G		X			3			1		3	1				
	1555	745B58-04	G		X			3			1		3	1				
	1530	745B59-04	G		X			3			1		3	1				
	1540	745B59-05	G		X			3			1		3	1				
	1510	745B60-04	G		X			3			1		3	1				
	1515	745B60-05	G		X			3			1		3	1				
	1425	745B61-00	G		X			3			1		3	1				
	1435	745B61-03	G		X			3			1		3	1				

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
			Mark E. Kimes	5/5/08	1500			

RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME
[signature]	4/28/08	0700						

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SAVANNAH LOG NO.	LABORATORY REMARKS
KL	5/6/08	0915	YES ○ NO ○		680-36426	

TAL8240-680 (1207)

Serial Number 005190

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

FedEx Airbill No.: 8617 8652 7991

TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

74-004

Alternate Laboratory Name/Location

Phone:
Fax:

PROJECT REFERENCE	PROJECT NO.	PROJECT LOCATION (STATE)
NAPR 7 Site Investigation	111626	PR
TAL (LAB) PROJECT MANAGER: Kathy E. Smith	P.O. NUMBER	CONTRACT NO.
CLIENT (SITE) PM: Mark Kimes	CLIENT PHONE: 412.337.7465	CLIENT FAX
CLIENT NAME: Michael Baker Jr., Inc.	CLIENT E-MAIL: mkimes@mbakercorp.com	
CLIENT ADDRESS: 100 Airside Dr., Moon Township, PA 15108		
COMPANY CONTRACTING THIS WORK (if applicable): Michael Baker Jr., Inc.		

PAGE 6 OF 7

STANDARD REPORT DELIVERY ☒

DATE DUE ~~28 Day TAT~~

EXPEDITED REPORT DELIVERY (SURCHARGE) ○

DATE DUE _____

NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G) INDICATE	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT, ...)	App IX VOCs	App IX SVOCs	LL PAHs	App IX Metals (Total)	App IX Metals (Dissolved)	TPH GRO	TPH DRO	App IX Pesticides	App IX PCBs	TOC	REMARKS
			MATRIX TYPE					REQUIRED ANALYSIS										
								PRESERVATIVE										
								NUMBER OF CONTAINERS SUBMITTED										
5/3/08	1450	74SB61-04	G		X			3			1		3	1				
	1450	74SB61-04D	G		X			3			1		3	1				
	1400	74SB62-03	G		X			3			1		3	1				
5/4/08	0820	74SB63-03	G		X			3			1		3	1				
	0825	74SB63-04	G		X			3			1		3	1				
	0940	74SB64-03	G		X			3			1		3	1				
	0945	74SB64-04	G		X			3			1		3	1				
	1010	74SB65-03	G		X			3			1		3	1				
	1015	74SB65-04	G		X			3			1		3	1				
	1050	74SB66-03	G		X			3			1		3	1				
	1055	74SB66-04	G		X			3			1		3	1				
	1100	74SB66-04D	G		X			3			1		3	1				

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
			Mark E. Kimes	5/5/08	1500			

RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME
	4/28/08	0700						

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SAVANNAH LOG NO.	LABORATORY REMARKS
KL	5/6/08	0915	YES ○ NO ○		680-36426	

TAL8240-680 (1207)

Serial Number 005189

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

FedEx Airbill No.: 8617 8652 7991

TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

74-004

Alternate Laboratory Name/Location

Phone:
Fax:

PROJECT REFERENCE: NAPR 7 Site Investigation 111626	PROJECT NO.	PROJECT LOCATION (STATE): PR
TAL (LAB) PROJECT MANAGER: Kathy E. Smith	P.O. NUMBER	CONTRACT NO.
CLIENT (SITE) PM: Mark Kimes	CLIENT PHONE: 412.337.7465	CLIENT FAX
CLIENT NAME: Michael Baker Jr., Inc.	CLIENT E-MAIL: mkimes@mbakercorp.com	
CLIENT ADDRESS: 100 Airside Dr., Moon Township, PA 15108		
COMPANY CONTRACTING THIS WORK (if applicable): Michael Baker Jr., Inc.		

PAGE 7 OF 7

STANDARD REPORT DELIVERY ⊗

DATE DUE ~~28 Day TAT~~

EXPEDITED REPORT DELIVERY (SURCHARGE) ○

DATE DUE _____

NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G) INDICATE	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT, ...)	App IX VOCs	App IX SVOCs	LL PAHs	App IX Metals (Total)	App IX Metals (Dissolved)	TPH GRO	TPH DRO	App IX Pesticides	App IX PCBs	TOC	REMARKS
								PRESERVATIVE										
								NUMBER OF CONTAINERS SUBMITTED										
5/4/08	1135	74SB67-03	G		X			3			1		3	1				
	1140	74SB67-04	G		X			3			1		3	1				
	1200	74SB68-03	G		X			3			1		3	1				
	1210	74SB68-04	G		X			3			1		3	1				
	1345	74SB69-03	G		X			3			1		3	1				
	1350	74SB69-04	G		X			3			1		3	1				
	1415	74SB70-03	G		X			3			1		3	1				
	1420	74SB70-04	G		X			3			1		3	1				
		74TB04	G	X				3					3					
		74TB05	G	X				3					3					
		74TB06	G	X				3					3					

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
			Mark E. Kimes	5/5/08	1500			
RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME
[signature]	4/28/08	0700						

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SAVANNAH LOG NO.	LABORATORY REMARKS
KL	5/6/08	0915	YES ○ NO ○		680-36426	

TAL8240-680 (1207)

Serial Number 005187

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

FedEx Airbill No.: 8617 8652 7980

TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

74-005

Alternate Laboratory Name/Location

Phone:
Fax:

PROJECT REFERENCE	PROJECT NO.	PROJECT LOCATION (STATE)
NAPR 7 Site Investigation	111626	PR

TAL (LAB) PROJECT MANAGER	P.O. NUMBER	CONTRACT NO.
Kathy E. Smith		

CLIENT (SITE) PM	CLIENT PHONE	CLIENT FAX
Mark Kimes	412.337.7465	

CLIENT NAME	CLIENT E-MAIL
Michael Baker Jr., Inc.	mkimes@mbakercorp.com

CLIENT ADDRESS: 100 Airside Dr., Moon Township, PA 15108

COMPANY CONTRACTING THIS WORK (if applicable): Michael Baker Jr., Inc.

PAGE 1 OF 8

STANDARD REPORT DELIVERY ●

DATE DUE 28 Day TAT

EXPEDITED REPORT DELIVERY (SURCHARGE) ○

DATE DUE _____

NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

MATRIX TYPE: COMPOSITE (C) OR GRAB (G) INDICATE; AQUEOUS (WATER); SOLID OR SEMISOLID; AIR; NONAQUEOUS LIQUID (OIL, SOLVENT, ...)

REQUIRED ANALYSIS: App IX VOCs; App IX SVOCs; LL PAHs; App IX Metals (Total); App IX Metals (Dissolved); TPH GRO; TPH DRO; App IX Pesticides; App IX PCBs; TOC

PRESERVATIVE

NUMBER OF CONTAINERS SUBMITTED

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G)	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT, ...)	App IX VOCs	App IX SVOCs	LL PAHs	App IX Metals (Total)	App IX Metals (Dissolved)	TPH GRO	TPH DRO	App IX Pesticides	App IX PCBs	TOC	REMARKS
5/5/08	726	74SB71-00	G		X			3			1	VHB	3	1				
	750	74SB71-03	G		X			3			1		3	1				
	750	74SB71-03 MS	G		X			3			~~1~~ VHB		3	~~1~~ VHB				
	750	74SB71-03 MSD	G		X			3			~~1~~ VHB		3	~~1~~ VHB				
	750	74SB71-03 MS/MSD	G		X						1			1				
	755	74SB71-04	G		X			3			1		3	1				
	800	74SB71-04D	G		X			3			1		3	1				
	825	74SB72-03	G		X			3			1		3	1				
	830	74SB72-04	G		X			3			1		3	1				
	900	74SB73-03	G		X			3			1		3	1				
	905	74SB73-04	G		X			3			1		3	1				
	955	74SB74-03	G		X			3			1		3	1				

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
			Mark E. Kimes	5/6/08	1500			

RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME
[signature]	4/28/08	0700						

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SAVANNAH LOG NO.	LABORATORY REMARKS
KL	5/7/08	1233	YES ○ NO ○		680-36489	cooler temps: 0.3/0.3 0.2/0.2/0.4/0.6/1.2/3.2/0.6/1.1/0.4/0.4/0.4/0.6/0.6

TAL8240-680 (1207)

Serial Number 005186

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

FedEx Airbill No.: 8817 8652 7980

TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

74-005

Alternate Laboratory Name/Location

Phone:
Fax:

PROJECT REFERENCE	PROJECT NO.	PROJECT LOCATION (STATE)
NAPR 7 Site Investigation	111626	PR

TAL (LAB) PROJECT MANAGER	P.O. NUMBER	CONTRACT NO.
Kathy E. Smith		

CLIENT (SITE) PM	CLIENT PHONE	CLIENT FAX
Mark Kimes	412.337.7465	

CLIENT NAME	CLIENT E-MAIL
Michael Baker Jr., Inc.	mkimes@mbakercorp.com

CLIENT ADDRESS: 100 Airside Dr., Moon Township, PA 15108

COMPANY CONTRACTING THIS WORK (if applicable): Michael Baker Jr., Inc.

PAGE 2 OF 8

STANDARD REPORT DELIVERY ●

DATE DUE 28 Day TAT

EXPEDITED REPORT DELIVERY (SURCHARGE) ○

DATE DUE _____

NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G) INDICATE	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT, ...)	App IX VOCs	App IX SVOCs	LL PAHs	App IX Metals (Total)	App IX Metals (Dissolved)	TPH GRO	TPH DRO	App IX Pesticides	App IX PCBs	TOC	REMARKS
								PRESERVATIVE										
								NUMBER OF CONTAINERS SUBMITTED										
5-5-08	940	74SB74-04	G		X			3			1		3	1				
	1020	74SB75-03	G		X			3			1		3	1				
	1025	74SB75-04	G		X			3			1		3	1				
	1055	74SB76-03	G		X			3			1		3	1				
	1100	74SB76-03D	G		X			3			1		3	1				
	1105	74SB76-04	G		X			3			1		3	1				
	1130	74SB77-03	G		X			3			1		3	1				
	1140	74SB77-04	G		X			3			1		3	1				
	1350	74SB79-03	G		X			3			1		3	1				
	1355	74SB79-04	G		X			3			1		3	1				
	1420	74SB80-03	G		X			3			1		3	1				
	1425	74SB80-04	G		X			3			1		3	1				

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
			Mark E. Kimes	5/6/08	1500			

RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME
[signature]	4/28/08	0700						

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SAVANNAH LOG NO.	LABORATORY REMARKS
KL	5/7/08	1233	YES ○ NO ○		680-36489	

TAL8240-680 (1207)

Serial Number 005185

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

FedEx Airbill No.: 8617 8652 7980

TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165 74-005

Alternate Laboratory Name/Location

Phone:
Fax:

PROJECT REFERENCE: NAPR 7 Site Investigation	PROJECT NO.: 111626	PROJECT LOCATION (STATE): PR
TAL (LAB) PROJECT MANAGER: Kathy E. Smith	P.O. NUMBER:	CONTRACT NO.:
CLIENT (SITE) PM: Mark Kimes	CLIENT PHONE: 412.337.7465	CLIENT FAX:
CLIENT NAME: Michael Baker Jr., Inc.	CLIENT E-MAIL: mkimes@mbakercorp.com	
CLIENT ADDRESS: 100 Airside Dr., Moon Township, PA 15108		
COMPANY CONTRACTING THIS WORK (if applicable): Michael Baker Jr., Inc.		

PAGE 3 OF 8

STANDARD REPORT DELIVERY ●

DATE DUE 28 Day TAT

EXPEDITED REPORT DELIVERY (SURCHARGE) ○

DATE DUE _____

NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G) INDICATE	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT, ...)	App IX VOCs	App IX SVOCs	LL PAHs	App IX Metals (Total)	App IX Metals (Dissolved)	TPH GRO	TPH DRO	App IX Pesticides	App IX PCBs	TOC	REMARKS
								PRESERVATIVE										
								NUMBER OF CONTAINERS SUBMITTED										
5-5-08	1440	74SB81-00	G		X			3			1		3	1				
	1450	74SB81-03	G		X			3			1		3	1				
	1450	74SB81-03MS	G		X			3					3					
	1450	74SB81-03MSD	G		X			3					3					
	1450	74SB81-03 MS/MSD	G		X						1			1				
	1500	74SB81-04	G		X			3			1		3	1				
	1510	74SB81-04D	G		X			3			1		3	1				
	845	74SB97-03	G		X			3			1		3	1				
	850	74SB97-04	G		X			3			1		3	1				
	910	74SB98-03	G		X			3			1		3	1				
	920	74SB98-04	G		X			3			1		3	1				
	940	74SB99-03	G		X			3			1		3	1				

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
			Mark E. Kimes	5/6/08	1500			
RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME
[signature]	4/28/08	0700						

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SAVANNAH LOG NO.	LABORATORY REMARKS
KL	5/7/08	1233	YES ○ NO ○		680-36489	

TAL8240-680 (1207)

Serial Number 005184

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

FedEx Airbill No.: 8617 8652 7980

TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

74-005

Alternate Laboratory Name/Location

Phone:
Fax:

PROJECT REFERENCE	PROJECT NO.	PROJECT LOCATION (STATE)
NAPR 7 Site Investigation	111626	PR

TAL (LAB) PROJECT MANAGER	P.O. NUMBER	CONTRACT NO.
Kathy E. Smith		

CLIENT (SITE) PM	CLIENT PHONE	CLIENT FAX
Mark Kimes	412.337.7465	

CLIENT NAME	CLIENT E-MAIL
Michael Baker Jr., Inc.	mkimes@mbakercorp.com

CLIENT ADDRESS: 100 Airside Dr., Moon Township, PA 15108

COMPANY CONTRACTING THIS WORK (if applicable): Michael Baker Jr., Inc.

PAGE 4 OF 8

STANDARD REPORT DELIVERY ●

DATE DUE ~~28 Day TAT~~

EXPEDITED REPORT DELIVERY (SURCHARGE) ○

DATE DUE _____

NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

MATRIX TYPE: COMPOSITE (C) OR GRAB (G) INDICATE; AQUEOUS (WATER); SOLID OR SEMISOLID; AIR; NONAQUEOUS LIQUID (OIL, SOLVENT, ...)

REQUIRED ANALYSIS / NUMBER OF CONTAINERS SUBMITTED

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G)	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID	App IX VOCs	App IX SVOCs	LL PAHs	App IX Metals (Total)	App IX Metals (Dissolved)	TPH GRO	TPH DRO	App IX Pesticides	App IX PCBs	TOC	REMARKS
								PRESERVATIVE										
5-5-08	920	74SB99-04	G		X			3			1		3	1				
	940	74SB100-03	G		X			3			1		3	1				
	950	74SB100-04	G		X			3			1		3	1				
	1010	74SB101-00	G		X			3			1		3	1				
	1020	74SB101-03	G		X			3			1		3	1				
	1030	74SB101-03D	G		X			3			1		3	1				
	1050	74SB101-03MS	G		X			3					3					
	1050	74SB101-03 MSD	G		X			3					3					
	1050	74SB101-03 MS/MSD	G		X						1		~~X~~	1				
	1105	74SB101-04	G		X			3			1		3	1				
	1240	74SB102-04	G		X			3			1		3	1				
	1245	74SB102-05	G		X			3			1		3	1				

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
			Mark E. Kimes	5/6/08	1500			

RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME
	4/28/08	0700						

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SAVANNAH LOG NO.	LABORATORY REMARKS
KL	5/7/08	1233	YES ○ NO ○		680-36489	

TAL8240-680 (1207)

Serial Number 005183

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

FedEx Airbill No.: 8617 8652 7980

TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

74-005

Alternate Laboratory Name/Location

Phone:
Fax:

PROJECT REFERENCE: NAPR 7 Site Investigation	PROJECT NO.: 111626	PROJECT LOCATION (STATE): PR
TAL (LAB) PROJECT MANAGER: Kathy E. Smith	P.O. NUMBER:	CONTRACT NO.:
CLIENT (SITE) PM: Mark Kimes	CLIENT PHONE: 412.337.7465	CLIENT FAX:
CLIENT NAME: Michael Baker Jr., Inc.	CLIENT E-MAIL: mkimes@mbakercorp.com	
CLIENT ADDRESS: 100 Airside Dr., Moon Township, PA 15108		
COMPANY CONTRACTING THIS WORK (if applicable): Michael Baker Jr., Inc.		

PAGE 5 OF 8

STANDARD REPORT DELIVERY ●

DATE DUE 28 Day TAT

EXPEDITED REPORT DELIVERY (SURCHARGE) ○

DATE DUE _____

NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G) INDICATE	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT, ...)	App IX VOCs	App IX SVOCs	LL PAHs	App IX Metals (Total)	App IX Metals (Dissolved)	TPH GRO	TPH DRO	App IX Pesticides	App IX PCBs	TOC	REMARKS
								PRESERVATIVE										
								NUMBER OF CONTAINERS SUBMITTED										
5-5-08	1320	74SB103-03	G		X			3			1		3	1				
	1330	74SB103-04	G		X			3			1		3	1				
	1515	74SB104-03	G		X			3			1		3	1				
	1525	74SB104-04	G		X			3			1		3	1				
	1535	74SB105-03	G		X			3			1		3	1				
	1545	74SB105-04	G		X			3			1		3	1				
	1600	74SB106-01	G		X			3			1		3	1				
	1610	74SB106-04	G		X			3			1		3	1				
	1155	74VP3B-03	G		X			3		1	1		3	1				
	1200	74VP3B-04	G		X			3		1	1		3	1				
5-6-08	0830	74VP11A-03	G		X			3			1		3	1				
5-6-08	0835	74VP11A-04	G		X			3			1		3	1				

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
			Mark E. K	5/6/08	1500			
RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME
	4/29/08	0700						

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SAVANNAH LOG NO.	LABORATORY REMARKS
KL	5/7/08	1233	YES ○ NO ○		680-36489	

TAL8240-680 (1207)

Serial Number 005182

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

FedEx Airbill No.: 8617 8652 7980

⊗ TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165 74-006

○ Alternate Laboratory Name/Location

Phone:
Fax:

PROJECT REFERENCE: NAPR 7 Site Investigation	PROJECT NO.: 111626	PROJECT LOCATION (STATE): PR
TAL (LAB) PROJECT MANAGER: Kathy E. Smith	P.O. NUMBER:	CONTRACT NO.:
CLIENT (SITE) PM: Mark Kimes	CLIENT PHONE: 412.337.7465	CLIENT FAX:
CLIENT NAME: Michael Baker Jr., Inc.	CLIENT E-MAIL: mkimes@mbakercorp.com	
CLIENT ADDRESS: 100 Airside Dr., Moon Township, PA 15108		
COMPANY CONTRACTING THIS WORK (if applicable): Michael Baker Jr., Inc.		

PAGE 6 OF 8

STANDARD REPORT DELIVERY ⊗

DATE DUE ~~28 Day TAT~~

EXPEDITED REPORT DELIVERY (SURCHARGE) ○

DATE DUE _____

NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G) INDICATE	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT, ...)	App IX VOCs	App IX SVOCs	LL PAHs	App IX Metals (Total)	App IX Metals (Dissolved)	TPH GRO	TPH DRO	App IX Pesticides	App IX PCBs	TOC	REMARKS
								PRESERVATIVE										
								NUMBER OF CONTAINERS SUBMITTED										
5-6-08	0750	74SB82-03	G		X			3			1		3	1				
	0750	74SB82-03MS	G		X			3					3					
	0750	74SB82-03MSD	G		X			3					3					
	0750	74SB82-03MS/MSD	G		X						1			1				
	0800	74SB82-04	G		X			3			1		3	1				
	0805	74SB82-04D	G		X			3			1		3	1				
	0850	74SB83-02	G		X			3			1		3	1				
	0850	74SB83-02MS	G		X			3					3					
	0850	74SB83-02MSD	G		X			3					3					
	0850	74SB83-02MS/MSD	G		X						1			1				
	0740	74SB107-03	G		X			3			1		3	1				
5-6-08	0740	74SB107-03D	G		X			3			1		3	1				

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
			Mark E. K	5/6/08	1500			
RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME
	5/6/08	0700						

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SAVANNAH LOG NO.	LABORATORY REMARKS
KL	5/7/08	1233	YES ○ NO ○		680-26489	

TAL8240-680 (1207)

Serial Number 005180

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

FedEx Airbill No.: 8617 8652 7980

TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165 74-006

Alternate Laboratory Name/Location

Phone:
Fax:

PROJECT REFERENCE	PROJECT NO.	PROJECT LOCATION (STATE)
NAPR 7 Site Investigation	111626	PR

TAL (LAB) PROJECT MANAGER	P.O. NUMBER	CONTRACT NO.
Kathy E. Smith		

CLIENT (SITE) PM	CLIENT PHONE	CLIENT FAX
Mark Kimes	412.337.7465	

CLIENT NAME	CLIENT E-MAIL
Michael Baker Jr., Inc.	mkimes@mbakercorp.com

CLIENT ADDRESS: 100 Airside Dr., Moon Township, PA 15108

COMPANY CONTRACTING THIS WORK (if applicable): Michael Baker Jr., Inc.

PAGE 7 OF 8

STANDARD REPORT DELIVERY ☒

DATE DUE ~~28 Day TAT~~

EXPEDITED REPORT DELIVERY (SURCHARGE) ○

DATE DUE _____

NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

MATRIX TYPE: COMPOSITE (C) OR GRAB (G) INDICATE; AQUEOUS (WATER); SOLID OR SEMISOLID; AIR; NONAQUEOUS LIQUID (OIL, SOLVENT, ...)

REQUIRED ANALYSIS / NUMBER OF CONTAINERS SUBMITTED

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G)	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT, ...)	App IX VOCs	App IX SVOCs	LL PAHs	App IX Metals (Total)	App IX Metals (Dissolved)	TPH GRO	TPH DRO	App IX Pesticides	App IX PCBs	TOC	REMARKS
5/6/08	0755	74SB107-05	G		X			3			1		3	1				
5/6/08	0820	74SB108-03	G		X			3			1		3	1				
5/6/08	0830	74SB108-04	G		X			3			1		3	1				
5/5/08		74TB07	G	X				3					3					
5/5/08		74TB08	G	X				3					3					
5/6/08		74TB09	G	X				3					3					
5/6/08		74TB10	G	X				3					3					
5/5/08	0850	74GW22	G	X				3		2	1	1	3	2				
	1310	74GW05	G	X				3		2	1	1	3	2				
	1050	74GW HYD 3D	G	X				3		2	1	1	3	2				
	1045	74GW HYD 3 MSD	G	X				3		2	1	1	3	2				
5/5/08	1045	74GW HYD 3	G	X				3		2	1	1	3	2				

PRESERVATIVE

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
			Mark E. K	5/6/08	1500			

RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME
	4/28/08	0700						

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SAVANNAH LOG NO.	LABORATORY REMARKS
KL	5/7/08	1233	YES ○ NO ○		680-36489	

TAL8240-680 (1207)

Serial Number 005179

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

FedEx Airbill No.: 8617 8652 7980

TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

74-006

Alternate Laboratory Name/Location

Phone:
Fax:

PROJECT REFERENCE: NAPR 7 Site Investigation	PROJECT NO.: 111626	PROJECT LOCATION (STATE): PR
TAL (LAB) PROJECT MANAGER: Kathy E. Smith	P.O. NUMBER:	CONTRACT NO.:
CLIENT (SITE) PM: Mark Kimes	CLIENT PHONE: 412.337.7465	CLIENT FAX:
CLIENT NAME: Michael Baker Jr., Inc.	CLIENT E-MAIL: mkimes@mbakercorp.com	
CLIENT ADDRESS: 100 Airside Dr., Moon Township, PA 15108		
COMPANY CONTRACTING THIS WORK (if applicable): Michael Baker Jr., Inc.		

PAGE 8 OF 8

STANDARD REPORT DELIVERY ☒

DATE DUE ~~28 Day TAT~~

EXPEDITED REPORT DELIVERY (SURCHARGE) ○

DATE DUE _____

NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G) INDICATE	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT, ...)	App IX VOCs	App IX SVOCs	LL PAHs	App IX Metals (Total)	App IX Metals (Dissolved)	TPH GRO	TPH DRO	App IX Pesticides	App IX PCBs	TOC	REMARKS
								PRESERVATIVE										
								NUMBER OF CONTAINERS SUBMITTED										
5/5/08	1045	74GW HYD3MS	G	X				3		2	1	1	3	2				
5/6/08	1225	74GWVP1A	G	X				3			1	1	3	2				
	1120	74GWVP2B	G	X				3			1	1	3	2				
	0945	74GW34	G	X				3			1	1	3	2				
5/6/08	0850	74GW09	G	X				3		1			3					MORE BOTTLES LATER
5/5/08	1455	74GWVP1B	G	X				3			1	1	3	2				
5/6/08	0800	74GW26	G	X				3			1	1	3	2				

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
			[signature]	5/6/08	1500			
RECEIVED BY: (SIGNATURE) [signature]	DATE 4/28/08	TIME 0700	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SAVANNAH LOG NO.	LABORATORY REMARKS
KL	5/7/08	1233	YES ○ NO ○		680-36489	

TAL8240-680 (1207)

Serial Number 005178

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

FedEx Airbill No.: 8617 8652 7970

TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

74-006

Alternate Laboratory Name/Location

Phone:
Fax:

PROJECT REFERENCE	PROJECT NO.	PROJECT LOCATION (STATE)
NAPR 7 Site Investigation	111626	PR
TAL (LAB) PROJECT MANAGER: Kathy E. Smith	P.O. NUMBER	CONTRACT NO.
CLIENT (SITE) PM: Mark Kimes	CLIENT PHONE: 412.337.7465	CLIENT FAX
CLIENT NAME: Michael Baker Jr., Inc.	CLIENT E-MAIL: mkimes@mbakercorp.com	
CLIENT ADDRESS: 100 Airside Dr., Moon Township, PA 15108		
COMPANY CONTRACTING THIS WORK (if applicable): Michael Baker Jr., Inc.		

PAGE 1 OF 5

STANDARD REPORT DELIVERY ◯

DATE DUE 28 Day TAT

EXPEDITED REPORT DELIVERY (SURCHARGE) ◯

DATE DUE _____

NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G) INDICATE	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT, ...)	App IX VOCs	App IX SVOCs	LL PAHs	App IX Metals (Total)	App IX Metals (Dissolved)	TPH GRO	TPH DRO	App IX Pesticides	App IX PCBs	TOC	REMARKS
								PRESERVATIVE										
								NUMBER OF CONTAINERS SUBMITTED										
5/6/08	1300	74SB84-03	G		X			3	ADG		1		3	1				
	1300	74SB84-03 MS	G		X			3					3					
	1300	74SB84-03 MSD	G		X			3					3					
	1300	74SB84-03 MS/MSD	G		X						1			1				
	1350	74SB85-03	G		X			3			1		3	1				
	1400	74SB85-04	G		X			3			1		3	1				
	1425	74SB86-03	G		X			3			1		3	1				
	1430	74SB86-03D	G		X			3			1		3	1				
	1440	74SB86-04	G		X			3		1	1		3	1				
	1500	74SB109-04	G		X			3			1		3	1				
	1515	74SB109-05	G		X			3			1		3	1				
	1535	74SB110-04	G		X			3			1		3	1				

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
			Mark E. Kimes	5/7/08	1500			
RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME
[signature]	4/28/08	0700						

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SAVANNAH LOG NO.	LABORATORY REMARKS
KL	5/8/08	0916	YES ◯ NO ◯		60-36517	1.1 | 1.3 | 0.7 | 0.4 | 0.4 | 0.6 | 1.1 | 0.6 | 0.8

TAL8240-680 (1207)

Serial Number 005171

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

FedEx Airbill No.: 8617 8652 7970

TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

74-006

Alternate Laboratory Name/Location

Phone:
Fax:

PROJECT REFERENCE: NAPR 7 Site Investigation	PROJECT NO.: 111626	PROJECT LOCATION (STATE): PR
TAL (LAB) PROJECT MANAGER: Kathy E. Smith	P.O. NUMBER:	CONTRACT NO.:
CLIENT (SITE) PM: Mark Kimes	CLIENT PHONE: 412.337.7465	CLIENT FAX:
CLIENT NAME: Michael Baker Jr., Inc.	CLIENT E-MAIL: mkimes@mbakercorp.com	
CLIENT ADDRESS: 100 Airside Dr., Moon Township, PA 15108		
COMPANY CONTRACTING THIS WORK (if applicable): Michael Baker Jr., Inc.		

PAGE 2 OF 5

STANDARD REPORT DELIVERY ☑

DATE DUE ~~28 Day TAT~~

EXPEDITED REPORT DELIVERY (SURCHARGE) ○

DATE DUE _____

NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G) INDICATE	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT, ...)	App IX VOCs	App IX SVOCs	LL PAHs	App IX Metals (Total)	App IX Metals (Dissolved)	TPH GRO	TPH DRO	App IX Pesticides	App IX PCBs	TOC	REMARKS
								NUMBER OF CONTAINERS SUBMITTED										
5/6/08	1545	74SB110-05	G		X			3			1		3	1				
5-6-08	1350	74GW57	G	X				3			1	1	3	2				
5-6-08	0850	74GW09	G	X						1	1	1		2				
5-6-08	0945	74GW34	G	X							1	1						
5-5-08	0800	74GW26	G	X							1			1				
5-7-08	0730	74SB87-03	G		X			3			1		3	1				
	0810	74SB88-03	G		X			3			1		3	1				
	0835	74SB89-03	G		X			3			1		3	1				
	0900	74SB90-02	G		X			3			1		3	1				
	0915	74SB91-00	G		X			3			1		3	1				
	0930	74SB91-03	G		X			3			1		3	1				
5-7-08	0935	74SB91-03D	G		X			3			1		3	1				

PRESERVATIVE

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
			Michael E. K	5/7/08	1500			
RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME
[signature]	4/28/08	0700						

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SAVANNAH LOG NO.	LABORATORY REMARKS
Kh	5/8/08	0916	YES ○ NO ○		680-36517	

TAL8240-680 (1207)

Serial Number 005170

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

FedEx Airbill No.: 8617 8652 7970

TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165 74-006

Alternate Laboratory Name/Location
Phone:
Fax:

PROJECT REFERENCE	PROJECT NO.	PROJECT LOCATION (STATE)
NAPR 7 Site Investigation	111626	PR
TAL (LAB) PROJECT MANAGER: Kathy E. Smith	P.O. NUMBER	CONTRACT NO.
CLIENT (SITE) PM: Mark Kimes	CLIENT PHONE: 412.337.7465	CLIENT FAX
CLIENT NAME: Michael Baker Jr., Inc.	CLIENT E-MAIL: mkimes@mbakercorp.com	
CLIENT ADDRESS: 100 Airside Dr., Moon Township, PA 15108		
COMPANY CONTRACTING THIS WORK (if applicable): Michael Baker Jr., Inc.		

PAGE 3 OF 5

STANDARD REPORT DELIVERY ☒

DATE DUE 28 Day TAT

EXPEDITED REPORT DELIVERY (SURCHARGE) ○

DATE DUE _____

NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G) INDICATE	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT, ...)	App IX VOCs	App IX SVOCs	LL PAHs	App IX Metals (Total)	App IX Metals (Dissolved)	TPH GRO	TPH DRO	App IX Pesticides	App IX PCBs	TOC	REMARKS
								PRESERVATIVE										
								NUMBER OF CONTAINERS SUBMITTED										
5-7-08	0930	74SB91-03MS	G		X			3					3					
	0930	74SB91-03MSD	G		X			3					3					
	0930	74SB91-03MS/MSD	G		X						1			1				
	1030	74SB92-03	G		X			3			1		3	1				
	1040	74SB92-04	G		X			3			1		3	1				
	1110	74SB93-03	G		X			3			1		3	1				
	1120	74SB93-04	G		X			3			1		3	1				
	1150	74SB94-03	G		X			3			1		3	1				
	1200	74SB94-04	G		X			3			1		3	1				
	0800	74SB111-00	G		X			3			1		3	1				
	0825	74SB111-03	G		X			3			1		3	1				
5-7-08	0825	74SB111-03D	G		X			3			1		3	1				

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
			[signature]	5/7/08	1500			
RECEIVED BY: (SIGNATURE) [signature]	DATE 4/28/08	TIME 0700	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SAVANNAH LOG NO.	LABORATORY REMARKS
[signature]	5/8/08	0916	YES ○ NO ○		680-36517	

TAL8240-680 (1207)

Serial Number 005169

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

FedEx Airbill No.: 8617 8652 7970

⊗ TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165 74-006

◯ Alternate Laboratory Name/Location
Phone:
Fax:

PROJECT REFERENCE	PROJECT NO.	PROJECT LOCATION (STATE)
NAPR 7 Site Investigation	111626	PR
TAL (LAB) PROJECT MANAGER: Kathy E. Smith	P.O. NUMBER	CONTRACT NO.
CLIENT (SITE) PM: Mark Kimes	CLIENT PHONE: 412.337.7465	CLIENT FAX
CLIENT NAME: Michael Baker Jr., Inc.	CLIENT E-MAIL: mkimes@mbakercorp.com	
CLIENT ADDRESS: 100 Airside Dr., Moon Township, PA 15108		
COMPANY CONTRACTING THIS WORK (if applicable): Michael Baker Jr., Inc.		

PAGE 4 OF 5

STANDARD REPORT DELIVERY ⊗

DATE DUE ~~28 Day TAT~~

EXPEDITED REPORT DELIVERY (SURCHARGE) ◯

DATE DUE _____

NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G) INDICATE	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT, ...)	App IX VOCs	App IX SVOCs	LL PAHs	App IX Metals (Total)	App IX Metals (Dissolved)	TPH GRO	TPH DRO	App IX Pesticides	App IX PCBs	TOC	REMARKS
								REQUIRED ANALYSIS / NUMBER OF CONTAINERS SUBMITTED										
								PRESERVATIVE										
5-7-08	0825	74SB111-03MS	G		X			3					3					
	0825	74SB111-03MSD	G		X			3					3					
	0825	74SB111-03MS/MSD	G		X						1			1				
	0815	74SB111-05	G		X			3		✓	1		3	✓				
	0855	74SB112-04	G		X			3			1		3	1				
	0905	74SB112-05	G		X			3			1		3	1				
	0925	74SB113-04	G		X			3		✓	1		3	✓				
	0935	74SB113-05	G		X			3		✓	1		3	✓				
	0805	~~74SB~~ VP1Cb/9-02	G		X			3			1		3	1				
	0815	~~74SB~~ VP1Cb/9-04	G		X			3			1		3	1				
	1015	~~74SB~~ VP1Aa/9-03	G		X			3			1		3	1				
5-7-08	1025	~~74SB~~ VP1Aa/9-04	G		X			3			1		3	1				

Cyle 5-7-08

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
			Mark E. Kimes	1500	5/7/08			
RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME
	4/28/08	0700						

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SAVANNAH LOG NO.	LABORATORY REMARKS
KH	5/8/08	0916	YES ◯ NO ◯		680-36517	

TAL8240-680 (1207)

Serial Number 005166

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

FedEx Airbill No.: 8617 8652 7970

(X) TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165 74-006

( ) Alternate Laboratory Name/Location
Phone:
Fax:

PROJECT REFERENCE	PROJECT NO.	PROJECT LOCATION (STATE)
NAPR 7 Site Investigation	111626	PR
TAL (LAB) PROJECT MANAGER: Kathy E. Smith	P.O. NUMBER	CONTRACT NO.
CLIENT (SITE) PM: Mark Kimes	CLIENT PHONE: 412.337.7465	CLIENT FAX
CLIENT NAME: Michael Baker Jr., Inc.	CLIENT E-MAIL: mkimes@mbakercorp.com	
CLIENT ADDRESS: 100 Airside Dr., Moon Township, PA 15108		
COMPANY CONTRACTING THIS WORK (if applicable): Michael Baker Jr., Inc.		

PAGE 5 OF 5

STANDARD REPORT DELIVERY (X)

DATE DUE ~~28 Day TAT~~

EXPEDITED REPORT DELIVERY (SURCHARGE) ( )

DATE DUE _____

NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G) INDICATE	MATRIX TYPE: AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT...)	App IX VOCs	App IX SVOCs	LL PAHs	App IX Metals (Total)	App IX Metals (Dissolved)	TPH GRO	TPH DRO	App IX Pesticides	App IX PCBs	TOC	REMARKS
								PRESERVATIVE										
5-7-08		74TB11	G	X				3					3					
5-7-08		74TB12	G	X				3					3					

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
			Mark E. K	1500	5/7/08			
RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME
[signature]	4/28/08	0700						

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SAVANNAH LOG NO.	LABORATORY REMARKS
KL	5/8/08	0916	YES ( ) NO ( )		68-36517	

TAL8240-680 (1207)

Serial Number 005165

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

FedEx Airbill No.: 8617 8652 7969

TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

74-007

Alternate Laboratory Name/Location

Phone:
Fax:

PROJECT REFERENCE: NAPR 7 Site Investigation	PROJECT NO.: 111626	PROJECT LOCATION (STATE): PR
TAL (LAB) PROJECT MANAGER: Kathy E. Smith	P.O. NUMBER	CONTRACT NO.
CLIENT (SITE) PM: Mark Kimes	CLIENT PHONE: 412.337.7465	CLIENT FAX
CLIENT NAME: Michael Baker Jr., Inc.	CLIENT E-MAIL: mkimes@mbakercorp.com	
CLIENT ADDRESS: 100 Airside Dr., Moon Township, PA 15108		
COMPANY CONTRACTING THIS WORK (if applicable): Michael Baker Jr., Inc.		

PAGE 1 OF 2

STANDARD REPORT DELIVERY ◯

DATE DUE ~~28 Day TAT~~

EXPEDITED REPORT DELIVERY (SURCHARGE) ◯

DATE DUE _____

NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

PRESERVATIVE

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G) INDICATE	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT, ...)	App IX VOCs	App IX SVOCs	LL PAHs	App IX Metals (Total)	App IX Metals (Dissolved)	TPH GRO	TPH DRO	App IX Pesticides	App IX PCBs	TOC	REMARKS
								NUMBER OF CONTAINERS SUBMITTED										
5/13/08	1010	74-SB95-03	G		X			3			1		3	1				
	1015	74-SB95-04	G		X			3			1		3	1				
	1100	74-SB96-03	G		X			3			1		3	1				
	1100	74-SB96-03D	G		X			3			1		3	1				
	1115	74-SB96-05	G		X			3			1		3	1				
	1145	74-SB121-00	G		X			3			1		3	1				
	1215	74-SB121-05	G		X			3			1		3	1				
	1215	74-SB121-05D	G		X			3			1		3	1				
	1215	74-SB121-05MS	G		X			3					3					
	1215	74-SB121-05MSD	G		X			3					3					
	1215	74-SB121-05MS/MSD	G		X						1			1				
	1010	74VP1Ba/9-05	G		X			3		✓	1		3	✓				

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
			John J. Mahnerli	5/13/08	1500			
RECEIVED BY: (SIGNATURE)	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**
	5/6/08	1500						

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SAVANNAH LOG NO.	LABORATORY REMARKS
KH	5/13/08	0927	YES ◯ NO ◯		600-36711	0.4 / 0.6 / 0.6

TAL8240-680 (1207)

Serial Number 005164

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

FedEx Airbill No.: 8617 8652 7969

TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

74-007

Alternate Laboratory Name/Location

Phone:
Fax:

PROJECT REFERENCE: NAPR 7 Site Investigation	PROJECT NO.: 111626	PROJECT LOCATION (STATE): PR
TAL (LAB) PROJECT MANAGER: Kathy E. Smith	P.O. NUMBER:	CONTRACT NO.:
CLIENT (SITE) PM: Mark Kimes	CLIENT PHONE: 412.337.7465	CLIENT FAX:
CLIENT NAME: Michael Baker Jr., Inc.	CLIENT E-MAIL: mkimes@mbakercorp.com	
CLIENT ADDRESS: 100 Airside Dr., Moon Township, PA 15108		
COMPANY CONTRACTING THIS WORK (if applicable): Michael Baker Jr., Inc.		

PAGE 2 OF 2

STANDARD REPORT DELIVERY ◯

DATE DUE 28 Day TAT

EXPEDITED REPORT DELIVERY (SURCHARGE) ◯

DATE DUE _____

NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G) INDICATE	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT, ...)	App IX VOCs	App IX SVOCs	LL PAHs	App IX Metals (Total)	App IX Metals (Dissolved)	TPH GRO	TPH DRO	App IX Pesticides	App IX PCBs	TOC	REMARKS
								PRESERVATIVE										
								NUMBER OF CONTAINERS SUBMITTED										
5/13/08	1010	74-VP1Ba/9-05D	G		X			3		✓	1		3	✓				
	1100	74-VP1Ba/9-09	G		X			3		✓	1		3	✓				
	1140	74-VP3b/9-05	G		X			3		✓	1		3	✓				
	1200	74-VP3b/9-07	G		X			3		✓	1		3	✓				
		74TB13	G	X				3					3					

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
				5/13/08	1500			
RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME
	5/6/08	1500						

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SAVANNAH LOG NO.	LABORATORY REMARKS
KG	5/19/08	0927	YES ◯ NO ◯		6X0-36711	

TAL8240-680 (1207)

Serial Number 005162

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

FedEx Airbill No.: 8617 8652 7958

TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

74-008

Alternate Laboratory Name/Location

Phone:
Fax:

PROJECT REFERENCE	PROJECT NO.	PROJECT LOCATION (STATE)
NAPR 7 Site Investigation	111626	PR

TAL (LAB) PROJECT MANAGER	P.O. NUMBER	CONTRACT NO.
Kathy E. Smith		

CLIENT (SITE) PM	CLIENT PHONE	CLIENT FAX
Mark Kimes	412.337.7465	

CLIENT NAME	CLIENT E-MAIL
Michael Baker Jr., Inc.	mkimes@mbakercorp.com

CLIENT ADDRESS: 100 Airside Dr., Moon Township, PA 15108

COMPANY CONTRACTING THIS WORK (if applicable): Michael Baker Jr., Inc.

PAGE 1 OF 3

STANDARD REPORT DELIVERY ◯

DATE DUE ~~28 Day TAT~~

EXPEDITED REPORT DELIVERY (SURCHARGE) ◯

DATE DUE _____

NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

MATRIX TYPE: COMPOSITE (C) OR GRAB (G) INDICATE; AQUEOUS (WATER); SOLID OR SEMISOLID; AIR; NONAQUEOUS LIQUID (OIL, SOLVENT, ...)

REQUIRED ANALYSIS / NUMBER OF CONTAINERS SUBMITTED

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G)	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID	App IX VOCs	App IX SVOCs	LL PAHs	App IX Metals (Total)	App IX Metals (Dissolved)	TPH GRO	TPH DRO	App IX Pesticides	App IX PCBs	TOC	REMARKS
							PRESERVATIVE											
5/13/08	1430	74SB114-04	G		X			3			1		3	1				
	1440	74SB114-05	G		X			3		✓	1		3	✓				✓=LL PAHs & DRO from same container
	1500	74SB115-03	G		X			3			1		3	1				
	1510	74SB115-05	G		X			3			1		3	1				
	1520	74SB116-04	G		X			3			1		3	1				
	1530	74SB116-05	G		X			3			1		3	1				
	1530	74SB116-05D	G		X			3			1		3	1				
	1550	74SB117-03	G		X			3			1		3	1				
	1600	74SB117-04	G		X			3			1		3	1				
	1610	74SB118-03	G		X			3			1		3	1				
	1630	74SB118-05	G		X			3			1		3	1				
	1630	74SB119-04	G		X			3			1		3	1				

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
			John J Malkowski	5/14/08	1600			

RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME
[signature]	5/6/08	1500						

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SAVANNAH LOG NO.	LABORATORY REMARKS
KG	5/15/08	0917	YES ◯ NO ◯		680-36766	0.6 | 0.6 | 1.3 | 1.1

TAL8240-680 (1207)

Serial Number 005161

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

FedEx Airbill No.: 8617 8652 7958

TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

74-008

Alternate Laboratory Name/Location

Phone:
Fax:

PROJECT REFERENCE	PROJECT NO.	PROJECT LOCATION (STATE)
NAPR 7 Site Investigation	111626	PR

TAL (LAB) PROJECT MANAGER	P.O. NUMBER	CONTRACT NO.
Kathy E. Smith		

CLIENT (SITE) PM	CLIENT PHONE	CLIENT FAX
Mark Kimes	412.337.7465	

CLIENT NAME	CLIENT E-MAIL
Michael Baker Jr., Inc.	mkimes@mbakercorp.com

CLIENT ADDRESS: 100 Airside Dr., Moon Township, PA 15108

COMPANY CONTRACTING THIS WORK (if applicable): Michael Baker Jr., Inc.

PAGE 2 OF 3

STANDARD REPORT DELIVERY ◯

DATE DUE ~~28 Day TAT~~

EXPEDITED REPORT DELIVERY (SURCHARGE) ◯

DATE DUE _____

NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G) INDICATE	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT, ...)	App IX VOCs	App IX SVOCs	LL PAHs	App IX Metals (Total)	App IX Metals (Dissolved)	TPH GRO	TPH DRO	App IX Pesticides	App IX PCBs	TOC	REMARKS
							PRESERVATIVE											
							NUMBER OF CONTAINERS SUBMITTED											
5/13/08	1640	74SB119-05	G	X				3			1		3	1				
5/14/08	0750	74SB120-04	G	X				3			1		3	1				
	0800	74SB120-05	G	X				3			1		3	1				
	0815	74SB126-02	G	X				3			1		3	1				
	0825	74SB126-05	G	X				3			1		3	1				
	0825	74SB126-05D	G	X				3			1		3	1				
	0855	74SB127-03	G	X				3			1		3	1				
	0910	74SB127-04	G	X				3			1		3	1				
	0925	74SB128-03	G	X				3			1		3	1				
	0940	74SB128-05	G	X				3			1		3	1				
	1010	74SB129-02	G	X				3			1		3	1				
	1025	74SB129-03	G	X				3			1		3	1				

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
			[signature]	5/14/08	1600			
RECEIVED BY: (SIGNATURE)	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**
[signature]	5/14/08	1500						

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SAVANNAH LOG NO.	LABORATORY REMARKS
[signature]	5/15/08	0917	YES ◯ NO ◯		680-36766	0.6/0.6/1.3/1.1

TAL8240-680 (1207)

Serial Number 005160

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

FedEx Airbill No.: 8617 8652 7958

TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

74-008

Alternate Laboratory Name/Location

Phone:
Fax:

PROJECT REFERENCE	PROJECT NO.	PROJECT LOCATION (STATE)
NAPR 7 Site Investigation	111626	PR
TAL (LAB) PROJECT MANAGER: Kathy E. Smith	P.O. NUMBER	CONTRACT NO.
CLIENT (SITE) PM: Mark Kimes	CLIENT PHONE: 412.337.7465	CLIENT FAX
CLIENT NAME: Michael Baker Jr., Inc.	CLIENT E-MAIL: mkimes@mbakercorp.com	
CLIENT ADDRESS: 100 Airside Dr., Moon Township, PA 15108		
COMPANY CONTRACTING THIS WORK (if applicable): Michael Baker Jr., Inc.		

PAGE 3 OF 3

STANDARD REPORT DELIVERY ◯

DATE DUE ~~28 Day TAT~~

EXPEDITED REPORT DELIVERY (SURCHARGE) ◯

DATE DUE _____

NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G) INDICATE	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT, ...)	App IX VOCs	App IX SVOCs	LL PAHs	App IX Metals (Total)	App IX Metals (Dissolved)	TPH GRO	TPH DRO	App IX Pesticides	App IX PCBs	TOC	REMARKS
								PRESERVATIVE										
								NUMBER OF CONTAINERS SUBMITTED										
5/14/08	1045	74SB130-03	G		X			3			1		3	1				
	1100	74SB130-05	G		X			3			1		3	1				
	0840	74VP2a/9-08	G		X			3		✓	1		3	✓				✓ = LL PAHs ↓ DRO
	0850	74VP2a/9-10	G		X			3		✓	1		3	✓				from same
~~5/09/08~~ 5/14/08		74TB14	G	X				3					3					container
	KS 5-15-08																	

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
				5/14/08	1600			
RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME
	5/9/08	1500						

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SAVANNAH LOG NO.	LABORATORY REMARKS
KL	5/15/08	0917	YES ◯ NO ◯		680-36766	0.6/0.16/1.3/1.1

TAL8240-680 (1207)

Serial Number 005159

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

FedEx Airbill No.: 817-8652-7947

TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165 74-009

Alternate Laboratory Name/Location
Phone:
Fax:

PROJECT REFERENCE	PROJECT NO.	PROJECT LOCATION (STATE)
NAPR 7 Site Investigation	111626	PR

TAL (LAB) PROJECT MANAGER	P.O. NUMBER	CONTRACT NO.
Kathy E. Smith		

CLIENT (SITE) PM	CLIENT PHONE	CLIENT FAX
Mark Kimes	412.337.7465	

CLIENT NAME	CLIENT E-MAIL
Michael Baker Jr., Inc.	mkimes@mbakercorp.com

CLIENT ADDRESS: 100 Airside Dr., Moon Township, PA 15108

COMPANY CONTRACTING THIS WORK (if applicable): Michael Baker Jr., Inc.

PAGE 1 OF 5

STANDARD REPORT DELIVERY ◯

DATE DUE ~~28 Day TAT~~

EXPEDITED REPORT DELIVERY (SURCHARGE) ◯

DATE DUE _____

NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

MATRIX TYPE: COMPOSITE (C) OR GRAB (G) INDICATE; AQUEOUS (WATER); SOLID OR SEMISOLID; AIR; NONAQUEOUS LIQUID (OIL, SOLVENT, ...)

REQUIRED ANALYSIS / NUMBER OF CONTAINERS SUBMITTED

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G)	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT, ...)	App IX VOCs	App IX SVOCs	LL PAHs	App IX Metals (Total)	App IX Metals (Dissolved)	TPH GRO	TPH DRO	App IX Pesticides	App IX PCBs	TOC	REMARKS
5/14/08	1330	745B141-00	G		X			3			1		3	1				
	1345	745B141-03	G		X			3			1		3	1				
	1345	745B141-03 MS	G		X			3			~~1~~ 6		3	~~1~~ 6				
	1345	745B141-03 MSD	G		X			3			~~1~~ 6		3	~~1~~ 6				
	1345	745B141-03 MS/MSD	G		X						1			1				
	1400	745B141-05	G		X			3			1		3	1				
	1400	745B141-05D	G		X			3			1		3	1				
	1415	745B142-02	G		X			3			1		3	1				
	1430	745B142-04	G		X			3			1		3	1				
	1450	745B143-02	G		X			3			1		3	1				
	1505	745B143-04	G		X			3			1		3	1				
	1525	745B144-03	G		X			3			1		3	1				

PRESERVATIVE

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
			[signature]	5/15/08	1600			

RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME
[signature]	5/16/08	1500						

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SAVANNAH LOG NO.	LABORATORY REMARKS
KL	5/16/08	0902	YES ◯ NO ◯		680-36806	0.8 | 0.8 | 0.7 | 0.7 | 0.7 | 1.1 | 1.3 | 0.8 | 0.8 | 0.8

TAL8240-680 (1207)

Serial Number 005157

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

FedEx Airbill No.: 8617 8652 7947

TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

74-009

Alternate Laboratory Name/Location

Phone:
Fax:

PROJECT REFERENCE	PROJECT NO.	PROJECT LOCATION (STATE)
NAPR 7 Site Investigation	111626	PR
TAL (LAB) PROJECT MANAGER: Kathy E. Smith	P.O. NUMBER	CONTRACT NO.
CLIENT (SITE) PM: Mark Kimes	CLIENT PHONE: 412.337.7465	CLIENT FAX
CLIENT NAME: Michael Baker Jr., Inc.	CLIENT E-MAIL: mkimes@mbakercorp.com	
CLIENT ADDRESS: 100 Airside Dr., Moon Township, PA 15108		
COMPANY CONTRACTING THIS WORK (if applicable): Michael Baker Jr., Inc.		

PAGE 2 OF 5

STANDARD REPORT DELIVERY ◯

DATE DUE ~~28 Day TAT~~

EXPEDITED REPORT DELIVERY (SURCHARGE) ◯

DATE DUE _____

NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

MATRIX TYPE: COMPOSITE (C) OR GRAB (G) INDICATE; AQUEOUS (WATER); SOLID OR SEMISOLID; AIR; NONAQUEOUS LIQUID (OIL, SOLVENT, ...)

REQUIRED ANALYSIS / NUMBER OF CONTAINERS SUBMITTED

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G)	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT, ...)	App IX VOCs	App IX SVOCs	LL PAHs	App IX Metals (Total)	App IX Metals (Dissolved)	TPH GRO	TPH DRO	App IX Pesticides	App IX PCBs	TOC	REMARKS
								PRESERVATIVE										
5/14/08	1540	74SB144-05	G		X			3			1		3	1				
	1540	74SB157-04	G		X			3			1		3	1				
	1600	74SB157-05	G		X			3			1		3	1				
	1450	74SB158-03	G		X			3			1		3	1				
	1500	74SB158-04	G		X			3			1		3	1				
5/13/08	1410	74SB122-03	G		X			3			1		3	1				
	1425	74SB122-04	G		X			3			1		3	1				
	1445	74SB123-03	G		X			3			1		3	1				
	1500	74SB123-05	G		X			3			1		3	1				
	1310	74SB124-02	G		X			3			1		3	1				
	1320	74SB124-05	G		X			3			1		3	1				
↓	1550	~~74SB124-08~~ 74SB125-03	G		X			3			1		3	1				

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
			[signature]	5/15/08	1600			
RECEIVED BY: (SIGNATURE)	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**
[signature]	5/16/08	1500						

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SAVANNAH LOG NO.	LABORATORY REMARKS
KL	5/16/08	0902	YES ◯ NO ◯		680-36806	

TAL8240-680 (1207)

Serial Number 005155

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

FedEx Airbill No.: 8617 8652 7947

TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

74-009

Alternate Laboratory Name/Location

Phone:
Fax:

PROJECT REFERENCE	PROJECT NO.	PROJECT LOCATION (STATE)
NAPR 7 Site Investigation	111626	PR
TAL (LAB) PROJECT MANAGER: Kathy E. Smith	P.O. NUMBER	CONTRACT NO.
CLIENT (SITE) PM: Mark Kimes	CLIENT PHONE: 412.337.7465	CLIENT FAX
CLIENT NAME: Michael Baker Jr., Inc.	CLIENT E-MAIL: mkimes@mbakercorp.com	
CLIENT ADDRESS: 100 Airside Dr., Moon Township, PA 15108		
COMPANY CONTRACTING THIS WORK (if applicable): Michael Baker Jr., Inc.		

PAGE 3 OF 5

STANDARD REPORT DELIVERY ◯

DATE DUE ~~28 Day TAT~~

EXPEDITED REPORT DELIVERY (SURCHARGE) ◯

DATE DUE _____

NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G) INDICATE	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT, ...)	App IX VOCs	App IX SVOCs	LL PAHs	App IX Metals (Total)	App IX Metals (Dissolved)	TPH GRO	TPH DRO	App IX Pesticides	App IX PCBs	TOC	REMARKS
								PRESERVATIVE										
								NUMBER OF CONTAINERS SUBMITTED										
5/13/08	1600	74SB125-05	G		X			3			1		3	1				
5/14/08	1450	74SB159-03	G		X			3			1		3	1				
	1425	74SB159-05	G		X			3			1		3	1				
	1345	74SB160-04	G		X			3			1		3	1				
	1355	74SB160-05	G		X			3			1		3	1				
5/15/08	0800	74SB146-02	G		X			3			1		3	1				
	0800	74SB146-02D	G		X			3			1		3	1				
	0815	74SB146-05	G		X			3			1		3	1				
	0850	74SB147-03	G		X			3			1		3	1				
	0905	74SB147-04	G		X			3			1		3	1				
	0930	74SB148-02	G		X			3			1		3	1				
	0945	74SB148-04	G		X			3			1		3	1				

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
				5/15/08	1600			
RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME
	5/16/08	1500						

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SAVANNAH LOG NO.	LABORATORY REMARKS
KL	5/16/02	0802	YES ◯ NO ◯		680-36806	

TAL8240-680 (1207)

Serial Number 005154

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

FedEx Airbill No.: 8617 8652 7947

TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

74-009

Alternate Laboratory Name/Location

Phone:
Fax:

PROJECT REFERENCE: NAPR 7 Site Investigation	PROJECT NO.: 111626	PROJECT LOCATION (STATE): PR
TAL (LAB) PROJECT MANAGER: Kathy E. Smith	P.O. NUMBER:	CONTRACT NO.:
CLIENT (SITE) PM: Mark Kimes	CLIENT PHONE: 412.337.7465	CLIENT FAX:
CLIENT NAME: Michael Baker Jr., Inc.	CLIENT E-MAIL: mkimes@mbakercorp.com	
CLIENT ADDRESS: 100 Airside Dr., Moon Township, PA 15108		
COMPANY CONTRACTING THIS WORK (if applicable): Michael Baker Jr., Inc.		

PAGE 4 OF 5

STANDARD REPORT DELIVERY ◯

DATE DUE ~~28 Day TAT~~

EXPEDITED REPORT DELIVERY (SURCHARGE) ◯

DATE DUE _____

NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G) INDICATE	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT, ...)	App IX VOCs	App IX SVOCs	LL PAHs	App IX Metals (Total)	App IX Metals (Dissolved)	TPH GRO	TPH DRO	App IX Pesticides	App IX PCBs	TOC	REMARKS
								PRESERVATIVE										
								NUMBER OF CONTAINERS SUBMITTED										
5/15/08	1020	74SB149-04	G		X			3			1		3	1				
	1035	74SB149-06	G		X			3			1		3	1				
	1055	74SB150-02	G		X			3			1		3	1				
	1110	74SB150-06	G		X			3			1		3	1				
	1125	74SB152-03	G		X			3			1		3	1				
	1140	74SB152-05	G		X			3			1		3	1				
	1150	74SB153-02	G		X			3			1		3	1				
	1205	74SB153-04	G		X			3			1		3	1				
	0905	74VP08a-07	G		X			3			1		3	1				
	0920	74VP08a-10	G		X			3			1		3	1				
5/14/08	1030	74GWVP1Cb 19m	G	X				3		2	1	1	3	2				
5/14/08	1030	74GWVP1Cb D	G	X				3		2	1	1	3	2				Duplicate

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
KS 5/19/08				5/15/08	1600			
RECEIVED BY: (SIGNATURE)	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**
	5/16/08	1500						

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SAVANNAH LOG NO.	LABORATORY REMARKS
KL	5/16/08	0902	YES ◯ NO ◯		680-36806	

TAL8240-680 (1207)

Serial Number 005152

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

FedEx Airbill No.: 8617-8652-7947

TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

74-009

Alternate Laboratory Name/Location

Phone:
Fax:

PROJECT REFERENCE	PROJECT NO.	PROJECT LOCATION (STATE)
NAPR 7 Site Investigation	111626	PR
TAL (LAB) PROJECT MANAGER: Kathy E. Smith	P.O. NUMBER	CONTRACT NO.
CLIENT (SITE) PM: Mark Kimes	CLIENT PHONE: 412.337.7465	CLIENT FAX
CLIENT NAME: Michael Baker Jr., Inc.	CLIENT E-MAIL: mkimes@mbakercorp.com	
CLIENT ADDRESS: 100 Airside Dr., Moon Township, PA 15108		
COMPANY CONTRACTING THIS WORK (if applicable): Michael Baker Jr., Inc.		

PAGE 5 OF 5

STANDARD REPORT DELIVERY ◯

DATE DUE ~~28 Day TAT~~

EXPEDITED REPORT DELIVERY (SURCHARGE) ◯

DATE DUE _____

NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION (KS 5/19/08)	COMPOSITE (C) OR GRAB (G) INDICATE	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT...)	App IX VOCs	App IX SVOCs	LL PAHs	App IX Metals (Total)	App IX Metals (Dissolved)	TPH GRO	TPH DRO	App IX Pesticides	App IX PCBs	TOC	REMARKS
								PRESERVATIVE										
								NUMBER OF CONTAINERS SUBMITTED										
5/14/08	0830	~~AG~~W VP3A	G	X				3		1	1	1	3	1				
5/14/08	0930	~~AG~~W VP3B	G	X				3		2	1	1	3	1				
5/14/08	1215	~~AG~~W VP1Ca	G	X				3		1	1		3					
5/13/08	1500	74ER11	G	X				3		2	1	~~1~~ KS	3	2				no diss. me KS 5/22/08
5/14/08	0705	74ER12	G	X				3		2	1	~~1~~ KS	3	2				no diss. me KS 5/22/08
~~5/15/08~~	5/13/08 KS	74TB15	G	X				3					3					
5/15/08		74TB16	G	X				3					3					
~~5/15/08~~	5/13/08 KS	74TB17	G	X				3					3					

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
			[signature]	5/15/08	1600			
RECEIVED BY: (SIGNATURE)	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**
[signature]	5/16/08	1500						

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SAVANNAH LOG NO.	LABORATORY REMARKS
KL	5/16/08	0902	YES ◯ NO ◯		680-36806	

TAL8240-680 (1207)

Serial Number 005151

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

FedEx Airbill No.: 8617 8652 7936

TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

74-010

Alternate Laboratory Name/Location

Phone:
Fax:

PROJECT REFERENCE	PROJECT NO.	PROJECT LOCATION (STATE)
NAPR 7 Site Investigation	111626	PR

TAL (LAB) PROJECT MANAGER	P.O. NUMBER	CONTRACT NO.
Kathy E. Smith		

CLIENT (SITE) PM	CLIENT PHONE	CLIENT FAX
Mark Kimes	412.337.7465	

CLIENT NAME	CLIENT E-MAIL
Michael Baker Jr., Inc.	mkimes@mbakercorp.com

CLIENT ADDRESS: 100 Airside Dr., Moon Township, PA 15108

COMPANY CONTRACTING THIS WORK (if applicable): Michael Baker Jr., Inc.

PAGE 1 OF 6

STANDARD REPORT DELIVERY ●

DATE DUE ~~28 Day TAT~~

EXPEDITED REPORT DELIVERY (SURCHARGE) ○

DATE DUE _____

NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

PRESERVATIVE

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	MATRIX TYPE: COMPOSITE (C) OR GRAB (G) INDICATE	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT, ...)	App IX VOCs	App IX SVOCs	LL PAHs	App IX Metals (Total)	App IX Metals (Dissolved)	TPH GRO	TPH DRO	App IX Pesticides	App IX PCBs	TOC	REMARKS
								NUMBER OF CONTAINERS SUBMITTED										
5-15-08	0830	745B131-00	G		X			3			1		3	1				
	0845	745B131-03	G		X			3			1		3	1				
	0845	745B131-03D	G		X			3			1		3	1				
	0845	745B131-03 MS	G		X			3					3					
	0845	745B131-03 MSD	G		X			3					3					
	0845	745B131-03 MS/MSD	G		X						1			1				
	0900	745B131-05	G		X			3			1		3	1				1.1 / 1.6 / 2.9 / 1.1
	0925	745B132-04	G		X			3			1		3	1				1.4 / 1.1 / 1.5 / 3.6
	0935	745B132-05	G		X			3			1		3	1				1.1
	0950	745B133-04	G		X			3			1		3	1				
	1000	745B133-05	G		X			3			1		3	1				
	1030	745B134-04	G		X			3			1		3	1				

TEMP.: _____

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
				5/16/08	1430			

RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME
	5/16/08	1500						

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SAVANNAH LOG NO.	LABORATORY REMARKS
KL	5/17/08	0945	YES ○ NO ○		680-36880	

TAL8240-680 (1207)

Serial Number 005148

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

FedEx Airbill No.: 8617 8652 7936

TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

74-010

Alternate Laboratory Name/Location

Phone:
Fax:

PROJECT REFERENCE	PROJECT NO.	PROJECT LOCATION (STATE)
NAPR 7 Site Investigation	111626	PR

TAL (LAB) PROJECT MANAGER	P.O. NUMBER	CONTRACT NO.
Kathy E. Smith		

CLIENT (SITE) PM	CLIENT PHONE	CLIENT FAX
Mark Kimes	412.337.7465	

CLIENT NAME	CLIENT E-MAIL
Michael Baker Jr., Inc.	mkimes@mbakercorp.com

CLIENT ADDRESS: 100 Airside Dr., Moon Township, PA 15108

COMPANY CONTRACTING THIS WORK (if applicable): Michael Baker Jr., Inc.

PAGE 2 OF 6

STANDARD REPORT DELIVERY ●

DATE DUE ~~28 Day TAT~~

EXPEDITED REPORT DELIVERY (SURCHARGE) ○

DATE DUE _____

NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

PRESERVATIVE

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G) INDICATE	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT, ...)	App IX VOCs	App IX SVOCs	LL PAHs	App IX Metals (Total)	App IX Metals (Dissolved)	TPH GRO	TPH DRO	App IX Pesticides	App IX PCBs	TOC	REMARKS
5-15-08	1045	74SB134-05	G		X			3			1		3	1				
	1100	74SB135-03	G		X			3			1		3	1				
	1110	74SB135-05	G		X			3			1		3	1				
	1125	74SB136-03	G		X			3			1		3	1				
	1125	74SB136-03D	G		X			3			1		3	1				
	1140	74SB136-05	G		X			3			1		3	1				
	1155	74SB137-03	G		X			3			1		3	1				
	1205	74SB137-04	G		X			3			1		3	1				
	1225	74SB138-03	G		X			3			1		3	1				
	1235	74SB138-04	G		X			3		✓	1		3	✓				✓ same bottle
	1310	74SB139-03	G		X			3			1		3	1				
	1320	74SB139-05	G		X			3			1		3	1				

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
				5/6/08	1430			

RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME
	5/6/08	1500						

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SAVANNAH LOG NO.	LABORATORY REMARKS
KL	5/12/08	0945	YES ○ NO ○		680-36880	

TAL8240-680 (1207)

Serial Number 005149

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

FedEx Airbill No.: 8617 8652 7936

TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

74-010

Alternate Laboratory Name/Location

Phone:
Fax:

PROJECT REFERENCE	PROJECT NO.	PROJECT LOCATION (STATE)
NAPR 7 Site Investigation	111626	PR

TAL (LAB) PROJECT MANAGER	P.O. NUMBER	CONTRACT NO.
Kathy E. Smith		

CLIENT (SITE) PM	CLIENT PHONE	CLIENT FAX
Mark Kimes	412.337.7465	

CLIENT NAME	CLIENT E-MAIL
Michael Baker Jr., Inc.	mkimes@mbakercorp.com

CLIENT ADDRESS: 100 Airside Dr., Moon Township, PA 15108

COMPANY CONTRACTING THIS WORK (if applicable): Michael Baker Jr., Inc.

PAGE 3 OF 6

STANDARD REPORT DELIVERY ●

DATE DUE ~~28 Day TAT~~

EXPEDITED REPORT DELIVERY (SURCHARGE) ○

DATE DUE _____

NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

MATRIX TYPE: COMPOSITE (C) OR GRAB (G) INDICATE; AQUEOUS (WATER); SOLID OR SEMISOLID; AIR; NONAQUEOUS LIQUID (OIL, SOLVENT...)

REQUIRED ANALYSIS

PRESERVATIVE

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G) INDICATE	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT...)	App IX VOCs	App IX SVOCs	LL PAHs	App IX Metals (Total)	App IX Metals (Dissolved)	TPH GRO	TPH DRO	App IX Pesticides	App IX PCBs	TOC	REMARKS
5-15-08	1330	74SB140-04	G		X			3			1		3	1				
	1340	74SB140-05	G		X			3			1		3	1				
	1400	74SB154-04	G		X			3			1		3	1				
	1410	74SB154-05	G		X			3			1		3	1				
	1420	74SB155-04	G		X			3			1		3	1				
	1435	74SB155-05	G		X			3			1		3	1				
	1450	74SB156-04	G		X			3			1		3	1				
	1505	74SB156-05	G		X			3		X KS	1		3	1				
	1505	74SB156-05D	G		X			3		X KS	1		3	1				
	1335	~~74-VP07a-00~~ 74SB151-00 KS (Simple)	G		X			3			1		3	1				
	1350	~~74-VP07a-01~~ 74SB151-01 KS	G		X			3			1		3	1				
	1350	~~74-VP07a-01D~~ 74SB151-01D KS	G		X			3			1		3	1				

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
				5/16/08	1430			

RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME
[signature]	5/6/08	1500						

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SAVANNAH LOG NO.	LABORATORY REMARKS
KL	5/17/08	0945	YES ○ NO ○		600-36880	

TAL8240-680 (1207)

Serial Number 005150

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

FedEx Airbill No.: 8617 8652 7936

TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404
Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

74-010

Alternate Laboratory Name/Location
Phone:
Fax:

PROJECT REFERENCE	PROJECT NO.	PROJECT LOCATION (STATE)
NAPR 7 Site Investigation	111626	PR
TAL (LAB) PROJECT MANAGER: Kathy E. Smith	P.O. NUMBER	CONTRACT NO.
CLIENT (SITE) PM: Mark Kimes	CLIENT PHONE: 412.337.7465	CLIENT FAX
CLIENT NAME: Michael Baker Jr., Inc.	CLIENT E-MAIL: mkimes@mbakercorp.com	
CLIENT ADDRESS: 100 Airside Dr., Moon Township, PA 15108		
COMPANY CONTRACTING THIS WORK (if applicable): Michael Baker Jr., Inc.		

PAGE 4 OF 6

STANDARD REPORT DELIVERY ●

DATE DUE 28 Day TAT

EXPEDITED REPORT DELIVERY (SURCHARGE) ○

DATE DUE _____

NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G) INDICATE	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT, ...)	App IX VOCs	App IX SVOCs	LL PAHs	App IX Metals (Total)	App IX Metals (Dissolved)	TPH GRO	TPH DRO	App IX Pesticides	App IX PCBs	TOC	REMARKS
								PRESERVATIVE										
								NUMBER OF CONTAINERS SUBMITTED										
5-15-08	1350	~~74-VP07a-01MS~~ 74SB151-01MS (5/19/08 LS)	G		X			3					3					
	1350	~~74-VP07a-01MSD~~ 74SB151-01MSD	G		X			3					3					
	1350	~~74-VP07a-01MS/MSD~~ 74SB151-01MS/MSD	G		X						1			1				
5-16-08	0830	74SB161-00	G		X			3			1		3	1				
	0830	74SB161-00D	G		X			3			1		3	1				
	0845	74SB161-04	G		X			3			1		3	1				
	0845	74SB161-04D	G		X			3			1		3	1				
	0900	74SB161-05MS	G		X			3					3					
	0900	74SB161-05 MSD	G		X			3					3					
	0900	74SB161-05 MS/MSD	G		X						1			1				
	0900	74SB161-05	G		X			3			1		3	1				
	1015	74SB162-04	G		X			3			1		3	1				

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
			[signature]	5/16/08	1430			
RECEIVED BY: (SIGNATURE)	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**
[signature]	5/16/08							

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SAVANNAH LOG NO.	LABORATORY REMARKS
KL	5/17/08	0945	YES ○ NO ○		680-36880	

TAL8240-680 (1207)

Serial Number 005147

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

FedEx Airbill No.: 8617 8652 7936

TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

74-010

Alternate Laboratory Name/Location

Phone:
Fax:

PROJECT REFERENCE	PROJECT NO.	PROJECT LOCATION (STATE)
NAPR 7 Site Investigation	111626	PR

TAL (LAB) PROJECT MANAGER	P.O. NUMBER	CONTRACT NO.
Kathy E. Smith		

CLIENT (SITE) PM	CLIENT PHONE	CLIENT FAX
Mark Kimes	412.337.7465	

CLIENT NAME	CLIENT E-MAIL
Michael Baker Jr., Inc.	mkimes@mbakercorp.com

CLIENT ADDRESS: 100 Airside Dr., Moon Township, PA 15108

COMPANY CONTRACTING THIS WORK (if applicable): Michael Baker Jr., Inc.

PAGE 5 OF 6

STANDARD REPORT DELIVERY ●

DATE DUE ~~28 Day TAT~~

EXPEDITED REPORT DELIVERY (SURCHARGE) ○

DATE DUE _____

NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G) INDICATE	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT, ...)	App IX VOCs	App IX SVOCs	LL PAHs	App IX Metals (Total)	App IX Metals (Dissolved)	TPH GRO	TPH DRO	App IX Pesticides	App IX PCBs	TOC	REMARKS
								PRESERVATIVE										
								NUMBER OF CONTAINERS SUBMITTED										
5-16-08	1030	74SB162-05	G		X			3			1		3	1				
↓	1110	74SB163-03	G		X			3			1		3	1				
↓	1125	74SB163-04	G		X			3			1		3	1				
5-14-08	1215	74GWVP1Ca	G	X								1		1				
5-15-08	1400	74GWVP11B	G	X				3		2	1	1	3	2				
5-16-08	0840	74GWVP1Aa	G	X				3		1	1	1	3					
5-16-08	945	74GWVP1Bb/9	G	X				3					3					
5-15-08	1100	74GW74	G	X				3			1	1	3	2				
5-15-08	1107	74GWVP11A	G	X				3		1	1	1	3					
5-15-08	1400	74ER13	G	X				3			1		3	2				
5-16-08	0730	74ER14	G	X				3			1		3	2				
5-15-08		74TB18	G	X				3					3					

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
			[signature]	5/16/08	1430			

RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME
[signature]	5/6/08	1500						

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SAVANNAH LOG NO.	LABORATORY REMARKS
KL	5/17/08	0945	YES ○ NO ○		666-36880	

TAL8240-680 (1207)

Serial Number 005146

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

FedEx Airbill No.: 8617 8652 7936

TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

74-010

Alternate Laboratory Name/Location

Phone:
Fax:

PROJECT REFERENCE: NAPR 7 Site Investigation	PROJECT NO.: 111626	PROJECT LOCATION (STATE): PR
TAL (LAB) PROJECT MANAGER: Kathy E. Smith	P.O. NUMBER:	CONTRACT NO.:
CLIENT (SITE) PM: Mark Kimes	CLIENT PHONE: 412.337.7465	CLIENT FAX:
CLIENT NAME: Michael Baker Jr., Inc.	CLIENT E-MAIL: mkimes@mbakercorp.com	
CLIENT ADDRESS: 100 Airside Dr., Moon Township, PA 15108		
COMPANY CONTRACTING THIS WORK (if applicable): Michael Baker Jr., Inc.		

PAGE 6 OF 6

STANDARD REPORT DELIVERY ●

DATE DUE ~~28 Day TAT~~

EXPEDITED REPORT DELIVERY (SURCHARGE) ○

DATE DUE _____

NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G) INDICATE	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT, ...)	App IX VOCs	App IX SVOCs	LL PAHs	App IX Metals (Total)	App IX Metals (Dissolved)	TPH GRO	TPH DRO	App IX Pesticides	App IX PCBs	TOC	REMARKS
								PRESERVATIVE										
								NUMBER OF CONTAINERS SUBMITTED										
5-15-08		74TB19	G	X				3					3					
5-15-08		74TB20	G	X				3					3					

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
			[signature]	5/16/08	1430			
RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME
[signature]	5/16/08	1500						

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SAVANNAH LOG NO.	LABORATORY REMARKS
KL	5/17/08	0945	YES ○ NO ○		640-36850	

TAL8240-680 (1207)

Serial Number 005140

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

FedEx Airbill No.: 8617 8652 7925

TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

74-011

Alternate Laboratory Name/Location

Phone:
Fax:

PROJECT REFERENCE	PROJECT NO.	PROJECT LOCATION (STATE)
NAPR 7 Site Investigation	111626	PR

TAL (LAB) PROJECT MANAGER	P.O. NUMBER	CONTRACT NO.
Kathy E. Smith		

CLIENT (SITE) PM	CLIENT PHONE	CLIENT FAX
Mark Kimes	412.337.7465	

CLIENT NAME	CLIENT E-MAIL
Michael Baker Jr., Inc.	mkimes@mbakercorp.com

CLIENT ADDRESS: 100 Airside Dr., Moon Township, PA 15108

COMPANY CONTRACTING THIS WORK (if applicable): Michael Baker Jr., Inc.

PAGE 1 OF 8

STANDARD REPORT DELIVERY ●

DATE DUE ~~28 Day TAT~~

EXPEDITED REPORT DELIVERY (SURCHARGE) ○

DATE DUE _____

NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

PRESERVATIVE

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G) INDICATE	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT, ...)	App IX VOCs	App IX SVOCs	LL PAHs	App IX Metals (Total)	App IX Metals (Dissolved)	TPH GRO	TPH DRO	App IX Pesticides	App IX PCBs	TOC	REMARKS
5/16/08	1130	74SB164-04	G		X			3			1		3	1				
	1145	74SB164-05	G		X			3			1		3	1				
	1200	74SB165-04	G		X			3			1		3	1				
	1215	74SB165-05	G		X			3			1		3	1				
	1350	74SB166-04	G		X			3			1		3	1				
	1350	74SB166-04D	G		X			3			1		3	1				
	1405	74SB166-05	G		X			3			1		3	1				
	1430	74SB167-04	G		X			3			1		3	1				
	1445	74SB167-05	G		X			3			1		3	1				
	1500	74SB168-04	G		X			3			1		3	1				
	1515	74SB168-05	G		X			3			1		3	1				
	1525	74SB169-04	G		X			3			1		3	1				

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
			[signature]	5/19/08	0930			
RECEIVED BY: (SIGNATURE)	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**
					1630			

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SAVANNAH LOG NO.	LABORATORY REMARKS
KL	5/20/08	0900	YES ○ NO ○		650-36891	2/1/1.1/0.7/2.9/3.1/3.4/1/0.3/1/4.2/1.5/1.8/4.7/0.6

TAL8240-680 (1207)

Serial Number 005144

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

FedEx Airbill No.: 8617 8852 7925

TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

74-011

Alternate Laboratory Name/Location

Phone:
Fax:

PROJECT REFERENCE: NAPR 7 Site Investigation	PROJECT NO.: 111626	PROJECT LOCATION (STATE): PR
TAL (LAB) PROJECT MANAGER: Kathy E. Smith	P.O. NUMBER:	CONTRACT NO.:
CLIENT (SITE) PM: Mark Kimes	CLIENT PHONE: 412.337.7465	CLIENT FAX:
CLIENT NAME: Michael Baker Jr., Inc.	CLIENT E-MAIL: mkimes@mbakercorp.com	
CLIENT ADDRESS: 100 Airside Dr., Moon Township, PA 15108		
COMPANY CONTRACTING THIS WORK (if applicable): Michael Baker Jr., Inc.		

PAGE 2 OF 8

STANDARD REPORT DELIVERY ●

DATE DUE ~~28 Day TAT~~

EXPEDITED REPORT DELIVERY (SURCHARGE) ○

DATE DUE _____

NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

MATRIX TYPE: COMPOSITE (C) OR GRAB (G) INDICATE; AQUEOUS (WATER); SOLID OR SEMISOLID; AIR; NONAQUEOUS LIQUID (OIL, SOLVENT, ...)

REQUIRED ANALYSIS / NUMBER OF CONTAINERS SUBMITTED

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G)	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT, ...)	App IX VOCs	App IX SVOCs	LL PAHs	App IX Metals (Total)	App IX Metals (Dissolved)	TPH GRO	TPH DRO	App IX Pesticides	App IX PCBs	TOC	REMARKS
								PRESERVATIVE										
5/16/08	1540	74SB169-05	G		X			3			1		3	✓				analyses added per Baker KS 5/21/08
	1210	74SBVP05a-04	G		X			3			1		3	✓				
	1220	74SBVP05a-09	G		X			3			1		3	✓				
	0915	74SB145-05	G		X			3			1		3	✓				
	0955	74SB145-09	G		X			3			1		3	✓				
	0845	74SBVP9b/JP5Hill-03	G		X			3		✓	1		3	✓				Analyses from ✓: same sample container
	0900	74SBVP9b/JP5Hill-05	G		X			3		✓	1		3	✓				
	1030	74SBVP10a/JP5Hill-04	G		X			3		✓	1		3	✓				
	1045	74SBVP10a/JP5Hill-05	G		X			3		✓	1		3	✓				
5/17/08	0820	74SB170-04	G		X			3		✓	1		3	✓				
	0805	74SB170-05	G		X			3			1		3	1				
	0845	74SB171-00	G		X			3			1		3	1				

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
				5/19/08	1630			
RECEIVED BY: (SIGNATURE)	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SAVANNAH LOG NO.	LABORATORY REMARKS
KL	5/20/08	0900	YES ○ NO ○		680-36591	

TAL8240-680 (1207)

Serial Number 005143

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

FedEx Airbill No.: 8617 8652 7925

TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

74-011

Alternate Laboratory Name/Location

Phone:
Fax:

PROJECT REFERENCE	PROJECT NO.	PROJECT LOCATION (STATE)
NAPR 7 Site Investigation	111626	PR

TAL (LAB) PROJECT MANAGER	P.O. NUMBER	CONTRACT NO.
Kathy E. Smith		

CLIENT (SITE) PM	CLIENT PHONE	CLIENT FAX
Mark Kimes	412.337.7465	

CLIENT NAME	CLIENT E-MAIL
Michael Baker Jr., Inc.	mkimes@mbakercorp.com

CLIENT ADDRESS: 100 Airside Dr., Moon Township, PA 15108

COMPANY CONTRACTING THIS WORK (if applicable): Michael Baker Jr., Inc.

PAGE 3 OF 8

STANDARD REPORT DELIVERY ●

DATE DUE ~~28 Day TAT~~

EXPEDITED REPORT DELIVERY (SURCHARGE) ○

DATE DUE _____

NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

MATRIX TYPE: COMPOSITE (C) OR GRAB (G) INDICATE; AQUEOUS (WATER); SOLID OR SEMISOLID; AIR; NONAQUEOUS LIQUID (OIL, SOLVENT, ...)

REQUIRED ANALYSIS

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G)	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT, ...)	App IX VOCs	App IX SVOCs	LL PAHs	App IX Metals (Total)	App IX Metals (Dissolved)	TPH GRO	TPH DRO	App IX Pesticides	App IX PCBs	TOC	REMARKS
								PRESERVATIVE										
								NUMBER OF CONTAINERS SUBMITTED										
5/17/08	0900	74SB171-04	G		X			3			1		3	1				
	0900	74SB171-04 MS	G		X			3			1		3	1				
	0900	74SB171-04 MSD	G		X			3			1		3	1				
	0900	74SB171-04 MS/MSD	G		X			3			1		3	1				
	0915	74SB171-05	G		X			3			1		3	1				
	0915	74SB171-05 D	G		X			3			1		3	1				
	0945	74SB172-04	G		X			3			1		3	1				
	1000	74SB172-05	G		X			3			1		3	1				
	1030	74SB173-04	G		X			3			1		3	1				
	1045	74SB173-05	G		X			3			1		3	1				✓ = analyses
	1145	74SB174-04	G		X			3			1		3	1				from the same
	1200	74SB174-05	G		X			3		✓	1		3	✓				sample container

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
			[signature]	5/19/08	1630			

RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SAVANNAH LOG NO.	LABORATORY REMARKS
KL	5/20/08	0900	YES ○ NO ○		680-38891	

TAL8240-680 (1207)

Serial Number 005142

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

FedEx Airbill No.: 8617 8652 7925

TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

74-011

Alternate Laboratory Name/Location

Phone:
Fax:

PROJECT REFERENCE	PROJECT NO.	PROJECT LOCATION (STATE)	PAGE 4 OF 8
NAPR 7 Site Investigation	111626	PR	
TAL (LAB) PROJECT MANAGER: Kathy E. Smith	P.O. NUMBER	CONTRACT NO.	STANDARD REPORT DELIVERY ●
CLIENT (SITE) PM: Mark Kimes	CLIENT PHONE: 412.337.7465	CLIENT FAX	DATE DUE ~~28 Day TAT~~
CLIENT NAME: Michael Baker Jr., Inc.	CLIENT E-MAIL: mkimes@mbakercorp.com		EXPEDITED REPORT DELIVERY (SURCHARGE) ○
CLIENT ADDRESS: 100 Airside Dr., Moon Township, PA 15108			DATE DUE _____
COMPANY CONTRACTING THIS WORK (if applicable): Michael Baker Jr., Inc.			NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G) INDICATE	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT, ...)	App IX VOCs	App IX SVOCs	LL PAHs	App IX Metals (Total)	App IX Metals (Dissolved)	TPH GRO	TPH DRO	App IX Pesticides	App IX PCBs	TOC	REMARKS
							PRESERVATIVE											
							NUMBER OF CONTAINERS SUBMITTED											
5/17/08	1440	74SB175-04	G		X			3			1		3	1				
	1455	74SB175-05	G		X			3			1		3	1				
	1520	74SB176-04	G		X			3			1		3	1				
	1535 ~~1335~~	74SB176-05	G		X			3			1		3	1				
	1535	74SB176-05 D	G		X			3			1		3	1				
	1550	74SB177-04	G		X			3			1		3	1				
	1605	74SB177-05	G		X			3			1		3	1				
	1445	74SBVP10b/DFM-04	G		X			3		✓	1		3	✓				✓= analyses from
	1500	74SBVP10b/DFM-05	G		X			3		✓	1		3	✓				same sample
	0845	74SBVP11b/JP5Hill-04	G		X			3	ES 5/21/08		1		3	1				container
	0900	74SBVP11b/JP5Hill-05	G		X			3			1		3	1				
↓	1515	74SBVP6Aa-04	G		X			3			1		3	1				

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
			[signature]	5/19/08	1630			
RECEIVED BY: (SIGNATURE)	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SAVANNAH LOG NO.	LABORATORY REMARKS
KL	5/20/08	0900	YES ○ NO ○		680-36891	

TAL8240-680 (1207)

Serial Number 005141

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

FedEx Airbill No.: 8617 8652 7925

TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

74-011

Alternate Laboratory Name/Location

Phone:
Fax:

PROJECT REFERENCE: NAPR 7 Site Investigation	PROJECT NO.: 111626	PROJECT LOCATION (STATE): PR
TAL (LAB) PROJECT MANAGER: Kathy E. Smith	P.O. NUMBER:	CONTRACT NO.:
CLIENT (SITE) PM: Mark Kimes	CLIENT PHONE: 412.337.7465	CLIENT FAX:
CLIENT NAME: Michael Baker Jr., Inc.	CLIENT E-MAIL: mkimes@mbakercorp.com	
CLIENT ADDRESS: 100 Airside Dr., Moon Township, PA 15108		
COMPANY CONTRACTING THIS WORK (if applicable): Michael Baker Jr., Inc.		

PAGE 5 OF 8

STANDARD REPORT DELIVERY ●

DATE DUE ~~28 Day TAT~~

EXPEDITED REPORT DELIVERY (SURCHARGE) ○

DATE DUE _____

NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

MATRIX TYPE: COMPOSITE (C) OR GRAB (G) INDICATE; AQUEOUS (WATER); SOLID OR SEMISOLID; AIR; NONAQUEOUS LIQUID (OIL, SOLVENT, ...)

REQUIRED ANALYSIS / NUMBER OF CONTAINERS SUBMITTED

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G)	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID	App IX VOCs	App IX SVOCs	LL PAHs	App IX Metals (Total)	App IX Metals (Dissolved)	TPH GRO	TPH DRO	App IX Pesticides	App IX PCBs	TOC	REMARKS
								PRESERVATIVE										
5/17/08	1210	74SBVP6Ba-03	G	X				3			1		3	1				
	1220	74SBVP6Ba-04	G	X				3			1		3	1				
	0835	74SBVP6Cb-04	G	X				3			1		3	1				
	0855	74SBVP6Cb-07	G	X				3			1		3	1				
5/18/08	0845	74SB200-04	G	X				3			1		3	1				
	0900	74SB200-05	G	X				3			1		3	1				
	0915	74SB201-00	G	X				3			1		3	1				
	0930	74SB201-04	G	X				3			1		3	1				
	0930	74SB201-04D	G	X				3			1		3	1				
	0945	74SB201-05	G	X				3			1		3	1				
	0945	74SB201-05MS	G	X				3					3					
	0945	74SB201-05MSD	G	X				3					3					

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
				5/19/08	1630			
RECEIVED BY: (SIGNATURE)	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SAVANNAH LOG NO.	LABORATORY REMARKS
KL	5/20/08	0900	YES ○ NO ○		680-36891	

TAL8240-680 (1207)

Serial Number 005138

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

FedEx Airbill No.: 8617 8652 7925

TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

74-011

Alternate Laboratory Name/Location

Phone:
Fax:

PROJECT REFERENCE: NAPR 7 Site Investigation	PROJECT NO.: 111626	PROJECT LOCATION (STATE): PR
TAL (LAB) PROJECT MANAGER: Kathy E. Smith	P.O. NUMBER:	CONTRACT NO.:
CLIENT (SITE) PM: Mark Kimes	CLIENT PHONE: 412.337.7465	CLIENT FAX:
CLIENT NAME: Michael Baker Jr., Inc.	CLIENT E-MAIL: mkimes@mbakercorp.com	
CLIENT ADDRESS: 100 Airside Dr., Moon Township, PA 15108		
COMPANY CONTRACTING THIS WORK (if applicable): Michael Baker Jr., Inc.		

PAGE 6 OF 8

STANDARD REPORT DELIVERY ●

DATE DUE ~~28 Day TAT~~

EXPEDITED REPORT DELIVERY (SURCHARGE) ○

DATE DUE _____

NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G) INDICATE	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT, ...)	App IX VOCs	App IX SVOCs	LL PAHs	App IX Metals (Total)	App IX Metals (Dissolved)	TPH GRO	TPH DRO	App IX Pesticides	App IX PCBs	TOC	REMARKS
								PRESERVATIVE										
								NUMBER OF CONTAINERS SUBMITTED										
5/18/08	0900	745B VP6 Aa -07	G		X			3			1		3	1				
	0945	745B 201-05 MS/MSD	G		X			3			1		3	1				
	0955	745B 202-04	G		X			3			1		3	1				
	1010	745B 202-05	G		X			3			1		3	1				
	1020	745B 203-04	G		X			3			1		3	1				
	1035	745B 203-05	G		X			3			1		3	1				
	1100	745B 204-04	G		X			3			1		3	1				
	1115	745B 204-05	G		X			3			1		3	1				
	1145	745B 205-04	G		X			3			1		3	1				
	1200	745B 205-05	G		X			3			1		3	1				
	1115	745B VP19 b -03	G		X			3		✓	1		3	✓				√= analyses from
↓	1130	745B VP19 b -05	G		X			3		✓	1		3	✓				same sample container

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
			[signature]	5/19/08	1630			
RECEIVED BY: (SIGNATURE)	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**
			[signature]					

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SAVANNAH LOG NO.	LABORATORY REMARKS
[signature]	5/20/08	0900	YES ○ NO ○		680-36891	

TAL8240-680 (1207)

Serial Number 005137

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

FedEx Airbill No.: 8617 8652 7925

TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

Alternate Laboratory Name/Location

Phone:
Fax:

PROJECT REFERENCE	PROJECT NO.	PROJECT LOCATION (STATE)
NAPR 7 Site Investigation	111626	PR
TAL (LAB) PROJECT MANAGER: Kathy E. Smith	P.O. NUMBER	CONTRACT NO.
CLIENT (SITE) PM: Mark Kimes	CLIENT PHONE: 412.337.7465	CLIENT FAX
CLIENT NAME: Michael Baker Jr., Inc.	CLIENT E-MAIL: mkimes@mbakercorp.com	
CLIENT ADDRESS: 100 Airside Dr., Moon Township, PA 15108		
COMPANY CONTRACTING THIS WORK (if applicable): Michael Baker Jr., Inc.		

PAGE 7 OF 8

STANDARD REPORT DELIVERY ●

DATE DUE 28 Day TAT

EXPEDITED REPORT DELIVERY (SURCHARGE) ○

DATE DUE _____

NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G) INDICATE	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT, ...)	App IX VOCs	App IX SVOCs	LL PAHs	App IX Metals (Total)	App IX Metals (Dissolved)	TPH GRO	TPH DRO	App IX Pesticides	App IX PCBs	TOC	REMARKS
								PRESERVATIVE										
								NUMBER OF CONTAINERS SUBMITTED										
5/14/08	1107	74GWVP1Ca	G	X										1				
5/14/08	0830	74GWVP3a	G	X										1				recd broken KS 5/21/08
5/16/08	0840	74GWVP1Aa	G	X										1				
5/16/08	0945	74GWVP1Bb/9	G	X						1	1	1						
5/17/08	1430	74GWVP3b/9	G	X				3		2	1	1	3	1				
5/17/08	1130	74GWVP3a/9	G	X				3		2	1	X	3	2				dissolved metal recd broken KS 5/21/08
5/17/08	1505	74GW84	G	X				3			1	1	3	2				
5/18/08	1230	74GWVP06	G	X				3			1	1	3	2				
5/18/08	1345	74GWVP10a/DFM	G	X				3		2	1	1	3	2				
5/18/08	1315	74GWVP2b/9	G	X				3		1	1	1	3	1				
5/18/08	1130	74GWVP1Ab/9	G	X				3					3					
5/16/08		74TB21	G	X				3					3					

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
			[signature]	5/19/08	1630			
RECEIVED BY: (SIGNATURE)	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SAVANNAH LOG NO.	LABORATORY REMARKS
[signature]	5/20/08	0900	YES ○ NO ○		680-36891	

TAL8240-680 (1207)

Serial Number 005136

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

FedEx Airbill No.: 8617 8652 7925

TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

74-011

Alternate Laboratory Name/Location

Phone:
Fax:

PROJECT REFERENCE: NAPR 7 Site Investigation	PROJECT NO.: 111626	PROJECT LOCATION (STATE): PR
TAL (LAB) PROJECT MANAGER: Kathy E. Smith	P.O. NUMBER:	CONTRACT NO.:
CLIENT (SITE) PM: Mark Kimes	CLIENT PHONE: 412.337.7465	CLIENT FAX:
CLIENT NAME: Michael Baker Jr., Inc.	CLIENT E-MAIL: mkimes@mbakercorp.com	
CLIENT ADDRESS: 100 Airside Dr., Moon Township, PA 15108		
COMPANY CONTRACTING THIS WORK (if applicable): Michael Baker Jr., Inc.		

PAGE 8 OF 8

STANDARD REPORT DELIVERY ●

DATE DUE ~~28 Day TAT~~

EXPEDITED REPORT DELIVERY (SURCHARGE) ○

DATE DUE _____

NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	MATRIX TYPE: COMPOSITE (C) OR GRAB (G) INDICATE	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT, ...)	App IX VOCs	App IX SVOCs	LL PAHs	App IX Metals (Total)	App IX Metals (Dissolved)	TPH GRO	TPH DRO	App IX Pesticides	App IX PCBs	TOC	REMARKS
								PRESERVATIVE										
								NUMBER OF CONTAINERS SUBMITTED										
5/17/08		74TB22	G	X				3					3					
5/18/08		74TB23	G	X				3					3					
5/17/08		74TB24	G	X				3					3					
5/17/08	0700	74ER15	G	X				3			1		3	2				
5/18/08	0730	74ER16	G	X				3			1		3	2				
5/19/08	0715	74ER17	G	X				3			1		3	2				

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
			[signature]	5/19/08	1630			
RECEIVED BY: (SIGNATURE)	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SAVANNAH LOG NO.	LABORATORY REMARKS
KL	5/20/08	0900	YES ○ NO ○		680-36891	

TAL8240-680 (1207)

Serial Number 005135

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

FedEx Airbill No.: 8617 8652 7914

TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

74-012

Alternate Laboratory Name/Location

Phone:
Fax:

PROJECT REFERENCE: NAPR 7 Site Investigation	PROJECT NO.: 111626	PROJECT LOCATION (STATE): PR
TAL (LAB) PROJECT MANAGER: Kathy E. Smith	P.O. NUMBER:	CONTRACT NO.:
CLIENT (SITE) PM: Mark Kimes	CLIENT PHONE: 412.337.7465	CLIENT FAX:
CLIENT NAME: Michael Baker Jr., Inc.	CLIENT E-MAIL: mkimes@mbakercorp.com	
CLIENT ADDRESS: 100 Airside Dr., Moon Township, PA 15108		
COMPANY CONTRACTING THIS WORK (if applicable): Michael Baker Jr., Inc.		

PAGE 1 OF 5

STANDARD REPORT DELIVERY ●

DATE DUE ~~28 Day TAT~~

EXPEDITED REPORT DELIVERY (SURCHARGE) ○

DATE DUE _____

NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

MATRIX TYPE: COMPOSITE (C) OR GRAB (G) INDICATE; AQUEOUS (WATER); SOLID OR SEMISOLID; AIR; NONAQUEOUS LIQUID (OIL, SOLVENT, ...)

REQUIRED ANALYSIS / NUMBER OF CONTAINERS SUBMITTED

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G)	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID	App IX VOCs	App IX SVOCs	LL PAHs	App IX Metals (Total)	App IX Metals (Dissolved)	TPH GRO	TPH DRO	App IX Pesticides	App IX PCBs	TOC	REMARKS
								PRESERVATIVE										
5/19/08	1050	745B184-04	G		X			3			1		3	1				
	1105	745B184-05	G		X			3			1		3	1				
	1330	745B188-03	G		X			3			1		3	1				
	1345	745B188-04	G		X			3			1		3	1				
	1350	745B189-03	G		X			3			1		3	1				
	1400	745B189-05	G		X			3			1		3	1				
	1410	745B190-03	G		X			3			1		3	1				
	1425	745B190-05	G		X			3			1		3	1				
	1435	745B191-00	G		X			3			1		3	1				
	1515	745B191-03	G		X			3			1		3	1				
	1515	745B191-03 D	G		X			3			1		3	1				
	1545	745B191-05	G		X			3			1		3	1				

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
			[signature]	5/20/08	1630			
RECEIVED BY: (SIGNATURE)	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SAVANNAH LOG NO.	LABORATORY REMARKS
[signature]	5/21/08	0852	YES ○ NO ○		680-36925	1.3 | 1.3 | 2.6 | 2.3 | 2.1 | 0.6 | 0.1 | 0.1

TAL8240-680 (1207)

Serial Number 005134

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

FedEx Airbill No.: 8617 8652 7914

TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

74-012

Alternate Laboratory Name/Location

Phone:
Fax:

PROJECT REFERENCE: NAPR 7 Site Investigation	PROJECT NO.: 111626	PROJECT LOCATION (STATE): PR
TAL (LAB) PROJECT MANAGER: Kathy E. Smith	P.O. NUMBER:	CONTRACT NO.:
CLIENT (SITE) PM: Mark Kimes	CLIENT PHONE: 412.337.7465	CLIENT FAX:
CLIENT NAME: Michael Baker Jr., Inc.	CLIENT E-MAIL: mkimes@mbakercorp.com	
CLIENT ADDRESS: 100 Airside Dr., Moon Township, PA 15108		
COMPANY CONTRACTING THIS WORK (if applicable): Michael Baker Jr., Inc.		

PAGE 2 OF 5

STANDARD REPORT DELIVERY ●

DATE DUE 28 Day TAT

EXPEDITED REPORT DELIVERY (SURCHARGE) ○

DATE DUE _____

NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G) INDICATE	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT, ...)	App IX VOCs	App IX SVOCs	LL PAHs	App IX Metals (Total)	App IX Metals (Dissolved)	TPH GRO	TPH DRO	App IX Pesticides	App IX PCBs	TOC	REMARKS
								PRESERVATIVE										
								NUMBER OF CONTAINERS SUBMITTED										
5/19/08	1545	74SB191-05 MS	G		X			3					3					
	1545	74SB191-05MSD	G		X			3					3					
	1545	74SB191-05 MS/MSD	G		X						1			1				
	1600	74SB192-03	G		X			3			1		3	1				
	1615	74SB192-05	G		X			3			1		3	1				
	0800	74SB178-04	G		X			3			1		3	1				
	0815	74SB178-05	G		X			3			1		3	1				
	0830	74SB179-04	G		X			3			1		3	1				
	0845	74SB179-05	G		X			3			1		3	1				
	0855	74SB180-04	G		X			3			1		3	1				
	0905	74SB180-05	G		X			3			1		3	1				
	0915	74SB181-00	G		X			3			1		3	1				

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
			[signature]	5/20/08	1630			
RECEIVED BY: (SIGNATURE)	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SAVANNAH LOG NO.	LABORATORY REMARKS
KL	5/21/08	0852	YES ○ NO ○		680-36925	

TAL8240-680 (1207)

Serial Number 005133

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

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TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

74-012

Alternate Laboratory Name/Location
Phone:
Fax:

PROJECT REFERENCE: NAPR 7 Site Investigation	PROJECT NO.: 111626	PROJECT LOCATION (STATE): PR
TAL (LAB) PROJECT MANAGER: Kathy E. Smith	P.O. NUMBER:	CONTRACT NO.:
CLIENT (SITE) PM: Mark Kimes	CLIENT PHONE: 412.337.7465	CLIENT FAX:
CLIENT NAME: Michael Baker Jr., Inc.	CLIENT E-MAIL: mkimes@mbakercorp.com	
CLIENT ADDRESS: 100 Airside Dr., Moon Township, PA 15108		
COMPANY CONTRACTING THIS WORK (if applicable): Michael Baker Jr., Inc.		

PAGE 3 OF 5

STANDARD REPORT DELIVERY ●

DATE DUE 28 Day TAT

EXPEDITED REPORT DELIVERY (SURCHARGE) ○

DATE DUE _____

NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

MATRIX TYPE: COMPOSITE (C) OR GRAB (G) INDICATE; AQUEOUS (WATER); SOLID OR SEMISOLID; AIR; NONAQUEOUS LIQUID (OIL, SOLVENT, ...)

REQUIRED ANALYSIS / NUMBER OF CONTAINERS SUBMITTED

PRESERVATIVE

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	App IX VOCs	App IX SVOCs	LL PAHs	App IX Metals (Total)	App IX Metals (Dissolved)	TPH GRO	TPH DRO	App IX Pesticides	App IX PCBs	TOC	REMARKS
5/19/08	0925	74SB181-04	3			1		3	1				
	0925	74SB181-04MS	3					3					
	0925	74SB181-04MSD	3					3					
	0925	74SB181-04 MS/MSD				1			1				
	0935	74SB181-05	3			1		3	1				
	0935	74SB181-05D	3			1		3	1				
	0950	74SB182-04	3			1		3	1				
	1005	74SB182-05	3			1		3	1				
	1025	74SB183-04	3			1		3	1				
	1035	74SB183-05	3			1		3	1				
	1035	74SB185-03	3			1		3	1				
	1045	74SB185-05	3			1		3	1				

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
			[signature]	5/20/08	1630			
RECEIVED BY: (SIGNATURE)	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SAVANNAH LOG NO.	LABORATORY REMARKS
KL	5/21/08	0852	YES ○ NO ○		680-36925	

TAL8240-680 (1207)

Serial Number 005132

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

FedEx Airbill No.: 8617 8652 7914

TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

74-012

Alternate Laboratory Name/Location

Phone:
Fax:

PROJECT REFERENCE: NAPR 7 Site Investigation	PROJECT NO.: 111626	PROJECT LOCATION (STATE): PR
TAL (LAB) PROJECT MANAGER: Kathy E. Smith	P.O. NUMBER	CONTRACT NO.
CLIENT (SITE) PM: Mark Kimes	CLIENT PHONE: 412.337.7465	CLIENT FAX
CLIENT NAME: Michael Baker Jr., Inc.	CLIENT E-MAIL: mkimes@mbakercorp.com	
CLIENT ADDRESS: 100 Airside Dr., Moon Township, PA 15108		
COMPANY CONTRACTING THIS WORK (if applicable): Michael Baker Jr., Inc.		

PAGE 4 OF 5

STANDARD REPORT DELIVERY ●

DATE DUE 28 Day TAT

EXPEDITED REPORT DELIVERY (SURCHARGE) ○

DATE DUE _____

NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G) INDICATE	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT, ...)	App IX VOCs	App IX SVOCs	LL PAHs	App IX Metals (Total)	App IX Metals (Dissolved)	TPH GRO	TPH DRO	App IX Pesticides	App IX PCBs	TOC	REMARKS
								PRESERVATIVE										
								NUMBER OF CONTAINERS SUBMITTED										
5/19/08	1100	745B186-03	G	X				3		JBM	1		3	1				
	1110	745B186-05	G	X				3			1		3	1				
	1130	745B187-03	G	X				3			1		3	1				
	1140	745B187-04	G	X				3			1		3	1				
	1230	745B206-04	G	X				3			1		3	1				
	1230	745B206-04D	G	X				3			1		3	1				
	1240	745B206-05	G	X				3			1		3	1				
	1300	745B207-04	G	X				3			1		3	1				
	1310	745B207-05	G	X				3			1		3	1				
	1345	745B209-04	G	X				3			1		3	1				
	1355	745B209-05	G	X				3			1		3	1				√ = analyses from same container
	1400	745B210-04	G	X				3		√	1		3	√				

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
				5/20/08	1630			
RECEIVED BY: (SIGNATURE)	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SAVANNAH LOG NO.	LABORATORY REMARKS
KL	5/21/08	0852	YES ○ NO ○		680-36925	

TAL8240-680 (1207)

Serial Number 005131

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

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TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
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Fax: (912) 352-0165

74-012

Alternate Laboratory Name/Location

Phone:
Fax:

PROJECT REFERENCE	PROJECT NO.	PROJECT LOCATION (STATE)	PAGE	OF
NAPR 7 Site Investigation	111626	PR	5	5

TAL (LAB) PROJECT MANAGER	P.O. NUMBER	CONTRACT NO.
Kathy E. Smith		

CLIENT (SITE) PM	CLIENT PHONE	CLIENT FAX
Mark Kimes	412.337.7465	

CLIENT NAME	CLIENT E-MAIL
Michael Baker Jr., Inc.	mkimes@mbakercorp.com

CLIENT ADDRESS: 100 Airside Dr., Moon Township, PA 15108

COMPANY CONTRACTING THIS WORK (if applicable): Michael Baker Jr., Inc.

STANDARD REPORT DELIVERY ●

DATE DUE ~~28 Day TAT~~

EXPEDITED REPORT DELIVERY (SURCHARGE) ○

DATE DUE _____

NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

REQUIRED ANALYSIS / NUMBER OF CONTAINERS SUBMITTED

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G) INDICATE	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT, ...)	App IX VOCs	App IX SVOCs	LL PAHs	App IX Metals (Total)	App IX Metals (Dissolved)	TPH GRO	TPH DRO	App IX Pesticides	App IX PCBs	TOC	REMARKS
							PRESERVATIVE											
5/19/08	1410	74SB210-05 5/21-did not rec 8260 or GRO KS	G		X			~~3~~ KS		✓	1		~~3~~ KS	✓				✓=analyses from
	0845	74GWVP2a/9	G	X				3		2	1	1	3	2				same container
	1430	74GWVP10A/JP5 Hill	G	X				3		2	1	1	3	2				
	1230	74GWVP1Ba/9	G	X				3					3					
5/19/08		74TB25	G	X				3					3					
5/19/08		74TB26	G	X				3					3					

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
			[signature]	5/20/08	1630			

RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SAVANNAH LOG NO.	LABORATORY REMARKS
KL	5/21/08	0852	YES ○ NO ○		680-36925	

TAL8240-680 (1207)

Serial Number 005130

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

FedEx Airbill No.: 8617 8652 7605

TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

74-013

Alternate Laboratory Name/Location

Phone:
Fax:

PROJECT REFERENCE	PROJECT NO.	PROJECT LOCATION (STATE)
NAPR 7 Site Investigation	111626	PR

TAL (LAB) PROJECT MANAGER	P.O. NUMBER	CONTRACT NO.
Kathy E. Smith		

CLIENT (SITE) PM	CLIENT PHONE	CLIENT FAX
Mark Kimes	412.337.7465	

CLIENT NAME	CLIENT E-MAIL
Michael Baker Jr., Inc.	mkimes@mbakercorp.com

CLIENT ADDRESS: 100 Airside Dr., Moon Township, PA 15108

COMPANY CONTRACTING THIS WORK (if applicable): Michael Baker Jr., Inc.

PAGE 1 OF 8

STANDARD REPORT DELIVERY ●

DATE DUE ~~28 Day TAT~~

EXPEDITED REPORT DELIVERY (SURCHARGE) ○

DATE DUE _____

NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G) INDICATE	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT, ...)	App IX VOCs	App IX SVOCs	LL PAHs	App IX Metals (Total)	App IX Metals (Dissolved)	TPH GRO	TPH DRO	App IX Pesticides	App IX PCBs	TOC	REMARKS
							PRESERVATIVE											
							NUMBER OF CONTAINERS SUBMITTED											
5/19/08	1410	745B210-05	G		X			3					3					
	1450	745B211-06	G		X			3			1		3	1				
	1445	745B211-03	G		X			3			1		3	1				
	1445	745B211-03D	G		X			3			1		3	1				
	1500	745B211-04	G		X			3			1		3	1				
	1500	745B211-04MS	G		X			3					3					
	1500	745B211-04MSD	G		X			3					3					
	1500	745B211-04 MS/MSD	G		X						1			1				
	1320	745B213-03	G		X			3			1		3	1				
	1400	745B215-03	G		X			3			1		3	1				
	1415	745B216-03	G		X			3			1		3	1				
	1425	745B216-05	G		X			3			1		3	1				

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
			[signature]	5/21/08	1630			

RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SAVANNAH LOG NO.	LABORATORY REMARKS
KL	5/22/08	0900	YES ○ NO ○		680-36978	1/1/1.4/5.8/2.1/4.1/1/1/2.2/2.2/1/1/0.7/0.3

TAL8240-680 (1207)

Serial Number 005129

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

FedEx Airbill No.: 8617 8652 7605

TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

74-013

Alternate Laboratory Name/Location

Phone:
Fax:

PROJECT REFERENCE	PROJECT NO.	PROJECT LOCATION (STATE)
NAPR 7 Site Investigation	111626	PR

TAL (LAB) PROJECT MANAGER	P.O. NUMBER	CONTRACT NO.
Kathy E. Smith		

CLIENT (SITE) PM	CLIENT PHONE	CLIENT FAX
Mark Kimes	412.337.7465	

CLIENT NAME	CLIENT E-MAIL
Michael Baker Jr., Inc.	mkimes@mbakercorp.com

CLIENT ADDRESS: 100 Airside Dr., Moon Township, PA 15108

COMPANY CONTRACTING THIS WORK (if applicable): Michael Baker Jr., Inc.

PAGE 2 OF 8

STANDARD REPORT DELIVERY ●

DATE DUE ~~28 Day TAT~~

EXPEDITED REPORT DELIVERY (SURCHARGE) ○

DATE DUE _____

NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

MATRIX TYPE: COMPOSITE (C) OR GRAB (G) INDICATE; AQUEOUS (WATER); SOLID OR SEMISOLID; AIR; NONAQUEOUS LIQUID (OIL, SOLVENT, ...)

REQUIRED ANALYSIS / NUMBER OF CONTAINERS SUBMITTED

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G)	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID	App IX VOCs	App IX SVOCs	LL PAHs	App IX Metals (Total)	App IX Metals (Dissolved)	TPH GRO	TPH DRO	App IX Pesticides	App IX PCBs	TOC	REMARKS
5/19/08	1425	74SB216-05D	G		X			3			1		3	1				
	1520	74SB218-03	G		X			3			1		3	1				
	1530	74SB218-05	G		X			3			1		3	1				
	0825	74SBVP20-05	G		X			3			1		3	1				
	0845	74SBVP20-06	G		X			3		✓	1		3	✓				
88MR	~~1040~~ 1100	74SBVP1982-05	G		X			3			1		3	1				
5/20/08	0855	74SB221-00	G		X			3			1		3	1				
	0855	74SB221-00D	G		X			3			1		3	1				
	0920	74SB221-02	G		X			3		✓	1		3	✓				
	0920	74SB221-02MS	G		X			3					3					
	0920	74SB221-02MSD	G		X			3					3					
	0920	74SB221-02MS/MSD	G		X					✓	1			✓				

PRESERVATIVE

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
			[signature]	5/21/08	1630			

RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SAVANNAH LOG NO.	LABORATORY REMARKS
KL	5/22/08	0900	YES ○ NO ○		680-36978	

TAL8240-680 (1207)

Serial Number 005128

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

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TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

74-013

Alternate Laboratory Name/Location

Phone:
Fax:

PROJECT REFERENCE: NAPR 7 Site Investigation	PROJECT NO.: 111626	PROJECT LOCATION (STATE): PR
TAL (LAB) PROJECT MANAGER: Kathy E. Smith	P.O. NUMBER:	CONTRACT NO.:
CLIENT (SITE) PM: Mark Kimes	CLIENT PHONE: 412.337.7465	CLIENT FAX:
CLIENT NAME: Michael Baker Jr., Inc.	CLIENT E-MAIL: mkimes@mbakercorp.com	
CLIENT ADDRESS: 100 Airside Dr., Moon Township, PA 15108		
COMPANY CONTRACTING THIS WORK (if applicable): Michael Baker Jr., Inc.		

PAGE 3 OF 8

STANDARD REPORT DELIVERY ●

DATE DUE 28 Day TAT

EXPEDITED REPORT DELIVERY (SURCHARGE) ○

DATE DUE _____

NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

MATRIX TYPE (COMPOSITE (C) OR GRAB (G) INDICATE): AQUEOUS (WATER); SOLID OR SEMISOLID; AIR; NONAQUEOUS LIQUID (OIL, SOLVENT, ...)

REQUIRED ANALYSIS / NUMBER OF CONTAINERS SUBMITTED

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G)	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT, ...)	App IX VOCs	App IX SVOCs	LL PAHs	App IX Metals (Total)	App IX Metals (Dissolved)	TPH GRO	TPH DRO	App IX Pesticides	App IX PCBs	TOC	REMARKS
							PRESERVATIVE											
5/19/08	1040	745BVP1982-03	G		X			3		✓	1		3	✓				
5/20/08	0920	745B221-02D	G		X			3		✓	1		3	✓				
	0925	745B222-03	G		X			3		✓	1		3	✓				
	0940	745B223-03	G		X			3		✓	1		3	✓				
	10000	745B224-04	G		X			3			1		3	1				
	1010	745B224-05	G		X			3			1		3	1				
	1035	745B225-04	G		X			3			1		3	1				
	1045	745B225-05	G		X			3			1		3	1				
	1125	745B226-04	G		X			3			1		3	1				
	1135	745B226-05	G		X			3		✓	1		3	✓				
	1135	745B226-05D	G		X			3		✓	1		3	✓				
	0800	745B227-04	G		X			3			1		3	1				

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
			[signature]	5/21/08	1630			
RECEIVED BY: (SIGNATURE)	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SAVANNAH LOG NO.	LABORATORY REMARKS
KL	5/22/08	0900	YES ○ NO ○		680-36978	

TAL8240-680 (1207)

Serial Number 005127

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

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Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

74-013

Alternate Laboratory Name/Location

Phone:
Fax:

PROJECT REFERENCE: NAPR 7 Site Investigation	PROJECT NO.: 111626	PROJECT LOCATION (STATE): PR
TAL (LAB) PROJECT MANAGER: Kathy E. Smith	P.O. NUMBER:	CONTRACT NO.:
CLIENT (SITE) PM: Mark Kimes	CLIENT PHONE: 412.337.7465	CLIENT FAX:
CLIENT NAME: Michael Baker Jr., Inc.	CLIENT E-MAIL: mkimes@mbakercorp.com	
CLIENT ADDRESS: 100 Airside Dr., Moon Township, PA 15108		
COMPANY CONTRACTING THIS WORK (if applicable): Michael Baker Jr., Inc.		

PAGE 4 of 8

STANDARD REPORT DELIVERY ●
DATE DUE 28 Day TAT

EXPEDITED REPORT DELIVERY (SURCHARGE) ○
DATE DUE _____

NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G) INDICATE	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT, ...)	App IX VOCs	App IX SVOCs	LL PAHs	App IX Metals (Total)	App IX Metals (Dissolved)	TPH GRO	TPH DRO	App IX Pesticides	App IX PCBs	TOC	REMARKS
								NUMBER OF CONTAINERS SUBMITTED										
		PRESERVATIVE																
5/20/08	0815	74SB227-05	G		X			3		✓	1		3	✓				
	0800	74SB193-03	G		X			3			1		3	1				
	0845	74SB193-05	G		X			3			1		3	1				
	0855	74SB194-03	G		X			3			1		3	1				
	0910	74SB194-05	G		X			3			1		3	1				
	0930	74SB195-03	G		X			3			1		3	1				
	0940	74SB195-05	G		X			3			1		3	1				
	1020	74SB196-03	G		X			3			1		3	1				
	1020	74SB196-03D	G		X			3			1		3	1				
	1030	74SB196-05	G		X			3			1		3	1				
	1055	74SB197-03	G		X			3			1		3	1				
	1110	74SB197-05	G		X			3			1		3	1				

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
			[signature]	5/21/08	1630			
RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SAVANNAH LOG NO.	LABORATORY REMARKS
KL	5/22/08	0900	YES ○ NO ○		610-36978	

TAL8240-680 (1207)

Serial Number 005126

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

FedEx Airbill No.: 8617 8652 7605

TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

74-013

Alternate Laboratory Name/Location

Phone:
Fax:

PROJECT REFERENCE	PROJECT NO.	PROJECT LOCATION (STATE)
NAPR 7 Site Investigation	111626	PR

PAGE 5 OF 8

TAL (LAB) PROJECT MANAGER	P.O. NUMBER	CONTRACT NO.
Kathy E. Smith		

CLIENT (SITE) PM	CLIENT PHONE	CLIENT FAX
Mark Kimes	412.337.7465	

CLIENT NAME	CLIENT E-MAIL
Michael Baker Jr., Inc.	mkimes@mbakercorp.com

CLIENT ADDRESS: 100 Airside Dr., Moon Township, PA 15108

COMPANY CONTRACTING THIS WORK (if applicable): Michael Baker Jr., Inc.

STANDARD REPORT DELIVERY ●
DATE DUE 28 Day TAT
EXPEDITED REPORT DELIVERY (SURCHARGE) ○
DATE DUE _____

NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

MATRIX TYPE: COMPOSITE (C) OR GRAB (G) INDICATE; AQUEOUS (WATER); SOLID OR SEMISOLID; AIR; NONAQUEOUS LIQUID (OIL, SOLVENT, ...)

REQUIRED ANALYSIS

PRESERVATIVE

NUMBER OF CONTAINERS SUBMITTED

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G)	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID	App IX VOCs	App IX SVOCs	LL PAHs	App IX Metals (Total)	App IX Metals (Dissolved)	TPH GRO	TPH DRO	App IX Pesticides	App IX PCBs	TOC	REMARKS
5/20/08	0825	74SB228-04	G	X				3			1		3	1				
	0835	74SB228-05	G	X				3		✓	1		3	✓				
	0905	74SB229-04	G	X				3			1		3	1				
	0920	74SB229-05	G	X				3			1		3	1				
	0930	74SB230-04	G	X				3			1		3	1				
	0945	74SB230-05	G	X				3		✓	1		3	✓				
	1200	74SB231-00	G	X				3			1		3	1				
	1200	74SB231-00D	G	X				~~3~~			~~1~~		~~3~~	~~1~~				cancel per client KS 5/22/08
	1210	74SB231-04	G	X				3			1		3	1				
	1210	74SB231-04MS	G	X				3					3					
	1210	74SB231-04MSD	G	X				3					3					
	1210	74SB231-04MS/MSD	G	X							1			1				

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
			[signature]	5/21/08	1630			

RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME
			[signature]					

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SAVANNAH LOG NO.	LABORATORY REMARKS
KG	5/22/08	0900	YES ○ NO ○		680-36978	

TAL 8240-680 (1207)

Serial Number 005125

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

estAmerica

THE LEADER IN ENVIRONMENTAL TESTING

FedEx Airbill No.: 8617 8652 7605

TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

74-013

Alternate Laboratory Name/Location

Phone:
Fax:

PROJECT REFERENCE: NAPR 7 Site Investigation	PROJECT NO.: 111626	PROJECT LOCATION (STATE): PR
TAL (LAB) PROJECT MANAGER: Kathy E. Smith	P.O. NUMBER	CONTRACT NO.
CLIENT (SITE) PM: Mark Kimes	CLIENT PHONE: 412.337.7465	CLIENT FAX
CLIENT NAME: Michael Baker Jr., Inc.	CLIENT E-MAIL: mkimes@mbakercorp.com	
CLIENT ADDRESS: 0 Airside Dr., Moon Township, PA 15108		
COMPANY CONTRACTING THIS WORK (if applicable): Michael Baker Jr., Inc.		

PAGE 6 OF 8

STANDARD REPORT DELIVERY ●
DATE DUE 28 Day TAT
EXPEDITED REPORT DELIVERY (SURCHARGE) ○
DATE DUE _____

NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G) INDICATE	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT, ...)	App IX VOCs	App IX SVOCs	LL PAHs	App IX Metals (Total)	App IX Metals (Dissolved)	TPH GRO	TPH DRO	App IX Pesticides	App IX PCBs	TOC	REMARKS
								PRESERVATIVE										
								NUMBER OF CONTAINERS SUBMITTED										
5/20/08	1220	74SB231-05	G	X				3			1		3	1				
	1220	74SB231-05D	G	X				3			1		3	1				
	1255	74SB232-04	G	X				3			1		3	1				
	1305	74SB232-05	G	X				3			1		3	1				
	1315	74SB233-04	G	X				3			1		3	1				
	1325	74SB233-05	G	X				3			1		3	1				
	1340	74SB234-04	G	X				3			1		3	1				
	1350	74SB234-05	G	X				3			1		3	1				
	1405	74SB235-04	G	X				3			1		3	1				
	1415	74SB235-05	G	X				3			1		3	1				
/08	0920	74GW9MW02S	G	X				3		2	1	1	3	2				
/08	0920	74GW9MW02SD	G	X				3		2	1	1	3	2				

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME
SHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	5/21/08	1630
) BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME

LABORATORY USE ONLY

) FOR LABORATORY BY:	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SAVANNAH LOG NO.	LABORATORY REMARKS
KG	5/22/08	0900	YES ○ NO ○		680-36978	

TAL8240-680 (1207)

Serial Number 005122

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

FedEx Airbill No.:

TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

Alternate Laboratory Name/Location

Phone:
Fax:

PROJECT REFERENCE	PROJECT NO.	PROJECT LOCATION (STATE)
NAPR 7 Site Investigation	111626	PR

PAGE 7 OF 8

TAL (LAB) PROJECT MANAGER	P.O. NUMBER	CONTRACT NO.
Kathy E. Smith		
CLIENT (SITE) PM	**CLIENT PHONE**	**CLIENT FAX**
Mark Kimes	412.337.7465	
CLIENT NAME	**CLIENT E-MAIL**	
Michael Baker Jr., Inc.	mkimes@mbakercorp.com	

CLIENT ADDRESS: 100 Airside Dr., Moon Township, PA 15108

COMPANY CONTRACTING THIS WORK (if applicable): Michael Baker Jr., Inc.

STANDARD REPORT DELIVERY ◯

DATE DUE 28 Day TAT

EXPEDITED REPORT DELIVERY (SURCHARGE) ◯

DATE DUE _____

NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G) INDICATE	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT, ...)	App IX VOCs	App IX SVOCs	LL PAHs	App IX Metals (Total)	App IX Metals (Dissolved)	TPH GRO	TPH DRO	App IX Pesticides	App IX PCBs	TOC	REMARKS
								PRESERVATIVE										
								NUMBER OF CONTAINERS SUBMITTED										
5/20/08	0920	74GW9MW02S MS	G	X				3		2	1	1	3	2				
5/20/08	0920	74GW9MW02S MSD	G	X				3		2	1	1	3	2				
5/21/08	0830	74GW151	G	X				3			1	1	3	2				
5/21/08	1030	74GW VP07	G	X				3			1	1	3	2				
5/16/08	0945	74GWVP1Bb/9	G	X										1				
5/18/08	1130	74GWVP1Ab/9	G	X						1								
5/18/08	1105	74GWVP6Cb	G	X				3	8m	~~1~~	1	1	3	1				
5/20/08	1135	74GWVP6Ca	G	X				3			1	1	3					
5/21/08	0930	74GW145	G	X				3					3					
5/20/08	0710	74ER18	G	X				3		2	1		3	2				
5/21/08	0720	74ER19	G	X				3			1		3	2				
5/19/08		74TB27	G	X				3					3					

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
			[signature]	5/21/08	1630			
RECEIVED BY: (SIGNATURE)	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SAVANNAH LOG NO.	LABORATORY REMARKS
KL	5/22/08	0900	YES ◯ NO ◯		680-36978	

TAL8240-680 (1207)

Serial Number 005177

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

FedEx Airbill No.: 8617 8652 7605

TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

74-013

Alternate Laboratory Name/Location

Phone:
Fax:

PROJECT REFERENCE	PROJECT NO.	PROJECT LOCATION (STATE)
NAPR 7 Site Investigation	111626	PR

TAL (LAB) PROJECT MANAGER	P.O. NUMBER	CONTRACT NO.
Kathy E. Smith		

CLIENT (SITE) PM	CLIENT PHONE	CLIENT FAX
Mark Kimes	412.337.7465	

CLIENT NAME	CLIENT E-MAIL
Michael Baker Jr., Inc.	mkimes@mbakercorp.com

CLIENT ADDRESS: 100 Airside Dr., Moon Township, PA 15108

COMPANY CONTRACTING THIS WORK (if applicable): Michael Baker Jr., Inc.

PAGE 8 OF 8

STANDARD REPORT DELIVERY ●

DATE DUE ~~28 Day TAT~~

EXPEDITED REPORT DELIVERY (SURCHARGE) ○

DATE DUE _____

NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G) INDICATE	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT, ...)	App IX VOCs	App IX SVOCs	LL PAHs	App IX Metals (Total)	App IX Metals (Dissolved)	TPH GRO	TPH DRO	App IX Pesticides	App IX PCBs	TOC	REMARKS
								PRESERVATIVE										
								NUMBER OF CONTAINERS SUBMITTED										
5/19/08	8:00	74TB 28	G	X				3					3					
5/19/08		74TB 29	G	X				3					3					

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
			[signature]	5/21/08	1630			
RECEIVED BY: (SIGNATURE)	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SAVANNAH LOG NO.	LABORATORY REMARKS
KL	5/22/08	0900	YES ○ NO ○		680-36978	

TAL8240-680 (1207)

Serial Number 005176

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

FedEx Airbill No.: 8617 8652 7590

TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

74-014

Alternate Laboratory Name/Location

Phone:
Fax:

PROJECT REFERENCE	PROJECT NO.	PROJECT LOCATION (STATE)
NAPR 7 Site Investigation	111626	PR

TAL (LAB) PROJECT MANAGER	P.O. NUMBER	CONTRACT NO.
Kathy E. Smith		

CLIENT (SITE) PM	CLIENT PHONE	CLIENT FAX
Mark Kimes	412.337.7465	

CLIENT NAME	CLIENT E-MAIL
Michael Baker Jr., Inc.	mkimes@mbakercorp.com

CLIENT ADDRESS: 100 Airside Dr., Moon Township, PA 15108

COMPANY CONTRACTING THIS WORK (if applicable): Michael Baker Jr., Inc.

PAGE 1 OF 7

STANDARD REPORT DELIVERY ●

DATE DUE ~~28 Day TAT~~

EXPEDITED REPORT DELIVERY (SURCHARGE) ○

DATE DUE _____

NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

MATRIX TYPE: COMPOSITE (C) OR GRAB (G) INDICATE; AQUEOUS (WATER); SOLID OR SEMISOLID; AIR; NONAQUEOUS LIQUID (OIL, SOLVENT, ...)

REQUIRED ANALYSIS / NUMBER OF CONTAINERS SUBMITTED

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G)	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT, ...)	App IX VOCs	App IX SVOCs	LL PAHs	App IX Metals (Total)	App IX Metals (Dissolved)	TPH GRO	TPH DRO	App IX Pesticides	App IX PCBs	TOC	REMARKS
							PRESERVATIVE											
5/20/08	1515	74SB265-03	G		X			3			1		3	1				
	1515	74SB265-03D	G		X			3			1		3	1				
	1530	74SB265-04	G		X			3			1		3	1				
	1455	74SB266-03	G		X			3			1		3	1				
	1425	74SB267-02	G		X			3			1		3	1				
	1435	74SB267-03	G		X			3			1		3	1				
	1400	74SB268-03	G		X			3			1		3	1				
	1415	74SB268-05	G		X			3		✓	1		3	✓				
	1215	74SB269-04	G		X			3			1		3	1				
	1230	74SB269-05	G		X			3		✓	1		3	✓				
5/21/08	0825	74SB263-03	G		X			3			1		3	1				
5/21/08	~~0825~~	74SB263-04	G		X			3			1		3	1				

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
~~0835~~ KS 5/23/08			[signature]	5/22/08	1630			

RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SAVANNAH LOG NO.	LABORATORY REMARKS
KL	5/23/08	0906	YES ○ NO ○		60-37020	1.3 | 1.1 | 0.7 | 0.6 | 1.3 | 0.1 | 1.6 | 2.0 | 2.3

TAL8240-680 (1207)

Serial Number 005174

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

FedEx Airbill No.: 8617 8652 7590

TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

74-014

Alternate Laboratory Name/Location

Phone:
Fax:

PROJECT REFERENCE: NAPR 7 Site Investigation	PROJECT NO.: 111626	PROJECT LOCATION (STATE): PR
TAL (LAB) PROJECT MANAGER: Kathy E. Smith	P.O. NUMBER:	CONTRACT NO.:
CLIENT (SITE) PM: Mark Kimes	CLIENT PHONE: 412.337.7465	CLIENT FAX:
CLIENT NAME: Michael Baker Jr., Inc.	CLIENT E-MAIL: mkimes@mbakercorp.com	
CLIENT ADDRESS: 100 Airside Dr., Moon Township, PA 15108		
COMPANY CONTRACTING THIS WORK (if applicable): Michael Baker Jr., Inc.		

PAGE 2 OF 7

STANDARD REPORT DELIVERY ●

DATE DUE ~~28 Day TAT~~

EXPEDITED REPORT DELIVERY (SURCHARGE) ○

DATE DUE _____

NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

MATRIX TYPE: COMPOSITE (C) OR GRAB (G) INDICATE; AQUEOUS (WATER); SOLID OR SEMISOLID; AIR; NONAQUEOUS LIQUID (OIL, SOLVENT, ...)

REQUIRED ANALYSIS / NUMBER OF CONTAINERS SUBMITTED

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G)	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT, ...)	App IX VOCs	App IX SVOCs	LL PAHs	App IX Metals (Total)	App IX Metals (Dissolved)	TPH GRO	TPH DRO	App IX Pesticides	App IX PCBs	TOC	REMARKS
							PRESERVATIVE											
5/21/08	0800	74SB 264-03 5/22/08	G		X			3			1		3	1				
	0810	74SB 264-04	G		X			3		✓	1		3	✓				
	1220	74SB 256-03	G		X			3			1		3	1				
	1220	74SB 256-03D	G		X			3			1		3	1				
	1235	74SB 256-04	G		X			3			1		3	1				
	1145	74SB 258-03	G		X			3			1		3	1				
	1155	74SB 258-05	G		X			3			1		3	1				
	1115	74SB 259-03	G		X			3			1		3	1				
	1125	74SB 259-04	G		X			3			1		3	1				
	1025	74SB 260-03	G		X			3			1		3	1				
	1040	74SB 260-04	G		X			3		✓	1		3	✓				
	0920	74SB 261-00	G		X			3			1		3	1				

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
			[signature]	5/22/08	1630			
RECEIVED BY: (SIGNATURE)	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SAVANNAH LOG NO.	LABORATORY REMARKS
KL	5/23/08	0906	YES ○ NO ○		680-37020	

TAL8240-680 (1207)

Serial Number 005173

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

FedEx Airbill No.: 8617 8652 7590

TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

74-014

Alternate Laboratory Name/Location

Phone:
Fax:

PROJECT REFERENCE	PROJECT NO.	PROJECT LOCATION (STATE)
NAPR 7 Site Investigation	111626	PR

TAL (LAB) PROJECT MANAGER	P.O. NUMBER	CONTRACT NO.
Kathy E. Smith		

CLIENT (SITE) PM	CLIENT PHONE	CLIENT FAX
Mark Kimes	412.337.7465	

CLIENT NAME	CLIENT E-MAIL
Michael Baker Jr., Inc.	mkimes@mbakercorp.com

CLIENT ADDRESS: 100 Airside Dr., Moon Township, PA 15108

COMPANY CONTRACTING THIS WORK (if applicable): Michael Baker Jr., Inc.

PAGE 3 OF 7

STANDARD REPORT DELIVERY ●

DATE DUE ~~28 Day TAT~~

EXPEDITED REPORT DELIVERY (SURCHARGE) ○

DATE DUE _____

NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

MATRIX TYPE: COMPOSITE (C) OR GRAB (G) INDICATE; AQUEOUS (WATER); SOLID OR SEMISOLID; AIR; NONAQUEOUS LIQUID (OIL, SOLVENT, ...)

REQUIRED ANALYSIS / NUMBER OF CONTAINERS SUBMITTED

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G)	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT, ...)	App IX VOCs	App IX SVOCs	LL PAHs	App IX Metals (Total)	App IX Metals (Dissolved)	TPH GRO	TPH DRO	App IX Pesticides	App IX PCBs	TOC	REMARKS
								PRESERVATIVE										
5/21/08	0940	74SB261-03	G	X				3			1		3	1				
	0940	74SB261-03D	G	X				3			1		3	1				
	0940	74SB261-03MS	G	X				3					3					
	0940	74SB261-04MSD	G	X				3					3					
	0940	74SB261-04MS/MSD	G	X							1			1				
	0855	74SB262-03	G	X				3			1		3	1				
	0900	74SB236-04	G	X				3			1		3	1				
	0810	74SB236-05	G	X				3			1		3	1				
	0810	74SB236-05D	G	X				3			1		3	1				
	0845	74SB237-04	G	X				3			1		3	1				
	0900	74SB237-05	G	X				3			1		3	1				
	0940	74SB238-04	G	X				3			1		3	1				

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
			[signature]	5/22/08	1630			

RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SAVANNAH LOG NO.	LABORATORY REMARKS
KL	5/23/08	0906	YES ○ NO ○		680-37020	

TAL8240-680 (1207)

Serial Number 005172

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

FedEx Airbill No.: 8617 8652 7590

TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

74-014

Alternate Laboratory Name/Location

Phone:
Fax:

PROJECT REFERENCE	PROJECT NO.	PROJECT LOCATION (STATE)
NAPR 7 Site Investigation	111626	PR

TAL (LAB) PROJECT MANAGER	P.O. NUMBER	CONTRACT NO.
Kathy E. Smith		

CLIENT (SITE) PM	CLIENT PHONE	CLIENT FAX
Mark Kimes	412.337.7465	

CLIENT NAME	CLIENT E-MAIL
Michael Baker Jr., Inc.	mkimes@mbakercorp.com

CLIENT ADDRESS: 100 Airside Dr., Moon Township, PA 15108

COMPANY CONTRACTING THIS WORK (if applicable): Michael Baker Jr., Inc.

PAGE 4 OF 7

STANDARD REPORT DELIVERY ●

DATE DUE ~~28 Day TAT~~

EXPEDITED REPORT DELIVERY (SURCHARGE) ○

DATE DUE _____

NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G) INDICATE	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT, ...)	App IX VOCs	App IX SVOCs	LL PAHs	App IX Metals (Total)	App IX Metals (Dissolved)	TPH GRO	TPH DRO	App IX Pesticides	App IX PCBs	TOC	REMARKS
								NUMBER OF CONTAINERS SUBMITTED										
								PRESERVATIVE										
5/21/08	0950	74SB 238-05	G		X			3			1		3	1				
	1000	74SB 239-04	G		X			3			1		3	1				
	1011	74SB 239-05	G		X			3			1		3	1				
	1040	74SB 240-04	G		X			3			1		3	1				
	1050	74SB 240-05	G		X			3			1		3	1				
	1400	74SB 241-00	G		X			3			1		3	1				
	1410	74SB 241-04	G		X			3			1		3	1				
	1410	74SB 241-04D	G		X			3			1		3	1				
	1420	74SB 241-05	G		X			3			1		3	1				
	1420	74SB 241-05MS	G		X			3					3					
	1420	74SB 241-05MSD	G		X			3					3					
	1420	74SB 241-05 MS/MSD	G		X						1			1				

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
			John Malmowski	5/22/08	1630			

RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SAVANNAH LOG NO.	LABORATORY REMARKS
KL	5/23/08	0906	YES ○ NO ○		680-37020	

TAL8240-680 (1207)

Serial Number 005124

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

FedEx Airbill No.: 8617 8652 7590

TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

74-014

Alternate Laboratory Name/Location

Phone:
Fax:

PROJECT REFERENCE: NAPR 7 Site Investigation	PROJECT NO.: 111626	PROJECT LOCATION (STATE): PR
TAL (LAB) PROJECT MANAGER: Kathy E. Smith	P.O. NUMBER:	CONTRACT NO.:
CLIENT (SITE) PM: Mark Kimes	CLIENT PHONE: 412.337.7465	CLIENT FAX:
CLIENT NAME: Michael Baker Jr., Inc.	CLIENT E-MAIL: mkimes@mbakercorp.com	
CLIENT ADDRESS: 100 Airside Dr., Moon Township, PA 15108		
COMPANY CONTRACTING THIS WORK (if applicable): Michael Baker Jr., Inc.		

PAGE 5 OF 7

STANDARD REPORT DELIVERY ●
DATE DUE 28 Day TAT
EXPEDITED REPORT DELIVERY (SURCHARGE) ○
DATE DUE _____

NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

MATRIX TYPE (COMPOSITE (C) OR GRAB (G) INDICATE): AQUEOUS (WATER), SOLID OR SEMISOLID, AIR, NONAQUEOUS LIQUID (OIL, SOLVENT, ...)

REQUIRED ANALYSIS / NUMBER OF CONTAINERS SUBMITTED

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G)	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT, ...)	App IX VOCs	App IX SVOCs	LL PAHs	App IX Metals (Total)	App IX Metals (Dissolved)	TPH GRO	TPH DRO	App IX Pesticides	App IX PCBs	TOC	REMARKS
								PRESERVATIVE										
5/21/08	0755	74SB 245-03	G		X			3			1		3	1				
	0805	74SB 245-05	G		X			3			1		3	1				
	0825	74SB 246-03	G		X			3			1		3	1				
	0825	74SB 246-03D	G		X			3			1		3	1				
	0835	74SB 246-05	G		X			3			1		3	1				
	0900	74SB 247-03	G		X			3			1		3	1				
	0955	74SB 248-03	G		X			3			1		3	1				
	1010	74SB 249-03	G		X			3			1		3	1				
	1025	74SB 250-03	G		X			3			1		3	1				
	1030	74SB 250-05	G		X			3			1		3	1				
	1120	74SB 251-00	G		X			3			1		3	1				
	1130	74SB 251-03	G		X			3			1		3	1				

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
			[signature]	5/22/08	1630			
RECEIVED BY: (SIGNATURE)	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SAVANNAH LOG NO.	LABORATORY REMARKS
KL	5/23/08	0906	YES ○ NO ○		680-37020	

TAL8240-680 (1207)

Serial Number 005113

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

FedEx Airbill No.: 8617 8652 7590

TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

74-014

Alternate Laboratory Name/Location

Phone:
Fax:

PROJECT REFERENCE	PROJECT NO.	PROJECT LOCATION (STATE)
NAPR 7 Site Investigation	111626	PR

TAL (LAB) PROJECT MANAGER	P.O. NUMBER	CONTRACT NO.
Kathy E. Smith		

CLIENT (SITE) PM	CLIENT PHONE	CLIENT FAX
Mark Kimes	412.337.7465	

CLIENT NAME	CLIENT E-MAIL
Michael Baker Jr., Inc.	mkimes@mbakercorp.com

CLIENT ADDRESS: 100 Airside Dr., Moon Township, PA 15108

COMPANY CONTRACTING THIS WORK (if applicable): Michael Baker Jr., Inc.

PAGE 6 OF 7

STANDARD REPORT DELIVERY ●
DATE DUE 28 Day TAT

EXPEDITED REPORT DELIVERY (SURCHARGE) ○
DATE DUE _____

NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

PRESERVATIVE

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G) INDICATE	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT, ...)	App IX VOCs	App IX SVOCs	LL PAHs	App IX Metals (Total)	App IX Metals (Dissolved)	TPH GRO	TPH DRO	App IX Pesticides	App IX PCBs	TOC	REMARKS
								NUMBER OF CONTAINERS SUBMITTED										
5/21/08	1130	74SB251-03D	G		X			3			1	3	3	1				
	1145	74SB251-05	G		X			3			1	3	3	1				
	1145	74SB251-05MS	G		X			3			1	3	3	1				
	1145	74SB251-05MSD	G		X			3			1	3	3	1				
	1145	74SB251-05MS/MSD	G		X			3			1	3	3	1				
	1310	74SB252-03	G		X			3			1	3	3	1				
	1330	74SB253-03	G		X			3			1	3	3	1				
	1400	74SB254-03	G		X			3			1	3	3	1				
	1430	74SB255-03	G		X			3			1	3	3	1				
5/21/08	1500	74GWVP6Ba	G	X				3					3	1				
5/21/08	0930	74GW145	G	X							1			1				
5/20/08	1135	74GWVP6Ca	G	X										1				

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
			[signature]	5/22/08	1630			

RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SAVANNAH LOG NO.	LABORATORY REMARKS
KL	5/23/08	0906	YES ○ NO ○		680-37020	

TAL8240-680 (1207)

Serial Number 005114

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

FedEx Airbill No.: 8617 8652 7590

TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404
Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

74-014

Alternate Laboratory Name/Location
Phone:
Fax:

PROJECT REFERENCE	PROJECT NO.	PROJECT LOCATION (STATE)
NAPR 7 Site Investigation	111626	PR
TAL (LAB) PROJECT MANAGER: Kathy E. Smith	P.O. NUMBER	CONTRACT NO.
CLIENT (SITE) PM: Mark Kimes	CLIENT PHONE: 412.337.7465	CLIENT FAX
CLIENT NAME: Michael Baker Jr., Inc.	CLIENT E-MAIL: mkimes@mbakercorp.com	
CLIENT ADDRESS: 100 Airside Dr., Moon Township, PA 15108		
COMPANY CONTRACTING THIS WORK (if applicable): Michael Baker Jr., Inc.		

PAGE 7 OF 7

STANDARD REPORT DELIVERY ●
DATE DUE 28 Day TAT
EXPEDITED REPORT DELIVERY (SURCHARGE) ○
DATE DUE _____

NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G) INDICATE	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT, ...)	App IX VOCs	App IX SVOCs	LL PAHs	App IX Metals (Total)	App IX Metals (Dissolved)	TPH GRO	TPH DRO	App IX Pesticides	App IX PCBs	TOC	REMARKS
								PRESERVATIVE										
5/20/08		74TB30	G ~~X~~ X					3					3					
5/21/08		74TB31	G ~~X~~ X					3					3					

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
				5/22/08	1630			
RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SAVANNAH LOG NO.	LABORATORY REMARKS
KL	5/23/08	0906	YES ○ NO ○		680-37020	

TAL8240-680 (1207)

Serial Number 005115

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

FedEx Airbill No.: 8617 8652 7579

TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

74-015

Alternate Laboratory Name/Location

Phone:
Fax:

PROJECT REFERENCE	PROJECT NO.	PROJECT LOCATION (STATE)
NAPR 7 Site Investigation	111626	PR

TAL (LAB) PROJECT MANAGER	P.O. NUMBER	CONTRACT NO.
Kathy E. Smith		

CLIENT (SITE) PM	CLIENT PHONE	CLIENT FAX
Mark Kimes	412.337.7465	

CLIENT NAME	CLIENT E-MAIL
Michael Baker Jr., Inc.	mkimes@mbakercorp.com

CLIENT ADDRESS: 100 Airside Dr., Moon Township, PA 15108

COMPANY CONTRACTING THIS WORK (if applicable): Michael Baker Jr., Inc.

PAGE 1 OF 2

STANDARD REPORT DELIVERY ●

DATE DUE 28 Day TAT

EXPEDITED REPORT DELIVERY (SURCHARGE) ○

DATE DUE _____

NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G) INDICATE	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT, ...)	App IX VOCs	App IX SVOCs	LL PAHs	App IX Metals (Total)	App IX Metals (Dissolved)	TPH GRO	TPH DRO	App IX Pesticides	App IX PCBs	TOC	REMARKS
								PRESERVATIVE										
								NUMBER OF CONTAINERS SUBMITTED										
5/28/08	1005	74 SB 270-04	G		X			3			1		3	1				
	1015	74 SB 270-05	G		X			3			1		3	1				
	1030	74 SB 271-00	G		X			3			1		3	1				
	1040	74 SB 271-03	G		X			3			1		3	1				
	1040	74 SB 271-03 D	G		X			3			1		3	1				
	1040	74 SB 271-03 MS	G		X			3					3					
	1040	74 SB 271-03 MSD	G		X			3					3					
	1040	74 SB 271-03 MS/MSD	G		X						1			1				
	1050	74 SB 271-05	G		X			3			1		3	1				
	1105	74 SB 272-04	G		X			3			1		3	1				
	1115	74 SB 272-05	G		X			3			1		3	1				
	1125	74 SB 273-04	G		X			3			1		3	1				

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
			[signature]	5/28/08	1500			

RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SAVANNAH LOG NO.	LABORATORY REMARKS
KL	5/28/08	0900	YES ○ NO ○		650-37125	0.6 | 0.6 | 0.6 | 0.5

TAL8240-680 (1207)

Serial Number 005116

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

FedEx Airbill No.: 8617 8652 7579

TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

74-015

Alternate Laboratory Name/Location

Phone:
Fax:

PROJECT REFERENCE	PROJECT NO.	PROJECT LOCATION (STATE)
NAPR 7 Site Investigation	111626	PR

TAL (LAB) PROJECT MANAGER	P.O. NUMBER	CONTRACT NO.
Kathy E. Smith		

CLIENT (SITE) PM	CLIENT PHONE	CLIENT FAX
Mark Kimes	412.337.7465	

CLIENT NAME	CLIENT E-MAIL
Michael Baker Jr., Inc.	mkimes@mbakercorp.com

CLIENT ADDRESS: 100 Airside Dr., Moon Township, PA 15108

COMPANY CONTRACTING THIS WORK (if applicable): Michael Baker Jr., Inc.

PAGE 2 OF 2

STANDARD REPORT DELIVERY ●

DATE DUE 28 Day TAT

EXPEDITED REPORT DELIVERY (SURCHARGE) ○

DATE DUE _____

NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G) INDICATE	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT, ...)	App IX VOCs	App IX SVOCs	LL PAHs	App IX Metals (Total)	App IX Metals (Dissolved)	TPH GRO	TPH DRO	App IX Pesticides	App IX PCBs	TOC	REMARKS
								PRESERVATIVE										
								NUMBER OF CONTAINERS SUBMITTED										
5/28/08	1135	74 SB 273 - 05	G		X			3			1		3	1				
	1150	74 SB 274 - 03	G		X			3			1		3	1				
	1200	74 SB 274 - 05	G		X			3			1		3	1				
	0948	74 SB 279 - 03	G		X			3			1		3	1				
	0957	74 SB 279 - 05	G		X			3			1		3	1				
	1120	74 SB 283 - 02	G		X			3			1		3	1				
	1048	74 SB 284 - 02	G		X			3			1		3	1				
	1055	74 SB 284 - 05	G		X			3			1		3	1				
	1023	74 SB 285 - 02	G		X			3			1		3	1				
	1030	74 SB 285 - 05	G		X			3			1		3	1				
5/28/08		74 TB 32	G	X				3					3					

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
			[signature]	5/28/08	1500			
RECEIVED BY: (SIGNATURE)	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SAVANNAH LOG NO.	LABORATORY REMARKS
Kh	5/29/08	0900	YES ○ NO ○		680-37125	

TAL8240-680 (1207)

Serial Number 005117

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

FedEx Airbill No.: 8617 8652 7568

TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

74-016

Alternate Laboratory Name/Location

Phone:
Fax:

PROJECT REFERENCE: NAPR 7 Site Investigation	PROJECT NO.: 111626	PROJECT LOCATION (STATE): PR
TAL (LAB) PROJECT MANAGER: Kathy E. Smith	P.O. NUMBER:	CONTRACT NO.:
CLIENT (SITE) PM: Mark Kimes	CLIENT PHONE: 412.337.7465	CLIENT FAX:
CLIENT NAME: Michael Baker Jr., Inc.	CLIENT E-MAIL: mkimes@mbakercorp.com	
CLIENT ADDRESS: 100 Airside Dr., Moon Township, PA 15108		
COMPANY CONTRACTING THIS WORK (if applicable): Michael Baker Jr., Inc.		

PAGE 1 OF 2

STANDARD REPORT DELIVERY ●

DATE DUE 28 Day TAT

EXPEDITED REPORT DELIVERY (SURCHARGE) ○

DATE DUE _____

NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

MATRIX TYPE: COMPOSITE (C) OR GRAB (G) INDICATE; AQUEOUS (WATER); SOLID OR SEMISOLID; AIR; NONAQUEOUS LIQUID (OIL, SOLVENT, ...)

REQUIRED ANALYSIS

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G)	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT, ...)	App IX VOCs	App IX SVOCs	LL PAHs	App IX Metals (Total)	App IX Metals (Dissolved)	TPH GRO	TPH DRO	App IX Pesticides	App IX PCBs	TOC	REMARKS
		PRESERVATIVE																
		NUMBER OF CONTAINERS SUBMITTED																
5/28/08	1215	74 SB 275-03	G		X			3			1		3	1				
	1215	74 SB 275-03 D	G		X			3			1		3	1				
	1230	74 SB 277-02	G		X			3			1		3	1				
	1212	74 SB 278-03	G		X			3			1		3	1				
	1416	74 SB 280-02	G		X			3			1		3	1				
	1420	74 SB 280-05	G		X			3			1		3	1				
	1430	74 SB 281-00	G		X			3			1		3	1				
	1434	74 SB 281-02	G		X			3			1		3	1				
	1440	74 SB 281-05	G		X			3			1		3	1				
	1440	74 SB 281-05 D	G		X			3			1		3	1				
	1440	74 SB 281-05 MS	G		X			3					3					
	1440	74 SB 281-05 MSD	G		X			3					3					

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
			[signature]	5/29/08	1500			
RECEIVED BY: (SIGNATURE)	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SAVANNAH LOG NO.	LABORATORY REMARKS
[signature]	5/30/08	0929	YES ○ NO ○		680-37178	Temps (°C): 1.6, 0.6, 1.8, 0.2, 0.4, 0.8, 1.2, 0.6

TAL8240-680 (1207)

Serial Number 005118

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

FedEx Airbill No.: 8617 8652 7568

TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404
Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

74-016

Alternate Laboratory Name/Location
Phone:
Fax:

PROJECT REFERENCE	PROJECT NO.	PROJECT LOCATION (STATE)
NAPR 7 Site Investigation	111626	PR
TAL (LAB) PROJECT MANAGER: Kathy E. Smith	P.O. NUMBER	CONTRACT NO.
CLIENT (SITE) PM: Mark Kimes	CLIENT PHONE: 412.337.7465	CLIENT FAX
CLIENT NAME: Michael Baker Jr., Inc.	CLIENT E-MAIL: mkimes@mbakercorp.com	
CLIENT ADDRESS: 100 Airside Dr., Moon Township, PA 15108		
COMPANY CONTRACTING THIS WORK (if applicable): Michael Baker Jr., Inc.		

PAGE 2 OF 2

STANDARD REPORT DELIVERY ●
DATE DUE 28 Day TAT
EXPEDITED REPORT DELIVERY (SURCHARGE) ○
DATE DUE _____
NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G) INDICATE	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT, ...)	App IX VOCs	App IX SVOCs	LL PAHs	App IX Metals (Total)	App IX Metals (Dissolved)	TPH GRO	TPH DRO	App IX Pesticides	App IX PCBs	TOC	REMARKS
								PRESERVATIVE										
								NUMBER OF CONTAINERS SUBMITTED										
5/28/08	1440	74 SB 281-05 MS/MSD	G		X						1			1				
5/28/08	1545	74 SB 282-02	G		X			3			1		3	1				
5/28/08	1545	74 SB 282-05	G		X			3			1		3	1				
5/28/08	1225	74 GW VP 1982	G	X				3		2	1	1	3	2				
5/28/08	1115	74 GW VP 20	G	X				3		2	1	1	3	2				
5/28/08	1005	74 GW VP 19B	G	X				3					3					
5/28/08		74 TB 33	G	X				3					3					
5/28/08	1600	74 ER 20	G	X				3		2	1		3	2				
5/29/08	1000	74 ER 21	G	X				3		2	1		3	2				

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
			[signature]	5/29/08	1500			
RECEIVED BY: (SIGNATURE)	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SAVANNAH LOG NO.	LABORATORY REMARKS
[signature]	5/30/08	0929	YES ○ NO ○		680-37178	

TAL8240-680 (1207)

Serial Number 006515

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

FedEx Airbill No.: 8617 8652 7557

TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

74-017

Alternate Laboratory Name/Location

Phone:
Fax:

PROJECT REFERENCE	PROJECT NO.	PROJECT LOCATION (STATE)
NAPR 7 Site Investigation	111626	PR
TAL (LAB) PROJECT MANAGER: Kathy E. Smith	P.O. NUMBER	CONTRACT NO.
CLIENT (SITE) PM: Mark Kimes	CLIENT PHONE: 412.337.7465	CLIENT FAX
CLIENT NAME: Michael Baker Jr., Inc.	CLIENT E-MAIL: mkimes@mbakercorp.com	
CLIENT ADDRESS: 100 Airside Drive., Moon Township, PA 15108		
COMPANY CONTRACTING THIS WORK (if applicable): Michael Baker Jr., Inc.		

PAGE 1 OF 2

STANDARD REPORT DELIVERY ●
DATE DUE 28 Day TAT
EXPEDITED REPORT DELIVERY (SURCHARGE) ○
DATE DUE _____

NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

PRESERVATIVE

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G) INDICATE	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT, ...)	App IX VOCs	App IX SVOCs	LL PAHs	App IX Metals (Total)	App IX Metals (Dissolved)	TPH GRO	TPH DRO	App IX Pesticides	App IX PCBs	TOC	REMARKS
5/29/08	0745	74 u GW-04-UP-24	G	X				3		2	1	1	3	2				
5/29/08	0920	74 GW-M2-2-UP-56	G	X				3		2	1	1	3	2				
5/29/08	1140	74 GW-12-UP-56	G	X				3		2	1	1	3	2				
5/29/08	1150	74 GW-12-UP-56 D	G	X				3		2	1	1	3	2				
5/29/08	1140	74 GW-12-UP-56 MS	G	X				3		2	1	1	3	2				
5/29/08	1140	74 GW-12-UP-56 MSD	G	X				3		2	1	1	3	2				
5/21/08	1500	74 GW UP6BA	G	X							1	1						
5/21/08	0930	74 GW 145	G	X								1						
~~5/30/08~~		~~74 GW UP3a 19~~																
5/30/08																		

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
			[signature]	5/30/08	1500			
RECEIVED BY: (SIGNATURE)	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SAVANNAH LOG NO.	LABORATORY REMARKS
[signature]	053108	0930	YES ○ NO ○		0808-37226	

TAL8240-680 (1207)

Serial Number 006511

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

FedEx Airbill No.: 8617 8652 7557

TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

74-017

Alternate Laboratory Name/Location

Phone:
Fax:

PROJECT REFERENCE	PROJECT NO.	PROJECT LOCATION (STATE)
NAPR 7 Site Investigation	111626	PR

TAL (LAB) PROJECT MANAGER	P.O. NUMBER	CONTRACT NO.
Kathy E. Smith		

CLIENT (SITE) PM	CLIENT PHONE	CLIENT FAX
Mark Kimes	412.337.7465	

CLIENT NAME	CLIENT E-MAIL
Michael Baker Jr., Inc.	mkimes@mbakercorp.com

CLIENT ADDRESS: 100 Airside Drive., Moon Township, PA 15108

COMPANY CONTRACTING THIS WORK (if applicable): Michael Baker Jr., Inc.

PAGE 2 OF 2

STANDARD REPORT DELIVERY ●
DATE DUE 28 Day TAT

EXPEDITED REPORT DELIVERY (SURCHARGE) ○
DATE DUE _____

NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

MATRIX TYPE: COMPOSITE (C) OR GRAB (G) INDICATE; AQUEOUS (WATER); SOLID OR SEMISOLID; AIR; NONAQUEOUS LIQUID (OIL, SOLVENT, ...)

REQUIRED ANALYSIS / NUMBER OF CONTAINERS SUBMITTED

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G)	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT, ...)	App IX VOCs	App IX SVOCs	LL PAHs	App IX Metals (Total)	App IX Metals (Dissolved)	TPH GRO	TPH DRO	App IX Pesticides	App IX PCBs	TOC	REMARKS
							PRESERVATIVE											
5/17/08	1130	74 GW UP 3a/9	G	X								1						
5/18/08	1130	74 GW UP1Ab/9	G	X							1	1		2				
5/19/08	1230	74 GW UP1Ba/9	G	X							1	1		1				
5/30/08	0850	74 GW UP6Bb	G	X				3			1	1	3	2				
5/30/08	0933	74 GW 05a	G	X				3					2					
5/30/08	1110	74 GW 25b	G	X				3		2	1	1	3	2				

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
				5/30/08	1500			

RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SAVANNAH LOG NO.	LABORATORY REMARKS
	053108	0930	YES ○ NO ○		680-37226	

TAL8240-680 (1207)

Serial Number 006502

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

FedEx Airbill No.: 8617 8652 7546

TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

74-018

Alternate Laboratory Name/Location

Phone:
Fax:

PROJECT REFERENCE	PROJECT NO.	PROJECT LOCATION (STATE)
NAPR 7 Site Investigation	111626	PR

TAL (LAB) PROJECT MANAGER	P.O. NUMBER	CONTRACT NO.
Kathy E. Smith		

CLIENT (SITE) PM	CLIENT PHONE	CLIENT FAX
Mark Kimes	412.337.7465	

CLIENT NAME	CLIENT E-MAIL
Michael Baker Jr., Inc.	mkimes@mbakercorp.com

CLIENT ADDRESS: 100 Airside Drive., Moon Township, PA 15108

COMPANY CONTRACTING THIS WORK (if applicable): Michael Baker Jr., Inc.

PAGE 1 OF 1

STANDARD REPORT DELIVERY ●

DATE DUE 28 Day TAT

EXPEDITED REPORT DELIVERY (SURCHARGE) ○

DATE DUE _____

NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

MATRIX TYPE: COMPOSITE (C) OR GRAB (G) INDICATE; AQUEOUS (WATER); SOLID OR SEMISOLID; AIR; NONAQUEOUS LIQUID (OIL, SOLVENT, ...)

REQUIRED ANALYSIS / NUMBER OF CONTAINERS SUBMITTED

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G)	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT, ...)	App IX VOCs	App IX SVOCs	LL PAHs	App IX Metals (Total)	App IX Metals (Dissolved)	TPH GRO	TPH DRO	App IX Pesticides	App IX PCBs	TOC	REMARKS
								PRESERVATIVE										
5/31/08	1230	74GW236	G	X				3	–	2	1	1	3	2	–	–	–	
5/31/08	1050	74GWVP08A	G	X				3	–	–	1	1	3	2	–	–	–	
5/31/08	1050	74GWVP08B	G	X				3	–	–	1	1	3	2	–	–	–	
5/31/08	1000	74GW246	G	X				3	–	2	1	1	3	2	–	–	–	
5/30/08	1620	74GW273	G	X				3	–	–	1	1	3	2	–	–	–	
5/30/08	0933	~~74GW255~~ 74GWVP05A	G	X				–	–	–	–	–	1	–	–	–	–	

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
			[signature]	6-2-08	1500			

RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SAVANNAH LOG NO.	LABORATORY REMARKS
[signature]	060308	0921	YES ○ NO ○		680-37251	temps: 2.2/2.4/1.6/2.8/4.4/0.8/1.5/1.1/1.0/1.0/2.3/1.1

TAL8240-680 (1207)

Serial Number 005111

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

FedEx Airbill No.: 8617 8652 8005

☒ TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

QA/QC-001

○ Alternate Laboratory Name/Location

Phone:
Fax:

PROJECT REFERENCE	PROJECT NO.	PROJECT LOCATION (STATE)
NAPR 7 Site Investigation	111626	PR

TAL (LAB) PROJECT MANAGER	P.O. NUMBER	CONTRACT NO.
Kathy E. Smith		

CLIENT (SITE) PM	CLIENT PHONE	CLIENT FAX
Mark Kimes	412.337.7465	

CLIENT NAME	CLIENT E-MAIL
Michael Baker Jr., Inc.	mkimes@mbakercorp.com

CLIENT ADDRESS: 100 Airside Dr., Moon Township, PA 15108

COMPANY CONTRACTING THIS WORK (if applicable): Michael Baker Jr., Inc.

PAGE 1 OF 1

STANDARD REPORT DELIVERY ☒
DATE DUE 28 Day TAT

EXPEDITED REPORT DELIVERY (SURCHARGE) ○
DATE DUE _____

NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G) INDICATE	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT, ...)	App IX VOCs	App IX SVOCs	LL PAHs	App IX Metals (Total)	App IX Metals (Dissolved)	TPH GRO	TPH DRO	App IX Pesticides	App IX PCBs	TOC	REMARKS
								PRESERVATIVE										
								NUMBER OF CONTAINERS SUBMITTED										
4/28/08	1700	ER01	G	✓				3	2		1		3	2				
4/29/08	1700	ER02	G	✓				3	2		1		3	2				
4/30/08	1700	ER03	G	✓				3	2		1		3	2				
5/1/08	1700	ER04	G	✓				3	2		1							
5/2/08	0820	ER05	G	✓				3	2		1							
5/2/08	0815	FB01	G	✓				3	2		1		3	2				
5/2/08	0850	FB02	G	✓				3	2		1		3	2				
5/2/08		GATB01	G	✓				3					3					

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
[signature]			[signature]	5/2/08	1500			
RECEIVED BY: (SIGNATURE)	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**
[signature]	4/28/08	0700						

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SAVANNAH LOG NO.	LABORATORY REMARKS
[signature]	5/5/08	0909	YES ○ NO ○		680-36419	

TAL8240-680 (1207)

Serial Number 005168

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

FedEx Airbill No.: 8617 8652 7970

(X) TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

QA-QC-002

( ) Alternate Laboratory Name/Location

Phone:
Fax:

PROJECT REFERENCE: NAPR 7 Site Investigation	PROJECT NO.: 111626	PROJECT LOCATION (STATE): PR
TAL (LAB) PROJECT MANAGER: Kathy E. Smith	P.O. NUMBER:	CONTRACT NO.:
CLIENT (SITE) PM: Mark Kimes	CLIENT PHONE: 412.337.7465	CLIENT FAX:
CLIENT NAME: Michael Baker Jr., Inc.	CLIENT E-MAIL: mkimes@mbakercorp.com	
CLIENT ADDRESS: 100 Airside Dr., Moon Township, PA 15108		
COMPANY CONTRACTING THIS WORK (if applicable): Michael Baker Jr., Inc.		

PAGE 1 OF 1

STANDARD REPORT DELIVERY (X)

DATE DUE 28 Day TAT

EXPEDITED REPORT DELIVERY (SURCHARGE) ( )

DATE DUE _____

NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G) INDICATE	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT, ...)	App IX VOCs	App IX SVOCs	LL PAHs	App IX Metals (Total)	App IX Metals (Dissolved)	TPH GRO	TPH DRO	App IX Pesticides	App IX PCBs	TOC	REMARKS
								PRESERVATIVE										
								NUMBER OF CONTAINERS SUBMITTED										
5-3-08	1200	ER06	G	X				3			1		3	2				
5-4-08	1200	ER07	G	X				3			1		3	2				
5-5-08	1200	ER08	G	X				3			1		3	2				
5-6-08	1200	ER09	G	X				3			1		3	2				
5-7-08	1200	ER10	G	X				3			1		3	2				

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
			Mark E. K	5/7/08	1500			
RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME
	4/28/08	0700						

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SAVANNAH LOG NO.	LABORATORY REMARKS
	5/8/08	0916	YES ( ) NO ( )		680-36517	

TAL8240-680 (1207)

IDW Analytical Data

APPENDIX A

SUMMARY OF ANALYTICAL RESULTS - IDW (SOIL)
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I - CORRECTIVE MEASURES STUDY REPORT
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Sample ID	**74IDW01**
Sampling Date	**6/5/2008**
TCLP VOA - 8260B (mg/L)	
Benzene	0.13 U
Carbon tetrachloride	0.11 U
Chlorobenzene	0.14 U
Chloroform	0.12 U
1,2-Dichloroethane	0.12 U
1,1-Dichloroethene	0.14 U
2-Butanone (MEK)	0.24 U
Tetrachloroethene	0.11 U
Trichloroethene	0.16 U
Vinyl chloride	0.08 U
TCLP Metals (mg/L)	
Arsenic	0.059 U
Barium	0.8 J
Cadmium	0.0053 U
Chromium	0.025 J
Lead	0.042 J
Selenium	0.036 U
Silver	0.0051 U
Mercury	0.008 U
Metals (mg/kg)	
Arsenic	1.9
Barium	83
Cadmium	0.063 J
Chromium	63
Lead	5.5
Selenium	0.93
Silver	0.032 J B
Copper	79
Nickel	21
Thallium	0.13 U
Tin	4.4 U
Vanadium	240
Zinc	45
Antimony	0.22 J
Beryllium	0.39
Cobalt	21 B
Mercury	0.0087 J
General Chemistry	
Ignitability - mm/sec	NB
Cyanide, Reactive - mg/Kg	100 U
Sulfide, Reactive - mg/Kg	50 U
pH - SU	8.99

APPENDIX A

SUMMARY OF ANALYTICAL RESULTS - IDW (SOIL)
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I - CORRECTIVE MEASURES STUDY REPORT
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Notes:

U: Undetected at the Limit of Detection.
J: Estimated: The analyte was positively identified; the quantitation is an estimation
B: Blank contamination: The analyte was detected above one-half the reporting limit in an associated blank.
NB: No burn

APPENDIX A

SUMMARY OF ANALYTICAL RESULTS - IDW (WATER)
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I - CORRECTIVE MEASURES STUDY REPORT
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Sample ID	**74IDW02**	
Sampling Date	**6/5/2008**	
GC/MS VOA - 8260B (ug/L)		
Acetone	14	J
Acetonitrile	15	U
Acrolein	18	U
Acrylonitrile	3.8	U
Benzene	0.32	U
Bromoform	0.41	U
Bromomethane	0.5	U
2-Butanone (MEK)	5	J
Carbon disulfide	0.17	U
Carbon tetrachloride	0.27	U
Chlorobenzene	0.34	U
2-Chloro-1,3-butadiene	0.35	U
Chlorodibromomethane	0.3	U
Chloroethane	1	U
Chloroform	0.74	J
Chloromethane	0.28	U
3-Chloro-1-propene	0.46	U
cis-1,3-Dichloropropene	0.37	U
1,2-Dibromo-3-Chloropropane	0.48	U
Dibromomethane	0.29	U
Dichlorobromomethane	0.34	U
Dichlorodifluoromethane	0.33	U
1,1-Dichloroethane	0.32	U
1,2-Dichloroethane	0.31	U
1,1-Dichloroethene	0.36	U
1,2-Dichloropropane	0.36	U
Ethylbenzene	0.3	U
Ethylene Dibromide	0.3	U
Ethyl methacrylate	1	U
2-Hexanone	0.68	U
Iodomethane	1	U
Isobutyl alcohol	19	U
Methacrylonitrile	6.6	U
Methylene Chloride	1	U
Methyl methacrylate	0.38	U
4-Methyl-2-pentanone (MIBK)	0.6	U
Pentachloroethane	1.3	U
Propionitrile	9.2	U
Styrene	0.36	U
1,1,1,2-Tetrachloroethane	0.29	U
1,1,2,2-Tetrachloroethane	0.26	U
Tetrachloroethene	0.28	U
Toluene	0.31	U
trans-1,4-Dichloro-2-butene	0.83	U
trans-1,2-Dichloroethene	0.3	U
trans-1,3-Dichloropropene	0.27	U

APPENDIX A

SUMMARY OF ANALYTICAL RESULTS - IDW (WATER)
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I - CORRECTIVE MEASURES STUDY REPORT
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Sample ID	**74IDW02**	
Sampling Date	**6/5/2008**	
GC/MS VOA - 8260B (ug/L)		
1,1,1-Trichloroethane	0.39	U
1,1,2-Trichloroethane	0.51	U
Trichloroethene	0.4	U
Trichlorofluoromethane	0.29	U
1,2,3-Trichloropropane	0.42	U
Vinyl acetate	0.62	U
Vinyl chloride	0.2	U
Xylenes, Total	0.87	U
Metals (ug/L)		
Antimony	0.44	J B
Arsenic	3.9	
Barium	200	
Beryllium	0.9	
Cadmium	0.12	U
Chromium	60	
Cobalt	47	B
Copper	210	
Lead	5.4	
Nickel	29	
Selenium	1.3	J
Silver	0.11	J
Thallium	0.55	U
Tin	2.2	J B
Vanadium	260	
Zinc	120	
Mercury	0.08	U
General Chemistry		
Flashpoint - Degrees F	>140	
Cyanide, Reactive - mg/Kg	100	U
Sulfide, Reactive - mg/Kg	50	U
pH - SU	10.3	H

ALLIED WASTE INDUSTRIES INC

NON-HAZARDOUS WASTE MANIFEST	1. Generator's US EPA ID No. N/A	Manifest Document No. 10800	2. Page 1 of 1	Pass Code:

GENERATOR

3. Generator's Name and Mailing Address
Navallactivity P.R. P.O. Box 1478 Ceiba, PR 00735

Generating Location:
Sec. Dept. 1st Floor, Ceiba, PR 00735

4. Generator's Phone ( ) (787) 534-0934

5. Transporter 1 Company Name	6. EQB Permit #	A. Transporter's Phone
Aqua Clean Ships Caribe, Inc.	PR-05-0361	(787) 729-0881
7. Transporter 2 Company Name	8. EQB Permit #	B. Transporter's Phone
9. Designated Facility Name and Site Address	10. EQB Permit #	C. Facility's Phone
PONCE SANITARY LANDFILL PO BOX 7104 / RD 500 BARAMAYA FINAL AVENUE, PONCE, PR 00731	IDF-58-008	787-841-7775

11. Waste Shipping Name and Description	Handling Code	12. Containers No	Type	13. Total Quantity	14. Unit Wt/Vol
a. IDW Soil DOT Non Regulated, NONE	091231 (787)XX7 8417	1	DM	385	G
b. Decon Water DOT Non Regulated, NONE	091031 1.29XXXXX07924	5	DM	275	G
c.					
d.					

D. Additional Descriptions for Materials Listed Above
Ref. BOS
PO#74-550M
PO#54-550M

15. Special Handling Instructions and Additional Information
Emergency in transit contact (787) 729-0881

TRANSPORTER

16. GENERATOR'S CERTIFICATION: I certify the materials above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed / Typed Name	Signature	Month	Day	Year
Pedro Ruiz		07	16	09

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed / Typed Name	Signature	Month	Day	Year
Ivan Felix		07	16	09

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed / Typed Name	Signature	Month	Day	Year

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in item 19.

Printed / Typed Name	Signature	Month	Day	Year

GENERATOR 2ND COPY

Site Photographs

GeoProbe®Tracked Direct Push Machine operated by JFA Geological and Environmental Associates

Geoprobe®Tracked Direct Push Machine operated by JFA Geological and Environmental Associates

Day Tank in the background and Aircraft Hydrant Fueling System in the foreground, looking Northwest

Close up of Aircraft Hydrant Refueling System equipment, looking West

View of a JP-5 Tank at JP-5 Hill Storage Area with a sight of 74GWVP11B in the forefront

Two groundwater monitoring wells installed in the region of Valve Pit 11

JFA Environmental Associates and GeoEnviroTech drillers both installing a groundwater monitoring well using a GeoProbe®Tracked Direct Push Machine at SWMU 9 A-B Area

Valve Pit 3 just outside the Airfield fence with two groundwater monitoring wells installed nearby

Baker geologist preparing for soil sampling, and JFA Environmental Associates and GeoEnviroTech drill rigs located in the background at SWMU 9 A-B Area

Baker associates locating soil boring and groundwater well locations using GPS

APPENDIX B
LABORATORY ANALYTICAL DATA TABLES

Surface Soil Data

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - AIRFIELD - SURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB01	74SB13	74SB13	74SB22
Sample ID	74SB01-00	74SB13-00	74SB13-00D	74SB22-00
Date	4/28/2008	4/30/2008	4/30/2008	5/3/2008
Depth Range	0-1	0-1	0-1	0-1
Volatile Organic Compounds (ug/kg)				
1,1,1,2-Tetrachloroethane	0.77 U	0.66 U	0.77 U	0.65 U
1,1,1-Trichloroethane	0.7 U	0.6 U	0.7 U	0.58 U
1,1,2,2-Tetrachloroethane	1.7 U	1.5 U	1.7 U	1.4 U
1,1,2-Trichloroethane	1.4 U	1.2 U	1.4 U	1.2 U
1,1-Dichloroethane	0.6 U	0.52 U	0.6 U	0.5 U
1,1-Dichloroethene	0.65 U	0.56 U	0.65 U	0.54 U
1,2,3-Trichloropropane	1.7 U	1.5 U	1.7 U	1.4 U
1,2-Dibromo-3-Chloropropane	3.4 U	2.9 U	3.4 U	2.8 U
1,2-Dichloroethane	1.2 U	1 U	1.2 U	1 U
1,2-Dichloropropane	1.3 U	1.1 U	1.3 U	1.1 U
2-Butanone (MEK)	3.3 U	29 UJ	31 U	23 UJ
2-Chloro-1,3-butadiene	0.69 UJ	0.59 U	0.68 U	0.57 U
2-Hexanone	2.5 U	2.2 UJ	2.5 U	2.1 UJ
3-Chloro-1-propene	1.8 R	1.6 UJ	1.8 UJ	1.5 U
4-Methyl-2-pentanone (MIBK)	3.5 U	3 UJ	3.5 U	2.9 UJ
Acetone	21 J	400 J	450 J	210 J
Acetonitrile	54 UJ	47 UJ	54 UJ	45 R
Acrolein	23 R	20 R	23 R	19 R
Acrylonitrile	28 UJ	24 U	28 U	23 U
Benzene	0.95 U	0.82 U	0.95 U	0.8 U
Bromoform	1.3 U	1.1 U	1.3 U	1.1 U
Bromomethane	1.9 UJ	1.7 U	1.9 U	1.6 UJ
Carbon disulfide	0.62 U	0.53 U	0.61 U	0.51 U
Carbon tetrachloride	1.2 U	1 U	1.2 U	1 U
Chlorobenzene	0.88 U	0.76 U	0.88 U	0.74 U
Chlorodibromomethane	0.6 U	0.52 U	0.6 U	0.5 U
Chloroethane	1.4 U	1.2 U	1.4 U	1.2 U
Chloroform	0.6 U	0.52 U	0.6 U	0.5 U
Chloromethane	0.86 U	0.74 U	0.85 U	0.72 U
cis-1,3-Dichloropropene	1.1 U	0.9 U	1 U	0.88 U
Dibromomethane	1.4 U	1.2 U	1.4 U	1.2 U
Dichlorobromomethane	1 U	0.86 U	1 U	0.84 U
Dichlorodifluoromethane	1.1 U	0.92 U	1.1 U	0.9 U
Ethyl methacrylate	2.7 U	2.3 U	2.6 U	2.2 UJ
Ethylbenzene	0.91 U	0.78 U	0.9 U	0.76 U
Ethylene Dibromide	1.8 U	1.6 U	1.8 U	1.5 U
Iodomethane	1.2 U	1.4 J	1.7 J	1 J
Isobutyl alcohol	83 R	72 R	83 R	70 R
Methacrylonitrile	29 U	25 U	29 U	24 UJ
Methyl methacrylate	4.5 U	3.8 UJ	4.4 U	3.7 UJ
Methylene Chloride	1.2 U	1 U	1.2 U	1 U
Pentachloroethane	2.7 U	2.3 U	2.6 UJ	2.2 UJ
Propionitrile	25 UJ	22 U	25 U	21 R
Styrene	0.8 U	0.69 U	0.79 U	0.67 U
Tetrachloroethene	0.88 U	0.76 U	0.88 U	0.74 U
Toluene	0.95 U	0.82 U	0.95 U	0.8 U
trans-1,2-Dichloroethene	1.2 U	1 U	1.2 U	0.98 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - AIRFIELD - SURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB01	74SB13	74SB13	74SB22
Sample ID	74SB01-00	74SB13-00	74SB13-00D	74SB22-00
Date	4/28/2008	4/30/2008	4/30/2008	5/3/2008
Depth Range	0-1	0-1	0-1	0-1
Volatile Organic Compounds (ug/kg)				
trans-1,3-Dichloropropene	1.1 U	0.9 U	1 U	0.88 U
trans-1,4-Dichloro-2-butene	3.7 U	3.2 U	3.7 U	3.1 UJ
Trichloroethene	1.2 U	1 U	1.2 U	1 U
Trichlorofluoromethane	1.8 U	1.6 U	1.8 U	1.5 U
Vinyl acetate	1.8 UJ	1.6 UJ	1.8 U	1.5 U
Vinyl chloride	0.7 U	0.6 U	0.7 U	0.58 U
Xylenes, Total	2.8 U	2.4 U	2.8 U	2.3 U
LLPAHs (ug/kg)				
1-Methylnaphthalene	15 U	NA	NA	1.5 U
2-Methylnaphthalene	21 U	NA	NA	2.1 U
Acenaphthene	6.9 U	NA	NA	0.71 U
Acenaphthylene	21 U	NA	NA	2.1 U
Anthracene	21 U	NA	NA	2.1 U
Benzo[a]anthracene	21 U	NA	NA	2.1 U
Benzo[a]pyrene	8 U	NA	NA	0.96 J
Benzo[b]fluoranthene	9.3 U	NA	NA	0.95 U
Benzo[g,h,i]perylene	21 U	NA	NA	2.1 U
Benzo[k]fluoranthene	12 U	NA	NA	1.2 U
Chrysene	7.4 U	NA	NA	0.76 U
Dibenz(a,h)anthracene	7.2 U	NA	NA	0.74 U
Fluoranthene	21 U	NA	NA	2.1 U
Fluorene	9.4 U	NA	NA	0.96 U
Indeno[1,2,3-cd]pyrene	15 U	NA	NA	1.5 U
Naphthalene	7.3 U	NA	NA	0.75 U
Phenanthrene	21 U	NA	NA	2.1 U
Pyrene	21 U	NA	NA	2.1 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - AIRFIELD - SURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB01	74SB13	74SB13	74SB22
Sample ID	74SB01-00	74SB13-00	74SB13-00D	74SB22-00
Date	4/28/2008	4/30/2008	4/30/2008	5/3/2008
Depth Range	0-1	0-1	0-1	0-1
Metals (mg/kg)				
Antimony	0.15 UJ	0.14 U	0.12 U	0.2 U
Arsenic	2.7	1.8	1.5	2.3
Barium	65 J	96 J	63 J	120
Beryllium	0.17	0.24	0.22	0.35
Cadmium	0.19	0.13	0.11	0.09 J
Chromium	28 J	25	22	41
Cobalt	25	22	18	17
Copper	93	93	88	150
Lead	20	6.3 J	5.4 J	6.8
Mercury	0.0046 U	0.05	0.046	0.059
Nickel	19	13	11	9.1
Selenium	0.16 J	0.6	0.6	0.9
Silver	0.05 J	0.054 J	0.22 J	0.051 U
Thallium	0.13 U	0.14 U	0.13 U	0.19 J
Tin	4.5 U	4.7 U	4.5 U	4.8 U
Vanadium	170	220	210	160
Zinc	86	64	58	43
TPH DRO and GRO (mg/kg)				
Diesel Range Organics	88	11	10	4 J
Gasoline Range Organics	41 J	0.25 J	0.4 J	0.13 J

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - AIRFIELD - SURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB34		74SB51		74SB61	
Sample ID	74SB34-00		74SB51-00		74SB61-00	
Date	5/1/2008		5/3/2008		5/3/2008	
Depth Range	0-1		0-1		0-1	
Volatile Organic Compounds (ug/kg)						
1,1,1,2-Tetrachloroethane	1	UJ	0.75	U	0.46	U
1,1,1-Trichloroethane	0.92	UJ	0.68	U	0.42	U
1,1,2,2-Tetrachloroethane	2.2	UJ	1.6	U	1	U
1,1,2-Trichloroethane	1.9	UJ	1.4	U	0.86	U
1,1-Dichloroethane	0.8	UJ	0.59	U	0.36	U
1,1-Dichloroethene	0.86	UJ	0.63	U	0.39	U
1,2,3-Trichloropropane	2.2	UJ	1.6	U	1	U
1,2-Dibromo-3-Chloropropane	4.5	UJ	3.3	U	2	U
1,2-Dichloroethane	1.6	UJ	1.2	U	0.72	U
1,2-Dichloropropane	1.8	UJ	1.3	U	0.79	U
2-Butanone (MEK)	51	UJ	27	U	5.5	U
2-Chloro-1,3-butadiene	0.91	UJ	0.67	U	0.41	U
2-Hexanone	3.3	UJ	2.5	U	1.5	U
3-Chloro-1-propene	2.4	UJ	1.8	UJ	1.1	U
4-Methyl-2-pentanone (MIBK)	4.6	UJ	3.4	U	2.1	U
Acetone	830	J	410	J	130	J
Acetonitrile	72	R	53	R	32	R
Acrolein	30	R	22	R	14	U
Acrylonitrile	37	UJ	27	U	16	U
Benzene	1.3	UJ	0.92	U	0.57	U
Bromoform	1.8	UJ	1.3	U	0.79	U
Bromomethane	2.6	UJ	1.9	UJ	1.1	U
Carbon disulfide	0.81	UJ	0.6	U	0.37	U
Carbon tetrachloride	1.6	UJ	1.2	U	0.72	U
Chlorobenzene	1.2	UJ	0.85	U	0.52	U
Chlorodibromomethane	0.8	UJ	0.59	U	0.36	U
Chloroethane	1.9	UJ	1.4	U	0.86	U
Chloroform	0.8	UJ	0.59	U	0.36	U
Chloromethane	1.1	UJ	0.83	U	0.51	U
cis-1,3-Dichloropropene	1.4	UJ	1	U	0.62	U
Dibromomethane	1.9	UJ	1.4	U	0.86	U
Dichlorobromomethane	1.3	UJ	0.97	U	0.6	U
Dichlorodifluoromethane	1.4	UJ	1	U	0.64	U
Ethyl methacrylate	3.5	UJ	2.6	UJ	1.6	U
Ethylbenzene	1.2	UJ	0.88	U	0.54	U
Ethylene Dibromide	2.4	UJ	1.8	U	1.1	U
Iodomethane	3.4	J	1.5	J	0.72	U
Isobutyl alcohol	110	R	81	R	49	R
Methacrylonitrile	38	UJ	28	UJ	17	U
Methyl methacrylate	5.9	UJ	4.3	UJ	2.7	U
Methylene Chloride	1.6	UJ	1.2	U	0.72	U
Pentachloroethane	3.5	UJ	2.6	U	1.6	UJ
Propionitrile	33	R	25	R	15	U
Styrene	1.1	UJ	0.77	U	0.47	U
Tetrachloroethene	1.2	UJ	0.85	U	0.52	U
Toluene	1.3	UJ	0.92	U	0.57	U
trans-1,2-Dichloroethene	1.5	UJ	1.1	U	0.7	U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - AIRFIELD - SURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB34	74SB51	74SB61
Sample ID	74SB34-00	74SB51-00	74SB61-00
Date	5/1/2008	5/3/2008	5/3/2008
Depth Range	0-1	0-1	0-1
Volatile Organic Compounds (ug/kg)			
trans-1,3-Dichloropropene	1.4 UJ	1 U	0.62 U
trans-1,4-Dichloro-2-butene	4.9 UJ	3.6 UJ	2.2 U
Trichloroethene	1.6 UJ	1.2 U	0.72 U
Trichlorofluoromethane	2.4 UJ	1.8 U	1.1 U
Vinyl acetate	2.4 UJ	1.8 U	1.1 U
Vinyl chloride	0.92 UJ	0.68 U	0.42 U
Xylenes, Total	3.7 UJ	2.7 U	1.6 U
LLPAHs (ug/kg)			
1-Methylnaphthalene	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA
Acenaphthene	NA	NA	NA
Acenaphthylene	NA	NA	NA
Anthracene	NA	NA	NA
Benzo[a]anthracene	NA	NA	NA
Benzo[a]pyrene	NA	NA	NA
Benzo[b]fluoranthene	NA	NA	NA
Benzo[g,h,i]perylene	NA	NA	NA
Benzo[k]fluoranthene	NA	NA	NA
Chrysene	NA	NA	NA
Dibenz(a,h)anthracene	NA	NA	NA
Fluoranthene	NA	NA	NA
Fluorene	NA	NA	NA
Indeno[1,2,3-cd]pyrene	NA	NA	NA
Naphthalene	NA	NA	NA
Phenanthrene	NA	NA	NA
Pyrene	NA	NA	NA

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - AIRFIELD - SURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB34	74SB51	74SB61
Sample ID	74SB34-00	74SB51-00	74SB61-00
Date	5/1/2008	5/3/2008	5/3/2008
Depth Range	0-1	0-1	0-1
Metals (mg/kg)			
Antimony	0.23 J	0.095 UJ	0.08 UJ
Arsenic	3.3	1.3	0.5 J
Barium	41	93	37
Beryllium	0.21	0.2	0.13
Cadmium	0.14 J	0.19	0.075 J
Chromium	40 J	36 R	5.1 J
Cobalt	8.2	21	21
Copper	150	79	77
Lead	10 J	5.7	0.42
Mercury	0.1 J	0.0068 J	0.005 J
Nickel	7.9	14	5.9
Selenium	1.6	0.21 J	0.13 UJ
Silver	0.1 J	0.032 J	0.02 U
Thallium	0.18 U	0.15 U	0.13 U
Tin	6 U	5.1 U	4.3 U
Vanadium	440 J	140	160
Zinc	46	65 J	59 J
TPH DRO and GRO (mg/kg)			
Diesel Range Organics	28 J	15	4.6
Gasoline Range Organics	1.5 J	0.46	0.062 J

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SWMU 9 AREA A/B - SURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB71	74SB81	74SB91	74SB101	74SB111	74SB121
Sample ID	74SB71-00	74SB81-00	74SB91-00	74SB101-00	74SB111-00	74SB121-00
Date	5/5/2008	5/5/2008	5/7/2008	5/5/2008	5/7/2008	5/13/2008
Depth Range	0.0-1.0	0.0-1.0	0.0-1.0	0.0-1.0	0.0-1.0	0.0-1.0
Volatile Organic Compounds (ug/kg)						
1,1,1,2-Tetrachloroethane	0.79 U	0.59 U	0.68 U	0.66 U	0.96 U	0.7 U
1,1,1-Trichloroethane	0.72 U	0.53 U	0.61 U	0.6 U	0.87 U	0.63 U
1,1,2,2-Tetrachloroethane	1.7 U	1.3 U	1.5 U	1.5 U	2.1 U	1.5 U
1,1,2-Trichloroethane	1.5 U	1.1 U	1.3 U	1.2 U	1.8 U	1.3 U
1,1-Dichloroethane	0.62 U	0.46 U	0.53 U	0.52 U	0.75 U	0.54 U
1,1-Dichloroethene	0.67 U	0.5 U	0.57 U	0.56 U	0.81 U	0.59 U
1,2,3-Trichloropropane	1.7 U	1.3 U	1.5 U	1.5 UJ	2.1 U	1.5 U
1,2-Dibromo-3-Chloropropane	3.5 U	2.6 U	3 U	2.9 UJ	4.2 U	3 U
1,2-Dichloroethane	1.2 U	0.92 U	1.1 U	1 U	1.5 U	1.1 U
1,2-Dichloropropane	1.4 U	1 U	1.2 U	1.1 U	1.6 U	1.2 U
2-Butanone (MEK)	39 U	6.9 U	28 U	6.8 U	19 U	2.9 U
2-Chloro-1,3-butadiene	0.71 U	0.52 U	0.6 U	0.59 U	0.85 U	0.62 UJ
2-Hexanone	2.6 U	1.9 U	2.2 U	2.2 U	3.1 U	2.3 U
3-Chloro-1-propene	1.9 UJ	1.4 UJ	1.6 U	1.6 UJ	2.2 U	1.6 U
4-Methyl-2-pentanone (MIBK)	3.6 U	2.7 U	3.1 U	3 U	4.3 U	3.2 U
Acetone	430 J	70 J	390 J	73 J	220 J	43 J
Acetonitrile	56 UJ	41 UJ	48 R	47 UJ	67 R	49 R
Acrolein	24 R	17 R	20 U	20 R	28 U	21 R
Acrylonitrile	29 UJ	21 UJ	24 U	24 U	34 U	25 U
Benzene	0.98 U	0.73 U	0.84 U	0.82 U	1.2 U	0.86 U
Bromoform	1.4 U	1 U	1.2 U	1.1 U	1.6 U	1.2 U
Bromomethane	2 U	1.5 U	1.7 U	1.7 U	2.4 U	1.7 U
Carbon disulfide	0.63 U	7	0.64 J	0.57 J	0.76 U	0.55 U
Carbon tetrachloride	1.2 U	0.92 U	1.1 U	1 U	1.5 U	1.1 U
Chlorobenzene	0.91 U	0.67 U	0.77 U	0.76 U	1.1 U	0.79 U
Chlorodibromomethane	0.62 U	0.46 U	0.53 U	0.52 U	0.75 U	0.54 U
Chloroethane	1.5 U	1.1 U	1.3 U	1.2 UJ	1.8 U	1.3 U
Chloroform	0.62 U	0.46 U	0.53 U	0.52 U	0.75 U	0.54 U
Chloromethane	0.88 U	0.65 U	0.75 U	0.74 U	1.1 U	0.77 U
cis-1,3-Dichloropropene	1.1 U	0.8 U	0.92 U	0.9 U	1.3 U	0.95 U
Dibromomethane	1.5 U	1.1 U	1.3 U	1.2 U	1.8 U	1.3 U
Dichlorobromomethane	1 U	0.76 U	0.88 U	0.86 U	1.2 U	0.9 U
Dichlorodifluoromethane	1.1 U	0.82 U	0.94 U	0.92 U	1.3 U	0.97 U
Ethyl methacrylate	2.7 U	2 U	2.3 U	2.3 U	3.3 U	2.4 U
Ethylbenzene	0.93 U	0.69 U	0.79 U	0.78 U	1.1 U	0.82 U
Ethylene Dibromide	1.9 U	1.4 U	1.6 U	1.6 U	2.2 U	1.6 U
Iodomethane	2.2 J	0.92 U	1.1 U	1 UJ	1.5 U	1.1 U
Isobutyl alcohol	86 R	63 R	73 R	71 R	100 R	75 R
Methacrylonitrile	30 U	22 U	25 UJ	25 U	36 UJ	26 UJ
Methyl methacrylate	4.6 U	3.4 U	3.9 U	3.8 U	5.5 U	4 U
Methylene Chloride	1.2 U	0.92 U	1.1 U	1 U	1.5 U	1.1 U
Pentachloroethane	2.7 UJ	2 UJ	2.3 U	2.3 UJ	3.3 U	2.4 UJ
Propionitrile	26 U	19 UJ	22 U	22 U	31 U	23 U
Styrene	0.82 U	0.61 U	0.7 U	0.68 U	0.99 U	0.72 U
Tetrachloroethene	0.91 U	0.67 U	0.77 U	0.76 U	1.1 U	0.79 U
Toluene	0.98 U	0.73 U	0.84 U	0.82 U	1.2 U	0.86 U
trans-1,2-Dichloroethene	1.2 U	0.89 U	1 U	1 U	1.4 U	1.1 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SWMU 9 AREA A/B - SURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB71	74SB81	74SB91	74SB101	74SB111	74SB121
Sample ID	74SB71-00	74SB81-00	74SB91-00	74SB101-00	74SB111-00	74SB121-00
Date	5/5/2008	5/5/2008	5/7/2008	5/5/2008	5/7/2008	5/13/2008
Depth Range	0.0-1.0	0.0-1.0	0.0-1.0	0.0-1.0	0.0-1.0	0.0-1.0
Volatile Organic Compounds (ug/kg)						
trans-1,3-Dichloropropene	1.1 U	0.8 U	0.92 U	0.9 U	1.3 U	0.95 U
trans-1,4-Dichloro-2-butene	3.8 U	2.8 U	3.3 U	3.2 U	4.6 U	3.4 U
Trichloroethene	1.2 U	0.92 U	1.1 U	1 U	1.5 U	1.1 U
Trichlorofluoromethane	1.9 U	1.4 U	1.6 U	1.6 U	2.2 U	1.6 U
Vinyl acetate	1.9 U	1.4 U	1.6 U	1.6 U	2.2 U	1.6 U
Vinyl chloride	0.72 U	0.53 U	0.61 U	0.6 U	0.87 U	0.63 U
Xylenes, Total	2.9 U	2.1 U	2.4 U	2.4 U	3.4 U	2.5 U
LLPAHs (ug/kg)						
1-Methylnaphthalene	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA	NA	NA
Acenaphthene	NA	NA	NA	NA	NA	NA
Acenaphthylene	NA	NA	NA	NA	NA	NA
Anthracene	NA	NA	NA	NA	NA	NA
Benzo[a]anthracene	NA	NA	NA	NA	NA	NA
Benzo[a]pyrene	NA	NA	NA	NA	NA	NA
Benzo[b]fluoranthene	NA	NA	NA	NA	NA	NA
Benzo[g,h,i]perylene	NA	NA	NA	NA	NA	NA
Benzo[k]fluoranthene	NA	NA	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	NA	NA	NA	NA	NA	NA
Fluoranthene	NA	NA	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA	NA	NA
Indeno[1,2,3-cd]pyrene	NA	NA	NA	NA	NA	NA
Naphthalene	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	NA
Pyrene	NA	NA	NA	NA	NA	NA
Metals (mg/kg)						
Antimony	0.11 UJ	0.22 UJ	0.26 J	0.12 UJ	0.11 J	0.26 UJ
Arsenic	1.3	2.3	1.8	2.9	1.5	2.8
Barium	78 J	80 J	110 R	110 J	75	170
Beryllium	0.23	0.23	0.24	0.1 J	0.23	0.21
Cadmium	0.15	0.15	0.19	0.17	0.051 J	0.21
Chromium	20	33 R	19 J	12 R	14	29 J
Cobalt	22	25	13 J	8.7	19	17
Copper	110 J	110	61	55	53	75
Lead	3.9	12 J	27	5.1 J	5.9	39
Mercury	0.031	0.011 J	0.061	0.0081 J	0.017 J	0.016 J
Nickel	10	17	9.3	6.2	7.8	14
Selenium	0.74	0.36 J	0.23 J	0.22 J	0.26 J	0.32 J
Silver	0.04 J	0.07 UJ	0.098 J	0.046 UJ	0.022 J	0.074 J
Thallium	0.16 U	0.13 U	0.13 U	0.14 U	0.15 U	0.13 U
Tin	5.3 U	4.3 U	4.2 U	4.8 U	5.1 U	4.3 U
Vanadium	210	160	98	78	120	130
Zinc	76 J	69 J	87	35 J	47	85 J
TPH DRO and GRO (mg/kg)						
Diesel Range Organics	12	11	48	4.5	4 J	33
Gasoline Range Organics	1 J	0.82 J	0.31 J	0.092 UJ	0.084 U	0.07 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SWMU 9 AREA C - SURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB161	74SB161	74SB171	74SB181	74SB191
Sample ID	74SB161-00	74SB161-00D	74SB171-00	74SB181-00	74SB191-00
Date	5/16/2008	5/16/2008	5/17/2008	5/19/2008	5/19/2008
Depth Range	0.0-1.0	0.0-1.0	0.0-1.0	0.0-1.0	0.0-1.0
Volatile Organic Compounds (ug/kg)					
1,1,1,2-Tetrachloroethane	0.61 U	0.83 U	0.7 U	0.69 U	0.81 U
1,1,1-Trichloroethane	0.55 U	0.75 U	0.64 U	0.62 U	0.73 U
1,1,2,2-Tetrachloroethane	1.3 U	1.8 U	1.5 U	1.5 U	1.8 U
1,1,2-Trichloroethane	1.1 U	1.6 U	1.3 U	1.3 U	1.5 U
1,1-Dichloroethane	0.48 U	0.65 U	0.55 U	0.54 U	0.63 U
1,1-Dichloroethene	0.52 U	0.7 U	0.59 U	0.58 U	0.68 U
1,2,3-Trichloropropane	1.3 U	1.8 U	1.5 UJ	1.5 U	1.8 U
1,2-Dibromo-3-Chloropropane	2.7 U	3.6 U	3.1 UJ	3 UJ	3.5 U
1,2-Dichloroethane	0.95 U	1.3 U	1.1 U	1.1 U	1.3 U
1,2-Dichloropropane	1.1 U	1.4 U	1.2 U	1.2 U	1.4 U
2-Butanone (MEK)	4.6 U	6.8 U	11 J	2.9 UJ	11 U
2-Chloro-1,3-butadiene	0.54 U	0.74 U	0.62 U	0.61 U	0.72 UJ
2-Hexanone	2 U	2.7 U	2.3 UJ	2.3 UJ	2.7 U
3-Chloro-1-propene	1.4 UJ	1.9 UJ	1.6 U	1.6 UJ	1.9 U
4-Methyl-2-pentanone (MIBK)	2.8 U	3.8 U	3.2 UJ	3.1 UJ	3.7 U
Acetone	21 J	38 J	120 J	44 J	75
Acetonitrile	43 U	58 U	49 UJ	48 UJ	57 U
Acrolein	18 R	25 R	21 U	20 R	24 UJ
Acrylonitrile	22 UJ	30 UJ	25 U	25 UJ	29 UJ
Benzene	0.75 U	1 U	0.87 U	0.85 U	1.1 J
Bromoform	1.1 U	1.4 U	1.2 U	1.2 U	1.4 U
Bromomethane	1.5 UJ	2.1 UJ	1.8 UJ	1.7 UJ	2 U
Carbon disulfide	0.49 U	0.66 U	0.56 U	0.55 U	0.64 U
Carbon tetrachloride	0.95 U	1.3 U	1.1 U	1.1 U	1.3 U
Chlorobenzene	0.7 U	0.95 U	0.8 U	0.78 U	0.92 U
Chlorodibromomethane	0.48 U	0.65 U	0.55 U	0.54 U	0.63 U
Chloroethane	1.1 U	1.6 U	1.3 U	1.3 U	1.5 U
Chloroform	0.48 U	0.65 U	0.55 U	0.54 U	0.63 U
Chloromethane	0.68 U	0.92 U	0.78 U	0.76 U	0.9 U
cis-1,3-Dichloropropene	0.83 U	1.1 U	0.95 U	0.93 U	1.1 U
Dibromomethane	1.1 U	1.6 U	1.3 U	1.3 U	1.5 U
Dichlorobromomethane	0.79 U	1.1 U	0.91 U	0.89 U	1 U
Dichlorodifluoromethane	0.85 U	1.2 U	0.98 U	0.95 U	1.1 U
Ethyl methacrylate	2.1 U	2.8 U	2.4 U	2.4 U	2.8 U
Ethylbenzene	0.72 U	0.97 U	0.82 U	0.8 U	0.95 U
Ethylene Dibromide	1.4 U	1.9 U	1.6 U	1.6 U	1.9 U
Iodomethane	0.95 UJ	1.3 UJ	1.2 J	1.1 UJ	1.3 U
Isobutyl alcohol	66 R	89 R	76 R	74 R	87 U
Methacrylonitrile	23 U	31 U	26 U	26 U	30 U
Methyl methacrylate	3.5 UJ	4.8 UJ	4.1 UJ	4 U	4.7 U
Methylene Chloride	0.95 U	1.3 U	1.1 U	1.1 U	1.3 U
Pentachloroethane	2.1 UJ	2.8 UJ	2.4 UJ	2.4 UJ	2.8 R
Propionitrile	20 U	27 U	23 U	23 UJ	27 U
Styrene	0.63 U	0.85 U	0.72 U	0.71 U	0.83 U
Tetrachloroethene	0.7 U	0.95 U	0.8 U	0.78 U	0.92 U
Toluene	0.75 U	1 U	0.87 U	0.85 U	1 U
trans-1,2-Dichloroethene	0.93 U	1.3 U	1.1 U	1 U	1.2 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SWMU 9 AREA C - SURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB161	74SB161	74SB171	74SB181	74SB191
Sample ID	74SB161-00	74SB161-00D	74SB171-00	74SB181-00	74SB191-00
Date	5/16/2008	5/16/2008	5/17/2008	5/19/2008	5/19/2008
Depth Range	0.0-1.0	0.0-1.0	0.0-1.0	0.0-1.0	0.0-1.0
Volatile Organic Compounds (ug/kg)					
trans-1,3-Dichloropropene	0.83 U	1.1 U	0.95 U	0.93 U	1.1 U
trans-1,4-Dichloro-2-butene	3 U	4 U	3.4 U	3.3 U	3.9 U
Trichloroethene	0.95 U	1.3 U	1.1 U	1.1 U	1.3 U
Trichlorofluoromethane	1.4 U	1.9 U	1.6 U	1.6 U	1.9 U
Vinyl acetate	1.4 U	1.9 U	1.6 U	1.6 U	1.9 U
Vinyl chloride	0.55 U	0.75 U	0.64 U	0.62 U	0.73 U
Xylenes, Total	2.2 U	3 U	2.5 U	2.5 U	2.9 U
LLPAHs (ug/kg)					
1-Methylnaphthalene	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA	NA
Acenaphthene	NA	NA	NA	NA	NA
Acenaphthylene	NA	NA	NA	NA	NA
Anthracene	NA	NA	NA	NA	NA
Benzo[a]anthracene	NA	NA	NA	NA	NA
Benzo[a]pyrene	NA	NA	NA	NA	NA
Benzo[b]fluoranthene	NA	NA	NA	NA	NA
Benzo[g,h,i]perylene	NA	NA	NA	NA	NA
Benzo[k]fluoranthene	NA	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	NA	NA	NA	NA	NA
Fluoranthene	NA	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA	NA
Indeno[1,2,3-cd]pyrene	NA	NA	NA	NA	NA
Naphthalene	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA
Pyrene	NA	NA	NA	NA	NA
Metals (mg/kg)					
Antimony	0.34 UJ	0.36 UJ	0.22 UJ	0.085 UJ	0.29 UJ
Arsenic	4	4.2	3.2	1.4	2.8
Barium	15 J	20 J	53	350	52 J
Beryllium	0.054 J	0.091 J	0.24	0.38	0.18
Cadmium	0.051 J	0.081 J	0.44	0.041 J	0.33
Chromium	17 J	23 J	22	58	32
Cobalt	5.4 J	7.5 J	16 J	19	16 J
Copper	21 J	51 J	93	65	68 J
Lead	6.5 J	7.8 J	38 J	3.4	210 J
Mercury	0.004 J	0.0056 J	0.014 R	0.01 J	0.024
Nickel	6.8	7.8	12	18	15
Selenium	0.18 J	0.23 J	1.2	1	0.32 J
Silver	0.016 UJ	0.019 J	0.18 J	0.041 J	0.067 J
Thallium	0.12 U	0.11 U	0.12 U	0.14 U	0.12 U
Tin	3.9 U	3.7 U	4.1 U	4.6 U	4 U
Vanadium	63	68	150	260	130
Zinc	14 J	22 J	80	53 J	110
TPH DRO and GRO (mg/kg)					
Diesel Range Organics [C10-C28]	2.4 J	2.3 J	2.8 U	1.2 UJ	77
Gasoline Range Organics (GRO)-C6-C10	0.071 U	0.072 U	0.067 U	0.032 J	0.018 J

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - JP-5 HILL AND DFM AREA - SURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB131	74SB141	74SB151	74SB201	74SB211	74SB271	74SB281
Sample ID	74SB131-00	74SB141-00	74SB151-00	74SB201-00	74SB211-00	74SB271-00	74SB281-00
Date	5/15/2008	5/14/2008	5/15/2008	5/18/2008	5/19/2008	5/28/2008	5/28/2008
Depth Range	0.0-1.0	0.0-1.0	0.0-1.0	0.0-1.0	0.0-1.0	0.0-1.0	0.0-1.0
Volatile Organic Compounds (ug/kg)							
1,1,1,2-Tetrachloroethane	0.74 U	0.66 U	1 U	0.87 U	0.61 U	0.7 U	0.68 U
1,1,1-Trichloroethane	0.67 U	0.6 U	0.91 U	0.79 U	0.55 U	0.63 UJ	0.62 UJ
1,1,2,2-Tetrachloroethane	1.6 U	1.4 U	2.2 U	1.9 U	1.3 U	1.5 U	1.5 U
1,1,2-Trichloroethane	1.4 U	1.2 U	1.9 U	1.6 U	1.1 U	1.3 U	1.3 U
1,1-Dichloroethane	0.58 U	0.52 U	0.78 U	0.68 U	0.48 U	0.54 U	0.53 U
1,1-Dichloroethene	0.62 U	0.56 U	0.84 U	0.73 U	0.52 U	0.59 U	0.57 U
1,2,3-Trichloropropane	1.6 U	1.4 U	2.2 U	1.9 U	1.3 UJ	1.5 U	1.5 U
1,2-Dibromo-3-Chloropropane	3.2 U	2.9 U	4.4 U	3.8 U	2.7 U	3 U	3 U
1,2-Dichloroethane	1.2 U	1 U	1.6 U	1.4 U	0.96 U	1.1 U	1.1 U
1,2-Dichloropropane	1.3 U	1.1 U	1.7 U	1.5 U	1.1 U	1.2 U	1.2 U
2-Butanone (MEK)	3.1 U	2.8 U	12 U	21 UJ	9.7 UJ	7 UJ	5 UJ
2-Chloro-1,3-butadiene	0.66 U	0.59 U	0.89 U	0.77 U	0.55 U	0.62 U	0.61 U
2-Hexanone	2.4 UJ	2.2 U	3.3 U	2.8 UJ	2 UJ	2.3 U	2.2 U
3-Chloro-1-propene	1.7 U	1.5 UJ	2.3 UJ	2 U	1.4 U	1.6 U	1.6 U
4-Methyl-2-pentanone (MIBK)	3.3 U	3 U	4.5 U	3.9 UJ	2.8 UJ	3.2 UJ	3.1 UJ
Acetone	5.1 U	39 U	150	280	98 J	56 UJ	60 UJ
Acetonitrile	52 U	46 U	70 U	61 U	43 UJ	49 U	48 UJ
Acrolein	22 U	20 R	30 R	26 U	18 UJ	21 U	20 U
Acrylonitrile	26 U	24 U	36 UJ	31 UJ	22 UJ	25 U	24 UJ
Benzene	0.91 U	0.82 U	1.2 U	1.1 U	0.76 U	0.86 U	0.84 U
Bromoform	1.3 U	1.1 U	1.7 U	1.5 U	1.1 U	1.2 U	1.2 U
Bromomethane	1.8 U	1.7 U	2.5 UJ	2.2 U	1.5 UJ	1.7 U	1.7 U
Carbon disulfide	0.59 U	0.53 U	0.8 U	0.69 U	0.49 U	0.61 J	0.54 U
Carbon tetrachloride	1.2 U	1 U	1.6 U	1.4 U	0.96 U	1.1 UJ	1.1 UJ
Chlorobenzene	0.84 U	0.75 U	1.1 U	0.99 U	0.7 U	0.79 U	0.78 U
Chlorodibromomethane	0.58 U	0.52 U	0.78 U	0.68 U	0.48 U	0.54 U	0.53 U
Chloroethane	1.4 U	1.2 U	1.9 U	1.6 U	1.1 U	1.3 UJ	1.3 UJ
Chloroform	0.58 U	0.52 U	0.78 U	0.68 U	0.48 U	0.54 U	0.53 U
Chloromethane	0.82 U	0.73 U	1.1 U	0.96 U	0.68 U	0.77 U	0.76 U
cis-1,3-Dichloropropene	1 U	0.9 U	1.4 U	1.2 U	0.83 U	0.95 UJ	0.93 UJ
Dibromomethane	1.4 U	1.2 U	1.9 U	1.6 U	1.1 U	1.3 U	1.3 U
Dichlorobromomethane	0.96 U	0.86 U	1.3 U	1.1 U	0.79 U	0.9 U	0.88 U
Dichlorodifluoromethane	1 U	0.92 U	1.4 U	1.2 U	0.85 U	0.97 U	0.95 U
Ethyl methacrylate	2.5 U	2.3 U	3.4 U	3 UJ	2.1 U	2.4 U	2.3 U
Ethylbenzene	0.86 U	0.77 U	1.2 U	1 U	0.72 U	0.81 U	0.8 U
Ethylene Dibromide	1.7 U	1.5 U	2.3 U	2 U	1.4 U	1.6 U	1.6 U
Iodomethane	1.2 U	1 UJ	1.6 UJ	4 J	1.3 J	2.9 J	1.1 U
Isobutyl alcohol	79 U	71 R	110 R	93 U	66 R	75 U	73 R
Methacrylonitrile	28 U	25 UJ	38 U	33 U	23 U	26 U	26 UJ
Methyl methacrylate	4.3 U	3.8 U	5.8 UJ	5 U	3.5 U	4 U	3.9 UJ
Methylene Chloride	1.2 U	1 U	1.6 U	1.4 U	0.96 U	1.1 U	1.1 U
Pentachloroethane	2.5 R	2.3 UJ	3.4 UJ	3 R	2.1 UJ	2.4 R	2.3 R
Propionitrile	24 U	22 U	33 U	28 U	20 U	23 U	22 UJ
Styrene	0.76 U	0.68 U	1 U	0.89 U	0.63 U	0.72 U	0.7 U
Tetrachloroethene	0.84 U	0.75 U	1.1 U	0.99 U	0.7 U	0.79 U	0.78 U
Toluene	0.91 U	0.82 U	1.2 U	1.1 U	0.76 U	0.86 U	0.84 U
trans-1,2-Dichloroethene	1.1 U	1 U	1.5 U	1.3 U	0.93 U	1.1 U	1 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - JP-5 HILL AND DFM AREA - SURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB131	74SB141	74SB151	74SB201	74SB211	74SB271	74SB281
Sample ID	74SB131-00	74SB141-00	74SB151-00	74SB201-00	74SB211-00	74SB271-00	74SB281-00
Date	5/15/2008	5/14/2008	5/15/2008	5/18/2008	5/19/2008	5/28/2008	5/28/2008
Depth Range	0.0-1.0	0.0-1.0	0.0-1.0	0.0-1.0	0.0-1.0	0.0-1.0	0.0-1.0
Volatile Organic Compounds (ug/kg)							
trans-1,3-Dichloropropene	1 U	0.9 U	1.4 U	1.2 U	0.83 U	0.95 U	0.93 U
trans-1,4-Dichloro-2-butene	3.6 U	3.2 U	4.8 U	4.2 UJ	3 U	3.4 U	3.3 UJ
Trichloroethene	1.2 U	1 U	1.6 U	1.4 U	0.96 U	1.1 U	1.1 U
Trichlorofluoromethane	1.7 U	1.5 U	2.3 U	2 U	1.4 U	1.6 U	1.6 U
Vinyl acetate	1.7 U	1.5 U	2.3 U	2 U	1.4 U	1.6 U	1.6 U
Vinyl chloride	0.67 U	0.6 U	0.91 U	0.79 U	0.55 U	0.63 U	0.62 U
Xylenes, Total	2.6 U	2.4 U	3.6 U	3.1 U	2.2 U	2.5 U	2.4 U
LLPAHs (ug/kg)							
1-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	NA	NA	NA	NA	NA	NA	NA
Anthracene	NA	NA	NA	NA	NA	NA	NA
Benzo[a]anthracene	NA	NA	NA	NA	NA	NA	NA
Benzo[a]pyrene	NA	NA	NA	NA	NA	NA	NA
Benzo[b]fluoranthene	NA	NA	NA	NA	NA	NA	NA
Benzo[g,h,i]perylene	NA	NA	NA	NA	NA	NA	NA
Benzo[k]fluoranthene	NA	NA	NA	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	NA	NA	NA	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA	NA	NA	NA
Indeno[1,2,3-cd]pyrene	NA	NA	NA	NA	NA	NA	NA
Naphthalene	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	NA	NA
Pyrene	NA	NA	NA	NA	NA	NA	NA
Metals (mg/kg)							
Antimony	0.32 UJ	0.087 UJ	0.43 UJ	0.17 J	0.15 J	0.079 UJ	0.077 UJ
Arsenic	2	0.95	2.5	2.8	1.2	1.2	0.88
Barium	47 J	180 J	54 J	180	78	100 J	65
Beryllium	0.27	0.41	0.3	0.35	0.22	0.33	0.19
Cadmium	0.075 J	0.093 J	0.13	0.16	0.035 U	0.15	0.13
Chromium	30	28	28 J	29	25	65 J	40
Cobalt	22 J	46 J	30 J	27 J	22	38	26
Copper	100	43	88	88	130 J	120	94
Lead	3.4	10	12 J	4.1	2	5.9	8.1
Mercury	0.0043 U	0.0043 U	0.016 J	0.048	0.0097 J	0.0045 U	0.005 J
Nickel	24	15 J	11	14	16	38	30
Selenium	0.13 U	0.13 U	1.2	1.3	0.19 J	0.17 J	0.24 U
Silver	0.028 J	0.099 J	0.16 J	0.053 J	0.04 J	0.045 J	0.027 J
Thallium	0.13 U	0.13 U	0.14 U	0.15 U	0.13 U	0.13 U	0.12 U
Tin	4.2 U	4.4 U	4.5 U	5 U	4.5 U	4.2 U	4.1 U
Vanadium	160	150	220	190	190	180	140
Zinc	82 J	87 J	72 J	67 J	43 J	73 J	97 J
TPH DRO and GRO (mg/kg)							
Diesel Range Organics	3.6 J	0.68 U	27	4.6	4.9	1.5	3.8
Gasoline Range Organics	0.064 U	0.071 U	0.083 U	0.26 J	0.57	0.063 U	0.1 J

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - FUELING PIERS AREA - SURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB221	74SB221	74SB231	74SB241	74SB251	74SB261
Sample ID	74SB221-00	74SB221-00D	74SB231-00	74SB241-00	74SB251-00	74SB261-00
Date	5/20/2008	5/20/2008	5/20/2008	5/21/2008	5/21/2008	5/21/2008
Depth Range	0.0-1.0	0.0-1.0	0.0-1.0	0.0-1.0	0.0-1.0	0.0-1.0
Volatile Organic Compounds (ug/kg)						
1,1,1,2-Tetrachloroethane	0.63 U	0.66 U	0.95 U	0.56 U	1.1 U	0.7 U
1,1,1-Trichloroethane	0.57 U	0.6 U	0.86 U	0.51 U	1 U	0.64 U
1,1,2,2-Tetrachloroethane	1.4 U	1.4 U	2.1 U	1.2 U	2.4 U	1.5 U
1,1,2-Trichloroethane	1.2 U	1.2 U	1.8 U	1 U	2.1 U	1.3 U
1,1-Dichloroethane	0.49 U	0.52 U	0.74 U	0.44 U	0.86 U	0.55 U
1,1-Dichloroethene	0.53 U	0.56 U	0.8 U	0.47 U	0.93 U	0.59 U
1,2,3-Trichloropropane	1.4 UJ	1.4 UJ	2.1 UJ	1.2 UJ	2.4 UJ	1.5 UJ
1,2-Dibromo-3-Chloropropane	2.8 U	2.9 U	4.2 UJ	2.4 UJ	4.8 UJ	3.1 UJ
1,2-Dichloroethane	0.98 U	1 U	1.5 U	0.87 U	1.7 U	1.1 U
1,2-Dichloropropane	1.1 U	1.1 U	1.6 U	0.96 U	1.9 U	1.2 U
2-Butanone (MEK)	7.1 UJ	4.8 UJ	7.1 UJ	5.5 UJ	9.8 UJ	3 UJ
2-Chloro-1,3-butadiene	0.56 U	0.59 U	0.85 U	0.5 U	0.98 U	0.63 UJ
2-Hexanone	2.1 UJ	2.2 UJ	3.1 UJ	1.8 UJ	3.6 UJ	2.3 UJ
3-Chloro-1-propene	1.5 U	1.6 U	2.2 UJ	1.3 UJ	2.6 UJ	1.6 UJ
4-Methyl-2-pentanone (MIBK)	2.9 UJ	3 UJ	4.3 UJ	2.5 UJ	5 UJ	3.2 UJ
Acetone	48 J	31 J	70 U	53 U	78 UJ	74 U
Acetonitrile	44 UJ	47 UJ	67 UJ	39 UJ	78 UJ	49 UJ
Acrolein	19 UJ	20 UJ	28 R	17 U	33 R	21 UJ
Acrylonitrile	23 UJ	24 UJ	34 UJ	20 U	40 UJ	25 U
Benzene	1.1 J	0.82 U	1.2 U	0.69 U	1.4 U	0.87 U
Bromoform	1.1 U	1.1 U	1.6 U	0.96 U	1.9 UJ	1.2 U
Bromomethane	1.6 UJ	1.7 UJ	2.4 UJ	1.4 UJ	2.8 UJ	1.8 UJ
Carbon disulfide	0.5 U	0.53 U	0.76 U	1.1 J	0.88 U	0.68 J
Carbon tetrachloride	0.98 U	1 U	1.5 U	0.87 U	1.7 U	1.1 U
Chlorobenzene	0.72 U	0.75 U	1.1 U	0.64 U	1.3 U	0.8 U
Chlorodibromomethane	0.49 U	0.52 U	0.74 U	0.44 U	0.86 U	0.55 U
Chloroethane	1.2 U	1.2 U	1.8 U	1 U	2.1 U	1.3 U
Chloroform	0.49 U	0.52 U	0.74 U	0.44 U	0.86 U	0.55 U
Chloromethane	0.7 U	0.73 U	1.1 U	0.62 U	1.2 UJ	0.78 U
cis-1,3-Dichloropropene	0.86 U	0.9 U	1.3 U	0.76 U	1.5 U	0.96 U
Dibromomethane	1.2 U	1.2 U	1.8 U	1 U	2.1 U	1.3 U
Dichlorobromomethane	0.82 U	0.86 U	1.2 U	0.72 U	1.4 U	0.91 U
Dichlorodifluoromethane	0.88 U	0.92 U	1.3 U	0.78 U	1.5 UJ	0.98 U
Ethyl methacrylate	2.2 U	2.3 U	3.3 U	1.9 U	3.8 U	2.4 U
Ethylbenzene	0.74 U	0.78 U	1.1 U	0.65 U	1.3 U	0.82 U
Ethylene Dibromide	1.5 U	1.6 U	2.2 U	1.3 U	2.6 U	1.6 U
Iodomethane	0.98 U	1 U	1.5 U	0.87 U	1.7 U	1.1 UJ
Isobutyl alcohol	68 R	71 R	100 R	60 R	120 R	76 R
Methacrylonitrile	24 U	25 U	36 U	21 U	41 U	26 U
Methyl methacrylate	3.6 U	3.8 U	5.5 U	3.2 U	6.4 U	4.1 U
Methylene Chloride	0.98 U	1 U	1.5 U	0.87 U	1.7 U	1.1 U
Pentachloroethane	2.2 UJ	2.3 UJ	3.3 UJ	1.9 UJ	3.8 UJ	2.4 UJ
Propionitrile	21 U	22 U	31 UJ	18 U	36 UJ	23 U
Styrene	0.65 U	0.68 U	0.98 U	0.58 U	1.1 U	0.72 U
Tetrachloroethene	0.72 U	0.75 U	1.1 U	0.64 U	1.3 U	0.8 U
Toluene	0.78 U	0.82 U	1.2 U	0.69 U	1.4 U	0.87 U
trans-1,2-Dichloroethene	0.95 U	1 U	1.4 U	0.85 U	1.7 U	1.1 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - FUELING PIERS AREA - SURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB221	74SB221	74SB231	74SB241	74SB251	74SB261
Sample ID	74SB221-00	74SB221-00D	74SB231-00	74SB241-00	74SB251-00	74SB261-00
Date	5/20/2008	5/20/2008	5/20/2008	5/21/2008	5/21/2008	5/21/2008
Depth Range	0.0-1.0	0.0-1.0	0.0-1.0	0.0-1.0	0.0-1.0	0.0-1.0
Volatile Organic Compounds (ug/kg)						
trans-1,3-Dichloropropene	0.86 U	0.9 U	1.3 U	0.76 U	1.5 U	0.96 U
trans-1,4-Dichloro-2-butene	3.1 U	3.2 U	4.6 U	2.7 U	5.3 U	3.4 U
Trichloroethene	0.98 U	1 U	1.5 U	0.87 U	1.7 U	1.1 U
Trichlorofluoromethane	1.5 U	1.6 U	2.2 U	1.3 U	2.6 U	1.6 U
Vinyl acetate	1.5 U	1.6 U	2.2 U	1.3 U	2.6 U	1.6 U
Vinyl chloride	0.57 U	0.6 U	0.86 U	0.51 U	1 U	0.64 U
Xylenes, Total	2.3 U	2.4 U	3.4 U	2 U	4 U	2.5 U
LLPAHs (ug/kg)						
1-Methylnaphthalene	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA	NA	NA
Acenaphthene	NA	NA	NA	NA	NA	NA
Acenaphthylene	NA	NA	NA	NA	NA	NA
Anthracene	NA	NA	NA	NA	NA	NA
Benzo[a]anthracene	NA	NA	NA	NA	NA	NA
Benzo[a]pyrene	NA	NA	NA	NA	NA	NA
Benzo[b]fluoranthene	NA	NA	NA	NA	NA	NA
Benzo[g,h,i]perylene	NA	NA	NA	NA	NA	NA
Benzo[k]fluoranthene	NA	NA	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	NA	NA	NA	NA	NA	NA
Fluoranthene	NA	NA	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA	NA	NA
Indeno[1,2,3-cd]pyrene	NA	NA	NA	NA	NA	NA
Naphthalene	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	NA
Pyrene	NA	NA	NA	NA	NA	NA
Metals (mg/kg)						
Antimony	0.51	0.41 J	0.39 U	0.53	0.26 J	0.59
Arsenic	3.6	3.1	4.6	2	3.1	2.9
Barium	110 J	37 J	25	79 J	58	46 J
Beryllium	0.26	0.26	0.038 U	0.18	0.13 J	0.16
Cadmium	0.14	0.098 J	0.22	0.38	0.16	0.17
Chromium	25	20	8.4	25 J	16	29 J
Cobalt	21	16	2.7	12 J	8.8	14 J
Copper	86 J	73 J	14	72 J	70	55 J
Lead	5.2	4.6	35	49	6.1	14
Mercury	0.021 J	0.024 J	0.01 J	0.012 J	0.011 J	0.0099 J
Nickel	16	16	2.9	18 J	7.8	11 J
Selenium	0.19 J	0.21 J	0.26 J	0.12 J	0.3 U	0.28 J
Silver	0.085 J	0.062 J	0.04 J	0.057 J	0.042 J	0.049 J
Thallium	0.11 U	0.12 U	0.25 U	0.11 U	0.3 U	0.12 U
Tin	3.8 U	4 U	8.4 U	3.8 U	9.9 U	4.1 U
Vanadium	150	130	18	120 J	89	110 J
Zinc	54 J	48 J	22	89	52 J	58
TPH DRO and GRO (mg/kg)						
Diesel Range Organics	100 J	26 J	69	19	6.7	9.3
Gasoline Range Organics	0.06 U	0.058 U	0.084 U	0.0053 U	0.056 J	0.0062 U

Subsurface Soil Data

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - AIRFIELD - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB01	74SB01	74SB02	74SB02	74SB04	74SB04	74SB05	74SB05	74SB05
Sample ID	74SB01-02	74SB01-04	74SB02-03	74SB02-05	74SB04-01	74SB04-04	74SB05-01	74SB05-01D	74SB05-02
Date	4/28/2008	4/28/2008	4/28/2008	4/28/2008	4/28/2008	4/28/2008	4/29/2008	4/29/2008	4/29/2008
Depth Range	4.0 - 5.0	8.0 - 9.0	6.0 - 7.0	9.0 - 10.0	1.0 - 3.0	7.0 - 9.0	2.0 - 3.0	2.0 - 3.0	3.0 - 4.0
Volatile Organic Compounds (ug/kg)									
1,1,1,2-Tetrachloroethane	0.61 U	0.76 U	0.65 U	0.71 U	0.56 U	0.69 U	0.66 U	62 U	0.78 U
1,1,1-Trichloroethane	0.56 U	0.69 U	0.59 U	0.65 U	0.5 U	0.62 U	0.6 U	56 U	0.7 U
1,1,2,2-Tetrachloroethane	1.3 U	1.7 U	1.4 U	1.6 U	1.2 U	1.5 U	1.4 U	140 U	1.7 U
1,1,2-Trichloroethane	1.2 U	1.4 U	1.2 U	1.3 U	1 U	1.3 U	1.2 U	120 U	1.5 U
1,1-Dichloroethane	0.48 U	0.6 U	0.51 U	0.56 U	0.43 U	0.54 U	0.51 U	48 U	0.61 U
1,1-Dichloroethene	0.52 U	0.64 U	0.55 U	0.6 U	0.47 U	0.58 U	0.56 U	52 U	0.66 U
1,2,3-Trichloropropane	1.3 U	1.7 U	1.4 U	1.6 U	1.2 U	1.5 U	1.4 U	140 U	1.7 U
1,2-Dibromo-3-Chloropropane	2.7 U	3.3 U	2.8 U	3.1 U	2.4 U	3 U	2.9 U	270 U	3.4 U
1,2-Dichloroethane	0.96 U	1.2 U	1 U	1.1 U	0.87 U	1.1 U	1 U	97 U	1.2 U
1,2-Dichloropropane	1.1 U	1.3 U	1.1 U	1.2 U	0.96 U	1.2 U	1.1 U	110 U	1.3 U
2-Butanone (MEK)	2.6 U	3.2 U	2.7 U	3 U	2.3 U	2.9 U	2.8 UJ	410 U	5.2 UJ
2-Chloro-1,3-butadiene	0.55 UJ	0.68 UJ	0.58 UJ	0.63 UJ	0.49 UJ	0.61 UJ	0.59 U	55 UJ	0.69 U
2-Hexanone	2 U	2.5 U	2.1 U	2.3 U	1.8 U	2.3 U	2.2 UJ	200 U	2.5 UJ
3-Chloro-1-propene	1.4 R	1.8 R	1.5 R	1.7 R	1.3 R	1.6 R	1.5 UJ	150 UJ	1.8 UJ
4-Methyl-2-pentanone (MIBK)	2.8 U	3.5 U	2.9 U	3.2 U	2.5 U	3.1 U	3 UJ	280 U	3.5 UJ
Acetone	21 J	5.2 R	23 J	4.9 R	5.8 J	4.7 R	15 R	430 R	24 R
Acetonitrile	43 UJ	54 UJ	46 UJ	50 UJ	39 UJ	48 UJ	46 UJ	4400 UJ	55 UJ
Acrolein	18 R	23 R	19 R	21 R	16 R	20 R	20 R	1800 R	23 R
Acrylonitrile	22 UJ	27 UJ	23 UJ	26 UJ	20 UJ	25 UJ	24 U	2200 UJ	28 U
Benzene	0.76 U	0.94 U	0.8 U	0.88 U	0.69 U	0.85 U	0.81 U	76 U	0.96 U
Bromoform	1.1 U	1.3 U	1.1 U	1.2 U	0.96 U	1.2 U	1.1 U	110 U	1.3 U
Bromomethane	1.5 UJ	1.9 UJ	1.6 UJ	1.8 UJ	1.4 UJ	1.7 UJ	1.6 U	150 U	1.9 U
Carbon disulfide	1.8 J	0.61 U	0.52 U	0.57 U	0.44 U	0.55 U	0.52 U	49 U	0.62 U
Carbon tetrachloride	0.96 U	1.2 U	1 U	1.1 U	0.87 U	1.1 U	1 U	97 U	1.2 U
Chlorobenzene	0.7 U	0.87 U	0.74 U	0.81 U	0.63 U	0.79 U	0.75 U	71 U	0.89 U
Chlorodibromomethane	0.48 U	0.6 U	0.51 U	0.56 U	0.43 U	0.54 U	0.51 U	48 U	0.61 U
Chloroethane	1.2 U	1.4 U	1.2 U	1.3 U	1 U	1.3 U	1.2 U	120 U	1.5 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - AIRFIELD - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB01	74SB01	74SB02	74SB02	74SB04	74SB04	74SB05	74SB05	74SB05
Sample ID	74SB01-02	74SB01-04	74SB02-03	74SB02-05	74SB04-01	74SB04-04	74SB05-01	74SB05-01D	74SB05-02
Date	4/28/2008	4/28/2008	4/28/2008	4/28/2008	4/28/2008	4/28/2008	4/29/2008	4/29/2008	4/29/2008
Depth Range	4.0 - 5.0	8.0 - 9.0	6.0 - 7.0	9.0 - 10.0	1.0 - 3.0	7.0 - 9.0	2.0 - 3.0	2.0 - 3.0	3.0 - 4.0
Volatile Organic Compounds (ug/kg)									
Chloroform	0.48 U	0.6 U	0.51 U	0.56 U	0.43 U	0.54 U	0.51 U	48 U	0.61 U
Chloromethane	0.68 U	0.85 U	0.72 U	0.79 U	0.62 U	0.76 U	0.73 U	69 U	0.86 U
cis-1,3-Dichloropropene	0.83 U	1 U	0.88 U	0.97 U	0.76 U	0.94 U	0.89 U	84 U	1.1 U
Dibromomethane	1.2 U	1.4 U	1.2 U	1.3 U	1 U	1.3 U	1.2 U	120 U	1.5 U
Dichlorobromomethane	0.8 U	0.99 U	0.84 U	0.92 U	0.72 U	0.89 U	0.85 U	80 U	1 U
Dichlorodifluoromethane	0.85 U	1.1 U	0.9 U	0.99 U	0.77 U	0.96 U	0.91 U	86 U	1.1 U
Ethyl methacrylate	2.1 U	2.6 U	2.2 U	2.4 U	1.9 U	2.4 U	2.3 U	210 U	2.7 U
Ethylbenzene	0.72 U	0.89 U	0.76 U	0.83 U	0.65 U	0.81 U	0.77 U	73 U	0.91 U
Ethylene Dibromide	1.4 U	1.8 U	1.5 U	1.7 U	1.3 U	1.6 U	1.5 U	150 U	1.8 U
Iodomethane	0.96 U	1.2 U	1 U	1.1 U	0.87 U	1.1 U	1 U	97 U	1.2 U
Isobutyl alcohol	66 R	82 R	130 J	77 R	60 R	74 R	71 R	6700 R	84 R
Methacrylonitrile	23 U	29 U	24 U	27 U	21 U	26 U	25 U	2300 U	29 U
Methyl methacrylate	3.5 U	4.4 U	3.8 U	4.1 U	3.2 U	4 U	3.8 UJ	360 U	4.5 UJ
Methylene Chloride	0.96 U	1.2 U	1 U	1.1 U	0.87 U	1.1 U	1 U	97 U	1.2 U
Pentachloroethane	2.1 U	2.6 U	2.2 U	2.4 U	1.9 U	2.4 U	2.3 U	210 UJ	2.7 U
Propionitrile	20 UJ	25 UJ	21 UJ	23 UJ	18 UJ	23 UJ	22 U	2000 UJ	25 U
Styrene	0.63 U	0.79 U	0.67 U	0.73 U	0.57 U	0.71 U	0.68 U	64 U	0.8 U
Tetrachloroethene	0.7 U	0.87 U	0.74 U	0.81 U	0.63 U	0.79 U	0.75 U	71 U	0.89 U
Toluene	0.76 U	0.94 U	0.8 U	0.88 U	0.69 U	0.85 U	0.81 U	76 U	0.96 U
trans-1,2-Dichloroethene	0.93 U	1.2 U	0.99 U	1.1 U	0.84 U	1 U	1 U	94 U	1.2 U
trans-1,3-Dichloropropene	0.83 U	1 U	0.88 U	0.97 U	0.76 U	0.94 U	0.89 U	84 U	1.1 U
trans-1,4-Dichloro-2-butene	3 U	3.7 U	3.2 U	3.4 U	2.7 U	3.3 U	3.2 U	300 U	3.8 U
Trichloroethene	0.96 U	1.2 U	1 U	1.1 U	0.87 U	1.1 U	1 U	97 U	1.2 U
Trichlorofluoromethane	1.4 U	1.8 U	1.5 U	1.7 U	1.3 U	1.6 U	1.5 U	150 U	1.8 U
Vinyl acetate	1.4 UJ	1.8 UJ	1.5 UJ	1.7 UJ	1.3 UJ	1.6 UJ	1.5 UJ	150 U	1.8 UJ
Vinyl chloride	0.56 U	0.69 U	0.59 U	0.65 U	0.5 U	0.62 U	0.6 U	56 U	0.7 U
Xylenes, Total	2.2 U	2.7 U	2.3 U	2.6 U	2 U	2.5 U	2.4 U	220 U	2.8 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - AIRFIELD - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB01	74SB01	74SB02	74SB02	74SB04	74SB04	74SB05	74SB05	74SB05
Sample ID	74SB01-02	74SB01-04	74SB02-03	74SB02-05	74SB04-01	74SB04-04	74SB05-01	74SB05-01D	74SB05-02
Date	4/28/2008	4/28/2008	4/28/2008	4/28/2008	4/28/2008	4/28/2008	4/29/2008	4/29/2008	4/29/2008
Depth Range	4.0 - 5.0	8.0 - 9.0	6.0 - 7.0	9.0 - 10.0	1.0 - 3.0	7.0 - 9.0	2.0 - 3.0	2.0 - 3.0	3.0 - 4.0
LLPAHs (ug/kg)									
1-Methylnaphthalene	1.5 U	1.6 U	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	2.1 U	2.3 U	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	0.71 U	0.78 U	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	2.1 U	2.3 U	NA	NA	NA	NA	NA	NA	NA
Anthracene	2.1 U	2.3 U	NA	NA	NA	NA	NA	NA	NA
Benzo[a]anthracene	2.1 U	2.3 U	NA	NA	NA	NA	NA	NA	NA
Benzo[a]pyrene	0.82 U	0.9 U	NA	NA	NA	NA	NA	NA	NA
Benzo[b]fluoranthene	0.95 U	1 U	NA	NA	NA	NA	NA	NA	NA
Benzo[g,h,i]perylene	2.1 U	2.3 U	NA	NA	NA	NA	NA	NA	NA
Benzo[k]fluoranthene	1.2 U	1.4 U	NA	NA	NA	NA	NA	NA	NA
Chrysene	0.76 U	0.83 U	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	0.74 U	0.8 U	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	2.1 U	2.3 U	NA	NA	NA	NA	NA	NA	NA
Fluorene	0.96 U	1.1 U	NA	NA	NA	NA	NA	NA	NA
Indeno[1,2,3-cd]pyrene	1.5 U	1.6 U	NA	NA	NA	NA	NA	NA	NA
Naphthalene	0.75 U	0.82 U	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	2.1 U	2.3 U	NA	NA	NA	NA	NA	NA	NA
Pyrene	2.1 U	2.3 U	NA	NA	NA	NA	NA	NA	NA

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - AIRFIELD - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB01	74SB01	74SB02	74SB02	74SB04	74SB04	74SB05	74SB05	74SB05
Sample ID	74SB01-02	74SB01-04	74SB02-03	74SB02-05	74SB04-01	74SB04-04	74SB05-01	74SB05-01D	74SB05-02
Date	4/28/2008	4/28/2008	4/28/2008	4/28/2008	4/28/2008	4/28/2008	4/29/2008	4/29/2008	4/29/2008
Depth Range	4.0 - 5.0	8.0 - 9.0	6.0 - 7.0	9.0 - 10.0	1.0 - 3.0	7.0 - 9.0	2.0 - 3.0	2.0 - 3.0	3.0 - 4.0
Metals (mg/kg)									
Antimony	0.13 UJ	0.097 UJ	0.19 UJ	0.14 UJ	0.084 UJ	0.2 UJ	0.23 UJ	0.14 UJ	0.18 UJ
Arsenic	2.2	1.5	4.9	2.2	1.2	3.4	2.2	2.1	2.8
Barium	61	80 J	25 J	23 J	49 J	18 J	47 J	68 J	74 J
Beryllium	0.28	0.088 U	0.17	0.13	0.26	0.14	0.21	0.19	0.25
Cadmium	0.058 J	0.04 U	0.036 U	0.042 J	0.035 U	0.033 U	0.16 J	0.22 J	0.22 J
Chromium	24 J	12 J	38 J	23 J	22 J	34 J	29	38	62
Cobalt	20	3.9	11	6.9	14	4.7	24 J	29 J	27
Copper	95	82	150	87	67	100	95	110	99
Lead	14	1.2	4.6	2.7	3.3	3.6	22 J	12 J	27 J
Mercury	0.036 J	0.037 J	0.051	0.0051 U	0.05	0.41	0.004 U	0.0043 U	0.0047 J
Nickel	12	21	7	5	7	4.1	20	21	22
Selenium	0.5 J	0.62 J	1.2	0.96	0.28 J	1.1	0.2 J	0.13 U	0.22 J
Silver	0.071 U	0.077 U	0.048 U	0.057 U	0.029 U	0.051 U	0.057 J	0.061 J	0.053 J
Thallium	0.14 U	0.15 U	0.14 U	0.15 U	0.23 J	0.13 U	0.13 U	0.13 U	0.13 U
Tin	4.6 U	5.2 U	4.7 U	5.1 U	4.5 U	4.3 U	4.3 U	4.4 U	4.5 U
Vanadium	270	240	430	290	180	330	170	170	200
Zinc	54	28	35	29	63	27	94	89	87
TPH DRO/GRO (mg/kg)									
Diesel Range Organics	14	4.3 U	2.6 U	3.5 U	2.1 U	2.9 U	14	10	2.9 U
Gasoline Range Organics	2.1	0.073 U	0.067 U	0.074 U	0.055 U	0.06 U	0.055 UJ	340 J	36 J

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - AIRFIELD - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB06	74SB06	74SB07	74SB07	74SB09	74SB09	74SB10	74SB10	74SB11
Sample ID	74SB06-01	74SB06-02	74SB07-02	74SB07-04	74SB09-02	74SB09-05	74SB10-02	74SB10-04	74SB11-02
Date	4/29/2008	4/29/2008	4/29/2008	4/29/2008	4/29/2008	4/29/2008	4/29/2008	4/29/2008	4/30/2008
Depth Range	1.0 - 2.0	3.0 - 4.0	3.0 - 4.0	7.0 - 8.0	3.0 - 4.0	9.0 - 10.0	3.0 - 4.0	7.0 - 8.0	4.0 - 5.0
Volatile Organic Compounds (ug/kg)									
1,1,1,2-Tetrachloroethane	0.63 U	120 U	0.77 U	0.65 U	0.62 U	0.59 U	0.57 U	0.59 U	0.61 U
1,1,1-Trichloroethane	0.57 U	110 U	0.7 U	0.58 U	0.57 U	0.54 U	0.52 U	0.53 U	0.55 U
1,1,2,2-Tetrachloroethane	1.4 U	260 U	1.7 U	1.4 U	1.4 U	1.3 U	1.3 U	1.3 U	1.3 U
1,1,2-Trichloroethane	1.2 U	220 U	1.4 U	1.2 U	1.2 U	1.1 U	1.1 U	1.1 U	1.1 U
1,1-Dichloroethane	0.49 U	93 U	0.6 U	0.5 U	0.49 U	0.46 U	0.45 U	0.46 U	0.47 U
1,1-Dichloroethene	0.53 U	100 U	0.65 U	0.54 U	0.53 U	0.5 U	0.48 U	0.5 U	0.51 U
1,2,3-Trichloropropane	1.4 U	260 U	1.7 U	1.4 U	1.4 U	1.3 U	1.3 U	1.3 U	1.3 U
1,2-Dibromo-3-Chloropropane	2.8 U	520 U	3.4 U	2.8 U	2.7 U	2.6 U	2.5 U	2.6 U	2.7 U
1,2-Dichloroethane	0.99 U	190 U	1.2 U	1 U	0.97 U	0.93 U	0.89 U	0.92 U	0.95 U
1,2-Dichloropropane	1.1 U	210 U	1.3 U	1.1 U	1.1 U	1 U	0.98 U	1 U	1 U
2-Butanone (MEK)	4.4 UJ	580 U	22 UJ	7.9 UJ	4 UJ	2.5 UJ	6.9 UJ	2.5 UJ	3.8 U
2-Chloro-1,3-butadiene	0.56 U	110 UJ	0.69 U	0.57 U	0.56 U	5.2	0.51 U	0.52 U	0.54 U
2-Hexanone	2.1 UJ	390 U	2.5 UJ	2.1 UJ	2 UJ	1.9 UJ	1.9 UJ	1.9 UJ	2 U
3-Chloro-1-propene	1.5 UJ	280 UJ	1.8 UJ	1.5 UJ	1.5 UJ	1.4 UJ	1.3 UJ	1.4 UJ	1.4 UJ
4-Methyl-2-pentanone (MIBK)	2.9 UJ	540 U	3.5 UJ	2.9 UJ	2.8 UJ	2.7 UJ	2.6 UJ	2.7 UJ	2.8 U
Acetone	20 R	1800 R	91 R	63 R	38 R	40 R	50 R	24 R	34 J
Acetonitrile	44 UJ	8400 UJ	54 UJ	45 UJ	44 UJ	42 UJ	40 UJ	41 UJ	43 UJ
Acrolein	19 R	3500 R	23 R	19 R	19 R	18 R	17 R	17 R	18 R
Acrylonitrile	23 U	4300 UJ	28 U	23 U	22 U	21 U	21 U	21 U	22 U
Benzene	0.78 U	150 U	0.95 U	0.8 U	0.77 U	0.73 U	0.71 U	0.73 U	0.75 U
Bromoform	1.1 U	210 U	1.3 U	1.1 U	1.1 U	1 U	0.98 U	1 U	1 U
Bromomethane	1.6 U	300 U	1.9 U	1.6 U	1.6 U	1.5 U	1.4 U	1.5 U	1.5 U
Carbon disulfide	0.5 U	95 U	1.2 J	0.51 U	0.5 U	0.47 U	0.46 U	0.47 U	0.78 J
Carbon tetrachloride	0.99 U	190 U	1.2 U	1 U	0.97 U	0.93 U	0.89 U	0.92 U	0.95 U
Chlorobenzene	0.72 U	140 U	0.88 U	0.74 U	0.71 U	0.68 U	0.65 U	0.67 U	0.69 U
Chlorodibromomethane	0.49 U	93 U	0.6 U	0.5 U	0.49 U	0.46 U	0.45 U	0.46 U	0.47 U
Chloroethane	1.2 U	220 U	1.4 U	1.2 U	1.2 U	1.1 U	1.1 U	1.1 U	1.1 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - AIRFIELD - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB06	74SB06	74SB07	74SB07	74SB09	74SB09	74SB10	74SB10	74SB11
Sample ID	74SB06-01	74SB06-02	74SB07-02	74SB07-04	74SB09-02	74SB09-05	74SB10-02	74SB10-04	74SB11-02
Date	4/29/2008	4/29/2008	4/29/2008	4/29/2008	4/29/2008	4/29/2008	4/29/2008	4/29/2008	4/30/2008
Depth Range	1.0 - 2.0	3.0 - 4.0	3.0 - 4.0	7.0 - 8.0	3.0 - 4.0	9.0 - 10.0	3.0 - 4.0	7.0 - 8.0	4.0 - 5.0
Volatile Organic Compounds (ug/kg)									
Chloroform	0.49 U	93 U	0.6 U	0.5 U	0.49 U	0.46 U	0.45 U	0.46 U	0.47 U
Chloromethane	0.7 U	130 U	0.86 U	0.72 U	0.69 U	0.66 U	0.63 U	0.65 U	0.67 U
cis-1,3-Dichloropropene	0.86 U	160 U	1.1 U	0.88 U	0.85 U	0.81 U	0.78 U	0.8 U	0.83 U
Dibromomethane	1.2 U	220 U	1.4 U	1.2 U	1.2 U	1.1 U	1.1 U	1.1 U	1.1 U
Dichlorobromomethane	0.82 U	150 U	1 U	0.84 U	0.81 U	0.77 U	0.74 U	0.76 U	0.79 U
Dichlorodifluoromethane	0.88 U	170 U	1.1 U	0.9 U	0.87 U	0.82 U	0.8 U	0.82 U	0.84 U
Ethyl methacrylate	2.2 U	410 U	2.7 U	2.2 U	2.1 U	2 U	2 U	2 U	2.1 U
Ethylbenzene	0.74 U	140 U	0.91 U	0.76 U	0.73 U	0.69 U	0.67 U	0.69 U	0.71 U
Ethylene Dibromide	1.5 U	280 U	1.8 U	1.5 U	1.5 U	1.4 U	1.3 U	1.4 U	1.4 U
Iodomethane	0.99 U	190 U	1.2 U	1 U	0.97 U	0.93 U	0.89 U	0.92 U	0.95 U
Isobutyl alcohol	68 R	13000 R	83 R	70 R	67 R	64 R	62 R	63 R	65 R
Methacrylonitrile	24 U	4500 U	29 U	24 U	23 U	22 U	21 U	22 U	23 U
Methyl methacrylate	3.7 UJ	690 U	4.5 UJ	3.7 UJ	3.6 UJ	3.4 UJ	3.3 UJ	3.4 UJ	3.5 U
Methylene Chloride	0.99 U	190 U	1.2 U	1 U	0.97 U	0.93 U	0.89 U	0.92 U	0.95 U
Pentachloroethane	2.2 U	410 UJ	2.7 U	2.2 U	2.1 U	2 U	2 U	2 U	2.1 UJ
Propionitrile	21 U	3900 UJ	25 U	21 U	20 U	19 U	19 U	19 U	20 U
Styrene	0.65 U	120 U	0.8 U	0.67 U	0.64 U	0.61 U	0.59 U	0.61 U	0.63 U
Tetrachloroethene	0.72 U	140 U	0.88 U	0.74 U	0.71 U	0.68 U	0.65 U	0.67 U	0.69 U
Toluene	0.78 U	150 U	0.95 U	0.8 U	0.77 U	0.73 U	0.71 U	0.73 U	0.75 U
trans-1,2-Dichloroethene	0.96 U	180 U	1.2 U	0.98 U	0.95 U	0.9 U	0.87 U	0.89 U	0.92 U
trans-1,3-Dichloropropene	0.86 U	160 U	1.1 U	0.88 U	0.85 U	0.81 U	0.78 U	0.8 U	0.83 U
trans-1,4-Dichloro-2-butene	3.1 U	580 U	3.7 U	3.1 U	3 U	2.9 U	2.8 U	2.8 U	2.9 U
Trichloroethene	0.99 U	190 U	1.2 U	1 U	0.97 U	0.93 U	0.89 U	0.92 U	0.95 U
Trichlorofluoromethane	1.5 U	280 U	1.8 U	1.5 U	1.5 U	1.4 U	1.3 U	1.4 U	1.4 U
Vinyl acetate	1.5 UJ	280 U	1.8 UJ	1.5 UJ	1.5 UJ	1.4 UJ	1.3 UJ	1.4 UJ	1.4 U
Vinyl chloride	0.57 U	110 U	0.7 U	0.58 U	0.57 U	0.54 U	0.52 U	0.53 U	0.55 U
Xylenes, Total	2.3 U	430 U	2.8 U	2.3 U	2.2 U	2.1 U	2.1 U	2.1 U	2.2 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - AIRFIELD - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB06	74SB06	74SB07	74SB07	74SB09	74SB09	74SB10	74SB10	74SB11
Sample ID	74SB06-01	74SB06-02	74SB07-02	74SB07-04	74SB09-02	74SB09-05	74SB10-02	74SB10-04	74SB11-02
Date	4/29/2008	4/29/2008	4/29/2008	4/29/2008	4/29/2008	4/29/2008	4/29/2008	4/29/2008	4/30/2008
Depth Range	1.0 - 2.0	3.0 - 4.0	3.0 - 4.0	7.0 - 8.0	3.0 - 4.0	9.0 - 10.0	3.0 - 4.0	7.0 - 8.0	4.0 - 5.0
LLPAHs (ug/kg)									
1-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[a]anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[a]pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[b]fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[g,h,i]perylene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[k]fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indeno[1,2,3-cd]pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - AIRFIELD - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB06	74SB06	74SB07	74SB07	74SB09	74SB09	74SB10	74SB10	74SB11
Sample ID	74SB06-01	74SB06-02	74SB07-02	74SB07-04	74SB09-02	74SB09-05	74SB10-02	74SB10-04	74SB11-02
Date	4/29/2008	4/29/2008	4/29/2008	4/29/2008	4/29/2008	4/29/2008	4/29/2008	4/29/2008	4/30/2008
Depth Range	1.0 - 2.0	3.0 - 4.0	3.0 - 4.0	7.0 - 8.0	3.0 - 4.0	9.0 - 10.0	3.0 - 4.0	7.0 - 8.0	4.0 - 5.0
Metals (mg/kg)									
Antimony	0.2 UJ	0.19 UJ	0.11 UJ	0.088 UJ	0.1 UJ	0.13 UJ	0.12 UJ	0.094 UJ	0.097 UJ
Arsenic	2.1	4.8	2.1	1.6	1.8	1.4	1.9	1.4	1.7
Barium	55 J	53 J	26 J	24 J	61 J	93 J	51 J	120 J	130 J
Beryllium	0.23	0.24	0.27	0.23	0.38	0.26	0.21	0.3	0.36
Cadmium	0.23 J	0.25 J	0.035 UJ	0.048 J	0.056 J	0.051 J	0.21 J	0.13 J	0.13 J
Chromium	36	29	29	22	23	20	36	21	22
Cobalt	27	26	26	13	18	25	27	31	49
Copper	110	100	120	100	110	94	100	100	110
Lead	17 J	24 J	3.5 J	2.6 J	2.5 J	2.7 J	14 J	2.6 J	2.7 J
Mercury	0.0042 U	0.0041 U	0.025	0.027	0.038	0.016 J	0.0044 U	0.058	0.035
Nickel	21	19	8.6	8.3	11	8.4	21	9.5	13
Selenium	0.19 J	0.29 J	0.76	0.51 J	0.37 J	0.39 J	0.2 J	0.4 J	0.43 J
Silver	0.056 J	0.14 J	0.042 J	0.053 J	0.024 J	0.036 J	0.039 J	0.036 J	0.035 J
Thallium	0.13 U	0.14 U	0.2 J	0.18 J	0.13 U	0.14 U	0.13 U	0.15 J	0.18 J
Tin	4.2 U	4.7 U	4.6 U	4.7 U	4.5 U	4.6 U	4.5 U	4.6 U	4.7 U
Vanadium	190	170	330	270	320	310	200	330	300
Zinc	96	72	52	51	50	40	80	50	56
TPH DRO/GRO (mg/kg)									
Diesel Range Organics	3.6 U	100	2.9 U	1.7 U	3.2 U	3.1 U	2.3 U	2 U	2.3 U
Gasoline Range Organics	0.096 J	350 J	0.065 U	0.057 U	0.062 U	0.057 U	0.059 J	0.059 U	0.055 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - AIRFIELD - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB11	74SB11	74SB12	74SB12	74SB13	74SB13	74SB14	74SB14	74SB15
Sample ID	74SB11-04	74SB11-04D	74SB12-03	74SB12-05	74SB13-02	74SB13-04	74SB14-02	74SB14-03	74SB15-02
Date	4/30/2008	4/30/2008	4/30/2008	4/30/2008	4/30/2008	4/30/2008	4/30/2008	4/30/2008	4/30/2008
Depth Range	7.0 - 8.0	7.0 - 8.0	6.0 - 7.0	9.0 - 10.0	3.0 - 4.0	7.0 - 8.0	3.0 - 4.0	6.0 - 7.0	3.0 - 4.0
Volatile Organic Compounds (ug/kg)									
1,1,1,2-Tetrachloroethane	0.7 U	0.66 U	0.6 U	0.62 U	0.63 U	0.67 U	0.65 U	0.69 U	0.58 U
1,1,1-Trichloroethane	0.64 U	0.6 U	0.54 U	0.56 U	0.57 U	0.6 U	0.59 U	0.63 U	0.53 U
1,1,2,2-Tetrachloroethane	1.5 U	1.4 U	1.3 U	1.4 U	1.4 U	1.5 U	1.4 U	1.5 U	1.3 U
1,1,2-Trichloroethane	1.3 U	1.2 U	1.1 U	1.2 U	1.2 U	1.3 U	1.2 U	1.3 U	1.1 U
1,1-Dichloroethane	0.55 U	0.52 U	0.47 U	0.49 U	0.49 U	0.52 U	0.51 U	0.54 U	0.46 U
1,1-Dichloroethene	0.59 U	0.56 U	0.51 U	0.52 U	0.53 U	0.56 U	0.55 U	0.58 U	0.49 U
1,2,3-Trichloropropane	1.5 U	1.4 U	1.3 U	1.4 U	1.4 U	1.5 U	1.4 U	1.5 U	1.3 U
1,2-Dibromo-3-Chloropropane	3.1 U	2.9 U	2.6 U	2.7 U	2.7 U	2.9 U	2.9 U	3 U	2.5 U
1,2-Dichloroethane	1.1 U	1 U	0.94 U	0.97 U	0.98 U	1 U	1 U	1.1 U	0.91 U
1,2-Dichloropropane	1.2 U	1.1 U	1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.2 U	1 U
2-Butanone (MEK)	4.4 U	9.3 UJ	5.5 UJ	2.6 U	11 U	6.7 U	18 U	39 U	9.7 U
2-Chloro-1,3-butadiene	0.62 U	0.59 U	0.53 U	0.55 U	0.56 U	0.59 U	0.58 U	0.62 U	0.52 U
2-Hexanone	2.3 U	2.2 UJ	2 UJ	2 U	2.1 U	2.2 U	2.1 U	2.3 U	1.9 U
3-Chloro-1-propene	1.6 UJ	1.5 UJ	1.4 UJ	1.5 U	1.5 UJ	1.6 UJ	1.5 UJ	1.6 UJ	1.4 UJ
4-Methyl-2-pentanone (MIBK)	3.2 U	3 UJ	2.7 UJ	2.8 U	2.8 U	3 U	3 U	3.1 U	2.6 U
Acetone	40 J	50 R	160 J	55 J	170 J	120 J	220 J	230 J	77 J
Acetonitrile	49 UJ	46 UJ	42 UJ	44 R	44 UJ	47 UJ	46 UJ	49 UJ	41 UJ
Acrolein	21 R	20 R	18 R	18 R	19 R	20 R	19 U	21 U	17 U
Acrylonitrile	25 U	24 U	22 U	22 U	23 U	24 U	23 U	25 U	21 U
Benzene	0.87 U	0.81 U	0.74 U	0.77 U	0.77 U	0.82 U	0.81 U	0.86 U	0.72 U
Bromoform	1.2 U	1.1 U	1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.2 U	1 U
Bromomethane	1.8 U	1.6 U	1.5 U	1.6 UJ	1.6 U	1.7 U	1.6 U	1.7 U	1.5 U
Carbon disulfide	0.56 U	0.53 U	0.48 U	0.62 J	0.69 J	0.53 U	0.52 U	0.55 U	0.46 U
Carbon tetrachloride	1.1 U	1 U	0.94 U	0.97 U	0.98 U	1 U	1 U	1.1 U	0.91 U
Chlorobenzene	0.8 U	0.75 U	0.68 U	0.71 U	0.71 U	0.76 U	0.75 U	0.79 U	0.66 U
Chlorodibromomethane	0.55 U	0.52 U	0.47 U	0.49 U	0.49 U	0.52 U	0.51 U	0.54 U	0.46 U
Chloroethane	1.3 U	1.2 U	1.1 U	1.2 U	1.2 U	1.3 U	1.2 U	1.3 U	1.1 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - AIRFIELD - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB11	74SB11	74SB12	74SB12	74SB13	74SB13	74SB14	74SB14	74SB15
Sample ID	74SB11-04	74SB11-04D	74SB12-03	74SB12-05	74SB13-02	74SB13-04	74SB14-02	74SB14-03	74SB15-02
Date	4/30/2008	4/30/2008	4/30/2008	4/30/2008	4/30/2008	4/30/2008	4/30/2008	4/30/2008	4/30/2008
Depth Range	7.0 - 8.0	7.0 - 8.0	6.0 - 7.0	9.0 - 10.0	3.0 - 4.0	7.0 - 8.0	3.0 - 4.0	6.0 - 7.0	3.0 - 4.0
Volatile Organic Compounds (ug/kg)									
Chloroform	0.55 U	0.52 U	0.47 U	0.49 U	0.49 U	0.52 U	0.51 U	0.54 U	0.46 U
Chloromethane	0.78 U	0.73 U	0.67 U	0.69 U	0.69 U	0.74 U	0.72 U	0.77 U	0.65 U
cis-1,3-Dichloropropene	0.95 U	0.9 U	0.82 U	0.84 U	0.85 U	0.91 U	0.89 U	0.94 U	0.79 U
Dibromomethane	1.3 U	1.2 U	1.1 U	1.2 U	1.2 U	1.3 U	1.2 U	1.3 U	1.1 U
Dichlorobromomethane	0.91 U	0.86 U	0.78 U	0.81 U	0.81 U	0.86 U	0.85 U	0.9 U	0.76 U
Dichlorodifluoromethane	0.98 U	0.92 U	0.83 U	0.86 U	0.87 U	0.93 U	0.91 U	0.96 U	0.81 U
Ethyl methacrylate	2.4 U	2.3 U	2.1 U	2.1 UJ	2.2 U	2.3 U	2.2 U	2.4 U	2 U
Ethylbenzene	0.82 U	0.77 U	0.7 U	0.73 U	0.73 U	0.78 U	0.77 U	0.81 U	0.68 U
Ethylene Dibromide	1.6 U	1.5 U	1.4 U	1.5 U	1.5 U	1.6 U	1.5 U	1.6 U	1.4 U
Iodomethane	1.1 U	1.9 J	0.94 U	0.97 U	0.98 U	1 U	1.1 J	5.7	0.91 U
Isobutyl alcohol	76 R	71 R	65 R	67 R	68 R	72 R	70 R	75 R	63 R
Methacrylonitrile	26 U	25 U	22 U	23 UJ	23 U	25 U	24 U	26 U	22 U
Methyl methacrylate	4.1 U	3.8 UJ	3.5 UJ	3.6 UJ	3.6 U	3.9 U	3.8 U	4 U	3.4 U
Methylene Chloride	1.1 U	1 U	0.94 U	0.97 U	0.98 U	1 U	1 U	1.1 U	0.91 U
Pentachloroethane	2.4 UJ	2.3 U	2.1 U	2.1 U	2.2 UJ	2.3 UJ	2.2 UJ	2.4 UJ	2 UJ
Propionitrile	23 U	22 U	20 U	20 R	21 U	22 U	21 U	23 U	19 U
Styrene	0.72 U	0.68 U	0.62 U	0.64 U	0.65 U	0.69 U	0.67 U	0.71 U	0.6 U
Tetrachloroethene	0.8 U	0.75 U	0.68 U	0.71 U	0.71 U	0.76 U	0.75 U	0.79 U	0.66 U
Toluene	0.87 U	0.81 U	0.74 U	0.77 U	0.77 U	0.82 U	0.81 U	0.86 U	0.72 U
trans-1,2-Dichloroethene	1.1 U	1 U	0.91 U	0.94 U	0.95 U	1 U	0.99 U	1.1 U	0.88 U
trans-1,3-Dichloropropene	0.95 U	0.9 U	0.82 U	0.84 U	0.85 U	0.91 U	0.89 U	0.94 U	0.79 U
trans-1,4-Dichloro-2-butene	3.4 U	3.2 U	2.9 U	3 UJ	3 U	3.2 U	3.2 U	3.4 U	2.8 U
Trichloroethene	1.1 U	1 U	0.94 U	0.97 U	0.98 U	1 U	1 U	1.1 U	0.91 U
Trichlorofluoromethane	1.6 U	1.5 U	1.4 U	1.5 U	1.5 U	1.6 U	1.5 U	1.6 U	1.4 U
Vinyl acetate	1.6 U	1.5 UJ	1.4 UJ	1.5 U	1.5 U	1.6 U	1.5 U	1.6 U	1.4 U
Vinyl chloride	0.64 U	0.6 U	0.54 U	0.56 U	0.57 U	0.6 U	0.59 U	0.63 U	0.53 U
Xylenes, Total	2.5 U	2.4 U	2.2 U	2.2 U	2.3 U	2.4 U	2.3 U	2.5 U	2.1 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - AIRFIELD - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB11	74SB11	74SB12	74SB12	74SB13	74SB13	74SB14	74SB14	74SB15
Sample ID	74SB11-04	74SB11-04D	74SB12-03	74SB12-05	74SB13-02	74SB13-04	74SB14-02	74SB14-03	74SB15-02
Date	4/30/2008	4/30/2008	4/30/2008	4/30/2008	4/30/2008	4/30/2008	4/30/2008	4/30/2008	4/30/2008
Depth Range	7.0 - 8.0	7.0 - 8.0	6.0 - 7.0	9.0 - 10.0	3.0 - 4.0	7.0 - 8.0	3.0 - 4.0	6.0 - 7.0	3.0 - 4.0
LLPAHs (ug/kg)									
1-Methylnaphthalene	1.6 U	1.5 U	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	2.3 U	2.1 U	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	0.76 U	0.69 U	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	2.3 U	2.1 U	NA	NA	NA	NA	NA	NA	NA
Anthracene	2.3 U	2.1 U	NA	NA	NA	NA	NA	NA	NA
Benzo[a]anthracene	2.3 U	2.1 U	NA	NA	NA	NA	NA	NA	NA
Benzo[a]pyrene	0.88 U	0.8 U	NA	NA	NA	NA	NA	NA	NA
Benzo[b]fluoranthene	1 U	0.92 U	NA	NA	NA	NA	NA	NA	NA
Benzo[g,h,i]perylene	2.3 U	2.1 U	NA	NA	NA	NA	NA	NA	NA
Benzo[k]fluoranthene	1.3 U	1.2 U	NA	NA	NA	NA	NA	NA	NA
Chrysene	1 J	0.74 U	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	0.79 U	0.72 U	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	2.3 U	2.1 U	NA	NA	NA	NA	NA	NA	NA
Fluorene	1 U	2.2 J	NA	NA	NA	NA	NA	NA	NA
Indeno[1,2,3-cd]pyrene	1.6 U	1.5 U	NA	NA	NA	NA	NA	NA	NA
Naphthalene	0.8 U	0.73 U	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	2.3 U	2.1 U	NA	NA	NA	NA	NA	NA	NA
Pyrene	2.3 U	2.1 U	NA	NA	NA	NA	NA	NA	NA

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - AIRFIELD - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB11	74SB11	74SB12	74SB12	74SB13	74SB13	74SB14	74SB14	74SB15
Sample ID	74SB11-04	74SB11-04D	74SB12-03	74SB12-05	74SB13-02	74SB13-04	74SB14-02	74SB14-03	74SB15-02
Date	4/30/2008	4/30/2008	4/30/2008	4/30/2008	4/30/2008	4/30/2008	4/30/2008	4/30/2008	4/30/2008
Depth Range	7.0 - 8.0	7.0 - 8.0	6.0 - 7.0	9.0 - 10.0	3.0 - 4.0	7.0 - 8.0	3.0 - 4.0	6.0 - 7.0	3.0 - 4.0
Metals (mg/kg)									
Antimony	0.29 UJ	0.21 UJ	0.24 UJ	0.089 UJ	0.11 UJ	0.15 UJ	0.12 UJ	0.18 UJ	0.19 UJ
Arsenic	2.2	2	3.9	1.4	2.1	2.7	2.2	3.6	2.9
Barium	31 J	24 J	63 J	32 J	250 J	36 J	660	55	85
Beryllium	0.15	0.22	0.23	0.28	0.24	0.19	0.24	0.36	0.36
Cadmium	0.083 J	0.053 J	0.08 J	0.034 UJ	0.13 J	0.042 J	0.26 J	0.089 J	0.16 J
Chromium	19 J	36 J	40	23	38	39	47 J	63 J	90 J
Cobalt	11 J	6.9 J	14	13	34	5.3	53 J	11 J	21 J
Copper	260 J	160 J	230	100	100	140	98	140	140
Lead	2.8 J	3.2 J	5.9 J	2.4 J	4 J	4.9 J	5.1 R	11 R	6.5 R
Mercury	0.042 R	0.11 R	0.11	0.036	0.065	0.13	0.058	0.16	0.097
Nickel	13 J	8.2 J	8.2	9.1	9	6.2	10	9.7	9.7
Selenium	0.91	0.73	0.9	0.49 J	1.4	1.2	0.81	1.1	0.93
Silver	0.042 J	0.067 J	0.048 J	0.042 J	0.1 J	0.055 U	0.11 U	0.035 U	0.089 U
Thallium	0.14 U	0.16 J	0.17 J	0.13 U	0.32 J	0.14 U	0.71	0.17 J	0.22 J
Tin	4.8 U	4.5 U	4.6 U	4.4 U	4.5 U	4.6 U	4.3 U	4.5 U	4.3 U
Vanadium	400 J	280 J	510	270	270	310	250	370	390
Zinc	70	77	41	48	57	31	48	46	73
TPH DRO/GRO (mg/kg)									
Diesel Range Organics	1.2 U	1.5 U	2.2 U	1.9 U	4 U	1.9 U	3.5 U	2.2 U	2.7 U
Gasoline Range Organics	0.064 U	0.06 U	0.065 J	0.061 J	0.11 J	0.072 J	0.15 J	0.089 J	0.066 J

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - AIRFIELD - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB15	74SB16	74SB16	74SB16	74SB22	74SB22	74SB22	74SB23	74SB23
Sample ID	74SB15-03	74SB16-02	74SB16-04D	74SB16-04	74SB22-03D	74SB22-03	74SB22-04	74SB23-02	74SB23-03
Date	4/30/2008	4/30/2008	4/30/2008	4/30/2008	5/3/2008	5/3/2008	5/3/2008	5/3/2008	5/3/2008
Depth Range	6.0 - 7.0	4.0 - 5.0	8.0 - 9.0	8.0 - 9.0	5.0 -7.0	5.0 -7.0	7.0 - 9.0	3.0 - 5.0	5.0 -7.0
Volatile Organic Compounds (ug/kg)									
1,1,1,2-Tetrachloroethane	0.67 U	0.68 U	0.72 U	29 U	0.66 U	25 U	26 U	0.61 U	26 U
1,1,1-Trichloroethane	0.61 U	0.62 U	0.66 U	26 U	0.6 U	23 U	24 U	0.55 U	24 U
1,1,2,2-Tetrachloroethane	1.5 U	1.5 U	1.6 U	63 U	1.4 U	55 U	58 U	1.3 U	57 U
1,1,2-Trichloroethane	1.3 U	1.3 U	1.4 U	54 U	1.2 U	47 U	50 U	1.1 U	49 U
1,1-Dichloroethane	0.52 U	0.53 U	0.57 U	23 U	0.51 U	20 U	21 U	0.48 U	20 U
1,1-Dichloroethene	0.56 U	0.58 U	0.61 U	24 U	0.55 U	21 U	22 U	0.52 U	22 U
1,2,3-Trichloropropane	1.5 U	1.5 U	1.6 U	63 U	1.4 U	55 U	58 U	1.3 U	57 U
1,2-Dibromo-3-Chloropropane	2.9 U	3 U	3.2 U	130 U	2.9 U	110 U	120 U	2.7 U	110 U
1,2-Dichloroethane	1 U	1.1 U	1.1 U	45 U	1 U	39 U	41 U	0.96 U	41 U
1,2-Dichloropropane	1.1 U	1.2 U	1.2 U	50 U	1.1 U	43 U	45 U	1.1 U	45 U
2-Butanone (MEK)	5.1 U	5.8 U	6 U	120 U	2.8 U	110 U	120 U	2.6 UJ	110 U
2-Chloro-1,3-butadiene	0.6 U	0.61 U	0.64 U	26 U	0.59 U	22 U	24 U	0.54 U	23 U
2-Hexanone	2.2 U	2.2 U	2.4 U	95 UJ	2.2 U	82 UJ	87 UJ	2 UJ	86 UJ
3-Chloro-1-propene	1.6 UJ	1.6 UJ	1.7 UJ	68 UJ	1.5 UJ	59 UJ	62 UJ	1.4 U	61 UJ
4-Methyl-2-pentanone (MIBK)	3 U	3.1 U	3.3 U	130 UJ	3 U	110 UJ	120 UJ	2.8 UJ	120 UJ
Acetone	51 J	68 R	39 J	920 R	54 J	420 R	440 R	34 J	180 R
Acetonitrile	47 UJ	48 U	51 UJ	2000 U	46 R	1800 U	1900 U	43 R	1800 U
Acrolein	20 U	20 R	21 U	860 R	20 R	750 R	780 UJ	18 R	780 R
Acrylonitrile	24 U	25 UJ	26 U	1000 U	24 U	900 U	950 U	22 U	940 U
Benzene	0.83 U	0.84 U	0.89 U	36 U	0.81 U	31 U	33 U	0.75 U	32 U
Bromoform	1.1 U	1.2 U	1.2 U	50 U	1.1 U	43 U	45 U	1.1 U	45 U
Bromomethane	1.7 U	1.7 U	1.8 U	72 U	1.6 UJ	63 U	66 UJ	1.5 U	66 U
Carbon disulfide	0.53 U	1 J	0.97 J	23 U	0.52 U	20 U	21 U	0.49 U	21 U
Carbon tetrachloride	1 U	1.1 U	1.1 U	45 U	1 U	39 U	41 U	0.96 U	41 U
Chlorobenzene	0.76 U	0.78 U	0.83 U	33 U	0.75 U	29 U	30 U	0.7 U	30 U
Chlorodibromomethane	0.52 U	0.53 U	0.57 U	23 U	0.51 U	20 U	21 U	0.48 U	20 U
Chloroethane	1.3 U	1.3 U	1.4 U	54 U	1.2 U	47 UJ	50 UJ	1.1 U	49 UJ

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - AIRFIELD - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB15	74SB16	74SB16	74SB16	74SB22	74SB22	74SB22	74SB23	74SB23
Sample ID	74SB15-03	74SB16-02	74SB16-04D	74SB16-04	74SB22-03D	74SB22-03	74SB22-04	74SB23-02	74SB23-03
Date	4/30/2008	4/30/2008	4/30/2008	4/30/2008	5/3/2008	5/3/2008	5/3/2008	5/3/2008	5/3/2008
Depth Range	6.0 - 7.0	4.0 - 5.0	8.0 - 9.0	8.0 - 9.0	5.0 -7.0	5.0 -7.0	7.0 - 9.0	3.0 - 5.0	5.0 -7.0
Volatile Organic Compounds (ug/kg)									
Chloroform	0.52 U	0.53 U	0.57 U	23 U	0.51 U	20 U	21 U	0.48 U	20 U
Chloromethane	0.74 U	0.76 U	0.8 U	32 U	0.73 U	28 U	29 U	0.68 U	29 U
cis-1,3-Dichloropropene	0.91 U	0.93 U	0.98 U	39 U	0.89 U	34 U	36 U	0.83 U	36 U
Dibromomethane	1.3 U	1.3 U	1.4 U	54 U	1.2 U	47 U	50 U	1.1 U	49 U
Dichlorobromomethane	0.87 U	0.89 U	0.94 U	37 U	0.85 U	33 U	34 U	0.79 U	34 U
Dichlorodifluoromethane	0.93 U	0.95 U	1 U	40 U	0.91 U	35 U	37 U	0.85 U	36 U
Ethyl methacrylate	2.3 U	2.4 U	17 J	99 UJ	2.3 UJ	86 U	91 U	2.1 UJ	90 U
Ethylbenzene	0.78 U	0.8 U	0.85 U	34 U	0.77 U	29 U	31 U	0.72 U	31 U
Ethylene Dibromide	1.6 U	1.6 U	1.7 U	68 U	1.5 U	59 U	62 U	1.4 U	61 U
Iodomethane	1 U	1.1 U	1.1 U	45 UJ	1 U	39 UJ	41 UJ	0.96 U	41 UJ
Isobutyl alcohol	72 R	74 R	240 J	3100 R	71 R	2700 R	2800 R	66 R	2800 R
Methacrylonitrile	25 U	26 U	27 U	1100 U	25 UJ	940 U	990 U	23 UJ	980 U
Methyl methacrylate	3.9 U	4 U	17 J	170 UJ	3.8 UJ	150 U	150 U	3.5 UJ	150 U
Methylene Chloride	1 U	1.1 U	1.1 U	45 U	1 U	39 U	41 U	0.96 U	41 U
Pentachloroethane	2.3 UJ	2.4 UJ	2.5 UJ	99 UJ	2.3 U	86 UJ	91 UJ	2.1 U	90 UJ
Propionitrile	22 U	22 U	24 U	950 U	22 R	820 U	870 U	20 R	860 U
Styrene	0.69 U	0.71 U	0.75 U	30 U	0.68 U	26 U	27 U	0.63 U	27 U
Tetrachloroethene	0.76 U	0.78 U	0.83 U	33 U	0.75 U	29 U	30 U	0.7 U	30 U
Toluene	0.83 U	0.84 U	0.89 U	36 U	0.81 U	31 U	33 U	0.75 U	32 U
trans-1,2-Dichloroethene	1 U	1 U	1.1 U	44 U	1 U	38 U	40 U	0.93 U	40 U
trans-1,3-Dichloropropene	0.91 U	0.93 U	0.98 U	39 U	0.89 U	34 U	36 U	0.83 U	36 U
trans-1,4-Dichloro-2-butene	3.2 U	3.3 U	3.5 U	140 U	3.2 UJ	120 U	130 U	3 UJ	130 U
Trichloroethene	1 U	1.1 U	1.1 U	45 U	1 U	39 U	41 U	0.96 U	41 U
Trichlorofluoromethane	1.6 U	1.6 U	1.7 U	68 U	1.5 U	59 U	62 U	1.4 U	61 U
Vinyl acetate	1.6 U	1.6 U	1.7 U	68 U	1.5 U	59 U	62 U	1.4 UJ	61 U
Vinyl chloride	0.61 U	0.62 U	0.66 U	26 U	0.6 U	23 U	24 U	0.55 U	24 U
Xylenes, Total	2.4 U	2.5 U	2.6 U	100 U	2.4 U	90 U	95 U	2.2 U	94 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - AIRFIELD - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB15	74SB16	74SB16	74SB16	74SB22	74SB22	74SB22	74SB23	74SB23
Sample ID	74SB15-03	74SB16-02	74SB16-04D	74SB16-04	74SB22-03D	74SB22-03	74SB22-04	74SB23-02	74SB23-03
Date	4/30/2008	4/30/2008	4/30/2008	4/30/2008	5/3/2008	5/3/2008	5/3/2008	5/3/2008	5/3/2008
Depth Range	6.0 - 7.0	4.0 - 5.0	8.0 - 9.0	8.0 - 9.0	5.0 -7.0	5.0 -7.0	7.0 - 9.0	3.0 - 5.0	5.0 -7.0
LLPAHs (ug/kg)									
1-Methylnaphthalene	NA	NA	16 R	15 U	17 R	16 U	7900	37 J	1100
2-Methylnaphthalene	NA	NA	22 R	21 U	23 R	22 U	8800	36 J	1400
Acenaphthene	NA	NA	7.4 R	7.2 U	7.8 R	7.5 U	7.6 U	7.4 U	7.4 U
Acenaphthylene	NA	NA	22 R	21 U	23 R	22 U	220	22 U	22 U
Anthracene	NA	NA	22 R	21 U	23 R	200 J	150	22 U	70 J
Benzo[a]anthracene	NA	NA	22 R	21 U	250 J	630 J	230	22 U	120
Benzo[a]pyrene	NA	NA	8.6 R	14 J	160 J	390 J	160	8.6 U	71 J
Benzo[b]fluoranthene	NA	NA	9.9 R	13 J	290 J	860 J	350	9.9 U	130
Benzo[g,h,i]perylene	NA	NA	22 R	21 U	78 J	130	69 J	22 U	29 J
Benzo[k]fluoranthene	NA	NA	13 R	14 J	170 J	13 UJ	13 U	13 U	13 U
Chrysene	NA	NA	8 R	14 J	300 J	620 J	240	7.9 U	91
Dibenz(a,h)anthracene	NA	NA	7.7 R	12 J	34 J	58 J	30 J	7.7 U	12 J
Fluoranthene	NA	NA	22 R	21 U	480 J	1400 J	550	22 U	250
Fluorene	NA	NA	60 J	83 J	52 J	200 J	230	10 U	79 J
Indeno[1,2,3-cd]pyrene	NA	NA	16 R	15 U	84 J	130	62 J	16 U	32 J
Naphthalene	NA	NA	7.8 R	7.5 U	8.3 R	7.9 U	8 U	7.8 U	7.7 U
Phenanthrene	NA	NA	22 R	21 U	23 R	430 J	460	22 U	230
Pyrene	NA	NA	22 R	21 U	680 J	1400 J	510	22 U	220

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - AIRFIELD - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB15	74SB16	74SB16	74SB16	74SB22	74SB22	74SB22	74SB23	74SB23
Sample ID	74SB15-03	74SB16-02	74SB16-04D	74SB16-04	74SB22-03D	74SB22-03	74SB22-04	74SB23-02	74SB23-03
Date	4/30/2008	4/30/2008	4/30/2008	4/30/2008	5/3/2008	5/3/2008	5/3/2008	5/3/2008	5/3/2008
Depth Range	6.0 - 7.0	4.0 - 5.0	8.0 - 9.0	8.0 - 9.0	5.0 -7.0	5.0 -7.0	7.0 - 9.0	3.0 - 5.0	5.0 -7.0
Metals (mg/kg)									
Antimony	0.086 UJ	0.16 UJ	0.09 UJ	0.089 UJ	0.46 U	0.094 U	0.16 U	0.14 U	0.14 U
Arsenic	1.1	3.1	1.6	1.5	3.1	2	3.6	2.6	2.9
Barium	76	50	87	70	350	310 J	440	170	27
Beryllium	0.17	0.43	0.17	0.16	0.56 J	0.26 J	0.65	0.37	0.3
Cadmium	0.034 UJ	0.16 J	0.037 UJ	0.037 UJ	0.096 J	0.039 U	0.051 J	0.092 J	0.036 U
Chromium	56 J	57 J	40 J	52 J	82 J	37 J	53	42	60
Cobalt	3.9 J	34 J	2 J	1.6 J	57 R	8.8 R	57	22	10
Copper	73	160	180	160	270 J	120 J	300	170	240
Lead	3.4 R	4 R	1.9 R	2 R	8.9 R	0.96 R	3.9	6.4	8.1
Mercury	0.32	0.046	0.046	0.067	0.056	0.068	0.038	0.064	0.02 J
Nickel	5.5	10	3.1	3.4	15 J	5.5 J	24	11	6.9
Selenium	0.65	1	1.1	1.2	1.3	0.25 J	0.86	0.83	0.69
Silver	0.25	0.071 U	0.026 U	0.047 U	0.093 U	0.057 U	0.062 U	0.044 U	0.037 U
Thallium	0.21 J	0.54	0.14 U	0.14 U	0.42 J	0.34 J	0.43 J	0.22 J	0.14 J
Tin	4.4 U	4.4 U	4.8 U	4.7 U	5 U	5 U	5 U	4.8 U	4.7 U
Vanadium	180	250	170	220	290 J	97 J	190	180	220
Zinc	20	39	14	13	59 J	24 J	60	41	23
TPH DRO/GRO (mg/kg)									
Diesel Range Organics	1.8 U	3.7 U	17 J	91 J	860 J	2100 J	1500	41	380
Gasoline Range Organics	0.066 J	0.26	140 J	130 J	68	280	140	0.062 U	150

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - AIRFIELD - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB24	74SB24	74SB25	74SB25	74SB26	74SB26	74SB26	74SB27	74SB27
Sample ID	74SB24-03	74SB24-05	74SB25-04	74SB25-05	74SB26-05	74SB26-02D	74SB26-02	74SB27-03	74SB27-05
Date	5/3/2008	5/3/2008	5/3/2008	5/3/2008	5/3/2008	5/3/2008	5/3/2008	5/3/2008	5/3/2008
Depth Range	5.0 -7.0	9.0 - 11.0	7.0 - 9.0	9.0 - 11.0	9.0 - 11.0	3.0 - 5.0	3.0 - 5.0	5.0 - 7.0	9.0 - 11.0
Volatile Organic Compounds (ug/kg)									
1,1,1,2-Tetrachloroethane	0.58 U	1.2 U	0.59 U	0.61 U	28 U	0.64 U	0.65 U	30 U	30 U
1,1,1-Trichloroethane	0.53 U	1.1 U	0.53 U	0.55 U	26 U	0.58 U	0.59 U	28 U	28 U
1,1,2,2-Tetrachloroethane	1.3 U	2.6 U	1.3 U	1.3 U	62 U	1.4 U	1.4 U	67 U	67 U
1,1,2-Trichloroethane	1.1 U	2.2 U	1.1 U	1.1 U	53 U	1.2 U	1.2 U	57 U	57 U
1,1-Dichloroethane	0.46 U	0.93 U	0.46 U	0.47 U	22 U	0.5 U	0.51 U	24 U	24 U
1,1-Dichloroethene	0.49 U	1 U	0.5 U	0.51 U	24 U	0.54 U	0.55 U	26 U	26 U
1,2,3-Trichloropropane	1.3 U	2.6 U	1.3 U	1.3 U	62 U	1.4 U	1.4 U	67 U	67 U
1,2-Dibromo-3-Chloropropane	2.6 U	5.2 U	2.6 U	2.6 U	120 U	2.8 U	2.9 U	130 U	130 U
1,2-Dichloroethane	0.91 U	1.9 U	0.92 U	0.95 U	44 U	1 U	1 U	48 U	48 U
1,2-Dichloropropane	1 U	2 U	1 U	1 U	49 U	1.1 U	1.1 U	52 U	52 U
2-Butanone (MEK)	2.5 UJ	5 UJ	2.5 UJ	2.6 UJ	120 U	6.7 UJ	2.8 UJ	130 U	130 U
2-Chloro-1,3-butadiene	0.52 U	1.1 U	0.53 U	0.54 U	25 U	0.57 U	0.58 U	27 U	27 U
2-Hexanone	1.9 UJ	3.9 UJ	1.9 UJ	2 UJ	93 UJ	2.1 UJ	2.1 UJ	100 UJ	100 UJ
3-Chloro-1-propene	1.4 U	2.8 U	1.4 U	1.4 U	67 UJ	1.5 U	1.5 U	71 UJ	71 UJ
4-Methyl-2-pentanone (MIBK)	2.6 UJ	5.4 UJ	2.7 UJ	2.7 UJ	130 UJ	2.9 UJ	3 UJ	140 UJ	140 UJ
Acetone	19 J	14 J	43 J	4.2 R	200 R	25 J	25 J	210 R	300 R
Acetonitrile	41 R	84 R	42 R	43 R	2000 U	45 R	46 R	2100 U	2100 U
Acrolein	17 R	35 R	18 R	18 R	840 R	19 R	19 R	900 R	900 R
Acrylonitrile	21 U	43 U	21 U	22 U	1000 U	23 U	24 U	1100 U	1100 U
Benzene	0.72 U	1.5 U	0.73 U	0.75 U	35 U	0.79 U	0.81 U	38 U	38 U
Bromoform	1 U	2 U	1 U	1 U	49 U	1.1 U	1.1 U	52 U	52 U
Bromomethane	1.5 U	3 U	1.5 U	1.5 U	71 U	1.6 U	1.6 U	76 U	76 U
Carbon disulfide	0.65 J	0.95 U	1.1 J	0.48 U	23 U	1.3 J	1.9 J	24 U	24 U
Carbon tetrachloride	0.91 U	1.9 U	0.92 U	0.95 U	44 U	1 U	1 U	48 U	48 U
Chlorobenzene	0.67 U	1.4 U	0.67 U	0.69 U	32 U	0.73 U	2 J	35 U	35 U
Chlorodibromomethane	0.46 U	0.93 U	0.46 U	0.47 U	22 U	0.5 U	0.51 U	24 U	24 U
Chloroethane	1.1 U	2.2 U	1.1 U	1.1 U	53 UJ	1.2 U	1.2 U	57 UJ	57 UJ

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - AIRFIELD - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB24	74SB24	74SB25	74SB25	74SB26	74SB26	74SB26	74SB27	74SB27
Sample ID	74SB24-03	74SB24-05	74SB25-04	74SB25-05	74SB26-05	74SB26-02D	74SB26-02	74SB27-03	74SB27-05
Date	5/3/2008	5/3/2008	5/3/2008	5/3/2008	5/3/2008	5/3/2008	5/3/2008	5/3/2008	5/3/2008
Depth Range	5.0 -7.0	9.0 - 11.0	7.0 - 9.0	9.0 - 11.0	9.0 - 11.0	3.0 - 5.0	3.0 - 5.0	5.0 - 7.0	9.0 - 11.0
Volatile Organic Compounds (ug/kg)									
Chloroform	0.46 U	0.93 U	0.46 U	0.47 U	22 U	0.5 U	0.51 U	24 U	24 U
Chloromethane	0.65 U	1.3 U	0.65 U	0.67 U	32 U	1.5 J	0.73 U	34 U	34 U
cis-1,3-Dichloropropene	0.79 U	1.6 U	0.8 U	0.82 U	39 U	0.87 U	0.89 U	41 U	41 U
Dibromomethane	1.1 U	2.2 U	1.1 U	1.1 U	53 U	1.2 U	1.2 U	57 U	57 U
Dichlorobromomethane	0.76 U	1.5 U	0.77 U	0.79 U	37 U	0.83 U	0.85 U	39 U	40 U
Dichlorodifluoromethane	0.81 U	1.7 U	0.82 U	0.84 U	40 U	0.89 U	0.91 U	42 U	42 U
Ethyl methacrylate	2 UJ	4.1 UJ	2 UJ	2.1 UJ	98 U	2.2 UJ	2.2 UJ	100 U	100 U
Ethylbenzene	0.69 U	1.4 U	0.69 U	0.71 U	33 U	0.75 U	0.77 U	36 U	36 U
Ethylene Dibromide	1.4 U	2.8 U	1.4 U	1.4 U	67 U	1.5 U	1.5 U	71 U	71 U
Iodomethane	0.91 U	1.9 U	0.92 U	0.95 U	44 UJ	1 U	1 U	48 UJ	48 UJ
Isobutyl alcohol	63 R	130 R	64 R	65 R	3100 R	69 R	71 R	3300 R	3300 R
Methacrylonitrile	22 UJ	45 UJ	22 UJ	23 UJ	1100 U	24 UJ	25 UJ	1100 U	1100 U
Methyl methacrylate	3.4 UJ	6.9 UJ	3.4 UJ	3.5 UJ	160 U	3.7 UJ	3.8 UJ	180 U	180 U
Methylene Chloride	0.91 U	1.9 U	0.92 U	0.95 U	44 U	1 U	1 U	48 U	48 U
Pentachloroethane	2 U	4.1 U	2 U	2.1 U	98 UJ	2.2 U	2.2 U	100 UJ	100 UJ
Propionitrile	19 R	39 R	19 R	20 R	930 U	21 R	21 R	1000 U	1000 U
Styrene	0.6 U	1.2 U	0.61 U	0.62 U	29 U	0.66 U	0.67 U	31 U	31 U
Tetrachloroethene	0.67 U	1.4 U	0.67 U	0.69 U	32 U	0.73 U	0.75 U	35 U	35 U
Toluene	0.72 U	1.5 U	0.73 U	0.75 U	35 U	0.79 U	0.81 U	38 U	38 U
trans-1,2-Dichloroethene	0.89 U	1.8 U	0.89 U	0.92 U	43 U	0.97 U	0.99 U	46 U	46 U
trans-1,3-Dichloropropene	0.79 U	1.6 U	0.8 U	0.82 U	39 U	0.87 U	0.89 U	41 U	41 U
trans-1,4-Dichloro-2-butene	2.8 UJ	5.8 UJ	2.9 UJ	2.9 UJ	140 U	3.1 UJ	3.2 UJ	150 U	150 U
Trichloroethene	0.91 U	1.9 U	0.92 U	0.95 U	44 U	1 U	1 U	48 U	48 U
Trichlorofluoromethane	1.4 U	2.8 U	1.4 U	1.4 U	67 U	1.5 U	1.5 U	71 U	71 U
Vinyl acetate	1.4 UJ	2.8 UJ	1.4 UJ	1.4 UJ	67 U	1.5 UJ	1.5 UJ	71 U	71 U
Vinyl chloride	0.53 U	1.1 U	0.53 U	0.55 U	26 U	0.58 U	0.59 U	28 U	28 U
Xylenes, Total	2.1 U	4.3 U	2.1 U	2.2 U	100 U	2.3 U	2.4 U	110 U	110 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - AIRFIELD - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB24	74SB24	74SB25	74SB25	74SB26	74SB26	74SB26	74SB27	74SB27
Sample ID	74SB24-03	74SB24-05	74SB25-04	74SB25-05	74SB26-05	74SB26-02D	74SB26-02	74SB27-03	74SB27-05
Date	5/3/2008	5/3/2008	5/3/2008	5/3/2008	5/3/2008	5/3/2008	5/3/2008	5/3/2008	5/3/2008
Depth Range	5.0 -7.0	9.0 - 11.0	7.0 - 9.0	9.0 - 11.0	9.0 - 11.0	3.0 - 5.0	3.0 - 5.0	5.0 - 7.0	9.0 - 11.0
LLPAHs (ug/kg)									
1-Methylnaphthalene	1.5 U	1.5 U	1.5 U	2.3 J	NA	NA	NA	NA	NA
2-Methylnaphthalene	2.2 U	2.1 U	2.2 U	2.3 J	NA	NA	NA	NA	NA
Acenaphthene	0.72 U	0.71 U	0.72 U	0.67 U	NA	NA	NA	NA	NA
Acenaphthylene	2.2 U	2.1 U	2.2 U	2 U	NA	NA	NA	NA	NA
Anthracene	2.2 U	2.1 U	2.2 U	2 U	NA	NA	NA	NA	NA
Benzo[a]anthracene	2.2 U	2.1 U	2.2 U	2 U	NA	NA	NA	NA	NA
Benzo[a]pyrene	0.84 U	0.82 U	0.84 U	0.78 UJ	NA	NA	NA	NA	NA
Benzo[b]fluoranthene	0.97 U	0.95 U	0.96 U	0.9 UJ	NA	NA	NA	NA	NA
Benzo[g,h,i]perylene	2.2 U	2.1 U	2.2 U	2 UJ	NA	NA	NA	NA	NA
Benzo[k]fluoranthene	1.3 U	1.2 U	1.3 U	1.2 UJ	NA	NA	NA	NA	NA
Chrysene	0.77 U	0.76 U	0.77 U	0.72 U	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	0.75 U	0.74 U	0.75 U	0.7 UJ	NA	NA	NA	NA	NA
Fluoranthene	2.2 U	2.1 U	2.2 U	2 U	NA	NA	NA	NA	NA
Fluorene	0.98 U	0.96 U	0.98 U	0.91 U	NA	NA	NA	NA	NA
Indeno[1,2,3-cd]pyrene	1.5 U	1.5 U	1.5 U	1.4 UJ	NA	NA	NA	NA	NA
Naphthalene	0.76 U	0.75 U	0.76 U	0.71 U	NA	NA	NA	NA	NA
Phenanthrene	2.2 U	2.1 U	2.2 U	2 U	NA	NA	NA	NA	NA
Pyrene	2.2 U	2.1 U	2.2 U	2 U	NA	NA	NA	NA	NA

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - AIRFIELD - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB24	74SB24	74SB25	74SB25	74SB26	74SB26	74SB26	74SB27	74SB27
Sample ID	74SB24-03	74SB24-05	74SB25-04	74SB25-05	74SB26-05	74SB26-02D	74SB26-02	74SB27-03	74SB27-05
Date	5/3/2008	5/3/2008	5/3/2008	5/3/2008	5/3/2008	5/3/2008	5/3/2008	5/3/2008	5/3/2008
Depth Range	5.0 -7.0	9.0 - 11.0	7.0 - 9.0	9.0 - 11.0	9.0 - 11.0	3.0 - 5.0	3.0 - 5.0	5.0 - 7.0	9.0 - 11.0
Metals (mg/kg)									
Antimony	0.13 U	0.12 U	0.088 U	0.16 U	0.51 UJ	0.086 U	0.095 U	0.14 UJ	0.13 UJ
Arsenic	1.3	1.7	1.2	2.1	4.5	1.1	1.3	1.7	1.6
Barium	90	180	14	21	33	76	76	26	21
Beryllium	0.24	0.17	0.11 U	0.17	0.33	0.25	0.28	0.11 U	0.15
Cadmium	0.068 J	0.036 U	0.036 U	0.034 U	0.054 J	0.07 J	0.067 J	0.038 U	0.035 U
Chromium	16	26	15	45	140 R	18	20	40 R	44 R
Cobalt	16	5.2	0.86	2.8	8.3	14	14	1.9	0.99
Copper	65	120	48	110	260	73	82	88	110
Lead	2.5	3.3	2.3	4.2	64	2.5	2.7	4.5	4.1
Mercury	0.04	0.11	0.18	0.038	0.0097 J	0.061	0.032	0.03	0.042
Nickel	8.4	4.1	2.8	4.4	9.3	8.4	8.7	3	3.3
Selenium	0.16 J	0.74	0.54 J	0.82	1.6	0.36 J	0.41 J	1	1.1
Silver	0.051 U	0.045 U	0.025 U	0.02 U	0.082 U	0.053 U	0.044 U	0.048 U	0.024 U
Thallium	0.14 U	0.14 U	0.14 U	0.13 U	0.2 J	0.14 U	0.14 U	0.15 U	0.14 U
Tin	4.8 U	4.6 U	4.7 U	4.3 U	4.8 U	4.6 U	4.6 U	4.9 U	4.5 U
Vanadium	220	260	120	240	380	180	200	200	180
Zinc	46	18	10	20	48 J	59	55	11 J	12 J
TPH DRO/GRO (mg/kg)									
Diesel Range Organics	2.1 J	1.9 J	1.4 J	1.2 J	420	420	550	300	98
Gasoline Range Organics	0.06 U	0.057 U	0.061 U	0.063 U	140 J	120	140	89 J	42 J

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - AIRFIELD - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB28	74SB28	74SB29	74SB29	74SB30	74SB30	74SB31	74SB31	74SB32
Sample ID	74SB28-02	74SB28-04	74SB29-03	74SB29-05	74SB30-03	74SB30-04	74SB31-02	74SB31-03	74SB32-02
Date	5/1/2008	5/1/2008	5/1/2008	5/1/2008	5/1/2008	5/1/2008	5/1/2008	5/1/2008	5/1/2008
Depth Range	4.0 - 5.0	8.0 - 9.0	6.0 - 7.0	9.0 - 10.0	6.0 - 7.0	8.0 - 9.0	3.0 - 4.0	5.0 - 6.0	4.0 - 5.0
Volatile Organic Compounds (ug/kg)									
1,1,1,2-Tetrachloroethane	0.65 UJ	30 UJ	0.66 UJ	0.59 UJ	30 UJ	27 UJ	0.6 UJ	0.81 UJ	0.71 UJ
1,1,1-Trichloroethane	0.59 UJ	27 UJ	0.6 UJ	0.54 UJ	27 UJ	24 UJ	0.54 UJ	0.73 UJ	0.64 UJ
1,1,2,2-Tetrachloroethane	1.4 UJ	66 UJ	1.4 UJ	1.3 UJ	65 UJ	59 UJ	1.3 UJ	1.8 UJ	1.6 UJ
1,1,2-Trichloroethane	1.2 UJ	57 UJ	1.2 UJ	1.1 UJ	56 UJ	51 UJ	1.1 UJ	1.5 UJ	1.3 UJ
1,1-Dichloroethane	0.51 UJ	24 UJ	0.51 UJ	0.46 UJ	23 UJ	21 UJ	0.47 UJ	0.63 UJ	0.55 UJ
1,1-Dichloroethene	0.55 UJ	26 UJ	0.56 UJ	0.5 UJ	25 UJ	23 UJ	0.51 UJ	0.68 UJ	0.6 UJ
1,2,3-Trichloropropane	1.4 UJ	66 UJ	1.4 UJ	1.3 UJ	65 UJ	59 UJ	1.3 UJ	1.8 UJ	1.6 UJ
1,2-Dibromo-3-Chloropropane	2.8 UJ	130 UJ	2.9 UJ	2.6 UJ	130 UJ	120 UJ	2.6 UJ	3.5 UJ	3.1 UJ
1,2-Dichloroethane	1 UJ	47 UJ	1 UJ	0.92 UJ	46 UJ	42 UJ	0.94 UJ	1.3 UJ	1.1 UJ
1,2-Dichloropropane	1.1 UJ	52 UJ	1.1 UJ	1 UJ	51 UJ	46 UJ	1 UJ	1.4 UJ	1.2 UJ
2-Butanone (MEK)	2.7 UJ	130 UJ	2.8 UJ	2.5 UJ	130 UJ	110 UJ	2.5 UJ	3.4 UJ	3 UJ
2-Chloro-1,3-butadiene	0.58 UJ	27 UJ	0.59 UJ	0.53 UJ	26 UJ	24 UJ	0.54 UJ	0.72 UJ	0.63 UJ
2-Hexanone	2.1 UJ	100 UJ	2.2 UJ	1.9 UJ	98 UJ	88 UJ	2 UJ	2.7 UJ	2.3 UJ
3-Chloro-1-propene	1.5 UJ	71 UJ	1.5 UJ	1.4 UJ	70 UJ	63 UJ	1.4 UJ	1.9 UJ	1.7 UJ
4-Methyl-2-pentanone (MIBK)	2.9 UJ	140 UJ	3 UJ	2.7 UJ	130 UJ	120 UJ	2.7 UJ	3.7 UJ	3.2 UJ
Acetone	32 J	490 R	21 J	4.1 R	360 R	190 R	65 J	33 J	4.9 R
Acetonitrile	46 R	2100 UJ	46 R	42 R	2100 UJ	1900 UJ	42 R	57 R	50 R
Acrolein	19 R	900 R	20 R	18 R	880 R	800 R	18 R	24 R	21 R
Acrylonitrile	23 UJ	1100 UJ	24 UJ	21 UJ	1100 UJ	970 UJ	22 UJ	29 UJ	25 UJ
Benzene	0.8 UJ	37 UJ	0.81 UJ	0.73 UJ	37 UJ	33 UJ	0.74 UJ	1 UJ	0.88 UJ
Bromoform	1.1 UJ	52 UJ	1.1 UJ	1 UJ	51 UJ	46 UJ	1 UJ	1.4 UJ	1.2 UJ
Bromomethane	1.6 UJ	76 UJ	1.6 UJ	1.5 UJ	74 UJ	67 UJ	1.5 UJ	2 UJ	1.8 UJ
Carbon disulfide	0.52 UJ	24 UJ	0.9 J	0.47 UJ	24 UJ	21 UJ	0.48 UJ	0.65 UJ	0.57 UJ
Carbon tetrachloride	1 UJ	47 UJ	1 UJ	0.92 UJ	46 UJ	42 UJ	0.94 UJ	1.3 UJ	1.1 UJ
Chlorobenzene	0.74 UJ	35 UJ	0.75 UJ	0.67 UJ	34 UJ	31 UJ	0.69 UJ	0.92 UJ	0.81 UJ
Chlorodibromomethane	0.51 UJ	24 UJ	0.51 UJ	0.46 UJ	23 UJ	21 UJ	0.47 UJ	0.63 UJ	0.55 UJ
Chloroethane	1.2 UJ	57 UJ	1.2 UJ	1.1 UJ	56 UJ	51 UJ	1.1 UJ	1.5 UJ	1.3 UJ

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - AIRFIELD - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB28	74SB28	74SB29	74SB29	74SB30	74SB30	74SB31	74SB31	74SB32
Sample ID	74SB28-02	74SB28-04	74SB29-03	74SB29-05	74SB30-03	74SB30-04	74SB31-02	74SB31-03	74SB32-02
Date	5/1/2008	5/1/2008	5/1/2008	5/1/2008	5/1/2008	5/1/2008	5/1/2008	5/1/2008	5/1/2008
Depth Range	4.0 - 5.0	8.0 - 9.0	6.0 - 7.0	9.0 - 10.0	6.0 - 7.0	8.0 - 9.0	3.0 - 4.0	5.0 - 6.0	4.0 - 5.0
Volatile Organic Compounds (ug/kg)									
Chloroform	0.51 UJ	40 J	0.51 UJ	0.46 UJ	23 UJ	21 UJ	0.47 UJ	0.63 UJ	0.55 UJ
Chloromethane	0.72 UJ	34 UJ	0.73 UJ	0.66 UJ	33 UJ	30 UJ	0.67 UJ	0.9 UJ	0.79 UJ
cis-1,3-Dichloropropene	0.88 UJ	41 UJ	0.89 UJ	0.8 UJ	40 UJ	37 UJ	0.82 UJ	1.1 UJ	0.96 UJ
Dibromomethane	1.2 UJ	57 UJ	1.2 UJ	1.1 UJ	56 UJ	51 UJ	1.1 UJ	1.5 UJ	1.3 UJ
Dichlorobromomethane	0.84 UJ	39 UJ	0.85 UJ	0.77 UJ	39 UJ	35 UJ	0.78 UJ	1.1 UJ	0.92 UJ
Dichlorodifluoromethane	0.9 UJ	42 UJ	0.91 UJ	0.82 UJ	41 UJ	37 UJ	0.84 UJ	1.1 UJ	0.99 UJ
Ethyl methacrylate	2.2 UJ	100 UJ	2.3 UJ	2 UJ	100 UJ	93 UJ	2.1 UJ	2.8 UJ	2.4 UJ
Ethylbenzene	0.76 UJ	1100 J	0.77 UJ	0.69 UJ	35 UJ	32 UJ	0.7 UJ	0.95 UJ	0.83 UJ
Ethylene Dibromide	1.5 UJ	71 UJ	1.5 UJ	1.4 UJ	70 UJ	63 UJ	1.4 UJ	1.9 UJ	1.7 UJ
Iodomethane	1 UJ	47 UJ	1 UJ	0.92 UJ	46 UJ	42 UJ	0.94 UJ	1.3 UJ	1.1 UJ
Isobutyl alcohol	70 R	3300 R	71 R	64 R	3200 R	2900 R	65 R	87 R	76 R
Methacrylonitrile	24 UJ	1100 UJ	25 UJ	22 UJ	1100 UJ	1000 UJ	23 UJ	30 UJ	27 UJ
Methyl methacrylate	3.8 UJ	180 UJ	3.8 UJ	3.4 UJ	170 UJ	160 UJ	3.5 UJ	4.7 UJ	4.1 UJ
Methylene Chloride	1 UJ	47 UJ	1 UJ	0.92 UJ	46 UJ	42 UJ	0.94 UJ	1.3 UJ	1.1 UJ
Pentachloroethane	2.2 UJ	100 UJ	2.3 UJ	2 UJ	100 UJ	93 UJ	2.1 UJ	2.8 UJ	2.4 UJ
Propionitrile	21 R	1000 UJ	22 R	19 R	980 UJ	880 UJ	20 R	27 R	23 R
Styrene	0.67 UJ	31 UJ	0.68 UJ	0.61 UJ	31 UJ	28 UJ	0.62 UJ	0.84 UJ	0.73 UJ
Tetrachloroethene	0.74 UJ	35 UJ	0.75 UJ	0.67 UJ	34 UJ	31 UJ	0.69 UJ	0.92 UJ	0.81 UJ
Toluene	0.8 UJ	37 UJ	0.81 UJ	0.73 UJ	37 UJ	33 UJ	0.74 UJ	1 UJ	0.88 UJ
trans-1,2-Dichloroethene	0.98 UJ	46 UJ	1 UJ	0.9 UJ	45 UJ	41 UJ	0.91 UJ	1.2 UJ	1.1 UJ
trans-1,3-Dichloropropene	0.88 UJ	41 UJ	0.89 UJ	0.8 UJ	40 UJ	37 UJ	0.82 UJ	1.1 UJ	0.96 UJ
trans-1,4-Dichloro-2-butene	3.1 UJ	150 UJ	3.2 UJ	2.9 UJ	140 UJ	130 UJ	2.9 UJ	3.9 UJ	3.4 UJ
Trichloroethene	1 UJ	47 UJ	1 UJ	0.92 UJ	46 UJ	42 UJ	0.94 UJ	1.3 UJ	1.1 UJ
Trichlorofluoromethane	1.5 UJ	71 UJ	1.5 UJ	1.4 UJ	70 UJ	63 UJ	1.4 UJ	1.9 UJ	1.7 UJ
Vinyl acetate	1.5 UJ	71 UJ	1.5 UJ	1.4 UJ	70 UJ	63 UJ	1.4 UJ	1.9 UJ	1.7 UJ
Vinyl chloride	0.59 UJ	27 UJ	0.6 UJ	0.54 UJ	27 UJ	24 UJ	0.54 UJ	0.73 UJ	0.64 UJ
Xylenes, Total	2.3 UJ	110 UJ	2.4 UJ	2.1 UJ	110 UJ	97 UJ	2.2 UJ	2.9 UJ	2.5 UJ

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - AIRFIELD - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB28	74SB28	74SB29	74SB29	74SB30	74SB30	74SB31	74SB31	74SB32
Sample ID	74SB28-02	74SB28-04	74SB29-03	74SB29-05	74SB30-03	74SB30-04	74SB31-02	74SB31-03	74SB32-02
Date	5/1/2008	5/1/2008	5/1/2008	5/1/2008	5/1/2008	5/1/2008	5/1/2008	5/1/2008	5/1/2008
Depth Range	4.0 - 5.0	8.0 - 9.0	6.0 - 7.0	9.0 - 10.0	6.0 - 7.0	8.0 - 9.0	3.0 - 4.0	5.0 - 6.0	4.0 - 5.0
LLPAHs (ug/kg)									
1-Methylnaphthalene	NA	NA	NA	NA	NA	NA	1.5 UJ	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA	NA	NA	2.2 UJ	NA	NA
Acenaphthene	NA	NA	NA	NA	NA	NA	0.74 UJ	NA	NA
Acenaphthylene	NA	NA	NA	NA	NA	NA	2.2 UJ	NA	NA
Anthracene	NA	NA	NA	NA	NA	NA	2.2 UJ	NA	NA
Benzo[a]anthracene	NA	NA	NA	NA	NA	NA	2.2 UJ	NA	NA
Benzo[a]pyrene	NA	NA	NA	NA	NA	NA	0.85 UJ	NA	NA
Benzo[b]fluoranthene	NA	NA	NA	NA	NA	NA	0.98 UJ	NA	NA
Benzo[g,h,i]perylene	NA	NA	NA	NA	NA	NA	2.2 UJ	NA	NA
Benzo[k]fluoranthene	NA	NA	NA	NA	NA	NA	1.3 UJ	NA	NA
Chrysene	NA	NA	NA	NA	NA	NA	0.79 UJ	NA	NA
Dibenz(a,h)anthracene	NA	NA	NA	NA	NA	NA	0.76 UJ	NA	NA
Fluoranthene	NA	NA	NA	NA	NA	NA	2.2 UJ	NA	NA
Fluorene	NA	NA	NA	NA	NA	NA	0.99 UJ	NA	NA
Indeno[1,2,3-cd]pyrene	NA	NA	NA	NA	NA	NA	1.5 UJ	NA	NA
Naphthalene	NA	NA	NA	NA	NA	NA	3.3 J	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	NA	2.2 UJ	NA	NA
Pyrene	NA	NA	NA	NA	NA	NA	2.2 UJ	NA	NA

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - AIRFIELD - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB28	74SB28	74SB29	74SB29	74SB30	74SB30	74SB31	74SB31	74SB32
Sample ID	74SB28-02	74SB28-04	74SB29-03	74SB29-05	74SB30-03	74SB30-04	74SB31-02	74SB31-03	74SB32-02
Date	5/1/2008	5/1/2008	5/1/2008	5/1/2008	5/1/2008	5/1/2008	5/1/2008	5/1/2008	5/1/2008
Depth Range	4.0 - 5.0	8.0 - 9.0	6.0 - 7.0	9.0 - 10.0	6.0 - 7.0	8.0 - 9.0	3.0 - 4.0	5.0 - 6.0	4.0 - 5.0
Metals (mg/kg)									
Antimony	0.39 UJ	0.27 UJ	0.093 UJ	0.083 UJ	0.1 UJ	0.093 UJ	0.091 UJ	0.12 UJ	0.092 UJ
Arsenic	2.1	1.6	1.3	1.8	3	3	1.3	1	1
Barium	47	44	81	91	630	730	56	14	23
Beryllium	0.12	0.21	0.17	0.14	0.99	0.95	0.21	0.26	0.24
Cadmium	0.036 UJ	0.037 UJ	0.039 UJ	0.034 UJ	0.043 UJ	0.038 UJ	0.064 J	0.049 UJ	0.038 UJ
Chromium	48 J	110 J	20 J	14 J	74 J	110 J	26 J	18 J	20 J
Cobalt	2	2.7	1.8	1.1	32	16	31	1.8	2.9
Copper	97	210	110	84	440	220	72	160	200
Lead	4 J	4.8 J	1.9 J	14 J	5 J	3.4 J	3.4 J	1.2 J	1.8 J
Mercury	0.19 J	0.091 J	0.035 J	0.065 J	0.1 J	0.035 J	0.062 J	0.057 J	0.044 J
Nickel	6.6	8.8	7.3	3.7	27	17	20	4.3	6.6
Selenium	1.1	1	0.33 J	0.81	0.47 J	0.27 J	0.15 U	0.37 J	1
Silver	0.049 J	0.019 UJ	0.02 UJ	0.019 J	0.063 J	0.02 J	0.043 J	0.027 J	0.046 J
Thallium	0.14 U	0.14 U	0.15 U	0.13 U	1.1	1.9	0.15 U	0.19 U	0.15 U
Tin	4.6 U	4.8 U	5 U	4.4 U	5.6 U	5 U	4.8 U	6.3 U	4.9 U
Vanadium	210 J	250 J	81 J	150 J	200 J	230 J	200 J	270 J	260 J
Zinc	23	30	15	13	66	110	78	18	14
TPH DRO/GRO (mg/kg)									
Diesel Range Organics	22 J	880 J	6 J	0.74 UJ	150 J	270 J	4.1 J	1 UJ	0.8 UJ
Gasoline Range Organics	0.078 UJ	270 J	0.1 UJ	0.065 UJ	170 J	130 J	0.07 J	0.082 UJ	0.066 UJ

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - AIRFIELD - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB32	74SB32	74SB33	74SB33	74SB34	74SB34	74SB35	74SB35	74SB36
Sample ID	74SB32-03D	74SB32-03	74SB33-01	74SB33-02	74SB34-01	74SB34-02	74SB35-01	74SB35-03	74SB36-02
Date	5/1/2008	5/1/2008	5/1/2008	5/1/2008	5/1/2008	5/1/2008	5/2/2008	5/2/2008	5/2/2008
Depth Range	6.0 - 7.0	6.0 - 7.0	1.0 - 2.0	4.0 - 5.0	2.0 - 3.0	3.0 - 4.0	2.0 - 3.0	5.0 - 6.0	3.0 - 4.0
Volatile Organic Compounds (ug/kg)									
1,1,1,2-Tetrachloroethane	0.69 UJ	0.69 UJ	0.69 UJ	0.74 UJ	0.69 UJ	0.7 UJ	0.7 UJ	0.64 UJ	0.65 UJ
1,1,1-Trichloroethane	0.63 UJ	0.63 UJ	0.62 UJ	0.67 UJ	0.63 UJ	0.64 UJ	0.63 UJ	0.58 UJ	0.59 UJ
1,1,2,2-Tetrachloroethane	1.5 UJ	1.5 UJ	1.5 UJ	1.6 UJ	1.5 UJ	1.5 UJ	1.5 UJ	1.4 UJ	1.4 UJ
1,1,2-Trichloroethane	1.3 UJ	1.3 UJ	1.3 UJ	1.4 UJ	1.3 UJ	1.3 UJ	1.3 UJ	1.2 UJ	1.2 UJ
1,1-Dichloroethane	0.54 UJ	0.54 UJ	0.54 UJ	0.58 UJ	0.54 UJ	0.55 UJ	0.54 UJ	0.5 UJ	0.51 UJ
1,1-Dichloroethene	0.58 UJ	0.58 UJ	0.58 UJ	0.62 UJ	0.58 UJ	0.59 UJ	0.59 UJ	0.54 UJ	0.55 UJ
1,2,3-Trichloropropane	1.5 UJ	1.5 UJ	1.5 UJ	1.6 UJ	1.5 UJ	1.5 UJ	1.5 UJ	1.4 UJ	1.4 UJ
1,2-Dibromo-3-Chloropropane	3 UJ	3 UJ	3 UJ	3.2 UJ	3 UJ	3.1 UJ	3 UJ	2.8 UJ	2.8 UJ
1,2-Dichloroethane	1.1 UJ	1.1 UJ	1.1 UJ	1.2 UJ	1.1 UJ	1.1 UJ	1.1 UJ	1 UJ	1 UJ
1,2-Dichloropropane	1.2 UJ	1.2 UJ	1.2 UJ	1.3 UJ	1.2 UJ	1.2 UJ	1.2 UJ	1.1 UJ	1.1 UJ
2-Butanone (MEK)	2.9 UJ	2.9 UJ	2.9 UJ	3.1 UJ	2.9 UJ	3 UJ	2.9 UJ	2.7 UJ	2.7 UJ
2-Chloro-1,3-butadiene	0.62 UJ	0.62 UJ	0.61 UJ	0.66 UJ	0.62 UJ	0.63 UJ	0.62 UJ	0.57 UJ	0.58 UJ
2-Hexanone	2.3 UJ	2.3 UJ	2.3 UJ	2.4 UJ	2.3 UJ	2.3 UJ	2.3 UJ	2.1 UJ	2.1 UJ
3-Chloro-1-propene	1.6 UJ	1.6 UJ	1.6 UJ	1.7 UJ	1.6 UJ	1.6 UJ	1.6 UJ	1.5 UJ	1.5 UJ
4-Methyl-2-pentanone (MIBK)	3.1 UJ	3.1 UJ	3.1 UJ	3.4 UJ	3.1 UJ	3.2 UJ	3.2 UJ	2.9 UJ	2.9 UJ
Acetone	33 J	28 J	35 J	14 J	4.8 R	150 J	16 J	14 J	29 J
Acetonitrile	49 R	49 R	48 R	52 R	49 R	49 R	49 R	45 R	46 R
Acrolein	21 R	21 R	20 R	22 R	21 R	21 R	21 R	19 R	19 R
Acrylonitrile	25 UJ	25 UJ	25 UJ	27 UJ	25 UJ	25 UJ	25 UJ	23 UJ	23 UJ
Benzene	0.85 UJ	0.85 UJ	0.85 UJ	0.91 UJ	0.86 UJ	0.87 UJ	0.86 UJ	0.79 UJ	0.8 UJ
Bromoform	1.2 UJ	1.2 UJ	1.2 UJ	1.3 UJ	1.2 UJ	1.2 UJ	1.2 UJ	1.1 UJ	1.1 UJ
Bromomethane	1.7 UJ	1.7 UJ	1.7 UJ	1.9 UJ	1.7 UJ	1.8 UJ	1.7 UJ	1.6 UJ	1.6 UJ
Carbon disulfide	0.8 J	0.55 UJ	0.55 UJ	0.59 UJ	0.55 UJ	0.56 UJ	0.55 UJ	0.51 UJ	0.52 UJ
Carbon tetrachloride	1.1 UJ	1.1 UJ	1.1 UJ	1.2 UJ	1.1 UJ	1.1 UJ	1.1 UJ	1 UJ	1 UJ
Chlorobenzene	0.79 UJ	0.79 UJ	0.78 UJ	0.84 UJ	0.79 UJ	0.8 UJ	0.79 UJ	0.73 UJ	0.74 UJ
Chlorodibromomethane	0.54 UJ	0.54 UJ	0.54 UJ	0.58 UJ	0.54 UJ	0.55 UJ	0.54 UJ	0.5 UJ	0.51 UJ
Chloroethane	1.3 UJ	1.3 UJ	1.3 UJ	1.4 UJ	1.3 UJ	1.3 UJ	1.3 UJ	1.2 UJ	1.2 UJ

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - AIRFIELD - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB32	74SB32	74SB33	74SB33	74SB34	74SB34	74SB35	74SB35	74SB36
Sample ID	74SB32-03D	74SB32-03	74SB33-01	74SB33-02	74SB34-01	74SB34-02	74SB35-01	74SB35-03	74SB36-02
Date	5/1/2008	5/1/2008	5/1/2008	5/1/2008	5/1/2008	5/1/2008	5/2/2008	5/2/2008	5/2/2008
Depth Range	6.0 - 7.0	6.0 - 7.0	1.0 - 2.0	4.0 - 5.0	2.0 - 3.0	3.0 - 4.0	2.0 - 3.0	5.0 - 6.0	3.0 - 4.0
Volatile Organic Compounds (ug/kg)									
Chloroform	0.54 UJ	0.54 UJ	0.54 UJ	0.58 UJ	0.54 UJ	0.55 UJ	0.54 UJ	0.5 UJ	0.51 UJ
Chloromethane	0.77 UJ	0.77 UJ	0.76 UJ	0.82 UJ	0.77 UJ	0.78 UJ	0.77 UJ	0.71 UJ	0.72 UJ
cis-1,3-Dichloropropene	0.94 UJ	0.94 UJ	0.93 UJ	1 UJ	0.94 UJ	0.96 UJ	0.95 UJ	0.87 UJ	0.88 UJ
Dibromomethane	1.3 UJ	1.3 UJ	1.3 UJ	1.4 UJ	1.3 UJ	1.3 UJ	1.3 UJ	1.2 UJ	1.2 UJ
Dichlorobromomethane	0.9 UJ	0.9 UJ	0.89 UJ	0.96 UJ	0.9 UJ	0.91 UJ	0.9 UJ	0.83 UJ	0.84 UJ
Dichlorodifluoromethane	0.96 UJ	0.96 UJ	0.96 UJ	1 UJ	0.96 UJ	0.98 UJ	0.97 UJ	0.89 UJ	0.9 UJ
Ethyl methacrylate	2.4 UJ	2.4 UJ	2.4 UJ	2.5 UJ	2.4 UJ	2.4 UJ	2.4 UJ	2.2 UJ	2.2 UJ
Ethylbenzene	0.81 UJ	0.81 UJ	0.81 UJ	0.87 UJ	0.81 UJ	0.82 UJ	0.81 UJ	0.75 UJ	0.76 UJ
Ethylene Dibromide	1.6 UJ	1.6 UJ	1.6 UJ	1.7 UJ	1.6 UJ	1.6 UJ	1.6 UJ	1.5 UJ	1.5 UJ
Iodomethane	1.1 UJ	1.1 UJ	1.1 UJ	1.2 UJ	1.1 UJ	1.1 UJ	1.1 UJ	1 UJ	1 UJ
Isobutyl alcohol	74 R	75 R	74 R	80 R	75 R	76 R	75 R	69 R	70 R
Methacrylonitrile	26 UJ	26 UJ	26 UJ	28 UJ	26 UJ	26 UJ	26 UJ	24 UJ	24 UJ
Methyl methacrylate	4 UJ	4 UJ	4 UJ	4.3 UJ	4 UJ	4.1 UJ	4 UJ	3.7 UJ	3.8 UJ
Methylene Chloride	1.1 UJ	1.1 UJ	1.1 UJ	1.2 UJ	1.1 UJ	1.1 UJ	1.1 UJ	1 UJ	1 UJ
Pentachloroethane	2.4 UJ	2.4 UJ	2.4 UJ	2.5 UJ	2.4 UJ	2.4 UJ	2.4 UJ	2.2 UJ	2.2 UJ
Propionitrile	23 R	23 R	23 R	24 R	23 R	23 R	23 R	21 R	21 R
Styrene	0.71 UJ	0.71 UJ	0.71 UJ	0.76 UJ	0.71 UJ	0.72 UJ	0.72 UJ	0.66 UJ	0.67 UJ
Tetrachloroethene	0.79 UJ	0.79 UJ	0.78 UJ	0.84 UJ	0.79 UJ	0.8 UJ	0.79 UJ	0.73 UJ	0.74 UJ
Toluene	0.85 UJ	0.85 UJ	0.85 UJ	0.91 UJ	0.86 UJ	0.87 UJ	0.86 UJ	0.79 UJ	0.8 UJ
trans-1,2-Dichloroethene	1 UJ	1 UJ	1 UJ	1.1 UJ	1.1 UJ	1.1 UJ	1.1 UJ	0.97 UJ	0.98 UJ
trans-1,3-Dichloropropene	0.94 UJ	0.94 UJ	0.93 UJ	1 UJ	0.94 UJ	0.96 UJ	0.95 UJ	0.87 UJ	0.88 UJ
trans-1,4-Dichloro-2-butene	3.3 UJ	3.4 UJ	3.3 UJ	3.6 UJ	3.4 UJ	3.4 UJ	3.4 UJ	3.1 UJ	3.1 UJ
Trichloroethene	1.1 UJ	1.1 UJ	1.1 UJ	1.2 UJ	1.1 UJ	1.1 UJ	1.1 UJ	1 UJ	1 UJ
Trichlorofluoromethane	1.6 UJ	1.6 UJ	1.6 UJ	1.7 UJ	1.6 UJ	1.6 UJ	1.6 UJ	1.5 UJ	1.5 UJ
Vinyl acetate	1.6 UJ	1.6 UJ	1.6 UJ	1.7 UJ	1.6 UJ	1.6 UJ	1.6 UJ	1.5 UJ	1.5 UJ
Vinyl chloride	0.63 UJ	0.63 UJ	0.62 UJ	0.67 UJ	0.63 UJ	0.64 UJ	0.63 UJ	0.58 UJ	0.59 UJ
Xylenes, Total	2.5 UJ	2.5 UJ	2.5 UJ	2.7 UJ	2.5 UJ	2.5 UJ	2.5 UJ	2.3 UJ	2.3 UJ

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - AIRFIELD - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB32	74SB32	74SB33	74SB33	74SB34	74SB34	74SB35	74SB35	74SB36
Sample ID	74SB32-03D	74SB32-03	74SB33-01	74SB33-02	74SB34-01	74SB34-02	74SB35-01	74SB35-03	74SB36-02
Date	5/1/2008	5/1/2008	5/1/2008	5/1/2008	5/1/2008	5/1/2008	5/2/2008	5/2/2008	5/2/2008
Depth Range	6.0 - 7.0	6.0 - 7.0	1.0 - 2.0	4.0 - 5.0	2.0 - 3.0	3.0 - 4.0	2.0 - 3.0	5.0 - 6.0	3.0 - 4.0
LLPAHs (ug/kg)									
1-Methylnaphthalene	NA	NA	NA	NA	NA	1.5 UJ	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA	NA	2.2 UJ	NA	NA	NA
Acenaphthene	NA	NA	NA	NA	NA	0.74 UJ	NA	NA	NA
Acenaphthylene	NA	NA	NA	NA	NA	2.2 UJ	NA	NA	NA
Anthracene	NA	NA	NA	NA	NA	2.2 UJ	NA	NA	NA
Benzo[a]anthracene	NA	NA	NA	NA	NA	2.2 UJ	NA	NA	NA
Benzo[a]pyrene	NA	NA	NA	NA	NA	0.85 UJ	NA	NA	NA
Benzo[b]fluoranthene	NA	NA	NA	NA	NA	0.98 UJ	NA	NA	NA
Benzo[g,h,i]perylene	NA	NA	NA	NA	NA	2.2 UJ	NA	NA	NA
Benzo[k]fluoranthene	NA	NA	NA	NA	NA	1.3 UJ	NA	NA	NA
Chrysene	NA	NA	NA	NA	NA	0.79 UJ	NA	NA	NA
Dibenz(a,h)anthracene	NA	NA	NA	NA	NA	0.76 UJ	NA	NA	NA
Fluoranthene	NA	NA	NA	NA	NA	2.2 UJ	NA	NA	NA
Fluorene	NA	NA	NA	NA	NA	0.99 UJ	NA	NA	NA
Indeno[1,2,3-cd]pyrene	NA	NA	NA	NA	NA	1.5 UJ	NA	NA	NA
Naphthalene	NA	NA	NA	NA	NA	0.77 UJ	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	2.2 UJ	NA	NA	NA
Pyrene	NA	NA	NA	NA	NA	2.2 UJ	NA	NA	NA

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - AIRFIELD - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB32	74SB32	74SB33	74SB33	74SB34	74SB34	74SB35	74SB35	74SB36
Sample ID	74SB32-03D	74SB32-03	74SB33-01	74SB33-02	74SB34-01	74SB34-02	74SB35-01	74SB35-03	74SB36-02
Date	5/1/2008	5/1/2008	5/1/2008	5/1/2008	5/1/2008	5/1/2008	5/2/2008	5/2/2008	5/2/2008
Depth Range	6.0 - 7.0	6.0 - 7.0	1.0 - 2.0	4.0 - 5.0	2.0 - 3.0	3.0 - 4.0	2.0 - 3.0	5.0 - 6.0	3.0 - 4.0
Metals (mg/kg)									
Antimony	0.097 UJ	0.094 UJ	0.094 UJ	0.097 UJ	0.094 UJ	0.088 UJ	0.094 UJ	0.094 UJ	0.097 U
Arsenic	1.6	0.92	0.67	0.94	0.93	0.94	1.6	0.88	1.4
Barium	41 J	21 J	31	84	13	23	31	83	18
Beryllium	0.5	0.32	0.068 J	0.15	0.17	0.24	0.14	0.15	0.19
Cadmium	0.04 UJ	0.039 UJ	0.039 UJ	0.04 UJ	0.039 UJ	0.036 UJ	0.039 UJ	0.039 UJ	0.04 U
Chromium	6.1 J	4.2 J	7.3 J	22 J	39 J	42 J	8.6 J	11 J	61 J
Cobalt	1.7 J	1.1 J	2.6	1.5	2.8	3.9	0.99	1.5	4.6
Copper	380 J	240 J	54	110	230	240	170	190	160
Lead	4.5 J	3.2 J	0.5 J	1.3 J	1.4 J	1.1 J	2.7 J	1.7 J	2.2 J
Mercury	0.054 J	0.026 J	0.078 J	0.071 J	0.2 J	0.042 J	0.082 J	0.24 J	0.12 J
Nickel	6.7 J	3.4 J	1.9	2.4	7.5	12	4.2	4.2	8.5
Selenium	1.3	0.82	0.2 J	0.34 J	0.85	0.55 J	0.65	0.54 J	0.89
Silver	0.06 J	0.036 J	0.03 J	0.057 J	0.022 J	0.035 J	0.023 J	0.028 J	0.036 J
Thallium	0.16 U	0.15 U	0.15 U	0.16 U	0.15 U	0.14 U	0.15 U	0.15 U	0.16 U
Tin	5.2 U	5 U	5 U	5.2 U	5 U	4.7 U	5 U	5 U	5.2 U
Vanadium	310 J	230 J	57 J	110 J	360 J	250 J	310 J	300 J	350 J
Zinc	18	8.8	9.1	10	14	23	14	15	21 J
TPH DRO/GRO (mg/kg)									
Diesel Range Organics	0.82 UJ	0.82 UJ	2.8 J	0.85 UJ	0.81 UJ	0.78 UJ	3.7 J	0.83 UJ	0.81 UJ
Gasoline Range Organics	0.066 UJ	0.07 J	0.072 UJ	0.11 UJ	0.089 UJ	0.081 UJ	0.066 UJ	0.069 UJ	0.16 UJ

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - AIRFIELD - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB36	74SB37	74SB37	74SB37	74SB38	74SB38	74SB39	74SB39	74SB40
Sample ID	74SB36-05	74SB37-01	74SB37-02D	74SB37-02	74SB38-01	74SB38-02	74SB39-02	74SB39-04	74SB40-02
Date	5/2/2008	5/2/2008	5/2/2008	5/2/2008	5/2/2008	5/2/2008	5/2/2008	5/2/2008	5/2/2008
Depth Range	9.0 - 10.0	1.0 - 2.0	3.0 - 4.0	3.0 - 4.0	2.0 - 3.0	4.0 - 5.0	3.0 - 4.0	7.0 - 8.0	3.0 - 4.0
Volatile Organic Compounds (ug/kg)									
1,1,1,2-Tetrachloroethane	0.93 UJ	0.65 UJ	0.65 UJ	0.73 UJ	0.71 UJ	0.75 UJ	0.71 UJ	0.75 UJ	0.64 UJ
1,1,1-Trichloroethane	0.85 UJ	0.59 UJ	0.59 UJ	0.66 UJ	0.64 UJ	0.68 UJ	0.64 UJ	0.68 UJ	0.58 UJ
1,1,2,2-Tetrachloroethane	2 UJ	1.4 UJ	1.4 UJ	1.6 UJ	1.6 UJ	1.6 UJ	1.5 UJ	1.6 UJ	1.4 UJ
1,1,2-Trichloroethane	1.7 UJ	1.2 UJ	1.2 UJ	1.4 UJ	1.3 UJ	1.4 UJ	1.3 UJ	1.4 UJ	1.2 UJ
1,1-Dichloroethane	0.73 UJ	0.5 UJ	0.51 UJ	0.57 UJ	0.56 UJ	0.59 UJ	0.55 UJ	0.58 UJ	0.5 UJ
1,1-Dichloroethene	0.79 UJ	0.54 UJ	0.55 UJ	0.61 UJ	0.6 UJ	0.63 UJ	0.6 UJ	0.63 UJ	0.54 UJ
1,2,3-Trichloropropane	2 UJ	1.4 UJ	1.4 UJ	1.6 UJ	1.6 UJ	1.6 UJ	1.5 UJ	1.6 UJ	1.4 UJ
1,2-Dibromo-3-Chloropropane	4.1 UJ	2.8 UJ	2.9 UJ	3.2 UJ	3.1 UJ	3.3 UJ	3.1 UJ	3.3 UJ	2.8 UJ
1,2-Dichloroethane	1.5 UJ	1 UJ	1 UJ	1.1 UJ	1.1 UJ	1.2 UJ	1.1 UJ	1.2 UJ	1 UJ
1,2-Dichloropropane	1.6 UJ	1.1 UJ	1.1 UJ	1.2 UJ	1.2 UJ	1.3 UJ	1.2 UJ	1.3 UJ	1.1 UJ
2-Butanone (MEK)	3.9 UJ	2.7 UJ	2.8 UJ	3.1 UJ	3 UJ	3.2 UJ	3 UJ	3.2 UJ	2.7 UJ
2-Chloro-1,3-butadiene	0.83 UJ	0.58 UJ	0.58 UJ	0.65 UJ	0.63 UJ	0.67 UJ	0.63 UJ	0.67 UJ	0.57 UJ
2-Hexanone	3.1 UJ	2.1 UJ	2.1 UJ	2.4 UJ	2.3 UJ	2.5 UJ	2.3 UJ	2.5 UJ	2.1 UJ
3-Chloro-1-propene	2.2 UJ	1.5 UJ	1.5 UJ	1.7 UJ	1.7 UJ	1.8 UJ	1.7 UJ	1.8 UJ	1.5 UJ
4-Methyl-2-pentanone (MIBK)	4.2 UJ	2.9 UJ	3 UJ	3.3 UJ	3.2 UJ	3.4 UJ	3.2 UJ	3.4 UJ	2.9 UJ
Acetone	29 J	82 J	4.5 R	13 J	75 J	17 J	37 J	5.1 R	120 J
Acetonitrile	66 R	45 R	46 R	51 R	50 R	53 R	50 R	53 R	45 R
Acrolein	28 R	19 R	19 R	22 R	21 R	22 R	21 R	22 R	19 R
Acrylonitrile	34 UJ	23 UJ	23 UJ	26 UJ	26 UJ	27 UJ	25 UJ	27 UJ	23 UJ
Benzene	1.2 UJ	0.8 UJ	0.81 UJ	0.9 UJ	0.88 UJ	0.93 UJ	0.87 UJ	0.92 UJ	0.79 UJ
Bromoform	1.6 UJ	1.1 UJ	1.1 UJ	1.2 UJ	1.2 UJ	1.3 UJ	1.2 UJ	1.3 UJ	1.1 UJ
Bromomethane	2.3 UJ	1.6 UJ	1.6 UJ	1.8 UJ	1.8 UJ	1.9 UJ	1.8 UJ	1.9 UJ	1.6 UJ
Carbon disulfide	0.74 UJ	0.51 UJ	0.52 UJ	0.58 UJ	0.57 UJ	0.6 UJ	0.56 UJ	0.6 UJ	0.51 UJ
Carbon tetrachloride	1.5 UJ	1 UJ	1 UJ	1.1 UJ	1.1 UJ	1.2 UJ	1.1 UJ	1.2 UJ	1 UJ
Chlorobenzene	1.1 UJ	0.74 UJ	0.74 UJ	0.83 UJ	0.81 UJ	0.86 UJ	0.81 UJ	0.85 UJ	0.73 UJ
Chlorodibromomethane	0.73 UJ	0.5 UJ	0.51 UJ	0.57 UJ	0.56 UJ	0.59 UJ	0.55 UJ	0.58 UJ	0.5 UJ
Chloroethane	1.7 UJ	1.2 UJ	1.2 UJ	1.4 UJ	1.3 UJ	1.4 UJ	1.3 UJ	1.4 UJ	1.2 UJ

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - AIRFIELD - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB36	74SB37	74SB37	74SB37	74SB38	74SB38	74SB39	74SB39	74SB40
Sample ID	74SB36-05	74SB37-01	74SB37-02D	74SB37-02	74SB38-01	74SB38-02	74SB39-02	74SB39-04	74SB40-02
Date	5/2/2008	5/2/2008	5/2/2008	5/2/2008	5/2/2008	5/2/2008	5/2/2008	5/2/2008	5/2/2008
Depth Range	9.0 - 10.0	1.0 - 2.0	3.0 - 4.0	3.0 - 4.0	2.0 - 3.0	4.0 - 5.0	3.0 - 4.0	7.0 - 8.0	3.0 - 4.0
Volatile Organic Compounds (ug/kg)									
Chloroform	0.73 UJ	0.5 UJ	0.51 UJ	0.57 UJ	0.56 UJ	0.59 UJ	0.55 UJ	0.58 UJ	0.5 UJ
Chloromethane	1 UJ	0.72 UJ	0.72 UJ	0.8 UJ	0.79 UJ	0.83 UJ	0.78 UJ	0.83 UJ	0.71 UJ
cis-1,3-Dichloropropene	1.3 UJ	0.88 UJ	0.89 UJ	0.99 UJ	0.97 UJ	1 UJ	0.96 UJ	1 UJ	0.87 UJ
Dibromomethane	1.7 UJ	1.2 UJ	1.2 UJ	1.4 UJ	1.3 UJ	1.4 UJ	1.3 UJ	1.4 UJ	1.2 UJ
Dichlorobromomethane	1.2 UJ	0.84 UJ	0.85 UJ	0.94 UJ	0.92 UJ	0.98 UJ	0.92 UJ	0.97 UJ	0.83 UJ
Dichlorodifluoromethane	1.3 UJ	0.9 UJ	0.91 UJ	1 UJ	0.99 UJ	1 UJ	0.98 UJ	1 UJ	0.89 UJ
Ethyl methacrylate	3.2 UJ	2.2 UJ	2.2 UJ	2.5 UJ	2.4 UJ	2.6 UJ	2.4 UJ	2.6 UJ	2.2 UJ
Ethylbenzene	1.1 UJ	0.76 UJ	0.77 UJ	0.85 UJ	0.83 UJ	0.88 UJ	0.83 UJ	0.88 UJ	0.75 UJ
Ethylene Dibromide	2.2 UJ	1.5 UJ	1.5 UJ	1.7 UJ	1.7 UJ	1.8 UJ	1.7 UJ	1.8 UJ	1.5 UJ
Iodomethane	1.5 UJ	1 UJ	1 UJ	1.1 UJ	1.1 UJ	1.2 UJ	1.1 UJ	1.2 UJ	4.7 J
Isobutyl alcohol	100 R	70 R	70 R	78 R	77 R	81 R	76 R	81 R	69 R
Methacrylonitrile	35 UJ	24 UJ	24 UJ	27 UJ	27 UJ	28 UJ	26 UJ	28 UJ	24 UJ
Methyl methacrylate	5.4 UJ	3.7 UJ	3.8 UJ	4.2 UJ	4.1 UJ	4.4 UJ	4.1 UJ	4.3 UJ	3.7 UJ
Methylene Chloride	1.5 UJ	1 UJ	1 UJ	1.1 UJ	1.1 UJ	1.2 UJ	1.1 UJ	1.2 UJ	1 UJ
Pentachloroethane	3.2 UJ	2.2 UJ	2.2 UJ	2.5 UJ	2.4 UJ	2.6 UJ	2.4 UJ	2.6 UJ	2.2 UJ
Propionitrile	31 R	21 R	21 R	24 R	23 R	25 R	23 R	25 R	21 R
Styrene	0.96 UJ	0.67 UJ	0.67 UJ	0.75 UJ	0.73 UJ	0.78 UJ	0.73 UJ	0.77 UJ	0.66 UJ
Tetrachloroethene	1.1 UJ	0.74 UJ	0.74 UJ	0.83 UJ	0.81 UJ	0.86 UJ	0.81 UJ	0.85 UJ	0.73 UJ
Toluene	1.2 UJ	0.8 UJ	0.81 UJ	0.9 UJ	0.88 UJ	0.93 UJ	0.87 UJ	0.92 UJ	0.79 UJ
trans-1,2-Dichloroethene	1.4 UJ	0.98 UJ	0.99 UJ	1.1 UJ	1.1 UJ	1.1 UJ	1.1 UJ	1.1 UJ	0.97 UJ
trans-1,3-Dichloropropene	1.3 UJ	0.88 UJ	0.89 UJ	0.99 UJ	0.97 UJ	1 UJ	0.96 UJ	1 UJ	0.87 UJ
trans-1,4-Dichloro-2-butene	4.5 UJ	3.1 UJ	3.2 UJ	3.5 UJ	3.4 UJ	3.6 UJ	3.4 UJ	3.6 UJ	3.1 UJ
Trichloroethene	1.5 UJ	1 UJ	1 UJ	1.1 UJ	1.1 UJ	1.2 UJ	1.1 UJ	1.2 UJ	1 UJ
Trichlorofluoromethane	2.2 UJ	1.5 UJ	1.5 UJ	1.7 UJ	1.7 UJ	1.8 UJ	1.7 UJ	1.8 UJ	1.5 UJ
Vinyl acetate	2.2 UJ	1.5 UJ	1.5 UJ	1.7 UJ	1.7 UJ	1.8 UJ	1.7 UJ	1.8 UJ	1.5 UJ
Vinyl chloride	0.85 UJ	0.59 UJ	0.59 UJ	0.66 UJ	0.64 UJ	0.68 UJ	0.64 UJ	0.68 UJ	0.58 UJ
Xylenes, Total	3.4 UJ	2.3 UJ	2.3 UJ	2.6 UJ	2.6 UJ	2.7 UJ	2.5 UJ	2.7 UJ	2.3 UJ

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - AIRFIELD - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB36	74SB37	74SB37	74SB37	74SB38	74SB38	74SB39	74SB39	74SB40
Sample ID	74SB36-05	74SB37-01	74SB37-02D	74SB37-02	74SB38-01	74SB38-02	74SB39-02	74SB39-04	74SB40-02
Date	5/2/2008	5/2/2008	5/2/2008	5/2/2008	5/2/2008	5/2/2008	5/2/2008	5/2/2008	5/2/2008
Depth Range	9.0 - 10.0	1.0 - 2.0	3.0 - 4.0	3.0 - 4.0	2.0 - 3.0	4.0 - 5.0	3.0 - 4.0	7.0 - 8.0	3.0 - 4.0
LLPAHs (ug/kg)									
1-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[a]anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[a]pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[b]fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[g,h,i]perylene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[k]fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indeno[1,2,3-cd]pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - AIRFIELD - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB36	74SB37	74SB37	74SB37	74SB38	74SB38	74SB39	74SB39	74SB40
Sample ID	74SB36-05	74SB37-01	74SB37-02D	74SB37-02	74SB38-01	74SB38-02	74SB39-02	74SB39-04	74SB40-02
Date	5/2/2008	5/2/2008	5/2/2008	5/2/2008	5/2/2008	5/2/2008	5/2/2008	5/2/2008	5/2/2008
Depth Range	9.0 - 10.0	1.0 - 2.0	3.0 - 4.0	3.0 - 4.0	2.0 - 3.0	4.0 - 5.0	3.0 - 4.0	7.0 - 8.0	3.0 - 4.0
Metals (mg/kg)									
Antimony	0.1 UJ	0.094 UJ	0.092 UJ	0.096 UJ	0.37 UJ	0.33 UJ	0.17 UJ	0.49 UJ	0.12 UJ
Arsenic	1.5	0.51 J	0.21 J	0.5 J	3	2.1	2.5	79	1
Barium	280	11	17 J	41 J	31	8.8	77	15	23
Beryllium	0.99	0.099 U	0.047 U	0.092 U	0.17	0.21	0.18	0.24	0.14
Cadmium	0.051 J	0.039 U	0.038 U	0.04 U	0.039 U	0.038 U	0.038 U	0.062 J	0.04 U
Chromium	77 J	56	9.3 R	43 R	12	8.6	28	6.5	45
Cobalt	11	0.56	0.34 R	0.87 R	4.3	1.4	5.4	5.9	2.2
Copper	320	42	24 J	42 J	440	250	480	710	270
Lead	0.85 J	1.3	0.23 J	1.2 J	7.7	1.5	2.2	2.2	0.83
Mercury	0.013 J	0.14 J	0.022 J	0.064 J	0.14 J	0.082 J	0.074 J	0.014 J	0.05 J
Nickel	55	2.7	2.3 J	4 J	7.3	4	15	11	9.7
Selenium	0.32 J	0.45 J	0.17 J	0.28 J	0.74	0.83	0.86	3.4	0.46 J
Silver	0.064 J	0.022 U	0.024 U	0.03 U	0.066 U	0.04 U	0.23 U	0.23 U	0.064 U
Thallium	0.22 J	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.16 U	0.15 U
Tin	5.5 U	5 U	4.9 U	5.1 U	5 U	4.9 U	4.9 U	5.4 U	5.1 U
Vanadium	290 J	180	42 J	150 J	340	260	520	520	260
Zinc	53 J	12 J	4.3 J	13 J	34 J	18 J	48 J	41 J	54 J
TPH DRO/GRO (mg/kg)									
Diesel Range Organics	0.92 UJ	5.8 J	1.4 J	1.1 J	1.2 J	0.79 J	2.2 J	1.3 J	1.2 J
Gasoline Range Organics	0.079 UJ	0.076 UJ	0.063 UJ	0.06 UJ	0.065 UJ	0.064 UJ	0.085 UJ	0.072 UJ	0.066 UJ

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - AIRFIELD - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB40	74SB41	74SB41	74SB42	74SB42	74SB43	74SB43	74SB44	74SB44
Sample ID	74SB40-04	74SB41-02	74SB41-04	74SB42-03	74SB42-04	74SB43-03	74SB43-04	74SB44-04	74SB44-05
Date	5/2/2008	5/2/2008	5/2/2008	5/3/2008	5/3/2008	5/3/2008	5/3/2008	5/3/2008	5/3/2008
Depth Range	7.0 - 8.0	3.0 - 4.0	8.0 - 9.0	5.0 - 6.0	8.0 - 9.0	5.0 - 6.0	8.0 - 9.0	7.0 - 8.0	9.0 - 10.0
Volatile Organic Compounds (ug/kg)									
1,1,1,2-Tetrachloroethane	0.81 UJ	0.72 U	0.78 U	0.65 U	0.74 U	0.58 U	0.66 U	0.68 U	0.57 U
1,1,1-Trichloroethane	0.74 UJ	0.66 U	0.71 U	0.59 U	0.67 U	0.52 U	0.6 U	0.62 U	0.52 U
1,1,2,2-Tetrachloroethane	1.8 UJ	1.6 U	1.7 U	1.4 U	1.6 U	1.3 U	1.4 U	1.5 U	1.2 U
1,1,2-Trichloroethane	1.5 UJ	1.4 U	1.5 U	1.2 U	1.4 U	1.1 U	1.2 U	1.3 U	1.1 U
1,1-Dichloroethane	0.64 UJ	0.57 U	0.61 U	0.51 U	0.58 U	0.45 U	0.51 U	0.53 U	0.45 U
1,1-Dichloroethene	0.69 UJ	0.61 U	0.66 U	0.55 U	0.62 U	0.49 U	0.56 U	0.57 U	0.48 U
1,2,3-Trichloropropane	1.8 UJ	1.6 U	1.7 U	1.4 U	1.6 U	1.3 U	1.4 U	1.5 U	1.2 U
1,2-Dibromo-3-Chloropropane	3.6 UJ	3.2 U	3.4 U	2.9 U	3.2 U	2.5 U	2.9 U	3 U	2.5 U
1,2-Dichloroethane	1.3 UJ	1.1 U	1.2 U	1 U	1.2 U	0.9 U	1 U	1.1 U	0.89 U
1,2-Dichloropropane	1.4 UJ	1.2 U	1.3 U	1.1 U	1.3 U	0.99 U	1.1 U	1.2 U	0.98 U
2-Butanone (MEK)	3.4 UJ	3.1 U	3.3 UJ	2.8 U	3.1 U	2.4 U	2.8 U	2.9 U	2.4 U
2-Chloro-1,3-butadiene	0.72 UJ	0.64 U	0.7 U	0.58 U	0.66 U	0.51 U	0.59 U	0.61 U	0.51 U
2-Hexanone	2.7 UJ	2.4 U	2.6 UJ	2.1 U	2.4 U	1.9 U	2.2 U	2.2 U	1.9 U
3-Chloro-1-propene	1.9 UJ	1.7 U	1.8 U	1.5 UJ	1.7 UJ	1.4 UJ	1.5 UJ	1.6 UJ	1.3 UJ
4-Methyl-2-pentanone (MIBK)	3.7 UJ	3.3 U	3.5 UJ	3 U	3.4 U	2.6 U	3 U	3.1 U	2.6 U
Acetone	36 J	5 R	42 J	14 J	5.1 R	21 J	40 J	28 J	16 J
Acetonitrile	57 R	51 R	55 R	46 R	52 R	41 R	46 R	48 R	40 R
Acrolein	24 R	21 U	23 R	19 R	22 R	17 R	20 R	20 R	17 R
Acrylonitrile	29 UJ	26 U	28 U	24 U	27 U	21 U	24 U	24 U	20 U
Benzene	1 UJ	0.89 U	0.97 U	0.81 U	0.91 U	0.71 U	0.81 U	0.84 U	0.7 U
Bromoform	1.4 UJ	1.2 U	1.3 U	1.1 U	1.3 U	0.99 U	1.1 U	1.2 U	0.98 U
Bromomethane	2 UJ	1.8 U	2 UJ	1.6 UJ	1.9 UJ	1.4 UJ	1.6 UJ	1.7 UJ	1.4 UJ
Carbon disulfide	0.65 UJ	0.58 U	0.62 U	0.52 U	0.59 U	0.46 U	0.52 U	0.54 U	0.45 U
Carbon tetrachloride	1.3 UJ	1.1 U	1.2 U	1 U	1.2 U	0.9 U	1 U	1.1 U	0.89 U
Chlorobenzene	0.93 UJ	0.83 U	0.89 U	0.75 U	0.84 U	0.66 U	0.75 U	0.78 U	0.65 U
Chlorodibromomethane	0.64 UJ	0.57 U	0.61 U	0.51 U	0.58 U	0.45 U	0.51 U	0.53 U	0.45 U
Chloroethane	1.5 UJ	1.4 U	1.5 U	1.2 U	1.4 U	1.1 U	1.2 U	1.3 U	1.1 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - AIRFIELD - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB40	74SB41	74SB41	74SB42	74SB42	74SB43	74SB43	74SB44	74SB44
Sample ID	74SB40-04	74SB41-02	74SB41-04	74SB42-03	74SB42-04	74SB43-03	74SB43-04	74SB44-04	74SB44-05
Date	5/2/2008	5/2/2008	5/2/2008	5/3/2008	5/3/2008	5/3/2008	5/3/2008	5/3/2008	5/3/2008
Depth Range	7.0 - 8.0	3.0 - 4.0	8.0 - 9.0	5.0 - 6.0	8.0 - 9.0	5.0 - 6.0	8.0 - 9.0	7.0 - 8.0	9.0 - 10.0
Volatile Organic Compounds (ug/kg)									
Chloroform	0.64 UJ	0.57 U	0.61 U	0.51 U	0.58 U	0.45 U	0.51 U	0.53 U	0.45 U
Chloromethane	0.9 UJ	0.8 U	0.87 U	0.73 U	0.82 U	0.64 U	0.73 U	0.75 U	0.63 U
cis-1,3-Dichloropropene	1.1 UJ	0.98 U	1.1 U	0.89 U	1 U	0.78 U	0.89 U	0.92 U	0.77 U
Dibromomethane	1.5 UJ	1.4 U	1.5 U	1.2 U	1.4 U	1.1 U	1.2 U	1.3 U	1.1 U
Dichlorobromomethane	1.1 UJ	0.94 U	1 U	0.85 U	0.96 U	0.75 U	0.85 U	0.88 U	0.74 U
Dichlorodifluoromethane	1.1 UJ	1 U	1.1 U	0.91 U	1 U	0.8 U	0.91 U	0.95 U	0.79 U
Ethyl methacrylate	2.8 UJ	2.5 U	2.7 UJ	2.2 UJ	2.5 UJ	2 UJ	2.3 UJ	2.3 UJ	2 UJ
Ethylbenzene	0.95 UJ	0.85 U	0.92 U	0.77 U	0.87 U	0.68 U	0.77 U	0.8 U	0.67 U
Ethylene Dibromide	1.9 UJ	1.7 U	1.8 U	1.5 U	1.7 U	1.4 U	1.5 U	1.6 U	1.3 U
Iodomethane	1.3 UJ	1.1 U	1.2 U	1 U	1.2 U	0.9 U	1 U	1.1 U	0.89 U
Isobutyl alcohol	88 R	78 R	84 R	71 R	80 R	62 R	71 R	73 R	61 R
Methacrylonitrile	31 UJ	27 UJ	29 UJ	25 UJ	28 UJ	22 UJ	25 UJ	26 UJ	21 UJ
Methyl methacrylate	4.7 UJ	4.2 U	4.5 UJ	3.8 UJ	4.3 UJ	3.3 UJ	3.8 UJ	3.9 UJ	3.3 UJ
Methylene Chloride	1.3 UJ	1.1 U	1.2 U	1 U	1.2 U	0.9 U	1 U	1.1 U	0.89 U
Pentachloroethane	2.8 UJ	2.5 U	2.7 UJ	2.2 U	2.5 U	2 U	2.3 U	2.3 U	2 U
Propionitrile	27 R	24 U	26 R	21 R	24 R	19 R	22 R	22 R	19 R
Styrene	0.84 UJ	0.75 U	0.81 U	0.67 U	0.76 U	0.59 U	0.68 U	0.7 U	0.59 U
Tetrachloroethene	0.93 UJ	0.83 U	0.89 U	0.75 U	0.84 U	0.66 U	0.75 U	0.78 U	0.65 U
Toluene	1 UJ	0.89 U	0.97 U	0.81 U	0.91 U	0.71 U	0.81 U	0.84 U	0.7 U
trans-1,2-Dichloroethene	1.2 UJ	1.1 U	1.2 U	0.99 U	1.1 U	0.87 U	1 U	1 U	0.86 U
trans-1,3-Dichloropropene	1.1 UJ	0.98 U	1.1 U	0.89 U	1 U	0.78 U	0.89 U	0.92 U	0.77 U
trans-1,4-Dichloro-2-butene	3.9 UJ	3.5 U	3.8 UJ	3.2 UJ	3.6 UJ	2.8 UJ	3.2 UJ	3.3 UJ	2.8 UJ
Trichloroethene	1.3 UJ	1.1 U	1.2 U	1 U	1.2 U	0.9 U	1 U	1.1 U	0.89 U
Trichlorofluoromethane	1.9 UJ	1.7 U	1.8 U	1.5 U	1.7 U	1.4 U	1.5 U	1.6 U	1.3 U
Vinyl acetate	1.9 UJ	1.7 U	1.8 U	1.5 U	1.7 U	1.4 U	1.5 U	1.6 U	1.3 U
Vinyl chloride	0.74 UJ	0.66 U	0.71 U	0.59 U	0.67 U	0.52 U	0.6 U	0.62 U	0.52 U
Xylenes, Total	2.9 UJ	2.6 U	2.8 U	2.4 U	2.7 U	2.1 U	2.4 U	2.4 U	2 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - AIRFIELD - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB40	74SB41	74SB41	74SB42	74SB42	74SB43	74SB43	74SB44	74SB44
Sample ID	74SB40-04	74SB41-02	74SB41-04	74SB42-03	74SB42-04	74SB43-03	74SB43-04	74SB44-04	74SB44-05
Date	5/2/2008	5/2/2008	5/2/2008	5/3/2008	5/3/2008	5/3/2008	5/3/2008	5/3/2008	5/3/2008
Depth Range	7.0 - 8.0	3.0 - 4.0	8.0 - 9.0	5.0 - 6.0	8.0 - 9.0	5.0 - 6.0	8.0 - 9.0	7.0 - 8.0	9.0 - 10.0
LLPAHs (ug/kg)									
1-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[a]anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[a]pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[b]fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[g,h,i]perylene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[k]fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indeno[1,2,3-cd]pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - AIRFIELD - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB40	74SB41	74SB41	74SB42	74SB42	74SB43	74SB43	74SB44	74SB44
Sample ID	74SB40-04	74SB41-02	74SB41-04	74SB42-03	74SB42-04	74SB43-03	74SB43-04	74SB44-04	74SB44-05
Date	5/2/2008	5/2/2008	5/2/2008	5/3/2008	5/3/2008	5/3/2008	5/3/2008	5/3/2008	5/3/2008
Depth Range	7.0 - 8.0	3.0 - 4.0	8.0 - 9.0	5.0 - 6.0	8.0 - 9.0	5.0 - 6.0	8.0 - 9.0	7.0 - 8.0	9.0 - 10.0
Metals (mg/kg)									
Antimony	0.14 UJ	0.1 U	0.11 U	0.092 UJ	0.1 UJ	0.086 UJ	0.096 UJ	0.089 UJ	0.34 UJ
Arsenic	2.3	0.52 J	0.67 J	0.57 J	1.3	1.4	1.1	1.8	3.4
Barium	35	27	22	10	16	36	85	17	43
Beryllium	0.26	0.046 U	0.15 U	0.063 U	0.098 U	0.34	0.14	0.19	0.26
Cadmium	0.044 U	0.041 U	0.047 U	0.038 U	0.042 U	0.065 J	0.04 U	0.042 J	0.28
Chromium	33	6.7	13	5.7 R	12 R	20 R	19 R	22 R	130 R
Cobalt	3.2	1.2	12	0.76	2.4	13	2.2	9.4	15
Copper	520	45	150	27	85	120	94	84	120
Lead	3.4	0.63	0.94	0.81	0.77	2.3	1.9	2.5	7.4
Mercury	0.063 J	0.45	0.023 J	0.056	0.063	0.11	0.14	0.07	0.028
Nickel	23	1.4	3.7	1	1.9	9.1	2.3	5.7	6
Selenium	1	0.4 J	0.33 J	0.21 J	0.3 J	0.37 J	0.88	0.46 J	1.2
Silver	0.12 U	0.021 U	0.038 U	0.02 U	0.022 U	0.023 U	0.022 U	0.027 U	0.17 J
Thallium	0.17 U	0.16 U	0.18 U	0.15 U	0.16 U	0.15 J	0.15 U	0.14 U	0.21 J
Tin	5.7 U	5.3 U	6 U	4.9 U	5.4 U	4.6 U	5.1 U	4.7 U	4.3 U
Vanadium	360	200	340	110	210	240	330	220	590
Zinc	74 J	9.5	41	6.5 J	12 J	55 J	18 J	36 J	50 J
TPH DRO/GRO (mg/kg)									
Diesel Range Organics	1.6 J	4.6 J	1.7 J	1 J	2.6 J	2.6 J	3 J	1.3 J	1.2 J
Gasoline Range Organics	0.08 UJ	0.069 U	0.076 U	0.061 U	0.072 U	0.073 U	0.069 U	0.06 U	0.053 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - AIRFIELD - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB48	74SB48	74SB49	74SB49	74SB50	74SB50	74SB51	74SB52	74SB52
Sample ID	74SB48-01D	74SB48-01	74SB49-04	74SB49-05	74SB50-03	74SB50-04	74SB51-03	74SB52-03	74SB52-04
Date	5/3/2008	5/3/2008	5/3/2008	5/3/2008	5/3/2008	5/3/2008	5/3/2008	5/3/2008	5/3/2008
Depth Range	1.0 - 3.0	1.0 - 3.0	7.0 - 8.0	8.0 - 9.0	6.0 - 7.0	7.0 - 8.0	5.0 - 6.0	6.0 - 7.0	7.0 - 7.5
Volatile Organic Compounds (ug/kg)									
1,1,1,2-Tetrachloroethane	0.82 U	0.61 U	0.7 U	0.67 U	0.76 U	0.64 U	0.65 U	0.74 U	0.69 U
1,1,1-Trichloroethane	0.74 U	0.55 U	0.64 U	0.61 U	0.69 U	0.58 U	0.59 U	0.67 U	0.62 U
1,1,2,2-Tetrachloroethane	1.8 U	1.3 U	1.5 U	1.5 U	1.7 U	1.4 U	1.4 U	1.6 U	1.5 U
1,1,2-Trichloroethane	1.5 U	1.1 U	1.3 U	1.3 U	1.4 U	1.2 U	1.2 U	1.4 U	1.3 U
1,1-Dichloroethane	0.64 U	0.48 U	0.55 U	0.52 U	0.59 U	0.5 U	0.51 U	0.58 U	0.54 U
1,1-Dichloroethene	0.69 U	0.52 U	0.59 U	0.56 U	0.64 U	0.54 U	0.55 U	0.63 U	0.58 U
1,2,3-Trichloropropane	1.8 U	1.3 U	1.5 U	1.5 U	1.7 U	1.4 U	1.4 U	1.6 U	1.5 U
1,2-Dibromo-3-Chloropropane	3.6 U	2.7 U	3.1 U	2.9 U	3.3 U	2.8 U	2.8 U	3.3 U	3 U
1,2-Dichloroethane	1.3 U	0.95 U	1.1 U	1 U	1.2 U	1 U	1 U	1.2 U	1.1 U
1,2-Dichloropropane	1.4 U	1 U	1.2 U	1.1 U	1.3 U	1.1 U	1.1 U	1.3 U	1.2 U
2-Butanone (MEK)	3.5 U	2.6 U	3 U	2.8 U	3.2 U	2.7 U	2.7 U	3.1 UJ	2.9 U
2-Chloro-1,3-butadiene	0.73 U	0.54 U	0.63 U	0.59 U	0.68 U	0.57 U	0.58 U	0.66 U	0.61 U
2-Hexanone	2.7 U	2 U	2.3 U	2.2 U	2.5 U	2.1 U	2.1 U	2.4 UJ	2.3 U
3-Chloro-1-propene	1.9 UJ	1.4 UJ	1.6 UJ	1.6 UJ	1.8 UJ	1.5 UJ	1.5 UJ	1.7 U	1.6 UJ
4-Methyl-2-pentanone (MIBK)	3.7 U	2.8 U	3.2 U	3 U	3.4 U	2.9 U	2.9 U	3.4 UJ	3.1 U
Acetone	84 J	31 J	4.8 R	22 J	12 J	4.4 R	41 J	17 J	65 J
Acetonitrile	58 R	43 R	49 R	47 R	53 R	45 R	46 R	52 R	48 R
Acrolein	24 R	18 R	21 R	20 R	23 R	19 R	19 R	22 R	20 R
Acrylonitrile	29 U	22 U	25 U	24 U	27 U	23 U	23 U	27 U	25 U
Benzene	1 U	0.75 U	0.87 U	0.82 U	0.94 U	0.79 U	0.8 U	0.92 U	0.85 U
Bromoform	1.4 U	1 U	1.2 U	1.1 U	1.3 U	1.1 U	1.1 U	1.3 U	1.2 U
Bromomethane	2 UJ	1.5 UJ	1.8 UJ	1.7 UJ	1.9 UJ	1.6 UJ	1.6 UJ	1.9 U	1.7 UJ
Carbon disulfide	0.65 U	0.49 U	0.56 U	0.53 U	0.61 U	0.51 U	2.1 J	0.59 U	0.55 U
Carbon tetrachloride	1.3 U	0.95 U	1.1 U	1 U	1.2 U	1 U	1 U	1.2 U	1.1 U
Chlorobenzene	0.93 U	0.7 U	0.8 U	0.76 U	0.87 U	0.73 U	0.74 U	0.85 U	0.79 U
Chlorodibromomethane	0.64 U	0.48 U	0.55 U	0.52 U	0.59 U	0.5 U	0.51 U	0.58 U	0.54 U
Chloroethane	1.5 U	1.1 U	1.3 U	1.3 U	1.4 U	1.2 U	1.2 U	1.4 U	1.3 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - AIRFIELD - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB48	74SB48	74SB49	74SB49	74SB50	74SB50	74SB51	74SB52	74SB52
Sample ID	74SB48-01D	74SB48-01	74SB49-04	74SB49-05	74SB50-03	74SB50-04	74SB51-03	74SB52-03	74SB52-04
Date	5/3/2008	5/3/2008	5/3/2008	5/3/2008	5/3/2008	5/3/2008	5/3/2008	5/3/2008	5/3/2008
Depth Range	1.0 - 3.0	1.0 - 3.0	7.0 - 8.0	8.0 - 9.0	6.0 - 7.0	7.0 - 8.0	5.0 - 6.0	6.0 - 7.0	7.0 - 7.5
Volatile Organic Compounds (ug/kg)									
Chloroform	0.64 U	0.48 U	0.55 U	0.52 U	0.59 U	0.5 U	0.51 U	0.58 U	0.54 U
Chloromethane	0.91 U	0.68 U	0.78 U	0.74 U	0.84 U	0.71 U	0.72 U	0.83 U	0.76 U
cis-1,3-Dichloropropene	1.1 U	0.83 U	0.96 U	0.91 U	1 U	0.87 U	0.88 U	1 U	0.94 U
Dibromomethane	1.5 U	1.1 U	1.3 U	1.3 U	1.4 U	1.2 U	1.2 U	1.4 U	1.3 U
Dichlorobromomethane	1.1 U	0.79 U	0.91 U	0.87 U	0.99 U	0.83 U	0.84 U	0.96 U	0.89 U
Dichlorodifluoromethane	1.1 U	0.85 U	0.98 U	0.93 U	1.1 U	0.89 U	0.9 U	1 U	0.96 U
Ethyl methacrylate	2.8 UJ	2.1 UJ	2.4 UJ	2.3 UJ	2.6 UJ	2.2 UJ	2.2 UJ	2.6 UJ	2.4 UJ
Ethylbenzene	0.96 U	0.72 U	0.82 U	0.78 U	0.89 U	0.75 U	0.76 U	0.87 U	0.81 U
Ethylene Dibromide	1.9 U	1.4 U	1.6 U	1.6 U	1.8 U	1.5 U	1.5 U	1.7 U	1.6 U
Iodomethane	1.3 U	0.95 U	1.1 U	1 U	1.2 U	1 U	1 U	1.2 U	1.1 U
Isobutyl alcohol	88 R	66 R	76 R	72 R	82 R	69 R	70 R	80 R	74 R
Methacrylonitrile	31 UJ	23 UJ	26 UJ	25 UJ	29 UJ	24 UJ	24 UJ	28 UJ	26 UJ
Methyl methacrylate	4.7 UJ	3.5 UJ	4.1 UJ	3.9 UJ	4.4 UJ	3.7 UJ	3.8 UJ	4.3 UJ	4 UJ
Methylene Chloride	1.3 U	0.95 U	1.1 U	1 U	1.2 U	1 U	1 U	1.2 U	1.1 U
Pentachloroethane	2.8 U	2.1 U	2.4 U	2.3 U	2.6 U	2.2 U	2.2 U	2.6 U	2.4 U
Propionitrile	27 R	20 R	23 R	22 R	25 R	21 R	21 R	24 R	23 R
Styrene	0.84 U	0.63 U	0.73 U	0.69 U	0.78 U	0.66 U	0.67 U	0.77 U	0.71 U
Tetrachloroethene	0.93 U	0.7 U	0.8 U	0.76 U	0.87 U	0.73 U	0.74 U	0.85 U	0.79 U
Toluene	1 U	0.75 U	0.87 U	0.82 U	0.94 U	0.79 U	0.8 U	0.92 U	0.85 U
trans-1,2-Dichloroethene	1.2 U	0.93 U	1.1 U	1 U	1.2 U	0.97 U	0.99 U	1.1 U	1 U
trans-1,3-Dichloropropene	1.1 U	0.83 U	0.96 U	0.91 U	1 U	0.87 U	0.88 U	1 U	0.94 U
trans-1,4-Dichloro-2-butene	4 UJ	3 UJ	3.4 UJ	3.2 UJ	3.7 UJ	3.1 UJ	3.2 UJ	3.6 UJ	3.3 UJ
Trichloroethene	1.3 U	0.95 U	1.1 U	1 U	1.2 U	1 U	1 U	1.2 U	1.1 U
Trichlorofluoromethane	1.9 U	1.4 U	1.6 U	1.6 U	1.8 U	1.5 U	1.5 U	1.7 U	1.6 U
Vinyl acetate	1.9 U	1.4 U	1.6 U	1.6 U	1.8 U	1.5 U	1.5 U	1.7 UJ	1.6 U
Vinyl chloride	0.74 U	0.55 U	0.64 U	0.61 U	0.69 U	0.58 U	0.59 U	0.67 U	0.62 U
Xylenes, Total	2.9 U	2.2 U	2.5 U	2.4 U	2.7 U	2.3 U	2.3 U	2.7 U	2.5 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - AIRFIELD - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB48	74SB48	74SB49	74SB49	74SB50	74SB50	74SB51	74SB52	74SB52
Sample ID	74SB48-01D	74SB48-01	74SB49-04	74SB49-05	74SB50-03	74SB50-04	74SB51-03	74SB52-03	74SB52-04
Date	5/3/2008	5/3/2008	5/3/2008	5/3/2008	5/3/2008	5/3/2008	5/3/2008	5/3/2008	5/3/2008
Depth Range	1.0 - 3.0	1.0 - 3.0	7.0 - 8.0	8.0 - 9.0	6.0 - 7.0	7.0 - 8.0	5.0 - 6.0	6.0 - 7.0	7.0 - 7.5
LLPAHs (ug/kg)									
1-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[a]anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[a]pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[b]fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[g,h,i]perylene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[k]fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indeno[1,2,3-cd]pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - AIRFIELD - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB48	74SB48	74SB49	74SB49	74SB50	74SB50	74SB51	74SB52	74SB52
Sample ID	74SB48-01D	74SB48-01	74SB49-04	74SB49-05	74SB50-03	74SB50-04	74SB51-03	74SB52-03	74SB52-04
Date	5/3/2008	5/3/2008	5/3/2008	5/3/2008	5/3/2008	5/3/2008	5/3/2008	5/3/2008	5/3/2008
Depth Range	1.0 - 3.0	1.0 - 3.0	7.0 - 8.0	8.0 - 9.0	6.0 - 7.0	7.0 - 8.0	5.0 - 6.0	6.0 - 7.0	7.0 - 7.5
Metals (mg/kg)									
Antimony	0.13 UJ	0.09 UJ	0.088 UJ	0.091 UJ	0.1 UJ	0.091 UJ	0.1 UJ	0.098 UJ	0.097 UJ
Arsenic	1.4	0.78	1.3	0.47 J	3.5	1.5	2.2	1.4	0.9
Barium	58	60	7.7	12	11	27	29	21	24
Beryllium	0.17	0.13	0.11 J	0.047 J	0.12 J	0.088 J	0.2	0.13	0.098 J
Cadmium	0.17	0.15	0.036 U	0.038 U	0.057 J	0.05 J	0.092 J	0.07 J	0.14
Chromium	55 R	13 R	26 R	6.4 R	23 R	21 R	84 R	19 R	15 R
Cobalt	30	22	0.91	0.76	2.8	1.9	8.8	5	3.1
Copper	130	130	31	13	49	47	70	53	46
Lead	1.5	0.66	1.9	0.5	2.1	1.8	4.9	2.2	1.7
Mercury	0.0056 J	0.0043 U	0.063	0.19	0.6	0.16	0.11	0.13	0.087
Nickel	21 J	13 J	2.2	1.5	3.6	2.1	9.9	3.4	2.5
Selenium	0.13 U	0.13 U	2.4	0.35 J	5.4	2	1.5	2.6	2.9
Silver	0.048 J	0.051 J	0.03 J	0.038 J	0.062 J	0.034 J	0.062 J	0.042 J	0.05 J
Thallium	0.13 U	0.13 U	0.14 U	0.15 U	0.16 U	0.14 U	0.33 J	0.16 U	0.15 U
Tin	4.4 U	4.4 U	4.7 U	4.9 U	5.4 U	4.8 U	5 U	5.2 U	5.2 U
Vanadium	160	160	220	74	280	220	230	230	200
Zinc	73 J	66 J	11 J	9.8 J	33 J	21 J	26 J	35 J	33 J
TPH DRO/GRO (mg/kg)									
Diesel Range Organics	2.9 J	1.7 J	2.1 J	2.6 J	4.5 J	3.8 J	7.9	2.6 J	4.7
Gasoline Range Organics	0.047 U	0.054 U	0.067 U	0.062 U	0.068 U	0.064 U	0.1 U	0.064 U	0.064 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - AIRFIELD - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB53	74SB53	74SB54	74SB54	74SB55	74SB55	74SB56	74SB56	74SB57
Sample ID	74SB53-04	74SB53-05	74SB54-03	74SB54-04	74SB55-02	74SB55-03	74SB56-03	74SB56-04	74SB57-03
Date	5/3/2008	5/3/2008	5/3/2008	5/3/2008	5/3/2008	5/3/2008	5/3/2008	5/3/2008	5/3/2008
Depth Range	7.0 - 8.0	9.0 - 10.0	5.0 - 7.0	7.0 - 9.0	3.0 - 5.0	5.0 - 7.0	5.0 - 7.0	7.0 - 9.0	5.0 - 7.0
Volatile Organic Compounds (ug/kg)									
1,1,1,2-Tetrachloroethane	0.71 U	0.75 U	0.62 U	0.76 U	0.62 U	0.49 U	0.66 U	0.71 U	0.6 U
1,1,1-Trichloroethane	0.65 U	0.68 U	0.57 U	0.69 U	0.57 U	0.44 U	0.6 U	0.64 U	0.54 U
1,1,2,2-Tetrachloroethane	1.6 U	1.7 U	1.4 U	1.7 U	1.4 U	1.1 U	1.5 U	1.6 U	1.3 U
1,1,2-Trichloroethane	1.3 U	1.4 U	1.2 U	1.4 U	1.2 U	0.92 U	1.2 U	1.3 U	1.1 U
1,1-Dichloroethane	0.56 U	0.59 U	0.49 U	0.59 U	0.49 U	0.38 U	0.52 U	0.55 U	0.47 U
1,1-Dichloroethene	0.6 U	0.64 U	0.53 U	0.64 U	0.53 U	0.41 U	0.56 U	0.6 U	0.5 U
1,2,3-Trichloropropane	1.6 U	1.7 U	1.4 U	1.7 U	1.4 U	1.1 U	1.5 U	1.6 U	1.3 U
1,2-Dibromo-3-Chloropropane	3.1 U	3.3 U	2.7 U	3.3 U	2.7 U	2.1 U	2.9 U	3.1 U	2.6 U
1,2-Dichloroethane	1.1 U	1.2 U	0.98 U	1.2 U	0.97 U	0.77 U	1 U	1.1 U	0.93 U
1,2-Dichloropropane	1.2 U	1.3 U	1.1 U	1.3 U	1.1 U	0.84 U	1.1 U	1.2 U	1 U
2-Butanone (MEK)	3 U	3.2 UJ	12 UJ	30 UJ	9.8 UJ	2.1 UJ	2.8 UJ	3 UJ	2.5 UJ
2-Chloro-1,3-butadiene	0.64 U	0.67 U	0.56 U	0.68 U	0.56 U	0.44 U	0.59 U	0.63 U	0.53 U
2-Hexanone	2.3 U	2.5 U	2 U	2.5 U	2 U	1.6 U	2.2 U	2.3 U	2 U
3-Chloro-1-propene	1.7 UJ	1.8 U	1.5 U	1.8 U	1.5 U	1.1 U	1.6 U	1.7 U	1.4 U
4-Methyl-2-pentanone (MIBK)	3.2 U	3.4 UJ	2.8 UJ	3.4 UJ	2.8 UJ	2.2 UJ	3 UJ	3.2 UJ	2.7 UJ
Acetone	4.9 R	16 J	110 J	290 J	140 J	17 J	22 J	4.9 R	36 J
Acetonitrile	50 R	53 R	44 R	54 R	44 R	34 R	47 R	50 R	42 R
Acrolein	21 R	22 R	19 R	23 R	19 R	15 R	20 R	21 R	18 R
Acrylonitrile	26 U	27 U	22 U	27 U	22 U	18 U	24 U	25 U	21 U
Benzene	0.88 U	0.93 U	0.77 U	0.94 U	0.77 U	0.6 U	0.82 U	0.87 U	0.74 U
Bromoform	1.2 U	1.3 U	1.1 U	1.3 U	1.1 U	0.84 U	1.1 U	1.2 U	1 U
Bromomethane	1.8 UJ	1.9 U	1.6 U	1.9 U	1.6 U	1.2 U	1.7 U	1.8 U	1.5 U
Carbon disulfide	0.57 U	0.6 U	0.5 U	0.61 U	0.5 U	0.39 U	0.53 U	0.56 U	0.58 J
Carbon tetrachloride	1.1 U	1.2 U	0.98 U	1.2 U	0.97 U	0.77 U	1 U	1.1 U	0.93 U
Chlorobenzene	0.81 U	0.86 U	0.71 U	0.87 U	0.71 U	0.56 U	0.76 U	0.81 U	0.68 U
Chlorodibromomethane	0.56 U	0.59 U	0.49 U	0.59 U	0.49 U	0.38 U	0.52 U	0.55 U	0.47 U
Chloroethane	1.3 U	1.4 U	1.2 U	1.4 U	1.2 U	0.92 U	1.2 U	1.3 U	1.1 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - AIRFIELD - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB53	74SB53	74SB54	74SB54	74SB55	74SB55	74SB56	74SB56	74SB57
Sample ID	74SB53-04	74SB53-05	74SB54-03	74SB54-04	74SB55-02	74SB55-03	74SB56-03	74SB56-04	74SB57-03
Date	5/3/2008	5/3/2008	5/3/2008	5/3/2008	5/3/2008	5/3/2008	5/3/2008	5/3/2008	5/3/2008
Depth Range	7.0 - 8.0	9.0 - 10.0	5.0 - 7.0	7.0 - 9.0	3.0 - 5.0	5.0 - 7.0	5.0 - 7.0	7.0 - 9.0	5.0 - 7.0
Volatile Organic Compounds (ug/kg)									
Chloroform	0.56 U	0.59 U	0.49 U	0.59 U	0.49 U	0.38 U	0.52 U	0.55 U	0.47 U
Chloromethane	0.79 U	0.84 U	0.69 U	0.84 U	0.69 U	0.54 U	0.74 U	0.79 U	0.66 U
cis-1,3-Dichloropropene	0.97 U	1 U	0.85 U	1 U	0.85 U	0.67 U	0.9 U	0.96 U	0.81 U
Dibromomethane	1.3 U	1.4 U	1.2 U	1.4 U	1.2 U	0.92 U	1.2 U	1.3 U	1.1 U
Dichlorobromomethane	0.93 U	0.98 U	0.81 U	0.99 U	0.81 U	0.64 U	0.86 U	0.92 U	0.77 U
Dichlorodifluoromethane	0.99 U	1 U	0.87 U	1.1 U	0.87 U	0.68 U	0.92 U	0.99 U	0.83 U
Ethyl methacrylate	2.5 UJ	2.6 UJ	2.1 UJ	2.6 UJ	2.1 UJ	1.7 UJ	2.3 UJ	2.4 UJ	2 UJ
Ethylbenzene	0.84 U	0.88 U	0.73 U	0.89 U	0.73 U	0.57 U	0.78 U	0.83 U	0.7 U
Ethylene Dibromide	1.7 U	1.8 U	1.5 U	1.8 U	1.5 U	1.1 U	1.6 U	1.7 U	1.4 U
Iodomethane	1.1 U	1.2 U	1.3 J	1.2 U	3.2 J	0.77 U	1 U	1.1 U	0.93 U
Isobutyl alcohol	77 R	81 R	67 R	82 R	67 R	53 R	72 R	76 R	64 R
Methacrylonitrile	27 UJ	28 UJ	23 UJ	29 UJ	23 UJ	18 UJ	25 UJ	27 UJ	22 UJ
Methyl methacrylate	4.1 UJ	4.4 UJ	3.6 UJ	4.4 UJ	3.6 UJ	2.8 UJ	3.8 UJ	4.1 UJ	3.4 UJ
Methylene Chloride	1.1 U	1.2 U	0.98 U	1.2 U	0.97 U	0.77 U	1 U	1.1 U	0.93 U
Pentachloroethane	2.5 U	2.6 U	2.1 U	2.6 U	2.1 U	1.7 U	2.3 U	2.4 U	2 U
Propionitrile	23 R	25 R	20 R	25 R	20 R	16 R	22 R	23 R	20 R
Styrene	0.74 U	0.78 U	0.64 U	0.78 U	0.64 U	0.51 U	0.69 U	0.73 U	0.61 U
Tetrachloroethene	0.81 U	0.86 U	0.71 U	0.87 U	0.71 U	0.56 U	0.76 U	0.81 U	0.68 U
Toluene	0.88 U	0.93 U	0.77 U	0.94 U	0.77 U	0.6 U	0.82 U	0.87 U	0.74 U
trans-1,2-Dichloroethene	1.1 U	1.1 U	0.95 U	1.2 U	0.95 U	0.74 U	1 U	1.1 U	0.9 U
trans-1,3-Dichloropropene	0.97 U	1 U	0.85 U	1 U	0.85 U	0.67 U	0.9 U	0.96 U	0.81 U
trans-1,4-Dichloro-2-butene	3.5 UJ	3.7 UJ	3 UJ	3.7 UJ	3 UJ	2.4 UJ	3.2 UJ	3.4 UJ	2.9 UJ
Trichloroethene	1.1 U	1.2 U	0.98 U	1.2 U	0.97 U	0.77 U	1 U	1.1 U	0.93 U
Trichlorofluoromethane	1.7 U	1.8 U	1.5 U	1.8 U	1.5 U	1.1 U	1.6 U	1.7 U	1.4 U
Vinyl acetate	1.7 U	1.8 UJ	1.5 UJ	1.8 UJ	1.5 UJ	1.1 U	1.6 UJ	1.7 UJ	1.4 UJ
Vinyl chloride	0.65 U	0.68 U	0.57 U	0.69 U	0.57 U	0.44 U	0.6 U	0.64 U	0.54 U
Xylenes, Total	2.6 U	2.7 U	2.2 U	2.7 U	2.2 U	1.8 U	2.4 U	2.5 U	2.1 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - AIRFIELD - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB53	74SB53	74SB54	74SB54	74SB55	74SB55	74SB56	74SB56	74SB57
Sample ID	74SB53-04	74SB53-05	74SB54-03	74SB54-04	74SB55-02	74SB55-03	74SB56-03	74SB56-04	74SB57-03
Date	5/3/2008	5/3/2008	5/3/2008	5/3/2008	5/3/2008	5/3/2008	5/3/2008	5/3/2008	5/3/2008
Depth Range	7.0 - 8.0	9.0 - 10.0	5.0 - 7.0	7.0 - 9.0	3.0 - 5.0	5.0 - 7.0	5.0 - 7.0	7.0 - 9.0	5.0 - 7.0
LLPAHs (ug/kg)									
1-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[a]anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[a]pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[b]fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[g,h,i]perylene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[k]fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indeno[1,2,3-cd]pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - AIRFIELD - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB53	74SB53	74SB54	74SB54	74SB55	74SB55	74SB56	74SB56	74SB57
Sample ID	74SB53-04	74SB53-05	74SB54-03	74SB54-04	74SB55-02	74SB55-03	74SB56-03	74SB56-04	74SB57-03
Date	5/3/2008	5/3/2008	5/3/2008	5/3/2008	5/3/2008	5/3/2008	5/3/2008	5/3/2008	5/3/2008
Depth Range	7.0 - 8.0	9.0 - 10.0	5.0 - 7.0	7.0 - 9.0	3.0 - 5.0	5.0 - 7.0	5.0 - 7.0	7.0 - 9.0	5.0 - 7.0
Metals (mg/kg)									
Antimony	0.1 UJ	0.18 UJ	0.33 UJ	0.36 UJ	0.21 UJ	0.24 UJ	0.12 UJ	0.14 UJ	0.12 UJ
Arsenic	2.1	4.7 J	6.2 J	7.1 J	4 J	3.8 J	2.3 J	3.2 J	2.1 J
Barium	11	13	960	530	130	34	140	18	44
Beryllium	0.047 J	0.096 U	0.32	0.47	0.34	0.29	0.4	0.12	0.3
Cadmium	0.037 U	0.081 J	2.9	2.1	1.6	0.53	0.65	0.22	0.48
Chromium	12 R	16 J	120 J	100 J	67 J	130 J	23 J	27 J	28 J
Cobalt	0.79	1.1	170	78	30	17	21	3.1	18
Copper	58	160	130	130	110	100	100	86	97
Lead	2	2.2	42	25	8.4	8.9	4.9	5.7	4.7
Mercury	0.0074 J	0.01 J	0.5	0.24	0.15	0.079	0.071	0.15	0.069
Nickel	1.5	1.8	10	8.6	9.2	5.9	9.4	3.6	8.2
Selenium	1.2	1.8 J	1.5 J	1.4 J	2.4 J	2.8 J	1.3 J	2.2 J	1.2 J
Silver	0.048 J	0.05 U	0.38	0.14 U	0.13 U	0.38	0.13 U	0.083 U	0.099 U
Thallium	0.14 U	0.14 U	2	1.1	0.43 J	0.25 J	0.2 J	0.15 U	0.14 J
Tin	4.8 U	4.8 U	4.4 U	4.3 U	4.8 U	4.7 U	4.6 U	4.8 U	4.6 U
Vanadium	210	370	570	470	390	360	270	450	300
Zinc	31 J	53 J	300 J	320 J	150 J	150 J	97 J	92 J	77 J
TPH DRO/GRO (mg/kg)									
Diesel Range Organics	2.3 J	1.1 J	1.2 J	1.3 J	2.3 J	0.88 J	1.4 J	3 J	1.7 J
Gasoline Range Organics	0.064 U	0.071 U	0.082 U	0.069 U	0.06 U	0.06 U	0.2 U	0.085 U	0.051 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - AIRFIELD - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB57	74SB58	74SB58	74SB59	74SB59	74SB60	74SB60	74SB61	74SB61
Sample ID	74SB57-04	74SB58-03	74SB58-04	74SB59-04	74SB59-05	74SB60-04	74SB60-05	74SB61-03	74SB61-04D
Date	5/3/2008	5/3/2008	5/3/2008	5/3/2008	5/3/2008	5/3/2008	5/3/2008	5/3/2008	5/3/2008
Depth Range	7.0 - 9.0	5.0 - 7.0	7.0 - 9.0	7.0 - 9.0	9.0 - 11.0	7.0 - 9.0	9.0 - 11.0	5.0 - 7.0	7.0 - 9.0
Volatile Organic Compounds (ug/kg)									
1,1,1,2-Tetrachloroethane	0.61 U	0.59 U	0.57 U	0.59 U	0.59 U	0.55 U	0.55 U	0.44 U	0.54 U
1,1,1-Trichloroethane	0.55 U	0.54 U	0.51 U	0.54 U	0.53 U	0.5 U	0.49 U	0.4 U	0.49 U
1,1,2,2-Tetrachloroethane	1.3 U	1.3 U	1.2 U	1.3 U	1.3 U	1.2 U	1.2 U	0.97 U	1.2 U
1,1,2-Trichloroethane	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1 U	1 U	0.83 U	1 U
1,1-Dichloroethane	0.48 U	0.46 U	0.44 U	0.46 U	0.46 U	0.43 U	0.43 U	0.35 U	0.42 U
1,1-Dichloroethene	0.51 U	0.5 U	0.48 U	0.5 U	0.5 U	0.47 U	0.46 U	0.37 U	0.45 U
1,2,3-Trichloropropane	1.3 U	1.3 U	1.2 U	1.3 U	1.3 U	1.2 U	1.2 U	0.97 U	1.2 U
1,2-Dibromo-3-Chloropropane	2.7 U	2.6 U	2.5 U	2.6 U	2.6 U	2.4 U	2.4 U	1.9 U	2.4 U
1,2-Dichloroethane	0.95 U	0.93 U	0.89 U	0.93 U	0.92 U	0.87 U	0.85 U	0.69 U	0.84 U
1,2-Dichloropropane	1 U	1 U	0.97 U	1 U	1 U	0.95 U	0.94 U	0.76 U	0.93 U
2-Butanone (MEK)	2.6 UJ	2.5 UJ	2.4 UJ	2.5 U	2.5 U	2.9 U	2.3 U	4.2 U	12 U
2-Chloro-1,3-butadiene	0.54 U	0.53 U	0.5 U	0.53 U	0.52 U	0.49 U	0.49 U	0.39 U	0.48 U
2-Hexanone	2 U	2 U	1.9 U	1.9 U	1.9 U	1.8 U	1.8 U	1.4 U	1.8 U
3-Chloro-1-propene	1.4 U	1.4 U	1.3 U	1.4 U	1.4 U	1.3 U	1.3 U	1 U	1.3 U
4-Methyl-2-pentanone (MIBK)	2.8 UJ	2.7 UJ	2.6 UJ	2.7 U	2.7 U	2.5 U	2.5 U	2 U	2.4 U
Acetone	23 J	31 J	13 J	12 J	21 J	25 J	33 J	16 J	65 J
Acetonitrile	43 R	42 R	40 R	42 R	41 R	39 R	38 R	31 R	38 R
Acrolein	18 R	18 R	17 R	18 U	17 U	16 U	16 U	13 U	16 U
Acrylonitrile	22 U	21 U	20 U	21 U	21 U	20 U	20 U	16 U	19 U
Benzene	0.75 U	0.73 U	0.7 U	0.73 U	0.72 U	0.68 U	0.67 U	0.55 U	0.67 U
Bromoform	1 U	1 U	0.97 U	1 U	1 U	0.95 U	0.94 U	0.76 U	0.93 U
Bromomethane	1.5 U	1.5 U	1.4 U	1.5 U	1.5 U	1.4 U	1.4 U	1.1 U	1.3 U
Carbon disulfide	0.5 J	0.47 U	0.45 U	0.47 U	0.99 J	0.44 U	0.43 U	0.35 U	0.43 U
Carbon tetrachloride	0.95 U	0.93 U	0.89 U	0.93 U	0.92 U	0.87 U	0.85 U	0.69 U	0.84 U
Chlorobenzene	0.7 U	0.68 U	0.65 U	0.68 U	0.67 U	0.63 U	0.62 U	0.5 U	0.61 U
Chlorodibromomethane	0.48 U	0.46 U	0.44 U	0.46 U	0.46 U	0.43 U	0.43 U	0.35 U	0.42 U
Chloroethane	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1 U	1 U	0.83 U	1 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - AIRFIELD - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB57	74SB58	74SB58	74SB59	74SB59	74SB60	74SB60	74SB61	74SB61
Sample ID	74SB57-04	74SB58-03	74SB58-04	74SB59-04	74SB59-05	74SB60-04	74SB60-05	74SB61-03	74SB61-04D
Date	5/3/2008	5/3/2008	5/3/2008	5/3/2008	5/3/2008	5/3/2008	5/3/2008	5/3/2008	5/3/2008
Depth Range	7.0 - 9.0	5.0 - 7.0	7.0 - 9.0	7.0 - 9.0	9.0 - 11.0	7.0 - 9.0	9.0 - 11.0	5.0 - 7.0	7.0 - 9.0
Volatile Organic Compounds (ug/kg)									
Chloroform	0.48 U	0.46 U	0.44 U	0.46 U	0.46 U	0.43 U	0.43 U	0.35 U	0.42 U
Chloromethane	0.68 U	0.66 U	0.63 U	0.66 U	0.65 U	0.62 U	0.6 U	0.49 U	0.6 U
cis-1,3-Dichloropropene	0.83 U	0.81 U	0.77 U	0.81 U	0.8 U	0.75 U	0.74 U	0.6 U	0.73 U
Dibromomethane	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1 U	1 U	0.83 U	1 U
Dichlorobromomethane	0.79 U	0.77 U	0.73 U	0.77 U	0.76 U	0.72 U	0.71 U	0.57 U	0.7 U
Dichlorodifluoromethane	0.85 U	0.83 U	0.79 U	0.83 U	0.82 U	0.77 U	0.76 U	0.61 U	0.75 U
Ethyl methacrylate	2.1 UJ	2 UJ	1.9 UJ	2 U	2 U	1.9 U	1.9 U	1.5 U	1.9 U
Ethylbenzene	0.72 U	0.7 U	0.66 U	0.7 U	0.69 U	0.65 U	0.64 U	0.52 U	0.63 U
Ethylene Dibromide	1.4 U	1.4 U	1.3 U	1.4 U	1.4 U	1.3 U	1.3 U	1 U	1.3 U
Iodomethane	0.95 U	0.93 U	0.89 U	0.93 U	0.92 U	0.87 U	0.85 U	0.69 U	0.84 U
Isobutyl alcohol	66 R	64 R	61 R	64 R	63 R	60 R	59 R	48 R	58 R
Methacrylonitrile	23 UJ	22 UJ	21 UJ	22 U	22 U	21 U	20 U	17 U	20 U
Methyl methacrylate	3.5 UJ	3.4 UJ	3.3 UJ	3.4 U	3.4 U	3.2 U	3.2 U	2.6 U	3.1 U
Methylene Chloride	0.95 U	0.93 U	0.89 U	0.93 U	0.92 U	0.87 U	0.85 U	0.69 U	0.84 U
Pentachloroethane	2.1 U	2 U	1.9 U	2 UJ	2 UJ	1.9 UJ	1.9 UJ	1.5 UJ	1.9 UJ
Propionitrile	20 R	20 R	19 R	19 U	19 U	18 U	18 U	14 U	18 U
Styrene	0.63 U	0.61 U	0.58 U	0.61 U	0.61 U	0.57 U	0.56 U	0.46 U	0.56 U
Tetrachloroethene	0.7 U	0.68 U	0.65 U	0.68 U	0.67 U	0.63 U	0.62 U	0.5 U	0.61 U
Toluene	0.75 U	0.73 U	0.7 U	0.73 U	0.72 U	0.68 U	0.67 U	0.55 U	0.67 U
trans-1,2-Dichloroethene	0.92 U	0.9 U	0.86 U	0.9 U	0.89 U	0.84 U	0.83 U	0.67 U	0.82 U
trans-1,3-Dichloropropene	0.83 U	0.81 U	0.77 U	0.81 U	0.8 U	0.75 U	0.74 U	0.6 U	0.73 U
trans-1,4-Dichloro-2-butene	3 UJ	2.9 UJ	2.7 UJ	2.9 U	2.8 U	2.7 U	2.6 U	2.1 U	2.6 U
Trichloroethene	0.95 U	0.93 U	0.89 U	0.93 U	0.92 U	0.87 U	0.85 U	0.69 U	0.84 U
Trichlorofluoromethane	1.4 U	1.4 U	1.3 U	1.4 U	1.4 U	1.3 U	1.3 U	1 U	1.3 U
Vinyl acetate	1.4 UJ	1.4 UJ	1.3 UJ	1.4 U	1.4 U	1.3 U	1.3 U	1 U	1.3 U
Vinyl chloride	0.55 U	0.54 U	0.51 U	0.54 U	0.53 U	0.5 U	0.49 U	0.4 U	0.49 U
Xylenes, Total	2.2 U	2.1 U	2 U	2.1 U	2.1 U	2 U	2 U	1.6 U	1.9 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - AIRFIELD - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB57	74SB58	74SB58	74SB59	74SB59	74SB60	74SB60	74SB61	74SB61
Sample ID	74SB57-04	74SB58-03	74SB58-04	74SB59-04	74SB59-05	74SB60-04	74SB60-05	74SB61-03	74SB61-04D
Date	5/3/2008	5/3/2008	5/3/2008	5/3/2008	5/3/2008	5/3/2008	5/3/2008	5/3/2008	5/3/2008
Depth Range	7.0 - 9.0	5.0 - 7.0	7.0 - 9.0	7.0 - 9.0	9.0 - 11.0	7.0 - 9.0	9.0 - 11.0	5.0 - 7.0	7.0 - 9.0
LLPAHs (ug/kg)									
1-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[a]anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[a]pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[b]fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[g,h,i]perylene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[k]fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indeno[1,2,3-cd]pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - AIRFIELD - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB57	74SB58	74SB58	74SB59	74SB59	74SB60	74SB60	74SB61	74SB61
Sample ID	74SB57-04	74SB58-03	74SB58-04	74SB59-04	74SB59-05	74SB60-04	74SB60-05	74SB61-03	74SB61-04D
Date	5/3/2008	5/3/2008	5/3/2008	5/3/2008	5/3/2008	5/3/2008	5/3/2008	5/3/2008	5/3/2008
Depth Range	7.0 - 9.0	5.0 - 7.0	7.0 - 9.0	7.0 - 9.0	9.0 - 11.0	7.0 - 9.0	9.0 - 11.0	5.0 - 7.0	7.0 - 9.0
Metals (mg/kg)									
Antimony	0.09 UJ	0.089 UJ	0.11 UJ	0.09 UJ	0.081 UJ	0.11 UJ	0.15 UJ	0.2 UJ	0.097 UJ
Arsenic	2 J	1.9 J	1.8 J	1.4 J	1.4 J	2 J	1.7 J	2.1 J	1.9 J
Barium	82	69	71	79	100	87	84	100	120
Beryllium	0.27	0.21	0.32	0.28	0.28	0.25	0.37	0.33	0.33
Cadmium	0.19	0.16	0.11 J	0.18	0.08 J	0.17	0.11 J	0.082 J	0.21
Chromium	21 J	16 J	21 J	24 J	24 J	18 J	36 J	5.8 J	34 J
Cobalt	18	15	17	16	18	18	22	22	25
Copper	97	53	75	67	66	79	97	150	93
Lead	4.2	3.1	3.2	2.8	2.5	4	3.7	0.78	3.9
Mercury	0.053	0.033	0.039	0.036	0.012 J	0.04	0.05	0.025	0.044
Nickel	7.8	4.9	6.9	6.3	6.7	7.1	9.5	8.4	9.8
Selenium	0.66 J	0.67 J	0.29 J	0.54 J	0.22 J	0.91 J	0.76 J	0.23 J	0.81 J
Silver	0.064 U	0.052 U	0.07 U	0.066 U	0.035 U	0.05 U	0.064 U	0.045 U	0.071 U
Thallium	0.15 J	0.14 U	0.14 U	0.13 U	0.13 U	0.15 J	0.16 J	0.16 U	0.17 J
Tin	4.8 U	4.5 U	4.6 U	4.5 U	4.3 U	4.8 U	4.6 U	5.2 U	5 U
Vanadium	210	160	230	190	180	190	290	270	240
Zinc	64 J	41 J	47 J	40 J	44 J	49 J	60 J	55 J	60 J
TPH DRO/GRO (mg/kg)									
Diesel Range Organics	2.9 J	3.4 J	2.2 J	3 J	2.5 J	6.4	3.1 J	2.6 J	3.3 J
Gasoline Range Organics	0.062 U	0.058 U	0.056 U	0.065 U	0.064 U	0.06 U	0.046 U	0.04 U	0.037 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - AIRFIELD - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB61	74SB62	74VP1B	74VP1B	74VP1B	74VP1B	74VP2B	74VP2B
Sample ID	74SB61-04	74SB62-03	74VP1B-03D	74VP1B-03	74VP1B-04	74VP1B-04X	74VP2B-01	74VP2B-03
Date	5/3/2008	5/3/2008	5/3/2008	5/3/2008	5/3/2008	5/3/2008	5/3/2008	5/3/2008
Depth Range	7.0 - 9.0	5.0 - 7.0	5.0 - 7.0	5.0 - 7.0	7.0 - 9.0	7.0 - 9.0	1.0 - 3.0	5.0 - 7.0
Volatile Organic Compounds (ug/kg)								
1,1,1,2-Tetrachloroethane	0.82 U	0.67 U	0.57 U	0.6 U	0.58 U	0.64 U	0.61 U	0.51 U
1,1,1-Trichloroethane	0.74 U	0.61 U	0.52 U	0.55 U	0.53 U	0.58 U	0.55 U	0.47 U
1,1,2,2-Tetrachloroethane	1.8 U	1.5 U	1.3 U	1.3 U	1.3 U	1.4 U	1.3 U	1.1 U
1,1,2-Trichloroethane	1.5 U	1.3 U	1.1 U	1.1 U	1.1 U	1.2 U	1.1 U	0.96 U
1,1-Dichloroethane	0.64 U	0.53 U	0.45 U	0.47 U	0.45 U	0.5 U	0.48 U	0.4 U
1,1-Dichloroethene	0.69 U	0.57 U	0.48 U	0.51 U	0.49 U	0.54 U	0.52 U	0.43 U
1,2,3-Trichloropropane	1.8 U	1.5 U	1.3 U	1.3 U	1.3 U	1.4 U	1.3 U	1.1 U
1,2-Dibromo-3-Chloropropane	3.6 U	3 U	2.5 U	2.6 U	2.5 U	2.8 U	2.7 U	2.3 U
1,2-Dichloroethane	1.3 U	1.1 U	0.89 U	0.94 U	0.91 U	1 U	0.95 U	0.8 U
1,2-Dichloropropane	1.4 U	1.2 U	0.98 U	1 U	1 U	1.1 U	1 U	0.88 U
2-Butanone (MEK)	11 U	11 U	12 UJ	12 UJ	2.4 UJ	2.7 UJ	27 UJ	2.2 UJ
2-Chloro-1,3-butadiene	0.73 U	0.6 U	0.51 U	0.54 U	0.52 U	0.57 U	0.54 U	0.46 U
2-Hexanone	2.7 U	2.2 U	1.9 UJ	2 UJ	1.9 UJ	2.1 UJ	2 UJ	1.7 UJ
3-Chloro-1-propene	1.9 U	1.6 U	1.3 U	1.4 U	1.4 U	1.5 U	1.4 U	1.2 U
4-Methyl-2-pentanone (MIBK)	3.7 U	3.1 U	2.6 UJ	2.7 UJ	2.6 UJ	2.9 UJ	2.8 UJ	2.3 UJ
Acetone	50 J	67 J	140 J	120 J	32 J	33 J	280 J	52 J
Acetonitrile	58 R	47 R	40 R	42 R	41 R	45 R	43 R	36 R
Acrolein	24 U	20 U	17 R	18 R	17 R	19 R	18 R	15 R
Acrylonitrile	29 U	24 U	21 U	22 U	21 U	23 U	22 U	18 U
Benzene	1 U	0.83 U	0.71 U	0.74 U	0.72 U	0.79 U	0.75 U	0.64 U
Bromoform	1.4 U	1.2 U	0.98 U	1 U	1 U	1.1 U	1 U	0.88 U
Bromomethane	2 U	1.7 U	1.4 UJ	1.5 UJ	1.4 UJ	1.6 UJ	1.5 U	1.3 UJ
Carbon disulfide	0.65 U	0.54 U	0.46 U	0.48 U	0.46 U	0.51 U	0.49 U	0.41 U
Carbon tetrachloride	1.3 U	1.1 U	0.89 U	0.94 U	0.91 U	1 U	0.95 U	0.8 U
Chlorobenzene	0.93 U	0.77 U	0.65 U	0.69 U	0.66 U	0.73 U	0.7 U	0.59 U
Chlorodibromomethane	0.64 U	0.53 U	0.45 U	0.47 U	0.45 U	0.5 U	0.48 U	0.4 U
Chloroethane	1.5 U	1.3 U	1.1 U	1.1 U	1.1 U	1.2 U	1.1 U	0.96 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - AIRFIELD - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB61	74SB62	74VP1B	74VP1B	74VP1B	74VP1B	74VP2B	74VP2B
Sample ID	74SB61-04	74SB62-03	74VP1B-03D	74VP1B-03	74VP1B-04	74VP1B-04X	74VP2B-01	74VP2B-03
Date	5/3/2008	5/3/2008	5/3/2008	5/3/2008	5/3/2008	5/3/2008	5/3/2008	5/3/2008
Depth Range	7.0 - 9.0	5.0 - 7.0	5.0 - 7.0	5.0 - 7.0	7.0 - 9.0	7.0 - 9.0	1.0 - 3.0	5.0 - 7.0
Volatile Organic Compounds (ug/kg)								
Chloroform	0.64 U	0.53 U	0.45 U	0.47 U	0.45 U	0.5 U	0.48 U	0.4 U
Chloromethane	0.91 U	0.75 U	0.64 U	0.67 U	0.64 U	0.71 U	0.68 U	0.57 U
cis-1,3-Dichloropropene	1.1 U	0.92 U	0.78 U	0.82 U	0.79 U	0.87 U	0.83 U	0.7 U
Dibromomethane	1.5 U	1.3 U	1.1 U	1.1 U	1.1 U	1.2 U	1.1 U	0.96 U
Dichlorobromomethane	1.1 U	0.88 U	0.74 U	0.78 U	0.75 U	0.83 U	0.79 U	0.67 U
Dichlorodifluoromethane	1.1 U	0.94 U	0.8 U	0.84 U	0.81 U	0.89 U	0.85 U	0.72 U
Ethyl methacrylate	2.8 U	2.3 U	2 UJ	2.1 UJ	2 UJ	2.2 UJ	2.1 UJ	1.8 UJ
Ethylbenzene	0.96 U	0.79 U	0.67 U	0.71 U	0.68 U	0.75 U	0.72 U	0.6 U
Ethylene Dibromide	1.9 U	1.6 U	1.3 U	1.4 U	1.4 U	1.5 U	1.4 U	1.2 U
Iodomethane	1.3 U	1.1 U	0.89 U	0.94 U	0.91 U	1 U	5.1	0.8 U
Isobutyl alcohol	88 R	73 R	62 R	65 R	62 R	69 R	66 R	55 R
Methacrylonitrile	31 UJ	25 U	21 UJ	23 UJ	22 UJ	24 UJ	23 UJ	19 UJ
Methyl methacrylate	4.7 U	3.9 U	3.3 UJ	3.5 UJ	3.4 UJ	3.7 UJ	3.5 UJ	3 UJ
Methylene Chloride	1.3 U	1.1 U	0.89 U	0.94 U	0.91 U	1 U	0.95 U	0.8 U
Pentachloroethane	2.8 UJ	2.3 UJ	2 UJ	2.1 UJ	2 UJ	2.2 UJ	2.1 UJ	1.8 UJ
Propionitrile	27 U	22 U	19 R	20 R	19 R	21 R	20 R	17 R
Styrene	0.84 U	0.7 U	0.59 U	0.62 U	0.6 U	0.66 U	0.63 U	0.53 U
Tetrachloroethene	0.93 U	0.77 U	0.65 U	0.69 U	0.66 U	0.73 U	0.7 U	0.59 U
Toluene	1 U	0.83 U	0.71 U	0.74 U	0.72 U	0.79 U	0.75 U	0.64 U
trans-1,2-Dichloroethene	1.2 U	1 U	0.87 U	0.91 U	0.88 U	0.98 U	0.93 U	0.78 U
trans-1,3-Dichloropropene	1.1 U	0.92 U	0.78 U	0.82 U	0.79 U	0.87 U	0.83 U	0.7 U
trans-1,4-Dichloro-2-butene	4 U	3.3 U	2.8 UJ	2.9 UJ	2.8 UJ	3.1 UJ	3 UJ	2.5 UJ
Trichloroethene	1.3 U	1.1 U	0.89 U	0.94 U	0.91 U	1 U	0.95 U	0.8 U
Trichlorofluoromethane	1.9 U	1.6 U	1.3 U	1.4 U	1.4 U	1.5 U	1.4 U	1.2 U
Vinyl acetate	1.9 U	1.6 U	1.3 U	1.4 U	1.4 U	1.5 U	1.4 U	1.2 U
Vinyl chloride	0.74 U	0.61 U	0.52 U	0.55 U	0.53 U	0.58 U	0.55 U	0.47 U
Xylenes, Total	2.9 U	2.4 U	2.1 U	2.2 U	2.1 U	2.3 U	2.2 U	1.8 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - AIRFIELD - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB61	74SB62	74VP1B	74VP1B	74VP1B	74VP1B	74VP2B	74VP2B
Sample ID	74SB61-04	74SB62-03	74VP1B-03D	74VP1B-03	74VP1B-04	74VP1B-04X	74VP2B-01	74VP2B-03
Date	5/3/2008	5/3/2008	5/3/2008	5/3/2008	5/3/2008	5/3/2008	5/3/2008	5/3/2008
Depth Range	7.0 - 9.0	5.0 - 7.0	5.0 - 7.0	5.0 - 7.0	7.0 - 9.0	7.0 - 9.0	1.0 - 3.0	5.0 - 7.0
LLPAHs (ug/kg)								
1-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[a]anthracene	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[a]pyrene	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[b]fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[g,h,i]perylene	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[k]fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA	NA	NA	NA	NA
Indeno[1,2,3-cd]pyrene	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	NA	NA	NA	NA	NA	NA	NA	NA

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - AIRFIELD - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB61	74SB62	74VP1B	74VP1B	74VP1B	74VP1B	74VP2B	74VP2B
Sample ID	74SB61-04	74SB62-03	74VP1B-03D	74VP1B-03	74VP1B-04	74VP1B-04X	74VP2B-01	74VP2B-03
Date	5/3/2008	5/3/2008	5/3/2008	5/3/2008	5/3/2008	5/3/2008	5/3/2008	5/3/2008
Depth Range	7.0 - 9.0	5.0 - 7.0	5.0 - 7.0	5.0 - 7.0	7.0 - 9.0	7.0 - 9.0	1.0 - 3.0	5.0 - 7.0
Metals (mg/kg)								
Antimony	0.09 UJ	0.21 UJ	0.28 U	0.22 U	0.11 U	0.091 U	0.13 U	0.34 U
Arsenic	2.3 J	3.3 J	2.4	2.2	2.2	1.8	3.5	2.8
Barium	100	110	25 J	39 J	78	80	28	64
Beryllium	0.39	0.34	0.35	0.3	0.28	0.31	0.16	0.21
Cadmium	0.32	0.28	0.17	0.077 J	0.078 J	0.15	0.061 J	1.6
Chromium	26 J	20 J	14 J	30 J	31	22	18	17
Cobalt	35	32	26	20	19	28	5.8	15
Copper	89	160	270 J	170 J	130	86	43	190
Lead	4	3.7	2.7	3.5	3.8	3.4	2.8	3.7
Mercury	0.052	0.046	0.052	0.071	0.031	0.052	0.19	0.0043 U
Nickel	9.8	6.7	10	11	8.1	8.3	4.9	16
Selenium	0.78 J	1.3 J	1.5	1	0.66	1.2	2.5	0.41 J
Silver	0.066 U	0.094 U	0.085 U	0.074 U	0.035 U	0.051 U	0.089 U	0.26
Thallium	0.27 J	0.16 U	0.15 U	0.16 J	0.19 J	0.26 J	0.26 J	0.12 U
Tin	4.5 U	5.2 U	4.9 U	4.8 U	4.7 U	4.8 U	4.9 U	3.9 U
Vanadium	220	280	520	380	290	190	220	100
Zinc	57 J	56 J	95	68	46	60	32	200
TPH DRO/GRO (mg/kg)								
Diesel Range Organics	2.8 J	2.2 J	3 J	3.3 J	2 J	1 J	7.6	2.2 J
Gasoline Range Organics	0.036 U	0.065 U	0.053 U	0.069 U	0.055 U	0.061 U	0.058 U	0.063 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SWMU 9 AREA A/B - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB63	74SB63	74SB64	74SB64	74SB65	74SB65	74SB66	74SB66	74SB66	74SB67
Sample ID	74SB63-03	74SB63-04	74SB64-03	74SB64-04	74SB65-03	74SB65-04	74SB66-03	74SB66-04	74SB66-04D	74SB67-03
Date	5/4/2008	5/4/2008	5/4/2008	5/4/2008	5/4/2008	5/4/2008	5/4/2008	5/4/2008	5/4/2008	5/4/2008
Depth Range	5.0-7.0	7.0-9.0	5.0-7.0	7.0-9.0	5.0-7.0	7.0-9.0	5.0-7.0	7.0-9.0	7.0-9.0	5.0-7.0
Volatile Organic Compounds (ug/kg)										
1,1,1,2-Tetrachloroethane	0.64 U	0.66 U	0.55 U	0.62 U	0.55 U	0.64 U	0.63 U	0.66 U	0.76 U	0.73 U
1,1,1-Trichloroethane	0.58 U	0.6 U	0.5 U	0.57 U	0.5 U	0.58 U	0.57 U	0.6 U	0.69 U	0.66 U
1,1,2,2-Tetrachloroethane	1.4 U	1.4 U	1.2 U	1.4 U	1.2 U	1.4 U	1.4 U	1.5 U	1.7 U	1.6 U
1,1,2-Trichloroethane	1.2 U	1.2 U	1 U	1.2 U	1 U	1.2 U	1.2 U	1.2 U	1.4 U	1.4 U
1,1-Dichloroethane	0.5 U	0.51 U	0.43 U	0.49 U	0.43 U	0.5 U	0.49 U	0.52 U	0.6 U	0.57 U
1,1-Dichloroethene	0.54 U	0.56 U	0.46 U	0.53 U	0.46 U	0.54 U	0.53 U	0.56 U	0.64 U	0.62 U
1,2,3-Trichloropropane	1.4 U	1.4 U	1.2 U	1.4 U	1.2 U	1.4 U	1.4 U	1.5 U	1.7 U	1.6 U
1,2-Dibromo-3-Chloropropane	2.8 U	2.9 U	2.4 U	2.7 U	2.4 U	2.8 U	2.8 U	2.9 U	3.3 U	3.2 U
1,2-Dichloroethane	0.99 U	1 U	0.86 U	0.98 U	0.86 U	1 U	0.99 U	1 U	1.2 U	1.1 U
1,2-Dichloropropane	1.1 U	1.1 U	0.94 U	1.1 U	0.94 U	1.1 U	1.1 U	1.1 U	1.3 U	1.3 U
2-Butanone (MEK)	2.7 U	2.8 U	2.3 U	2.6 U	2.3 U	2.7 U	2.7 U	2.8 U	3.2 U	3.1 U
2-Chloro-1,3-butadiene	0.57 U	0.59 U	0.49 U	0.56 U	0.49 U	0.57 U	0.56 U	0.59 U	0.68 U	0.65 U
2-Hexanone	2.1 U	2.2 U	1.8 U	2 U	1.8 U	2.1 U	2.1 U	2.2 U	2.5 U	2.4 U
3-Chloro-1-propene	1.5 U	1.5 U	1.3 U	1.5 U	1.3 U	1.5 U	1.5 U	1.6 U	1.8 U	1.7 U
4-Methyl-2-pentanone (MIBK)	2.9 U	3 U	2.5 U	2.8 U	2.5 U	2.9 U	2.9 U	3 U	3.5 U	3.3 U
Acetone	10 J	4.5 R	3.8 R	8.5 J	7.6 J	4.4 R	4.4 R	20 J	5.3 R	5 R
Acetonitrile	45 R	46 R	39 R	44 R	39 R	45 R	45 R	47 R	54 R	51 R
Acrolein	19 U	20 U	16 U	19 U	16 U	19 U	19 U	20 U	23 U	22 U
Acrylonitrile	23 U	24 U	20 U	22 U	20 U	23 U	23 U	24 U	27 U	26 U
Benzene	0.79 U	0.81 U	0.68 U	0.77 U	0.68 U	0.79 U	0.78 U	0.82 U	0.94 U	0.9 U
Bromoform	1.1 U	1.1 U	0.94 U	1.1 U	0.94 U	1.1 U	1.1 U	1.1 U	1.3 U	1.3 U
Bromomethane	1.6 U	1.6 U	1.4 U	1.6 U	1.4 U	1.6 U	1.6 U	1.7 U	1.9 U	1.8 U
Carbon disulfide	0.51 U	0.52 U	0.44 U	0.5 U	0.44 U	0.51 U	0.5 U	0.56 J	0.61 U	0.58 U
Carbon tetrachloride	0.99 U	1 U	0.86 U	0.98 U	0.86 U	1 U	0.99 U	1 U	1.2 U	1.1 U
Chlorobenzene	0.73 U	0.75 U	0.63 U	0.71 U	0.63 U	0.73 U	0.72 U	0.76 U	0.87 U	0.83 U
Chlorodibromomethane	0.5 U	0.51 U	0.43 U	0.49 U	0.43 U	0.5 U	0.49 U	0.52 U	0.6 U	0.57 U
Chloroethane	1.2 U	1.2 U	1 U	1.2 U	1 U	1.2 U	1.2 U	1.2 U	1.4 U	1.4 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SWMU 9 AREA A/B - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB63	74SB63	74SB64	74SB64	74SB65	74SB65	74SB66	74SB66	74SB66	74SB67
Sample ID	74SB63-03	74SB63-04	74SB64-03	74SB64-04	74SB65-03	74SB65-04	74SB66-03	74SB66-04	74SB66-04D	74SB67-03
Date	5/4/2008	5/4/2008	5/4/2008	5/4/2008	5/4/2008	5/4/2008	5/4/2008	5/4/2008	5/4/2008	5/4/2008
Depth Range	5.0-7.0	7.0-9.0	5.0-7.0	7.0-9.0	5.0-7.0	7.0-9.0	5.0-7.0	7.0-9.0	7.0-9.0	5.0-7.0
Volatile Organic Compounds (ug/kg)										
Chloroform	0.5 U	0.51 U	0.43 U	0.49 U	0.43 U	0.5 U	0.49 U	0.52 U	0.6 U	0.57 U
Chloromethane	0.71 U	0.73 U	0.61 U	0.69 U	0.61 U	0.71 U	0.7 U	0.74 U	0.85 U	0.81 U
cis-1,3-Dichloropropene	0.86 U	0.89 U	0.75 U	0.85 U	0.75 U	0.87 U	0.86 U	0.9 U	1 U	0.99 U
Dibromomethane	1.2 U	1.2 U	1 U	1.2 U	1 U	1.2 U	1.2 U	1.2 U	1.4 U	1.4 U
Dichlorobromomethane	0.83 U	0.85 U	0.71 U	0.81 U	0.71 U	0.83 U	0.82 U	0.86 U	0.99 U	0.95 U
Dichlorodifluoromethane	0.88 U	0.92 U	0.76 U	0.87 U	0.76 U	0.89 U	0.88 U	0.92 U	1.1 U	1 U
Ethyl methacrylate	2.2 U	2.3 U	1.9 U	2.1 U	1.9 U	2.2 U	2.2 U	2.3 U	2.6 U	2.5 U
Ethylbenzene	0.75 U	0.77 U	0.64 U	0.73 U	0.64 U	0.75 U	0.74 U	0.78 U	0.9 U	0.86 U
Ethylene Dibromide	1.5 U	1.5 U	1.3 U	1.5 U	1.3 U	1.5 U	1.5 U	1.6 U	1.8 U	1.7 U
Iodomethane	0.99 U	1 U	1.5 J	0.98 U	0.86 U	1 U	0.99 U	1 U	1.2 U	1.1 U
Isobutyl alcohol	69 R	71 R	59 R	67 R	59 R	69 R	68 R	71 R	82 R	79 R
Methacrylonitrile	24 U	25 U	21 U	23 UJ	21 UJ	24 UJ	24 UJ	25 UJ	29 UJ	27 UJ
Methyl methacrylate	3.7 U	3.8 U	3.2 U	3.6 U	3.2 U	3.7 U	3.7 U	3.8 U	4.4 U	4.2 U
Methylene Chloride	0.99 U	1 U	0.86 U	0.98 U	0.86 U	1 U	0.99 U	1 U	1.2 U	1.1 U
Pentachloroethane	2.2 UJ	2.3 UJ	1.9 UJ	2.1 UJ	1.9 UJ	2.2 UJ	2.2 UJ	2.3 UJ	2.6 UJ	2.5 UJ
Propionitrile	21 U	22 U	18 U	20 U	18 U	21 U	21 U	22 U	25 U	24 U
Styrene	0.66 U	0.68 U	0.57 U	0.64 U	0.57 U	0.66 U	0.65 U	0.68 U	0.79 U	0.75 U
Tetrachloroethene	0.73 U	0.75 U	0.63 U	0.71 U	0.63 U	0.73 U	0.72 U	0.76 U	0.87 U	0.83 U
Toluene	0.79 U	0.81 U	0.68 U	0.77 U	0.68 U	0.79 U	0.78 U	0.82 U	0.94 U	0.9 U
trans-1,2-Dichloroethene	0.96 U	1 U	0.83 U	0.95 U	0.83 U	0.97 U	0.96 U	1 U	1.2 U	1.1 U
trans-1,3-Dichloropropene	0.86 U	0.89 U	0.75 U	0.85 U	0.75 U	0.87 U	0.86 U	0.9 U	1 U	0.99 U
trans-1,4-Dichloro-2-butene	3.1 U	3.2 U	2.7 U	3 U	2.7 U	3.1 U	3.1 U	3.2 U	3.7 U	3.5 U
Trichloroethene	0.99 U	1 U	0.86 U	0.98 U	0.86 U	1 U	0.99 U	1 U	1.2 U	1.1 U
Trichlorofluoromethane	1.5 U	1.5 U	1.3 U	1.5 U	1.3 U	1.5 U	1.5 U	1.6 U	1.8 U	1.7 U
Vinyl acetate	1.5 U	1.5 U	1.3 U	1.5 U	1.3 U	1.5 U	1.5 U	1.6 U	1.8 U	1.7 U
Vinyl chloride	0.58 U	0.6 U	0.5 U	0.57 U	0.5 U	0.58 U	0.57 U	0.6 U	0.69 U	0.66 U
Xylenes, Total	2.3 U	2.4 U	2 U	2.2 U	2 U	2.3 U	2.3 U	2.4 U	2.7 U	2.6 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SWMU 9 AREA A/B - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB63	74SB63	74SB64	74SB64	74SB65	74SB65	74SB66	74SB66	74SB66	74SB67
Sample ID	74SB63-03	74SB63-04	74SB64-03	74SB64-04	74SB65-03	74SB65-04	74SB66-03	74SB66-04	74SB66-04D	74SB67-03
Date	5/4/2008	5/4/2008	5/4/2008	5/4/2008	5/4/2008	5/4/2008	5/4/2008	5/4/2008	5/4/2008	5/4/2008
Depth Range	5.0-7.0	7.0-9.0	5.0-7.0	7.0-9.0	5.0-7.0	7.0-9.0	5.0-7.0	7.0-9.0	7.0-9.0	5.0-7.0
LLPAHs (ug/kg)										
1-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[a]anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[a]pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[b]fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[g,h,i]perylene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[k]fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indeno[1,2,3-cd]pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SWMU 9 AREA A/B - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB63	74SB63	74SB64	74SB64	74SB65	74SB65	74SB66	74SB66	74SB66	74SB67
Sample ID	74SB63-03	74SB63-04	74SB64-03	74SB64-04	74SB65-03	74SB65-04	74SB66-03	74SB66-04	74SB66-04D	74SB67-03
Date	5/4/2008	5/4/2008	5/4/2008	5/4/2008	5/4/2008	5/4/2008	5/4/2008	5/4/2008	5/4/2008	5/4/2008
Depth Range	5.0-7.0	7.0-9.0	5.0-7.0	7.0-9.0	5.0-7.0	7.0-9.0	5.0-7.0	7.0-9.0	7.0-9.0	5.0-7.0
Metals (mg/kg)										
Antimony	0.091 UJ	0.091 UJ	0.081 UJ	0.088 UJ	0.098 J	0.12 J	0.085 UJ	0.092 UJ	0.092 UJ	0.095 UJ
Arsenic	0.55 J	0.59 J	0.69	0.4 J	0.42 J	0.45 J	0.28 J	0.46 J	0.37 J	0.71
Barium	45 J	140 J	54 J	21 J	22 J	13 J	46 J	84 J	110 J	200 J
Beryllium	0.13	0.1 J	0.18	0.095 J	0.18	0.18	0.12	0.14	0.15	0.23
Cadmium	0.12 J	0.19	0.089 J	0.047 J	0.67	0.62	0.035 U	0.077 J	0.059 J	0.052 J
Chromium	5.3	3.6	18	0.56 J	2.5	1.4	0.74 J	4.3	1.4	3.5
Cobalt	17	27	19	9.1	7.4	7.1	22	18 J	29 J	28
Copper	180 J	530 J	91 J	80 J	23 J	17 J	78 J	60 J	100 J	120 J
Lead	0.48	0.72	1.7	0.38	1.2	0.99	0.4	0.71	0.58	1.5
Mercury	0.0049 R	0.054 R	0.004 R	0.007 R	0.004 R	0.005 R	0.021 R	0.018 R	0.17 R	0.005 R
Nickel	12	7.2	6.9	1.8	1.9	1.7	3.5	2.9	4	7.6
Selenium	0.15 U	0.15 U	0.13 U	0.14 U	0.12 U	0.14 U	0.14 U	0.15 U	0.15 U	0.15 U
Silver	0.062 J	0.02 J	0.022 J	0.019 U	0.016 U	0.019 U	0.02 J	0.073 J	0.064 J	0.038 J
Thallium	0.15 U	0.15 U	0.13 U	0.14 U	0.12 U	0.14 U	0.14 U	0.15 U	0.15 U	0.15 U
Tin	4.9 U	4.9 U	4.3 U	4.7 U	4 U	4.7 U	4.5 U	4.9 U	4.9 U	5.1 U
Vanadium	140	100	170	78	49	54	100	210	180	150
Zinc	39	75	61	33	63	63	43	58	67	70
TPH DRO/GRO (mg/kg)										
Diesel Range Organics	2.2 J	1.6 J	2 J	1.7 J	1.1 J	1.4 J	2 J	1.2 J	2.4 J	0.97 J
Gasoline Range Organics	0.064 U	0.061 U	0.054 U	0.057 U	0.054 U	0.065 U	0.059 U	0.066 U	0.066 U	0.065 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SWMU 9 AREA A/B - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB67	74SB68	74SB68	74SB69	74SB69	74SB70	74SB70	74SB71	74SB71	74SB71
Sample ID	74SB67-04	74SB68-03	74SB68-04	74SB69-03	74SB69-04	74SB70-03	74SB70-04	74SB71-03	74SB71-04	74SB71-04D
Date	5/4/2008	5/4/2008	5/4/2008	5/4/2008	5/4/2008	5/4/2008	5/4/2008	5/5/2008	5/5/2008	5/5/2008
Depth Range	7.0-9.0	5.0-7.0	7.0-9.0	5.0-7.0	7.0-9.0	5.0-7.0	7.0-9.0	5.0-7.0	7.0-9.0	7.0-9.0
Volatile Organic Compounds (ug/kg)										
1,1,1,2-Tetrachloroethane	0.74 U	0.65 U	0.84 U	0.7 U	0.74 U	0.71 U	0.67 U	0.72 U	0.85 U	0.68 U
1,1,1-Trichloroethane	0.67 U	0.59 U	0.76 U	0.64 U	0.67 U	0.65 U	0.6 U	0.65 U	0.77 U	0.62 U
1,1,2,2-Tetrachloroethane	1.6 U	1.4 U	1.8 U	1.5 U	1.6 U	1.6 U	1.5 U	1.6 U	1.8 U	1.5 U
1,1,2-Trichloroethane	1.4 U	1.2 U	1.6 U	1.3 U	1.4 U	1.3 U	1.2 U	1.4 U	1.6 U	1.3 U
1,1-Dichloroethane	0.58 U	0.51 U	0.66 U	0.55 U	0.58 U	0.56 U	0.52 U	0.56 U	0.66 U	0.53 U
1,1-Dichloroethene	0.63 U	0.55 U	0.71 U	0.59 U	0.62 U	0.6 U	0.56 U	0.61 U	0.71 U	0.58 U
1,2,3-Trichloropropane	1.6 U	1.4 U	1.8 U	1.5 U	1.6 U	1.6 U	1.5 U	1.6 U	1.8 U	1.5 U
1,2-Dibromo-3-Chloropropane	3.2 U	2.9 U	3.7 U	3.1 U	3.2 U	3.1 U	2.9 U	3.2 U	3.7 U	3 U
1,2-Dichloroethane	1.2 U	1 U	1.3 U	1.1 U	1.2 U	1.1 U	1 U	1.1 U	1.3 U	1.1 U
1,2-Dichloropropane	1.3 U	1.1 U	1.4 U	1.2 U	1.3 U	1.2 U	1.1 U	1.2 U	1.5 U	1.2 U
2-Butanone (MEK)	3.1 U	2.8 U	3.5 U	3 U	3.1 U	3 U	8.6 U	15 U	7.5 U	5.5 U
2-Chloro-1,3-butadiene	0.66 U	0.58 U	0.75 U	0.63 UJ	0.66 U	0.64 UJ	0.59 U	0.64 U	0.75 U	0.61 U
2-Hexanone	2.4 U	2.1 U	2.8 U	2.3 U	2.4 U	2.3 U	2.2 U	2.4 U	2.8 U	2.2 U
3-Chloro-1-propene	1.7 U	1.5 U	2 U	1.7 U	1.7 U	1.7 U	1.6 U	1.7 UJ	2 UJ	1.6 UJ
4-Methyl-2-pentanone (MIBK)	3.4 U	3 U	3.8 U	3.2 U	3.4 U	3.2 U	3 U	3.3 U	3.8 U	3.1 U
Acetone	5.1 R	14 J	5.8 R	32 J	5.1 R	82 J	130 J	240 J	110 R	62 R
Acetonitrile	52 R	46 R	59 R	50 R	52 R	50 R	47 R	51 UJ	59 UJ	48 UJ
Acrolein	22 U	19 U	25 U	21 R	22 U	21 R	20 U	21 R	25 R	20 R
Acrylonitrile	27 U	24 U	30 U	25 U	27 U	26 U	24 U	26 UJ	30 UJ	25 UJ
Benzene	0.92 U	0.81 U	1 U	0.87 U	0.91 U	0.88 U	0.82 U	0.89 U	1 U	0.84 U
Bromoform	1.3 U	1.1 U	1.4 U	1.2 U	1.3 U	1.2 U	1.1 U	1.2 U	1.5 U	1.2 U
Bromomethane	1.9 U	1.6 U	2.1 U	1.8 U	1.8 U	1.8 U	1.7 U	1.8 U	2.1 U	1.7 U
Carbon disulfide	0.59 U	0.52 U	0.67 U	0.56 U	0.59 U	0.57 U	0.53 U	0.57 U	0.67 U	0.54 U
Carbon tetrachloride	1.2 U	1 U	1.3 U	1.1 U	1.2 U	1.1 U	1 U	1.1 U	1.3 U	1.1 U
Chlorobenzene	0.85 U	0.75 U	0.96 U	0.8 U	0.84 U	0.81 U	0.76 U	0.82 U	0.96 U	0.78 U
Chlorodibromomethane	0.58 U	0.51 U	0.66 U	0.55 U	0.58 U	0.56 U	0.52 U	0.56 U	0.66 U	0.53 U
Chloroethane	1.4 U	1.2 U	1.6 U	1.3 U	1.4 U	1.3 U	1.2 U	1.4 U	1.6 U	1.3 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SWMU 9 AREA A/B - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB67	74SB68	74SB68	74SB69	74SB69	74SB70	74SB70	74SB71	74SB71	74SB71
Sample ID	74SB67-04	74SB68-03	74SB68-04	74SB69-03	74SB69-04	74SB70-03	74SB70-04	74SB71-03	74SB71-04	74SB71-04D
Date	5/4/2008	5/4/2008	5/4/2008	5/4/2008	5/4/2008	5/4/2008	5/4/2008	5/5/2008	5/5/2008	5/5/2008
Depth Range	7.0-9.0	5.0-7.0	7.0-9.0	5.0-7.0	7.0-9.0	5.0-7.0	7.0-9.0	5.0-7.0	7.0-9.0	7.0-9.0
Volatile Organic Compounds (ug/kg)										
Chloroform	0.58 U	0.51 U	0.66 U	0.55 U	0.58 U	0.56 U	0.52 U	0.56 U	0.66 U	0.53 U
Chloromethane	0.82 U	0.73 U	0.93 U	0.78 U	0.82 U	0.79 U	0.74 U	0.8 U	0.94 U	0.76 U
cis-1,3-Dichloropropene	1 U	0.89 U	1.1 U	0.96 U	1 U	0.97 U	0.9 U	0.98 U	1.1 U	0.93 U
Dibromomethane	1.4 U	1.2 U	1.6 U	1.3 U	1.4 U	1.3 U	1.2 U	1.4 U	1.6 U	1.3 U
Dichlorobromomethane	0.96 U	0.85 U	1.1 U	0.91 U	0.96 U	0.93 U	0.86 U	0.93 U	1.1 U	0.88 U
Dichlorodifluoromethane	1 U	0.91 U	1.2 U	0.98 U	1 U	0.99 U	0.93 U	1 U	1.2 U	0.95 U
Ethyl methacrylate	2.6 U	2.2 U	2.9 U	2.4 U	2.5 U	2.5 U	2.3 U	2.5 U	2.9 U	2.3 U
Ethylbenzene	0.87 U	0.77 U	0.98 U	0.83 U	0.87 U	0.84 U	0.78 U	0.84 U	0.99 U	0.8 U
Ethylene Dibromide	1.7 U	1.5 U	2 U	1.7 U	1.7 U	1.7 U	1.6 U	1.7 U	2 U	1.6 U
Iodomethane	1.2 U	1 U	1.3 U	1.1 U	1.2 U	1.1 U	3.5 J	2.4 J	1.3 U	1.1 U
Isobutyl alcohol	80 R	71 R	90 R	76 R	80 R	77 R	72 R	78 R	91 R	74 R
Methacrylonitrile	28 UJ	25 UJ	31 UJ	26 UJ	28 UJ	27 UJ	25 UJ	27 U	32 U	26 U
Methyl methacrylate	4.3 U	3.8 U	4.9 U	4.1 U	4.3 U	4.1 U	3.8 U	4.2 U	4.9 U	3.9 U
Methylene Chloride	1.2 U	1 U	1.3 U	1.1 U	1.2 U	1.1 U	1 U	1.1 U	1.3 U	1.1 U
Pentachloroethane	2.6 UJ	2.2 UJ	2.9 UJ	2.4 UJ	2.5 UJ	2.5 UJ	2.3 UJ	2.5 UJ	2.9 UJ	2.3 UJ
Propionitrile	24 U	21 U	28 U	23 U	24 U	23 U	22 U	24 U	28 U	22 U
Styrene	0.77 U	0.67 U	0.87 U	0.73 U	0.76 U	0.74 U	0.69 U	0.74 U	0.87 U	0.7 U
Tetrachloroethene	0.85 U	0.75 U	0.96 U	0.8 U	0.84 U	0.81 U	0.76 U	0.82 U	0.96 U	0.78 U
Toluene	0.92 U	0.81 U	1 U	0.87 U	0.91 U	0.88 U	0.82 U	0.89 U	1 U	0.84 U
trans-1,2-Dichloroethene	1.1 U	0.99 U	1.3 U	1.1 U	1.1 U	1.1 U	1 U	1.1 U	1.3 U	1 U
trans-1,3-Dichloropropene	1 U	0.89 U	1.1 U	0.96 U	1 U	0.97 U	0.9 U	0.98 U	1.1 U	0.93 U
trans-1,4-Dichloro-2-butene	3.6 U	3.2 U	4.1 U	3.4 U	3.6 U	3.5 U	3.2 U	3.5 U	4.1 U	3.3 U
Trichloroethene	1.2 U	1 U	1.3 U	1.1 U	1.2 U	1.1 U	1 U	1.1 U	1.3 U	1.1 U
Trichlorofluoromethane	1.7 U	1.5 U	2 U	1.7 U	1.7 U	1.7 U	1.6 U	1.7 U	2 U	1.6 U
Vinyl acetate	1.7 U	1.5 U	2 U	1.7 U	1.7 U	1.7 U	1.6 U	1.7 U	2 U	1.6 U
Vinyl chloride	0.67 U	0.59 U	0.76 U	0.64 U	0.67 U	0.65 U	0.6 U	0.65 U	0.77 U	0.62 U
Xylenes, Total	2.7 U	2.4 U	3 U	2.5 U	2.7 U	2.6 U	2.4 U	2.6 U	3 U	2.5 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SWMU 9 AREA A/B - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB67	74SB68	74SB68	74SB69	74SB69	74SB70	74SB70	74SB71	74SB71	74SB71
Sample ID	74SB67-04	74SB68-03	74SB68-04	74SB69-03	74SB69-04	74SB70-03	74SB70-04	74SB71-03	74SB71-04	74SB71-04D
Date	5/4/2008	5/4/2008	5/4/2008	5/4/2008	5/4/2008	5/4/2008	5/4/2008	5/5/2008	5/5/2008	5/5/2008
Depth Range	7.0-9.0	5.0-7.0	7.0-9.0	5.0-7.0	7.0-9.0	5.0-7.0	7.0-9.0	5.0-7.0	7.0-9.0	7.0-9.0
LLPAHs (ug/kg)										
1-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[a]anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[a]pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[b]fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[g,h,i]perylene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[k]fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indeno[1,2,3-cd]pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SWMU 9 AREA A/B - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB67	74SB68	74SB68	74SB69	74SB69	74SB70	74SB70	74SB71	74SB71	74SB71
Sample ID	74SB67-04	74SB68-03	74SB68-04	74SB69-03	74SB69-04	74SB70-03	74SB70-04	74SB71-03	74SB71-04	74SB71-04D
Date	5/4/2008	5/4/2008	5/4/2008	5/4/2008	5/4/2008	5/4/2008	5/4/2008	5/5/2008	5/5/2008	5/5/2008
Depth Range	7.0-9.0	5.0-7.0	7.0-9.0	5.0-7.0	7.0-9.0	5.0-7.0	7.0-9.0	5.0-7.0	7.0-9.0	7.0-9.0
Metals (mg/kg)										
Antimony	0.1 UJ	0.097 UJ	0.1 UJ	0.1 UJ	0.098 UJ	0.11 J	0.094 J	0.11 UJ	0.1 UJ	0.095 UJ
Arsenic	0.27 J	0.55 J	0.66 J	1.5	1.8	1.8	2.2	2.3	1.8	1.3
Barium	19 J	140 J	460 J	75 J	34 J	24 J	89 J	88 J	300 J	210 J
Beryllium	0.24	0.41	0.64	0.29	0.19	0.22	0.35	0.27	0.3	0.26
Cadmium	0.042 U	0.04 U	0.043 U	0.041 U	0.04 U	0.38	0.36	0.12 U	0.09 U	0.049 U
Chromium	4.7	9.5	4.3	15	14	23	26	25	21	22
Cobalt	6.3	23	230	14	6.6	21	61	18	14	12
Copper	33 J	140 J	160 J	60 J	64 J	89 J	71 J	100 J	99 J	92 J
Lead	0.3 U	1.3	1.4	9.9	6.9	7.3	14	4	3.3	2.6
Mercury	0.013 R	0.01 R	0.006 R	0.051 R	0.053 R	0.069 R	0.11 R	0.078	0.034	0.007 J
Nickel	3.7	6.7	7.2	5	4.5	5.4	9.3	7.9	9.7	9.3
Selenium	0.16 U	0.15 U	0.17 U	2.8	1.9	1.7	1.5	2.1	0.94	0.57 J
Silver	0.021 U	0.034 J	0.044 J	0.058 J	0.037 J	0.15 J	0.1 J	0.032 J	0.05 J	0.056 J
Thallium	0.16 U	0.15 U	0.17 U	0.16 U	0.16 U	0.15 U	0.15 J	0.16 U	0.17 U	0.15 U
Tin	5.4 U	5.1 U	5.5 U	5.3 U	5.2 U	5.1 U	4.9 U	5.3 U	5.5 U	5.1 U
Vanadium	130	140	160	260	270	320	340	430	330	280
Zinc	30	62	45	42	38	41	56	60 J	60 J	59 J
TPH DRO/GRO (mg/kg)										
Diesel Range Organics	0.96 J	1.8 J	1.6 J	2.3 J	1.8 J	2.1 J	2 J	1.5 J	1.4 J	1.2 J
Gasoline Range Organics	0.07 U	0.069 U	0.075 U	0.069 U	0.068 U	0.063 U	0.062 U	0.068 U	0.073 U	0.068 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SWMU 9 AREA A/B - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB72	74SB72	74SB73	74SB73	74SB74	74SB74	74SB75	74SB75	74SB76	74SB76
Sample ID	74SB72-03	74SB72-04	74SB73-03	74SB73-04	74SB74-03	74SB74-04	74SB75-03	74SB75-04	74SB76-03	74SB76-03D
Date	5/5/2008	5/5/2008	5/5/2008	5/5/2008	5/5/2008	5/5/2008	5/5/2008	5/5/2008	5/5/2008	5/5/2008
Depth Range	5.0-7.0	7.0-9.0	5.0-7.0	7.0-9.0	5.0-7.0	7.0-9.0	5.0-7.0	7.0-9.0	5.0-7.0	5.0-7.0
Volatile Organic Compounds (ug/kg)										
1,1,1,2-Tetrachloroethane	0.7 U	0.74 U	0.62 U	0.61 U	0.63 U	0.64 U	0.57 U	0.53 U	0.58 U	0.61 U
1,1,1-Trichloroethane	0.63 U	0.67 U	0.56 U	0.55 U	0.57 U	0.58 U	0.52 U	0.48 U	0.52 U	0.55 U
1,1,2,2-Tetrachloroethane	1.5 U	1.6 U	1.4 U	1.3 U	1.4 U	1.4 U	1.3 U	1.2 U	1.3 U	1.3 U
1,1,2-Trichloroethane	1.3 U	1.4 U	1.2 U	1.1 U	1.2 U	1.2 U	1.1 U	1 U	1.1 U	1.1 U
1,1-Dichloroethane	0.54 U	0.58 U	0.49 U	0.48 U	0.49 U	0.5 U	0.45 U	0.42 U	0.45 U	0.48 U
1,1-Dichloroethene	0.59 U	0.62 U	0.52 U	0.51 U	0.53 U	0.54 U	0.48 U	0.45 U	0.49 U	0.51 U
1,2,3-Trichloropropane	1.5 U	1.6 U	1.4 U	1.3 U	1.4 U	1.4 U	1.3 U	1.2 U	1.3 U	1.3 U
1,2-Dibromo-3-Chloropropane	3.1 U	3.2 U	2.7 U	2.7 U	2.8 U	2.8 U	2.5 U	2.3 U	2.5 U	2.7 U
1,2-Dichloroethane	1.1 U	1.2 U	0.97 U	0.95 U	0.98 U	1 U	0.9 U	0.83 U	0.9 U	0.95 U
1,2-Dichloropropane	1.2 U	1.3 U	1.1 U	1 U	1.1 U	1.1 U	0.99 U	0.92 U	0.99 U	1 U
2-Butanone (MEK)	5.5 U	3.1 U	2.6 U	2.6 U	2.7 U	2.7 U	2.4 U	2.3 U	2.4 U	2.6 U
2-Chloro-1,3-butadiene	0.62 U	0.66 U	0.55 U	0.54 U	0.56 U	0.57 U	0.51 U	0.48 U	0.51 U	0.54 U
2-Hexanone	2.3 U	2.4 U	2 U	2 U	2.1 U	2.1 U	1.9 U	1.8 U	1.9 U	2 U
3-Chloro-1-propene	1.6 UJ	1.7 UJ	1.5 UJ	1.4 UJ	1.5 UJ	1.5 UJ	1.3 UJ	1.3 UJ	1.4 UJ	1.4 UJ
4-Methyl-2-pentanone (MIBK)	3.2 U	3.3 U	2.8 U	2.8 U	2.9 U	2.9 U	2.6 U	2.4 U	2.6 U	2.8 U
Acetone	50 R	27 R	11 R	4.2 R	6.4 R	5.2 R	3.9 R	3.7 R	4 R	4.2 R
Acetonitrile	49 UJ	52 UJ	44 UJ	43 UJ	44 UJ	45 UJ	40 UJ	38 UJ	41 UJ	43 UJ
Acrolein	21 R	22 R	18 R	18 R	19 R	19 R	17 R	16 R	17 R	18 R
Acrylonitrile	25 UJ	27 UJ	22 UJ	22 UJ	23 UJ	23 UJ	21 UJ	19 UJ	21 UJ	22 UJ
Benzene	0.86 U	0.91 U	0.77 U	0.75 U	0.78 U	0.79 U	0.71 U	0.66 U	0.71 U	0.75 U
Bromoform	1.2 U	1.3 U	1.1 U	1 U	1.1 U	1.1 U	0.99 U	0.92 U	0.99 U	1 U
Bromomethane	1.7 U	1.8 U	1.6 U	1.5 U	1.6 U	1.6 U	1.4 U	1.3 U	1.4 U	1.5 U
Carbon disulfide	0.56 U	0.59 U	0.5 U	0.49 U	0.5 U	0.51 U	0.46 U	0.43 U	0.46 U	0.49 U
Carbon tetrachloride	1.1 U	1.2 U	0.97 U	0.95 U	0.98 U	1 U	0.9 U	0.83 U	0.9 U	0.95 U
Chlorobenzene	0.8 U	0.84 U	0.71 U	0.69 U	0.72 U	0.73 U	0.65 U	0.61 U	0.66 U	0.69 U
Chlorodibromomethane	0.54 U	0.58 U	0.49 U	0.48 U	0.49 U	0.5 U	0.45 U	0.42 U	0.45 U	0.48 U
Chloroethane	1.3 U	1.4 U	1.2 U	1.1 U	1.2 U	1.2 U	1.1 U	1 U	1.1 U	1.1 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SWMU 9 AREA A/B - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB72	74SB72	74SB73	74SB73	74SB74	74SB74	74SB75	74SB75	74SB76	74SB76
Sample ID	74SB72-03	74SB72-04	74SB73-03	74SB73-04	74SB74-03	74SB74-04	74SB75-03	74SB75-04	74SB76-03	74SB76-03D
Date	5/5/2008	5/5/2008	5/5/2008	5/5/2008	5/5/2008	5/5/2008	5/5/2008	5/5/2008	5/5/2008	5/5/2008
Depth Range	5.0-7.0	7.0-9.0	5.0-7.0	7.0-9.0	5.0-7.0	7.0-9.0	5.0-7.0	7.0-9.0	5.0-7.0	5.0-7.0
Volatile Organic Compounds (ug/kg)										
Chloroform	0.54 U	0.58 U	0.49 U	0.48 U	0.49 U	0.5 U	0.45 U	0.42 U	0.45 U	0.48 U
Chloromethane	0.77 U	0.82 U	0.69 U	0.68 U	0.7 U	0.71 U	0.64 U	0.59 U	0.64 U	0.68 U
cis-1,3-Dichloropropene	0.95 U	1 U	0.84 U	0.83 U	0.86 U	0.87 U	0.78 U	0.73 U	0.79 U	0.83 U
Dibromomethane	1.3 U	1.4 U	1.2 U	1.1 U	1.2 U	1.2 U	1.1 U	1 U	1.1 U	1.1 U
Dichlorobromomethane	0.9 U	0.96 U	0.81 U	0.79 U	0.82 U	0.83 U	0.74 U	0.69 U	0.75 U	0.79 U
Dichlorodifluoromethane	0.97 U	1 U	0.86 U	0.85 U	0.87 U	0.89 U	0.8 U	0.74 U	0.8 U	0.85 U
Ethyl methacrylate	2.4 U	2.5 U	2.1 U	2.1 U	2.2 U	2.2 U	2 U	1.8 U	2 U	2.1 U
Ethylbenzene	0.82 U	0.87 U	0.73 U	0.71 U	0.74 U	0.75 U	0.67 U	0.63 U	0.68 U	0.71 U
Ethylene Dibromide	1.6 U	1.7 U	1.5 U	1.4 U	1.5 U	1.5 U	1.3 U	1.3 U	1.4 U	1.4 U
Iodomethane	2.4 J	1.2 U	0.97 U	0.95 U	0.98 U	1 U	0.9 U	0.83 U	0.9 U	0.95 U
Isobutyl alcohol	75 R	80 R	67 R	66 R	68 R	69 R	62 R	58 R	62 R	66 R
Methacrylonitrile	26 U	28 U	23 U	23 U	24 U	24 U	22 U	20 U	22 U	23 U
Methyl methacrylate	4 U	4.3 U	3.6 U	3.5 U	3.6 U	3.7 U	3.3 U	3.1 U	3.3 U	3.5 U
Methylene Chloride	1.1 U	1.2 U	0.97 U	0.95 U	0.98 U	1 U	0.9 U	0.83 U	0.9 U	0.95 U
Pentachloroethane	2.4 UJ	2.5 UJ	2.1 UJ	2.1 UJ	2.2 UJ	2.2 UJ	2 UJ	1.8 UJ	2 UJ	2.1 UJ
Propionitrile	23 U	24 U	20 U	20 U	21 U	21 U	19 U	18 U	19 U	20 U
Styrene	0.72 U	0.76 U	0.64 U	0.63 U	0.65 U	0.66 U	0.59 U	0.55 U	0.6 U	0.63 U
Tetrachloroethene	0.8 U	0.84 U	0.71 U	0.69 U	0.72 U	0.73 U	0.65 U	0.61 U	0.66 U	0.69 U
Toluene	0.86 U	0.91 U	0.77 U	0.75 U	0.78 U	0.79 U	0.71 U	0.66 U	0.71 U	0.75 U
trans-1,2-Dichloroethene	1.1 U	1.1 U	0.94 U	0.92 U	0.95 U	0.97 U	0.87 U	0.81 U	0.88 U	0.92 U
trans-1,3-Dichloropropene	0.95 U	1 U	0.84 U	0.83 U	0.86 U	0.87 U	0.78 U	0.73 U	0.79 U	0.83 U
trans-1,4-Dichloro-2-butene	3.4 U	3.6 U	3 U	3 U	3 U	3.1 U	2.8 U	2.6 U	2.8 U	2.9 U
Trichloroethene	1.1 U	1.2 U	0.97 U	0.95 U	0.98 U	1 U	0.9 U	0.83 U	0.9 U	0.95 U
Trichlorofluoromethane	1.6 U	1.7 U	1.5 U	1.4 U	1.5 U	1.5 U	1.3 U	1.3 U	1.4 U	1.4 U
Vinyl acetate	1.6 U	1.7 U	1.5 U	1.4 U	1.5 U	1.5 U	1.3 U	1.3 U	1.4 U	1.4 U
Vinyl chloride	0.63 U	0.67 U	0.56 U	0.55 U	0.57 U	0.58 U	0.52 U	0.48 U	0.52 U	0.55 U
Xylenes, Total	2.5 U	2.7 U	2.2 U	2.2 U	2.3 U	2.3 U	2.1 U	1.9 U	2.1 U	2.2 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SWMU 9 AREA A/B - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB72	74SB72	74SB73	74SB73	74SB74	74SB74	74SB75	74SB75	74SB76	74SB76
Sample ID	74SB72-03	74SB72-04	74SB73-03	74SB73-04	74SB74-03	74SB74-04	74SB75-03	74SB75-04	74SB76-03	74SB76-03D
Date	5/5/2008	5/5/2008	5/5/2008	5/5/2008	5/5/2008	5/5/2008	5/5/2008	5/5/2008	5/5/2008	5/5/2008
Depth Range	5.0-7.0	7.0-9.0	5.0-7.0	7.0-9.0	5.0-7.0	7.0-9.0	5.0-7.0	7.0-9.0	5.0-7.0	5.0-7.0
LLPAHs (ug/kg)										
1-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[a]anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[a]pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[b]fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[g,h,i]perylene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[k]fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indeno[1,2,3-cd]pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SWMU 9 AREA A/B - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB72	74SB72	74SB73	74SB73	74SB74	74SB74	74SB75	74SB75	74SB76	74SB76
Sample ID	74SB72-03	74SB72-04	74SB73-03	74SB73-04	74SB74-03	74SB74-04	74SB75-03	74SB75-04	74SB76-03	74SB76-03D
Date	5/5/2008	5/5/2008	5/5/2008	5/5/2008	5/5/2008	5/5/2008	5/5/2008	5/5/2008	5/5/2008	5/5/2008
Depth Range	5.0-7.0	7.0-9.0	5.0-7.0	7.0-9.0	5.0-7.0	7.0-9.0	5.0-7.0	7.0-9.0	5.0-7.0	5.0-7.0
Metals (mg/kg)										
Antimony	0.094 UJ	0.095 UJ	0.084 UJ	0.091 UJ	0.081 UJ	0.086 UJ	0.078 UJ	0.073 UJ	0.079 UJ	0.086 UJ
Arsenic	1.7	1.3	0.66	1	2.8	7.4	1.1	1.1	0.9	1.4
Barium	120 J	81 J	35 J	99 J	79 J	46 J	30 J	24 J	40 J	73 J
Beryllium	0.88	0.73	0.13	0.17	0.14	0.17	0.12 J	0.1	0.1 J	0.16
Cadmium	0.099 J	0.064 J	0.11 J	0.57	0.54	0.37	0.18	0.19	0.055 J	0.15
Chromium	6.1	7	19	40	7.8	2.1	3.8	3.4	2.2	2.9
Cobalt	220	60	17	36	34	140	22	19	17 J	38 J
Copper	79 J	47 J	55 J	86 J	110 J	1000 J	53 J	26 J	3.3 J	6 J
Lead	1.1	0.87	0.7	0.73	0.91	1.8	0.41	0.31	0.28 UJ	0.47 J
Mercury	0.009 J	0.016 J	0.005 U	0.006 J	0.008 J	0.005 J	0.005 U	0.004 U	0.006 J	0.005 J
Nickel	12	9.2	14	22	5.6	8.4	7.5	5.2	4	5.7
Selenium	0.32 J	0.25 J	0.13 U	0.14 J	0.37 J	1.9	0.13 U	0.12 U	0.13 U	0.14 U
Silver	0.021 J	0.027 J	0.024 J	0.029 J	0.02 J	0.034 J	0.054 J	0.047 J	0.13 J	0.062 J
Thallium	0.15 U	0.15 U	0.13 U	0.14 U	0.13 U	0.14 U	0.13 U	0.12 U	0.13 U	0.14 U
Tin	5 U	5.1 U	4.5 U	4.8 U	4.3 U	4.6 U	4.2 U	3.9 U	4.2 U	4.6 U
Vanadium	410	310	130	150	170	310	220	190	190	240
Zinc	46 J	41 J	51 J	86 J	110 J	48 J	42 J	67 J	34 J	77 J
TPH DRO/GRO (mg/kg)										
Diesel Range Organics	1.2 J	1.6 J	1.2 J	1.5 J	0.92 J	1.3 J	1.4 J	1.2 J	0.9 J	0.96 J
Gasoline Range Organics	0.065 U	0.067 U	0.061 U	0.056 U	0.053 U	0.062 U	0.055 U	0.049 U	0.053 U	0.055 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SWMU 9 AREA A/B - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB76	74SB77	74SB77	74SB79	74SB79	74SB80	74SB80	74SB81	74SB81	74SB81
Sample ID	74SB76-04	74SB77-03	74SB77-04	74SB79-03	74SB79-04	74SB80-03	74SB80-04	74SB81-03	74SB81-04	74SB81-04D
Date	5/5/2008	5/5/2008	5/5/2008	5/5/2008	5/5/2008	5/5/2008	5/5/2008	5/5/2008	5/5/2008	5/5/2008
Depth Range	7.0-9.0	5.0-7.0	7.0-9.0	5.0-7.0	7.0-9.0	5.0-7.0	7.0-9.0	5.0-7.0	7.0-9.0	7.0-9.0
Volatile Organic Compounds (ug/kg)										
1,1,1,2-Tetrachloroethane	0.53 U	0.64 U	0.7 U	0.67 U	0.61 U	0.43 U	0.56 U	0.61 U	0.73 U	0.52 U
1,1,1-Trichloroethane	0.48 U	0.58 U	0.64 U	0.61 U	0.56 U	0.39 U	0.51 U	0.55 U	0.66 U	0.47 U
1,1,2,2-Tetrachloroethane	1.2 U	1.4 U	1.5 U	1.5 U	1.3 U	0.94 U	1.2 U	1.3 U	1.6 U	1.1 U
1,1,2-Trichloroethane	0.99 U	1.2 U	1.3 U	1.3 U	1.2 U	0.8 U	1.1 U	1.1 U	1.4 U	0.98 U
1,1-Dichloroethane	0.41 U	0.5 U	0.55 U	0.52 U	0.48 U	0.34 U	0.44 U	0.48 U	0.57 U	0.41 U
1,1-Dichloroethene	0.45 U	0.54 U	0.59 U	0.56 U	0.52 U	0.36 U	0.48 U	0.52 U	0.62 U	0.44 U
1,2,3-Trichloropropane	1.2 U	1.4 U	1.5 U	1.5 U	1.3 U	0.94 U	1.2 U	1.3 U	1.6 U	1.1 U
1,2-Dibromo-3-Chloropropane	2.3 U	2.8 U	3.1 U	2.9 U	2.7 U	1.9 U	2.5 U	2.7 U	3.2 U	2.3 U
1,2-Dichloroethane	0.83 U	1 U	1.1 U	1 U	0.96 U	0.67 U	0.88 U	0.96 U	1.1 U	0.82 U
1,2-Dichloropropane	0.91 U	1.1 U	1.2 U	1.1 U	1.1 U	0.74 U	0.97 U	1.1 U	1.3 U	0.9 U
2-Butanone (MEK)	3.1 U	2.7 U	3 U	2.8 U	2.6 U	3.2 U	4.7 U	2.6 U	3.1 U	2.2 U
2-Chloro-1,3-butadiene	0.47 U	0.57 U	0.62 U	0.6 U	0.55 U	0.38 U	0.5 U	0.54 U	0.65 U	0.47 U
2-Hexanone	1.7 U	2.1 U	2.3 U	2.2 U	2 U	1.4 U	1.8 U	2 U	2.4 U	1.7 U
3-Chloro-1-propene	1.2 UJ	1.5 UJ	1.6 UJ	1.6 UJ	1.4 UJ	1 UJ	1.3 UJ	1.4 UJ	1.7 UJ	1.2 UJ
4-Methyl-2-pentanone (MIBK)	2.4 U	2.9 U	3.2 U	3 U	2.8 U	1.9 U	2.6 U	2.8 U	3.3 U	2.4 U
Acetone	16 R	4.4 R	4.8 R	31 J	21 J	20 J	36 J	44 J	28 J	13 J
Acetonitrile	37 UJ	45 UJ	49 UJ	47 UJ	43 UJ	30 UJ	40 UJ	43 UJ	51 UJ	37 UJ
Acrolein	16 R	19 R	21 R	20 R	18 R	13 R	17 R	18 R	22 R	16 R
Acrylonitrile	19 UJ	23 UJ	25 UJ	24 UJ	22 UJ	15 UJ	20 UJ	22 UJ	26 UJ	19 UJ
Benzene	0.65 U	0.79 U	0.87 U	0.82 U	0.76 U	0.53 U	0.7 U	0.76 U	0.9 U	0.64 U
Bromoform	0.91 U	1.1 U	1.2 U	1.1 U	1.1 U	0.74 U	0.97 U	1.1 U	1.3 U	0.9 U
Bromomethane	1.3 U	1.6 U	1.8 U	1.7 U	1.5 U	1.1 U	1.4 U	1.5 U	1.8 U	1.3 U
Carbon disulfide	0.42 U	0.51 U	0.56 U	1.5 J	0.49 U	0.34 U	0.57 J	0.49 U	0.58 U	0.42 U
Carbon tetrachloride	0.83 U	1 U	1.1 U	1 U	0.96 U	0.67 U	0.88 U	0.96 U	1.1 U	0.82 U
Chlorobenzene	0.6 U	0.73 U	0.8 U	0.76 U	0.7 U	0.49 U	0.64 U	0.7 U	0.83 U	0.6 U
Chlorodibromomethane	0.41 U	0.5 U	0.55 U	0.52 U	0.48 U	0.34 U	0.44 U	0.48 U	0.57 U	0.41 U
Chloroethane	0.99 U	1.2 U	1.3 U	1.3 U	1.2 U	0.8 U	1.1 U	1.1 U	1.4 U	0.98 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SWMU 9 AREA A/B - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB76	74SB77	74SB77	74SB79	74SB79	74SB80	74SB80	74SB81	74SB81	74SB81
Sample ID	74SB76-04	74SB77-03	74SB77-04	74SB79-03	74SB79-04	74SB80-03	74SB80-04	74SB81-03	74SB81-04	74SB81-04D
Date	5/5/2008	5/5/2008	5/5/2008	5/5/2008	5/5/2008	5/5/2008	5/5/2008	5/5/2008	5/5/2008	5/5/2008
Depth Range	7.0-9.0	5.0-7.0	7.0-9.0	5.0-7.0	7.0-9.0	5.0-7.0	7.0-9.0	5.0-7.0	7.0-9.0	7.0-9.0
Volatile Organic Compounds (ug/kg)										
Chloroform	0.41 U	0.5 U	0.55 U	0.52 U	0.48 U	0.34 U	0.44 U	0.48 U	0.57 U	0.41 U
Chloromethane	0.59 U	0.71 U	0.78 U	0.74 U	0.68 U	0.48 U	0.63 U	0.68 U	0.81 U	0.58 U
cis-1,3-Dichloropropene	0.72 U	0.87 U	0.95 U	0.91 U	0.84 U	0.58 U	0.77 U	0.83 U	0.99 U	0.71 U
Dibromomethane	0.99 U	1.2 U	1.3 U	1.3 U	1.2 U	0.8 U	1.1 U	1.1 U	1.4 U	0.98 U
Dichlorobromomethane	0.69 U	0.83 U	0.91 U	0.87 U	0.8 U	0.56 U	0.73 U	0.79 U	0.95 U	0.68 U
Dichlorodifluoromethane	0.74 U	0.89 U	0.98 U	0.93 U	0.86 U	0.6 U	0.78 U	0.85 U	1 U	0.73 U
Ethyl methacrylate	1.8 U	2.2 U	2.4 U	2.3 U	2.1 U	1.5 U	1.9 U	2.1 U	2.5 U	1.8 U
Ethylbenzene	0.62 U	0.75 U	0.82 U	0.78 U	0.72 U	0.5 U	0.66 U	0.72 U	0.86 U	0.61 U
Ethylene Dibromide	1.2 U	1.5 U	1.6 U	1.6 U	1.4 U	1 U	1.3 U	1.4 U	1.7 U	1.2 U
Iodomethane	0.83 U	1 U	1.1 U	1.4 J	0.96 U	1.1 J	0.88 U	0.96 U	1.1 U	0.82 U
Isobutyl alcohol	57 R	69 R	76 R	72 R	66 R	46 R	61 R	66 R	79 R	56 R
Methacrylonitrile	20 U	24 U	26 U	25 U	23 U	16 U	21 U	23 U	27 U	20 U
Methyl methacrylate	3.1 U	3.7 U	4.1 U	3.9 U	3.6 U	2.5 U	3.3 U	3.5 U	4.2 U	3 U
Methylene Chloride	0.83 U	1 U	1.1 U	1 U	0.96 U	0.67 U	0.88 U	0.96 U	1.1 U	0.82 U
Pentachloroethane	1.8 UJ	2.2 UJ	2.4 UJ	2.3 UJ	2.1 UJ	1.5 UJ	1.9 UJ	2.1 UJ	2.5 UJ	1.8 UJ
Propionitrile	17 U	21 UJ	23 UJ	22 UJ	20 UJ	14 UJ	18 UJ	20 UJ	24 UJ	17 UJ
Styrene	0.55 U	0.66 U	0.72 U	0.69 U	0.63 U	0.44 U	0.58 U	0.63 U	0.75 U	0.54 U
Tetrachloroethene	0.6 U	0.73 U	0.8 U	0.76 U	0.7 U	0.49 U	0.64 U	0.7 U	0.83 U	0.6 U
Toluene	0.65 U	0.79 U	0.87 U	0.82 U	0.76 U	0.53 U	0.7 U	0.76 U	0.9 U	0.64 U
trans-1,2-Dichloroethene	0.8 U	0.97 U	1.1 U	1 U	0.93 U	0.65 U	0.85 U	0.93 U	1.1 U	0.79 U
trans-1,3-Dichloropropene	0.72 U	0.87 U	0.95 U	0.91 U	0.84 U	0.58 U	0.77 U	0.83 U	0.99 U	0.71 U
trans-1,4-Dichloro-2-butene	2.6 U	3.1 U	3.4 U	3.2 U	3 U	2.1 U	2.7 U	3 U	3.5 U	2.5 U
Trichloroethene	0.83 U	1 U	1.1 U	1 U	0.96 U	0.67 U	0.88 U	0.96 U	1.1 U	0.82 U
Trichlorofluoromethane	1.2 U	1.5 U	1.6 U	1.6 U	1.4 U	1 U	1.3 U	1.4 U	1.7 U	1.2 U
Vinyl acetate	1.2 U	1.5 U	1.6 U	1.6 U	1.4 U	1 U	1.3 U	1.4 U	1.7 U	1.2 U
Vinyl chloride	0.48 U	0.58 U	0.64 U	0.61 U	0.56 U	0.39 U	0.51 U	0.55 U	0.66 U	0.47 U
Xylenes, Total	1.9 U	2.3 U	2.5 U	2.4 U	2.2 U	1.5 U	2 U	2.2 U	2.6 U	1.9 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SWMU 9 AREA A/B - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB76	74SB77	74SB77	74SB79	74SB79	74SB80	74SB80	74SB81	74SB81	74SB81
Sample ID	74SB76-04	74SB77-03	74SB77-04	74SB79-03	74SB79-04	74SB80-03	74SB80-04	74SB81-03	74SB81-04	74SB81-04D
Date	5/5/2008	5/5/2008	5/5/2008	5/5/2008	5/5/2008	5/5/2008	5/5/2008	5/5/2008	5/5/2008	5/5/2008
Depth Range	7.0-9.0	5.0-7.0	7.0-9.0	5.0-7.0	7.0-9.0	5.0-7.0	7.0-9.0	5.0-7.0	7.0-9.0	7.0-9.0
LLPAHs (ug/kg)										
1-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[a]anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[a]pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[b]fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[g,h,i]perylene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[k]fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indeno[1,2,3-cd]pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SWMU 9 AREA A/B - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB76	74SB77	74SB77	74SB79	74SB79	74SB80	74SB80	74SB81	74SB81	74SB81
Sample ID	74SB76-04	74SB77-03	74SB77-04	74SB79-03	74SB79-04	74SB80-03	74SB80-04	74SB81-03	74SB81-04	74SB81-04D
Date	5/5/2008	5/5/2008	5/5/2008	5/5/2008	5/5/2008	5/5/2008	5/5/2008	5/5/2008	5/5/2008	5/5/2008
Depth Range	7.0-9.0	5.0-7.0	7.0-9.0	5.0-7.0	7.0-9.0	5.0-7.0	7.0-9.0	5.0-7.0	7.0-9.0	7.0-9.0
Metals (mg/kg)										
Antimony	0.077 UJ	0.092 UJ	0.1 UJ	0.095 UJ	0.087 UJ	0.086 UJ	0.15 UJ	0.11 UJ	0.1 UJ	0.1 UJ
Arsenic	0.82	3.2	0.9	1.8	2.3	0.96	2.1	2.4	3.5	1.6
Barium	31 J	170 J	28 J	130 J	510 J	110 J	110 J	130 J	72 J	59 J
Beryllium	0.11 J	0.65	0.5	0.46	0.55	0.15	0.3	0.24	0.2	0.18
Cadmium	0.043 J	0.18	0.44	0.15	0.29	0.059 J	0.42	0.094 J	0.2	0.089 J
Chromium	2.4	7.1	10	6.4	5.7	6.3	7 R	18 R	13 R	15 R
Cobalt	13	35	16	51	30	18	47	29	24	21
Copper	4.4 J	230 J	150 J	220 J	200 J	75 J	98	100	110	82
Lead	0.28 U	1.2	0.34 U	3.9	4	0.73	3.5 J	5.1 J	4.6 J	5.2 J
Mercury	0.005 J	0.005 U	0.071	0.043	0.029	0.005 J	0.069	0.009 J	0.02 J	0.005 U
Nickel	4	7.2	9.9	5.9	7.3	5.1	4.7	12	7.9	8
Selenium	0.12 U	0.26 J	0.16 J	1.1	1.1	0.14 U	0.92	0.31 J	0.67 J	0.45 J
Silver	0.12 J	0.064 J	0.13 J	0.034 J	0.054 J	0.021 J	0.11 UJ	0.051 UJ	0.086 UJ	0.063 UJ
Thallium	0.12 U	0.15 U	0.16 U	0.15 U	0.14 U	0.14 U	0.14 U	0.13 U	0.17 U	0.13 U
Tin	4.1 U	4.9 U	5.5 U	5 U	4.7 U	4.6 U	4.6 U	4.5 U	5.5 U	4.4 U
Vanadium	190	310	100	270	260	170	210	190	200	180
Zinc	36 J	120 J	40 J	91 J	110 J	45 J	49 J	74 J	74 J	58 J
TPH DRO/GRO (mg/kg)										
Diesel Range Organics	2 J	3.2 J	2.8 J	5.7	1.7 J	1 J	2.8 J	11	530 J	52 J
Gasoline Range Organics	0.054 U	0.066 U	0.067 U	0.064 U	0.065 U	0.055 U	0.061 U	0.068 J	0.17 J	0.058 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SWMU 9 AREA A/B - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB82	74SB82	74SB82	74SB83	74SB84	74SB85	74SB85	74SB86	74SB86	74SB86
Sample ID	74SB82-03	74SB82-04	74SB82-04D	74SB83-02	74SB84-03	74SB85-03	74SB85-04	74SB86-03	74SB86-03D	74SB86-04
Date	5/6/2008	5/6/2008	5/6/2008	5/6/2008	5/6/2008	5/6/2008	5/6/2008	5/6/2008	5/6/2008	5/6/2008
Depth Range	5.0-7.0	7.0-9.0	7.0-9.0	3.0-5.0	5.0-7.0	5.0-7.0	7.0-9.0	5.0-7.0	5.0-7.0	7.0-9.0
Volatile Organic Compounds (ug/kg)										
1,1,1,2-Tetrachloroethane	0.68 U	0.8 U	0.83 U	0.71 U	0.63 U	0.65 U	0.54 U	0.53 U	0.57 U	0.57 U
1,1,1-Trichloroethane	0.62 U	0.73 U	0.75 U	0.64 U	0.57 U	0.59 U	0.49 U	0.48 U	0.51 U	0.52 U
1,1,2,2-Tetrachloroethane	1.5 U	1.8 U	1.8 U	1.6 U	1.4 U	1.4 U	1.2 U	1.2 U	1.2 U	1.2 U
1,1,2-Trichloroethane	1.3 U	1.5 U	1.6 U	1.3 U	1.2 U	1.2 U	1 U	1 U	1.1 U	1.1 U
1,1-Dichloroethane	0.54 U	0.63 U	0.65 U	0.55 U	0.49 U	0.51 U	0.43 U	0.41 U	0.44 U	0.44 U
1,1-Dichloroethene	0.58 U	0.68 U	0.7 U	0.6 U	0.53 U	0.55 U	0.46 U	0.45 U	0.48 U	0.48 U
1,2,3-Trichloropropane	1.5 UJ	1.8 UJ	1.8 UJ	1.6 UJ	1.4 U	1.4 U	1.2 U	1.2 U	1.2 U	1.2 U
1,2-Dibromo-3-Chloropropane	3 UJ	3.5 UJ	3.6 UJ	3.1 UJ	2.8 U	2.8 U	2.4 U	2.3 U	2.5 U	2.5 U
1,2-Dichloroethane	1.1 U	1.3 U	1.3 U	1.1 U	0.98 U	1 U	0.85 U	0.83 U	0.88 U	0.89 U
1,2-Dichloropropane	1.2 U	1.4 U	1.4 U	1.2 U	1.1 U	1.1 U	0.94 U	0.91 U	0.97 U	0.98 U
2-Butanone (MEK)	2.9 U	3.4 U	3.5 U	3 U	2.7 U	2.7 U	2.3 U	2.2 U	2.4 U	2.4 U
2-Chloro-1,3-butadiene	0.61 U	0.71 U	0.74 U	0.63 U	0.56 UJ	0.58 UJ	0.48 UJ	0.47 UJ	0.5 UJ	0.51 UJ
2-Hexanone	2.2 U	2.6 U	2.7 U	2.3 U	2.1 U	2.1 U	1.8 U	1.7 U	1.9 U	1.9 U
3-Chloro-1-propene	1.6 UJ	1.9 UJ	1.9 UJ	1.7 UJ	1.5 U	1.5 U	1.3 U	1.2 U	1.3 U	1.3 U
4-Methyl-2-pentanone (MIBK)	3.1 U	3.6 U	3.8 U	3.2 U	2.8 U	2.9 U	2.5 U	2.4 U	2.6 U	2.6 U
Acetone	21 J	24 J	14 J	13 J	12 J	30 J	21 J	6.3 J	22 J	3.9 R
Acetonitrile	48 UJ	56 UJ	58 UJ	50 UJ	44 R	46 R	38 R	37 R	40 R	40 R
Acrolein	20 R	24 R	25 R	21 R	19 R	19 R	16 R	16 R	17 R	17 R
Acrylonitrile	25 U	29 U	30 U	25 U	23 U	23 U	20 U	19 U	20 U	20 U
Benzene	0.85 U	0.99 U	1 U	0.87 U	0.78 U	0.8 U	0.67 U	0.66 U	0.7 U	0.7 U
Bromoform	1.2 U	1.4 U	1.4 U	1.2 U	1.1 U	1.1 U	0.94 U	0.91 U	0.97 U	0.98 U
Bromomethane	1.7 UJ	2 UJ	2.1 UJ	1.8 UJ	1.6 U	1.6 U	1.4 U	1.3 U	1.4 U	1.4 U
Carbon disulfide	0.55 UJ	0.64 UJ	0.66 UJ	0.56 UJ	0.5 U	0.52 U	1.1 J	0.42 U	0.45 U	0.45 U
Carbon tetrachloride	1.1 U	1.3 U	1.3 U	1.1 U	0.98 U	1 U	0.85 U	0.83 U	0.88 U	0.89 U
Chlorobenzene	0.78 U	0.91 U	0.95 U	0.81 U	0.72 U	0.74 U	0.62 U	0.61 U	0.65 U	0.65 U
Chlorodibromomethane	0.54 U	0.63 U	0.65 U	0.55 U	0.49 U	0.51 U	0.43 U	0.41 U	0.44 U	0.44 U
Chloroethane	1.3 UJ	1.5 UJ	1.6 UJ	1.3 UJ	1.2 U	1.2 U	1 U	1 U	1.1 U	1.1 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SWMU 9 AREA A/B - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB82	74SB82	74SB82	74SB83	74SB84	74SB85	74SB85	74SB86	74SB86	74SB86
Sample ID	74SB82-03	74SB82-04	74SB82-04D	74SB83-02	74SB84-03	74SB85-03	74SB85-04	74SB86-03	74SB86-03D	74SB86-04
Date	5/6/2008	5/6/2008	5/6/2008	5/6/2008	5/6/2008	5/6/2008	5/6/2008	5/6/2008	5/6/2008	5/6/2008
Depth Range	5.0-7.0	7.0-9.0	7.0-9.0	3.0-5.0	5.0-7.0	5.0-7.0	7.0-9.0	5.0-7.0	5.0-7.0	7.0-9.0
Volatile Organic Compounds (ug/kg)										
Chloroform	0.54 U	0.63 U	0.65 U	0.55 U	0.49 U	0.51 U	0.43 U	0.41 U	0.44 U	0.44 U
Chloromethane	0.76 U	0.89 U	0.92 U	0.79 U	0.7 U	0.72 U	0.6 U	0.59 U	0.63 U	0.63 U
cis-1,3-Dichloropropene	0.93 U	1.1 U	1.1 U	0.96 U	0.85 U	0.88 U	0.74 U	0.72 U	0.77 U	0.77 U
Dibromomethane	1.3 U	1.5 U	1.6 U	1.3 U	1.2 U	1.2 U	1 U	1 U	1.1 U	1.1 U
Dichlorobromomethane	0.89 U	1 U	1.1 U	0.92 U	0.82 U	0.84 U	0.71 U	0.69 U	0.73 U	0.74 U
Dichlorodifluoromethane	0.95 U	1.1 U	1.2 U	0.99 U	0.87 U	0.9 U	0.76 U	0.74 U	0.79 U	0.79 U
Ethyl methacrylate	2.4 U	2.8 U	2.9 U	2.4 U	2.2 U	2.2 U	1.9 U	1.8 U	1.9 U	2 U
Ethylbenzene	0.8 U	0.94 U	0.97 U	0.83 U	0.74 U	0.76 U	0.64 U	0.62 U	0.66 U	0.67 U
Ethylene Dibromide	1.6 U	1.9 U	1.9 U	1.7 U	1.5 U	1.5 U	1.3 U	1.2 U	1.3 U	1.3 U
Iodomethane	1.1 UJ	1.3 UJ	1.3 UJ	1.1 UJ	0.98 U	1 U	0.85 U	0.83 U	0.88 U	0.89 U
Isobutyl alcohol	74 R	86 R	89 R	76 R	68 R	70 R	59 R	57 R	61 R	290 J
Methacrylonitrile	26 U	30 U	31 U	27 U	24 UJ	24 UJ	20 UJ	20 UJ	21 UJ	21 UJ
Methyl methacrylate	4 U	4.6 U	4.8 U	4.1 U	3.6 U	3.7 U	3.1 U	3.1 U	3.3 U	3.3 U
Methylene Chloride	1.1 U	1.3 U	1.3 U	1.1 U	0.98 U	1 U	0.85 U	0.83 U	0.88 U	0.89 U
Pentachloroethane	2.4 UJ	2.8 UJ	2.9 UJ	2.4 UJ	2.2 UJ	2.2 UJ	1.9 UJ	1.8 UJ	1.9 UJ	2 UJ
Propionitrile	22 U	26 U	27 U	23 U	21 U	21 U	18 U	17 U	19 U	19 U
Styrene	0.71 U	0.83 U	0.86 U	0.73 U	0.65 U	0.67 U	0.56 U	0.55 U	0.58 U	0.59 U
Tetrachloroethene	0.78 U	0.91 U	0.95 U	0.81 U	0.72 U	0.74 U	0.62 U	0.61 U	0.65 U	0.65 U
Toluene	0.85 U	0.99 U	1 U	0.87 U	0.78 U	0.8 U	0.67 U	0.66 U	0.7 U	0.7 U
trans-1,2-Dichloroethene	1 U	1.2 U	1.3 U	1.1 U	0.95 U	0.98 U	0.82 U	0.81 U	0.86 U	0.86 U
trans-1,3-Dichloropropene	0.93 U	1.1 U	1.1 U	0.96 U	0.85 U	0.88 U	0.74 U	0.72 U	0.77 U	0.77 U
trans-1,4-Dichloro-2-butene	3.3 U	3.9 U	4 U	3.4 U	3 U	3.1 U	2.6 U	2.6 U	2.7 U	2.8 U
Trichloroethene	1.1 U	1.3 U	1.3 U	1.1 U	0.98 U	1 U	0.85 U	0.83 U	0.88 U	0.89 U
Trichlorofluoromethane	1.6 U	1.9 U	1.9 U	1.7 U	1.5 U	1.5 U	1.3 U	1.2 U	1.3 U	1.3 U
Vinyl acetate	1.6 U	1.9 U	1.9 U	1.7 U	1.5 U	1.5 U	1.3 U	1.2 U	1.3 U	1.3 U
Vinyl chloride	0.62 U	0.73 U	0.75 U	0.64 U	0.57 U	0.59 U	0.49 U	0.48 U	0.51 U	0.52 U
Xylenes, Total	2.5 U	2.9 U	3 U	2.5 U	2.3 U	2.3 U	2 U	1.9 U	2 U	2 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SWMU 9 AREA A/B - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB82	74SB82	74SB82	74SB83	74SB84	74SB85	74SB85	74SB86	74SB86	74SB86
Sample ID	74SB82-03	74SB82-04	74SB82-04D	74SB83-02	74SB84-03	74SB85-03	74SB85-04	74SB86-03	74SB86-03D	74SB86-04
Date	5/6/2008	5/6/2008	5/6/2008	5/6/2008	5/6/2008	5/6/2008	5/6/2008	5/6/2008	5/6/2008	5/6/2008
Depth Range	5.0-7.0	7.0-9.0	7.0-9.0	3.0-5.0	5.0-7.0	5.0-7.0	7.0-9.0	5.0-7.0	5.0-7.0	7.0-9.0
LLPAHs (ug/kg)										
1-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA	14 U
2-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA	19 U
Acenaphthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.4 U
Acenaphthylene	NA	NA	NA	NA	NA	NA	NA	NA	NA	19 U
Anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA	19 U
Benzo[a]anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA	19 U
Benzo[a]pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.4 U
Benzo[b]fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	8.6 U
Benzo[g,h,i]perylene	NA	NA	NA	NA	NA	NA	NA	NA	NA	19 U
Benzo[k]fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	11 U
Chrysene	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.9 U
Dibenz(a,h)anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.6 U
Fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	19 U
Fluorene	NA	NA	NA	NA	NA	NA	NA	NA	NA	8.7 U
Indeno[1,2,3-cd]pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	14 U
Naphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.8 U
Phenanthrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	19 U
Pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	19 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SWMU 9 AREA A/B - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB82	74SB82	74SB82	74SB83	74SB84	74SB85	74SB85	74SB86	74SB86	74SB86
Sample ID	74SB82-03	74SB82-04	74SB82-04D	74SB83-02	74SB84-03	74SB85-03	74SB85-04	74SB86-03	74SB86-03D	74SB86-04
Date	5/6/2008	5/6/2008	5/6/2008	5/6/2008	5/6/2008	5/6/2008	5/6/2008	5/6/2008	5/6/2008	5/6/2008
Depth Range	5.0-7.0	7.0-9.0	7.0-9.0	3.0-5.0	5.0-7.0	5.0-7.0	7.0-9.0	5.0-7.0	5.0-7.0	7.0-9.0
Metals (mg/kg)										
Antimony	0.074 UJ	0.089 UJ	0.088 UJ	0.084 UJ	0.13 J	0.1 UJ	0.08 UJ	0.089 UJ	0.076 UJ	0.079 UJ
Arsenic	4.6	0.93	1.1	0.72	1.6	3.2	0.47 U	0.84	0.63	0.63
Barium	19	89	100	63	55 R	87 R	87 R	150 R	28 R	45 R
Beryllium	0.051 J	0.23	0.22	0.2	0.23	0.39	0.17	0.16	0.1	0.21
Cadmium	0.031 U	0.039 J	0.08 J	0.055 J	0.12	0.048 J	0.033 U	0.099 J	0.085 J	0.048 J
Chromium	7.3	12 J	29 J	30	18 J	6.2 J	19 J	26 R	3.2 R	19 J
Cobalt	3.8	18 J	29 J	33	21 J	110 J	15 J	20 J	13 J	21 J
Copper	18 J	110 J	150 J	120 J	86 J	100	100	74	54	110
Lead	1.6	0.77	1.4	1.6	5.8	2.3	1	62 R	1 R	0.83
Mercury	0.004 U	0.009 J	0.008 J	0.004 U	0.014 J	0.048	0.004 J	0.01 J	0.004 U	0.004 U
Nickel	2.2	8.5 J	19 J	22	11	7	11	8.4 J	3.2 J	15
Selenium	0.12 U	0.42 J	0.16 J	0.13 U	0.18 J	1.5	0.19 J	0.14 U	0.12 U	0.13 J
Silver	0.016 UJ	0.05 J	0.041 J	0.04 J	0.034 J	0.021 U	0.065 J	0.026 J	0.016 U	0.11 J
Thallium	0.12 U	0.14 U	0.14 U	0.13 U	0.15 U	0.16 U	0.13 U	0.14 U	0.12 U	0.13 U
Tin	4 U	4.8 U	4.7 U	4.5 U	4.8 U	5.3 U	4.3 U	4.8 U	4.1 U	4.2 U
Vanadium	27	230	200	220	140	270	140	130	100	110
Zinc	13 J	37 J	71 J	72 J	67	54	45	53 J	35 J	49
TPH DRO/GRO (mg/kg)										
Diesel Range Organics	3.4 J	4.8	7.9	5.7	3 J	2.6 J	12	3.5 J	5.8	740
Gasoline Range Organics	0.21 J	0.066 U	0.083 U	0.066 U	0.064 U	0.066 U	0.059 U	0.051 U	0.051 U	0.053 J

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SWMU 9 AREA A/B - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB87	74SB87	74SB88	74SB89	74SB90	74SB91	74SB91	74SB92	74SB92	74SB93
Sample ID	74SB87-03	74SB87-04	74SB88-03	74SB89-03	74SB90-02	74SB91-03	74SB91-03D	74SB92-03	74SB92-04	74SB93-03
Date	5/7/2008	5/7/2008	5/7/2008	5/7/2008	5/7/2008	5/7/2008	5/7/2008	5/7/2008	5/7/2008	5/7/2008
Depth Range	5.0-7.0	7.0-9.0	5.0-7.0	5.0-7.0	3.0-5.0	5.0-7.0	5.0-7.0	5.0-7.0	7.0-9.0	5.0-7.0
Volatile Organic Compounds (ug/kg)										
1,1,1,2-Tetrachloroethane	0.58 U	0.65 U	0.65 U	0.61 U	0.74 U	0.6 U	0.69 U	0.72 U	0.76 U	0.59 U
1,1,1-Trichloroethane	0.53 U	0.59 U	0.59 U	0.55 U	0.67 U	0.54 U	0.62 U	0.65 U	0.68 U	0.53 U
1,1,2,2-Tetrachloroethane	1.3 U	1.4 U	1.4 U	1.3 U	1.6 U	1.3 U	1.5 U	1.6 U	1.7 U	1.3 U
1,1,2-Trichloroethane	1.1 U	1.2 U	1.2 U	1.1 U	1.4 U	1.1 U	1.3 U	1.4 U	1.4 U	1.1 U
1,1-Dichloroethane	0.46 U	0.5 U	0.51 U	0.48 U	0.58 U	0.47 U	0.54 U	0.56 U	0.59 U	0.46 U
1,1-Dichloroethene	0.49 U	0.55 U	0.55 U	0.52 U	0.62 U	0.51 U	0.58 U	0.61 U	0.64 U	0.5 U
1,2,3-Trichloropropane	1.3 U	1.4 U	1.4 U	1.3 U	1.6 U	1.3 U	1.5 U	1.6 U	1.7 U	1.3 U
1,2-Dibromo-3-Chloropropane	2.6 U	2.8 U	2.9 U	2.7 U	3.2 U	2.6 U	3 U	3.2 U	3.3 U	2.6 U
1,2-Dichloroethane	0.91 U	1 U	1 U	0.96 U	1.2 U	0.94 U	1.1 U	1.1 U	1.2 U	0.92 U
1,2-Dichloropropane	1 U	1.1 U	1.1 U	1.1 U	1.3 U	1 U	1.2 U	1.2 U	1.3 U	1 U
2-Butanone (MEK)	2.5 U	2.7 U	2.8 U	2.6 U	4.8 U	2.5 U	2.9 U	3 U	3.2 U	2.5 U
2-Chloro-1,3-butadiene	0.52 UJ	0.58 U	0.58 UJ	0.54 U	0.66 UJ	0.54 U	0.61 U	0.64 U	0.67 U	0.53 U
2-Hexanone	1.9 U	2.1 U	2.1 U	2 U	2.4 U	2 U	2.3 U	2.4 U	2.5 U	1.9 U
3-Chloro-1-propene	1.4 U	1.5 U	1.5 U	1.4 U	1.7 U	1.4 U	1.6 U	1.7 U	1.8 U	1.4 U
4-Methyl-2-pentanone (MIBK)	2.6 U	2.9 U	3 U	2.8 U	3.3 U	2.7 U	3.1 U	3.3 U	3.4 U	2.7 U
Acetone	24 J	23 J	14 J	29 J	50 J	17 J	4.7 R	24 J	21 J	4.1 R
Acetonitrile	41 R	45 U	46 R	43 R	52 R	42 R	48 R	51 R	53 R	41 R
Acrolein	17 R	19 R	19 R	18 U	22 R	18 U	20 U	21 U	22 U	18 U
Acrylonitrile	21 U	23 U	23 U	22 U	26 U	22 U	25 U	26 U	27 U	21 U
Benzene	0.72 U	0.8 U	0.81 U	0.75 U	0.91 U	0.74 U	0.85 U	0.89 U	0.93 U	0.73 U
Bromoform	1 U	1.1 U	1.1 U	1.1 U	1.3 U	1 U	1.2 U	1.2 U	1.3 U	1 U
Bromomethane	1.5 U	1.6 U	1.6 U	1.5 U	1.8 U	1.5 U	1.7 U	1.8 U	1.9 U	1.5 U
Carbon disulfide	0.46 U	1.8 J	0.52 U	0.49 U	4.6 J	0.48 U	0.55 U	1.2 J	0.6 U	0.47 U
Carbon tetrachloride	0.91 U	1 U	1 U	0.96 U	1.2 U	0.94 U	1.1 U	1.1 U	1.2 U	0.92 U
Chlorobenzene	0.67 U	0.74 U	0.75 U	0.7 U	0.84 U	0.69 U	0.78 U	0.82 U	0.86 U	0.67 U
Chlorodibromomethane	0.46 U	0.5 U	0.51 U	0.48 U	0.58 U	0.47 U	0.54 U	0.56 U	0.59 U	0.46 U
Chloroethane	1.1 U	1.2 U	1.2 U	1.1 U	1.4 U	1.1 U	1.3 U	1.4 U	1.4 U	1.1 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SWMU 9 AREA A/B - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB87	74SB87	74SB88	74SB89	74SB90	74SB91	74SB91	74SB92	74SB92	74SB93
Sample ID	74SB87-03	74SB87-04	74SB88-03	74SB89-03	74SB90-02	74SB91-03	74SB91-03D	74SB92-03	74SB92-04	74SB93-03
Date	5/7/2008	5/7/2008	5/7/2008	5/7/2008	5/7/2008	5/7/2008	5/7/2008	5/7/2008	5/7/2008	5/7/2008
Depth Range	5.0-7.0	7.0-9.0	5.0-7.0	5.0-7.0	3.0-5.0	5.0-7.0	5.0-7.0	5.0-7.0	7.0-9.0	5.0-7.0
Volatile Organic Compounds (ug/kg)										
Chloroform	0.46 U	0.5 U	0.51 U	0.48 U	0.58 U	0.47 U	0.54 U	0.56 U	0.59 U	0.46 U
Chloromethane	0.65 U	0.72 U	0.72 U	0.68 U	0.82 U	0.67 U	0.76 U	0.8 U	0.84 U	0.65 U
cis-1,3-Dichloropropene	0.79 U	0.88 U	0.89 U	0.83 U	1 U	0.82 U	0.93 U	0.98 U	1 U	0.8 U
Dibromomethane	1.1 U	1.2 U	1.2 U	1.1 U	1.4 U	1.1 U	1.3 U	1.4 U	1.4 U	1.1 U
Dichlorobromomethane	0.76 U	0.84 U	0.85 U	0.79 U	0.96 U	0.78 U	0.89 U	0.94 U	0.98 U	0.77 U
Dichlorodifluoromethane	0.81 U	0.9 U	0.91 U	0.85 U	1 U	0.84 U	0.95 U	1 U	1.1 U	0.82 U
Ethyl methacrylate	2 U	2.2 U	2.2 U	2.1 U	2.5 U	2.1 U	2.4 U	2.5 U	2.6 U	2 U
Ethylbenzene	0.68 U	0.76 U	0.77 U	0.72 U	0.86 U	0.7 U	0.8 U	0.85 U	0.89 U	0.69 U
Ethylene Dibromide	1.4 U	1.5 U	1.5 U	1.4 U	1.7 U	1.4 U	1.6 U	1.7 U	1.8 U	1.4 U
Iodomethane	0.91 U	1 U	1 U	0.96 U	1.2 U	0.94 U	1.1 U	1.1 U	1.2 U	0.92 U
Isobutyl alcohol	63 R	70 R	70 R	66 R	79 R	65 R	74 R	78 R	81 R	64 R
Methacrylonitrile	22 UJ	24 U	25 UJ	23 UJ	28 UJ	23 UJ	26 UJ	27 UJ	28 UJ	22 UJ
Methyl methacrylate	3.4 U	3.7 U	3.8 U	3.5 U	4.3 U	3.5 U	4 U	4.2 U	4.4 U	3.4 U
Methylene Chloride	0.91 U	1 U	1 U	0.96 U	1.2 U	0.94 U	1.1 U	1.1 U	1.2 U	0.92 U
Pentachloroethane	2 UJ	2.2 UJ	2.2 UJ	2.1 U	2.5 UJ	2.1 U	2.4 U	2.5 U	2.6 U	2 U
Propionitrile	19 U	21 U	21 U	20 U	24 U	20 U	23 U	24 U	25 U	19 U
Styrene	0.6 U	0.67 U	0.67 U	0.63 U	0.76 U	0.62 U	0.71 U	0.74 U	0.78 U	0.61 U
Tetrachloroethene	0.67 U	0.74 U	0.75 U	0.7 U	0.84 U	0.69 U	0.78 U	0.82 U	0.86 U	0.67 U
Toluene	0.72 U	0.8 U	0.81 U	0.75 U	0.91 U	0.74 U	0.85 U	0.89 U	0.93 U	0.73 U
trans-1,2-Dichloroethene	0.88 U	0.98 U	0.99 U	0.93 U	1.1 U	0.91 U	1 U	1.1 U	1.1 U	0.89 U
trans-1,3-Dichloropropene	0.79 U	0.88 U	0.89 U	0.83 U	1 U	0.82 U	0.93 U	0.98 U	1 U	0.8 U
trans-1,4-Dichloro-2-butene	2.8 U	3.1 U	3.2 U	3 U	3.6 U	2.9 U	3.3 U	3.5 U	3.7 U	2.9 U
Trichloroethene	0.91 U	1 U	1 U	0.96 U	1.2 U	0.94 U	1.1 U	1.1 U	1.2 U	0.92 U
Trichlorofluoromethane	1.4 U	1.5 U	1.5 U	1.4 U	1.7 U	1.4 U	1.6 U	1.7 U	1.8 U	1.4 U
Vinyl acetate	1.4 U	1.5 U	1.5 U	1.4 U	1.7 U	1.4 U	1.6 U	1.7 U	1.8 U	1.4 U
Vinyl chloride	0.53 U	0.59 U	0.59 U	0.55 U	0.67 U	0.54 U	0.62 U	0.65 U	0.68 U	0.53 U
Xylenes, Total	2.1 U	2.3 U	2.3 U	2.2 U	2.6 U	2.2 U	2.5 U	2.6 U	2.7 U	2.1 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SWMU 9 AREA A/B - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB87	74SB87	74SB88	74SB89	74SB90	74SB91	74SB91	74SB92	74SB92	74SB93
Sample ID	74SB87-03	74SB87-04	74SB88-03	74SB89-03	74SB90-02	74SB91-03	74SB91-03D	74SB92-03	74SB92-04	74SB93-03
Date	5/7/2008	5/7/2008	5/7/2008	5/7/2008	5/7/2008	5/7/2008	5/7/2008	5/7/2008	5/7/2008	5/7/2008
Depth Range	5.0-7.0	7.0-9.0	5.0-7.0	5.0-7.0	3.0-5.0	5.0-7.0	5.0-7.0	5.0-7.0	7.0-9.0	5.0-7.0
LLPAHs (ug/kg)										
1-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[a]anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[a]pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[b]fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[g,h,i]perylene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[k]fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indeno[1,2,3-cd]pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SWMU 9 AREA A/B - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB87	74SB87	74SB88	74SB89	74SB90	74SB91	74SB91	74SB92	74SB92	74SB93
Sample ID	74SB87-03	74SB87-04	74SB88-03	74SB89-03	74SB90-02	74SB91-03	74SB91-03D	74SB92-03	74SB92-04	74SB93-03
Date	5/7/2008	5/7/2008	5/7/2008	5/7/2008	5/7/2008	5/7/2008	5/7/2008	5/7/2008	5/7/2008	5/7/2008
Depth Range	5.0-7.0	7.0-9.0	5.0-7.0	5.0-7.0	3.0-5.0	5.0-7.0	5.0-7.0	5.0-7.0	7.0-9.0	5.0-7.0
Metals (mg/kg)										
Antimony	0.075 UJ	0.15 J	0.1 J	0.078 UJ	0.082 UJ	0.084 UJ	0.14 J	0.087 UJ	0.097 UJ	0.079 UJ
Arsenic	1.2	1.6	0.5 U	0.74	1.5	0.89	0.93	1.2	2.9	0.42 U
Barium	150 R	140	69 R	76 R	100 R	42 R	51 R	100 R	16 R	40 R
Beryllium	0.29	0.26	0.19	0.19	0.36	0.21	0.22	0.35	1.3	0.088 J
Cadmium	0.19	0.048 J	0.16	0.054 J	0.07 J	0.1 J	0.17	0.036 U	0.04 U	0.062 J
Chromium	21 J	29	4.8 J	35 J	37 J	6.6 J	19 J	5.4 J	1.5 J	2.1 J
Cobalt	26 J	19	25 J	26 J	31 J	21 J	24 J	20 J	39 J	13 J
Copper	110	120	100	120	110	100	94	96	210	24 J
Lead	2.2	1.3	1.5	1.9	2.4	0.96 R	15 R	1.4	1.7	0.38
Mercury	0.009 J	0.011 J	0.007 J	0.004 U	0.049	0.005 J	0.011 J	0.039	0.005 U	0.004 U
Nickel	16	15	4.7	22	16	6.9 J	11 J	6.1	6.1	3.2
Selenium	0.35 J	0.34 J	0.13 U	0.13 U	1.5	0.13 U	0.19 J	0.61	0.15 U	0.13 U
Silver	0.033 J	0.019 J	0.017 U	0.037 J	0.021 J	0.018 U	0.037 J	0.019 U	0.021 U	0.017 J
Thallium	0.12 U	0.14 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.14 U	0.15 U	0.13 U
Tin	4 U	4.6 U	4.4 U	4.2 U	4.4 U	4.5 U	4.2 U	4.6 U	5.2 U	4.2 U
Vanadium	170	160	100	150	240	140	160	210	250	120
Zinc	82	52	48	49	53	75	71	64	89	29
TPH DRO/GRO (mg/kg)										
Diesel Range Organics	4.3	7.2	1.2 J	1.5 J	2.1 J	2.7 J	6.9	2.3 J	1.1 J	0.76 J
Gasoline Range Organics	0.051 U	1.1	0.057 U	0.052 U	0.067 U	0.054 U	0.088 U	0.068 U	0.072 U	0.068 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SWMU 9 AREA A/B - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB93	74SB94	74SB94	74SB95	74SB95	74SB96	74SB96	74SB96	74SB97	74SB97
Sample ID	74SB93-04	74SB94-03	74SB94-04	74SB95-03	74SB95-04	74SB96-03	74SB96-03D	74SB96-05	74SB97-03	74SB97-04
Date	5/7/2008	5/7/2008	5/7/2008	5/13/2008	5/13/2008	5/13/2008	5/13/2008	5/13/2008	5/5/2008	5/5/2008
Depth Range	7.0-9.0	5.0-7.0	7.0-9.0	5.0-7.0	7.0-9.0	5.0-7.0	5.0-7.0	9.0-11.0	5.0-7.0	7.0-9.0
Volatile Organic Compounds (ug/kg)										
1,1,1,2-Tetrachloroethane	0.64 U	0.62 U	0.65 U	0.65 U	0.61 U	0.74 U	0.73 U	0.84 U	0.66 U	0.64 U
1,1,1-Trichloroethane	0.58 U	0.56 U	0.59 U	0.59 U	0.55 U	0.67 U	0.67 U	0.76 U	0.6 U	0.58 U
1,1,2,2-Tetrachloroethane	1.4 U	1.4 U	1.4 U	1.4 U	1.3 U	1.6 U	1.6 U	1.8 U	1.4 U	1.4 U
1,1,2-Trichloroethane	1.2 U	1.2 U	1.2 U	1.2 U	1.1 U	1.4 U	1.4 U	1.6 U	1.2 U	1.2 U
1,1-Dichloroethane	0.5 U	0.48 U	0.51 U	0.51 U	0.48 U	0.58 U	0.57 U	0.65 U	0.51 U	0.5 U
1,1-Dichloroethene	0.54 U	0.52 U	0.55 U	0.55 U	0.51 U	0.62 U	0.62 U	0.71 U	0.55 U	0.54 U
1,2,3-Trichloropropane	1.4 U	1.4 U	1.4 U	1.4 U	1.3 U	1.6 U	1.6 U	1.8 U	1.4 U	1.4 UJ
1,2-Dibromo-3-Chloropropane	2.8 U	2.7 U	2.9 U	2.9 U	2.7 U	3.2 U	3.2 U	3.7 U	2.9 U	2.8 UJ
1,2-Dichloroethane	1 U	0.97 U	1 U	1 U	0.95 U	1.2 U	1.1 U	1.3 U	1 U	1 U
1,2-Dichloropropane	1.1 U	1.1 U	1.1 U	1.1 U	1 U	1.3 U	1.3 U	1.4 U	1.1 U	1.1 U
2-Butanone (MEK)	2.7 U	2.6 U	2.8 U	2.8 U	2.6 U	3.1 U	3.1 U	3.5 U	2.8 U	9.9 U
2-Chloro-1,3-butadiene	0.57 U	0.55 U	0.58 U	0.58 UJ	0.54 UJ	0.66 UJ	0.65 UJ	0.75 UJ	0.59 U	0.57 U
2-Hexanone	2.1 U	2 U	2.1 U	2.1 U	2 U	2.4 U	2.4 U	2.7 U	2.2 U	7 J
3-Chloro-1-propene	1.5 U	1.5 U	1.5 U	1.5 U	1.4 U	1.7 U	1.7 U	2 U	1.5 UJ	1.5 UJ
4-Methyl-2-pentanone (MIBK)	2.9 U	2.8 U	3 U	3 U	2.8 U	3.4 U	3.3 U	3.8 U	3 U	3.8 J
Acetone	4.4 R	4.3 R	4.5 R	7 R	7 J	15 J	5 R	16 J	11 J	24 J
Acetonitrile	45 R	44 R	46 R	46 R	43 R	52 R	52 R	59 R	46 UJ	45 UJ
Acrolein	19 U	18 U	19 U	19 U	18 R	22 R	22 R	25 R	20 R	19 R
Acrylonitrile	23 U	22 U	23 U	23 U	22 U	27 U	26 U	30 U	24 UJ	23 U
Benzene	0.79 U	0.77 U	0.81 U	0.81 U	0.75 U	0.91 U	0.91 U	1 U	0.81 U	0.79 U
Bromoform	1.1 U	1.1 U	1.1 U	1.1 U	1 U	1.3 U	1.3 U	1.4 U	1.1 U	1.1 U
Bromomethane	1.6 U	1.6 U	1.6 U	1.6 U	1.5 U	1.9 U	1.8 U	2.1 U	1.6 U	1.6 U
Carbon disulfide	0.51 U	0.49 U	0.52 U	0.52 U	0.49 U	0.59 U	0.58 U	0.67 U	0.52 U	0.51 U
Carbon tetrachloride	1 U	0.97 U	1 U	1 U	0.95 U	1.2 U	1.1 U	1.3 U	1 U	1 U
Chlorobenzene	0.73 U	0.71 U	0.74 U	0.74 U	0.69 U	0.84 U	0.84 U	0.96 U	0.75 U	0.73 U
Chlorodibromomethane	0.5 U	0.48 U	0.51 U	0.51 U	0.48 U	0.58 U	0.57 U	0.65 U	0.51 U	0.5 U
Chloroethane	1.2 U	1.2 U	1.2 U	1.2 U	1.1 U	1.4 U	1.4 U	1.6 U	1.2 U	1.2 UJ

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SWMU 9 AREA A/B - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB93	74SB94	74SB94	74SB95	74SB95	74SB96	74SB96	74SB96	74SB97	74SB97
Sample ID	74SB93-04	74SB94-03	74SB94-04	74SB95-03	74SB95-04	74SB96-03	74SB96-03D	74SB96-05	74SB97-03	74SB97-04
Date	5/7/2008	5/7/2008	5/7/2008	5/13/2008	5/13/2008	5/13/2008	5/13/2008	5/13/2008	5/5/2008	5/5/2008
Depth Range	7.0-9.0	5.0-7.0	7.0-9.0	5.0-7.0	7.0-9.0	5.0-7.0	5.0-7.0	9.0-11.0	5.0-7.0	7.0-9.0
Volatile Organic Compounds (ug/kg)										
Chloroform	0.5 U	0.48 U	0.51 U	0.51 U	0.48 U	0.58 U	0.57 U	0.65 U	0.51 U	0.5 U
Chloromethane	0.71 U	0.69 U	0.72 U	0.72 U	0.68 U	0.82 U	0.81 U	0.93 U	0.73 U	0.71 U
cis-1,3-Dichloropropene	0.87 U	0.84 U	0.89 U	0.89 U	0.83 U	1 U	1 U	1.1 U	0.89 U	0.87 U
Dibromomethane	1.2 U	1.2 U	1.2 U	1.2 U	1.1 U	1.4 U	1.4 U	1.6 U	1.2 U	1.2 U
Dichlorobromomethane	0.83 U	0.8 U	0.85 U	0.85 U	0.79 U	0.96 U	0.95 U	1.1 U	0.85 U	0.83 U
Dichlorodifluoromethane	0.89 U	0.86 U	0.91 U	0.91 U	0.85 U	1 U	1 U	1.2 U	0.91 U	0.89 U
Ethyl methacrylate	2.2 U	2.1 U	2.2 U	2.2 U	2.1 U	2.5 U	2.5 U	2.9 U	2.3 U	2.2 U
Ethylbenzene	0.75 U	0.73 U	0.76 U	0.77 U	0.71 U	0.87 U	0.86 U	0.98 U	0.77 U	0.75 U
Ethylene Dibromide	1.5 U	1.5 U	1.5 U	1.5 U	1.4 U	1.7 U	1.7 U	2 U	1.5 U	1.5 U
Iodomethane	1 U	0.97 U	1 U	1 U	0.95 U	1.2 U	1.1 U	1.3 U	1 U	1 UJ
Isobutyl alcohol	69 R	67 R	70 R	70 R	66 R	80 R	79 R	90 R	71 R	69 R
Methacrylonitrile	24 UJ	23 UJ	24 UJ	24 UJ	23 UJ	28 UJ	28 UJ	31 UJ	25 U	24 U
Methyl methacrylate	3.7 U	3.6 U	3.8 U	3.8 U	3.5 U	4.3 U	4.2 U	4.8 U	3.8 U	3.7 U
Methylene Chloride	1 U	0.97 U	1 U	1 U	0.95 U	1.2 U	1.1 U	1.3 U	1 U	1 U
Pentachloroethane	2.2 U	2.1 U	2.2 U	2.2 UJ	2.1 UJ	2.5 UJ	2.5 UJ	2.9 UJ	2.3 UJ	2.2 UJ
Propionitrile	21 U	20 U	21 U	21 U	20 U	24 U	24 U	27 U	22 UJ	21 U
Styrene	0.66 U	0.64 U	0.67 U	0.67 U	0.63 U	0.76 U	0.76 U	0.86 U	0.68 U	0.66 U
Tetrachloroethene	0.73 U	0.71 U	0.74 U	0.74 U	0.69 U	0.84 U	0.84 U	0.96 U	0.75 U	0.73 U
Toluene	0.79 U	0.77 U	0.81 U	0.81 U	0.75 U	0.91 U	0.91 U	1 U	0.81 U	0.79 U
trans-1,2-Dichloroethene	0.97 U	0.94 U	0.99 U	0.99 U	0.92 U	1.1 U	1.1 U	1.3 U	1 U	0.97 U
trans-1,3-Dichloropropene	0.87 U	0.84 U	0.89 U	0.89 U	0.83 U	1 U	1 U	1.1 U	0.89 U	0.87 U
trans-1,4-Dichloro-2-butene	3.1 U	3 U	3.2 U	3.2 U	2.9 U	3.6 U	3.6 U	4.1 U	3.2 U	3.1 U
Trichloroethene	1 U	0.97 U	1 U	1 U	0.95 U	1.2 U	1.1 U	1.3 U	1 U	1 U
Trichlorofluoromethane	1.5 U	1.5 U	1.5 U	1.5 U	1.4 U	1.7 U	1.7 U	2 U	1.5 U	1.5 U
Vinyl acetate	1.5 U	1.5 U	1.5 U	1.5 U	1.4 U	1.7 U	1.7 U	2 U	1.5 U	1.5 U
Vinyl chloride	0.58 U	0.56 U	0.59 U	0.59 U	0.55 U	0.67 U	0.67 U	0.76 U	0.6 U	0.58 U
Xylenes, Total	2.3 U	2.2 U	2.3 U	2.3 U	2.2 U	2.7 U	2.6 U	3 U	2.4 U	2.3 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SWMU 9 AREA A/B - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB93	74SB94	74SB94	74SB95	74SB95	74SB96	74SB96	74SB96	74SB97	74SB97
Sample ID	74SB93-04	74SB94-03	74SB94-04	74SB95-03	74SB95-04	74SB96-03	74SB96-03D	74SB96-05	74SB97-03	74SB97-04
Date	5/7/2008	5/7/2008	5/7/2008	5/13/2008	5/13/2008	5/13/2008	5/13/2008	5/13/2008	5/5/2008	5/5/2008
Depth Range	7.0-9.0	5.0-7.0	7.0-9.0	5.0-7.0	7.0-9.0	5.0-7.0	5.0-7.0	9.0-11.0	5.0-7.0	7.0-9.0
LLPAHs (ug/kg)										
1-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[a]anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[a]pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[b]fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[g,h,i]perylene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[k]fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indeno[1,2,3-cd]pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SWMU 9 AREA A/B - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB93	74SB94	74SB94	74SB95	74SB95	74SB96	74SB96	74SB96	74SB97	74SB97
Sample ID	74SB93-04	74SB94-03	74SB94-04	74SB95-03	74SB95-04	74SB96-03	74SB96-03D	74SB96-05	74SB97-03	74SB97-04
Date	5/7/2008	5/7/2008	5/7/2008	5/13/2008	5/13/2008	5/13/2008	5/13/2008	5/13/2008	5/5/2008	5/5/2008
Depth Range	7.0-9.0	5.0-7.0	7.0-9.0	5.0-7.0	7.0-9.0	5.0-7.0	5.0-7.0	9.0-11.0	5.0-7.0	7.0-9.0
Metals (mg/kg)										
Antimony	0.082 U	0.078 U	0.086 U	0.085 UJ	0.084 UJ	0.092 UJ	0.098 UJ	0.095 UJ	0.087 UJ	0.092 UJ
Arsenic	0.51 U	0.32 U	0.42 U	0.41 U	0.37 U	1.2	1.5	1.2	0.79	1.3
Barium	19	62	15	49	48	510 R	96 R	120	21 J	17 J
Beryllium	0.13	0.16	0.16	0.18	0.13	0.48	0.5	0.61	0.11 J	0.17
Cadmium	0.084 J	0.09 J	0.052 J	0.065 J	0.052 J	0.038 U	0.04 U	0.039 U	0.036 U	0.038 U
Chromium	2.4	1.8	2	3.3 J	3.6 J	5.2 J	5.2 J	7.3 J	14 R	29 R
Cobalt	23	26	23	30	24	12	10	16	4.2	8.8
Copper	73	74	110	43	84	180	180	160	45	85
Lead	0.51	0.74	0.7	0.47	0.82	1.7	2.4	1.7	1.3 J	2.1 J
Mercury	0.005 U	0.004 U	0.005 U	0.008 J	0.006 J	0.005 U	0.0053 U	0.006 U	0.005 U	0.005 U
Nickel	5	5	4.2	6.2	5.2	14	10	9.4	4.4	10
Selenium	0.13 U	0.12 U	0.14 U	0.14 U	0.13 U	0.15 U	0.22 J	0.15 U	0.24 J	0.41 J
Silver	0.021 J	0.017 U	0.018 U	0.018 J	0.018 J	0.024 J	0.037 J	0.025 J	0.025 UJ	0.02 UJ
Thallium	0.13 U	0.12 U	0.14 U	0.14 U	0.13 U	0.15 U	0.16 U	0.15 U	0.14 U	0.15 U
Tin	4.4 U	4.2 U	4.6 U	4.5 U	4.5 U	4.9 U	5.2 U	5 U	4.7 U	4.9 U
Vanadium	260	190	140	220	250	230	250	200	120	190
Zinc	79	83	100	90 J	92 J	160 J	130 J	140 J	61 J	190 J
TPH DRO/GRO (mg/kg)										
Diesel Range Organics	0.69 U	1.7 J	1.4 J	2.6 J	2 J	2.6 J	3.3 J	2.2 J	1.7 J	1 J
Gasoline Range Organics	0.061 U	0.061 U	0.062 U	0.065 U	0.062 U	0.071 U	0.07 U	0.077 U	0.065 U	0.064 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SWMU 9 AREA A/B - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB98	74SB98	74SB99	74SB99	74SB100	74SB100	74SB101	74SB101	74SB101	74SB102
Sample ID	74SB98-03	74SB98-04	74SB99-03	74SB99-04	74SB100-03	74SB100-04	74SB101-03	74SB101-03D	74SB101-04	74SB102-04
Date	5/5/2008	5/5/2008	5/5/2008	5/5/2008	5/5/2008	5/5/2008	5/5/2008	5/5/2008	5/5/2008	5/5/2008
Depth Range	5.0-7.0	7.0-9.0	5.0-7.0	7.0-9.0	5.0-7.0	7.0-9.0	5.0-7.0	5.0-7.0	7.0-9.0	7.0-9.0
Volatile Organic Compounds (ug/kg)										
1,1,1,2-Tetrachloroethane	0.65 U	0.68 U	0.81 U	0.6 U	0.65 U	0.63 U	0.6 U	0.73 U	0.79 U	0.59 U
1,1,1-Trichloroethane	0.59 U	0.61 U	0.74 U	0.55 U	0.59 U	0.57 U	0.55 U	0.66 U	0.72 U	0.53 U
1,1,2,2-Tetrachloroethane	1.4 U	1.5 U	1.8 U	1.3 U	1.4 U	1.4 U	1.3 U	1.6 U	1.7 U	1.3 U
1,1,2-Trichloroethane	1.2 U	1.3 U	1.5 U	1.1 U	1.2 U	1.2 U	1.1 U	1.4 U	1.5 U	1.1 U
1,1-Dichloroethane	0.51 U	0.53 U	0.64 U	0.47 U	0.5 U	0.49 U	0.47 U	0.57 U	0.62 U	0.46 U
1,1-Dichloroethene	0.55 U	0.57 U	0.69 U	0.51 U	0.54 U	0.53 U	0.51 U	0.62 U	0.67 U	0.49 U
1,2,3-Trichloropropane	1.4 UJ	1.5 UJ	1.8 UJ	1.3 UJ	1.4 UJ	1.4 UJ	1.3 UJ	1.6 UJ	1.7 UJ	1.3 U
1,2-Dibromo-3-Chloropropane	2.8 UJ	3 UJ	3.6 UJ	2.6 UJ	2.8 UJ	2.8 UJ	2.6 UJ	3.2 UJ	3.5 UJ	2.6 U
1,2-Dichloroethane	1 U	1.1 U	1.3 U	0.94 U	1 U	0.99 U	0.94 U	1.1 U	1.2 U	0.91 U
1,2-Dichloropropane	1.1 U	1.2 U	1.4 U	1 U	1.1 U	1.1 U	1 U	1.3 U	1.4 U	1 U
2-Butanone (MEK)	5.5 U	2.9 U	3.4 U	2.5 U	28 U	11 U	3.5 U	3.1 U	3.3 U	2.5 U
2-Chloro-1,3-butadiene	0.58 U	0.6 U	0.72 U	0.54 U	0.57 U	0.56 U	0.54 U	0.65 U	0.71 U	0.52 U
2-Hexanone	2.9 J	2.2 U	2.7 U	2 U	2.1 U	2.1 U	2 U	2.4 U	2.6 U	1.9 U
3-Chloro-1-propene	1.5 UJ	1.6 UJ	1.9 UJ	1.4 UJ	1.5 UJ	1.5 UJ	1.4 UJ	1.7 UJ	1.9 UJ	1.4 U
4-Methyl-2-pentanone (MIBK)	2.9 U	3.1 U	3.7 U	2.7 U	2.9 U	2.9 U	2.7 U	3.3 U	3.6 U	2.7 U
Acetone	4.4 UJ	13 J	63 J	34 J	400 J	160 J	39 J	24 J	15 J	16 J
Acetonitrile	45 UJ	48 UJ	57 UJ	42 UJ	45 UJ	44 UJ	43 UJ	51 UJ	56 UJ	41 U
Acrolein	19 R	20 R	24 R	18 R	19 R	19 R	18 R	22 R	24 R	17 R
Acrylonitrile	23 U	24 U	29 U	22 U	23 U	23 U	22 U	26 U	28 U	21 U
Benzene	0.8 U	0.84 U	1 U	0.74 U	0.8 U	0.78 U	0.75 U	0.9 U	0.98 U	0.72 U
Bromoform	1.1 U	1.2 U	1.4 U	1 U	1.1 U	1.1 U	1 U	1.3 U	1.4 U	1 U
Bromomethane	1.6 U	1.7 U	2 U	1.5 U	1.6 U	1.6 U	1.5 U	1.8 U	2 U	1.5 U
Carbon disulfide	0.52 U	0.54 U	2.2 J	1 J	1.3 J	0.5 U	0.63 J	0.58 U	0.63 U	0.47 U
Carbon tetrachloride	1 U	1.1 U	1.3 U	0.94 U	1 U	0.99 U	0.94 U	1.1 U	1.2 U	0.91 U
Chlorobenzene	0.74 U	0.77 U	0.93 U	0.69 U	0.74 U	0.72 U	0.69 U	0.83 U	0.9 U	0.67 U
Chlorodibromomethane	0.51 U	0.53 U	0.64 U	0.47 U	0.5 U	0.49 U	0.47 U	0.57 U	0.62 U	0.46 U
Chloroethane	1.2 UJ	1.3 UJ	1.5 UJ	1.1 UJ	1.2 UJ	1.2 UJ	1.1 UJ	1.4 UJ	1.5 UJ	1.1 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SWMU 9 AREA A/B - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB98	74SB98	74SB99	74SB99	74SB100	74SB100	74SB101	74SB101	74SB101	74SB102
Sample ID	74SB98-03	74SB98-04	74SB99-03	74SB99-04	74SB100-03	74SB100-04	74SB101-03	74SB101-03D	74SB101-04	74SB102-04
Date	5/5/2008	5/5/2008	5/5/2008	5/5/2008	5/5/2008	5/5/2008	5/5/2008	5/5/2008	5/5/2008	5/5/2008
Depth Range	5.0-7.0	7.0-9.0	5.0-7.0	7.0-9.0	5.0-7.0	7.0-9.0	5.0-7.0	5.0-7.0	7.0-9.0	7.0-9.0
Volatile Organic Compounds (ug/kg)										
Chloroform	0.51 U	0.53 U	0.64 U	0.47 U	0.51 J	0.49 U	0.47 U	0.57 U	0.62 U	0.46 U
Chloromethane	0.72 U	0.75 U	0.9 U	0.67 U	1.5 J	0.7 U	0.95 J	0.81 U	0.88 U	0.65 U
cis-1,3-Dichloropropene	0.88 U	0.92 U	1.1 U	0.82 U	0.88 U	0.86 U	0.82 U	0.99 U	1.1 U	0.8 U
Dibromomethane	1.2 U	1.3 U	1.5 U	1.1 U	1.2 U	1.2 U	1.1 U	1.4 U	1.5 U	1.1 U
Dichlorobromomethane	0.84 U	0.88 U	1.1 U	0.78 U	0.84 U	0.82 U	0.78 U	0.95 U	1 U	0.76 U
Dichlorodifluoromethane	0.9 U	0.94 U	1.1 U	0.84 U	0.9 U	0.88 U	0.84 U	1 U	1.1 U	0.81 U
Ethyl methacrylate	2.2 U	2.3 U	2.8 U	2.1 U	2.2 U	2.2 U	2.1 U	2.5 U	2.7 U	2 U
Ethylbenzene	0.76 U	0.79 U	0.95 U	0.71 U	0.76 U	0.74 U	0.71 U	0.86 U	0.93 U	0.69 U
Ethylene Dibromide	1.5 U	1.6 U	1.9 U	1.4 U	1.5 U	1.5 U	1.4 U	1.7 U	1.9 U	1.4 U
Iodomethane	1 UJ	1.1 UJ	1.3 UJ	0.94 UJ	12 J	1 J	0.94 UJ	1.1 UJ	1.2 UJ	0.91 U
Isobutyl alcohol	70 R	73 R	88 R	65 R	70 R	68 R	65 R	79 R	85 R	63 R
Methacrylonitrile	24 U	25 U	30 U	23 U	24 U	24 U	23 U	27 U	30 U	22 U
Methyl methacrylate	3.7 U	3.9 U	4.7 U	3.5 U	3.7 U	3.6 U	3.5 U	4.2 U	4.6 U	3.4 U
Methylene Chloride	1 U	1.1 U	1.3 U	0.94 U	1 U	0.99 U	0.94 U	1.1 U	1.2 U	0.91 U
Pentachloroethane	2.2 UJ	2.3 UJ	2.8 UJ	2.1 UJ	2.2 UJ	2.2 UJ	2.1 UJ	2.5 UJ	2.7 UJ	2 UJ
Propionitrile	21 U	22 U	27 U	20 U	21 U	21 U	20 U	24 U	26 U	19 U
Styrene	0.67 U	0.7 U	0.84 U	0.62 U	0.67 U	0.65 U	0.62 U	0.75 U	0.82 U	0.6 U
Tetrachloroethene	0.74 U	0.77 U	0.93 U	0.69 U	0.74 U	0.72 U	0.69 U	0.83 U	0.9 U	0.67 U
Toluene	0.8 U	0.84 U	1 U	0.74 U	0.8 U	0.78 U	0.75 U	0.9 U	0.98 U	0.72 U
trans-1,2-Dichloroethene	0.98 U	1 U	1.2 U	0.91 U	0.98 U	0.96 U	0.92 U	1.1 U	1.2 U	0.89 U
trans-1,3-Dichloropropene	0.88 U	0.92 U	1.1 U	0.82 U	0.88 U	0.86 U	0.82 U	0.99 U	1.1 U	0.8 U
trans-1,4-Dichloro-2-butene	3.1 U	3.3 U	3.9 U	2.9 U	3.1 U	3.1 U	2.9 U	3.5 U	3.8 U	2.8 U
Trichloroethene	1 U	1.1 U	1.3 U	0.94 U	1 U	0.99 U	0.94 U	1.1 U	1.2 U	0.91 U
Trichlorofluoromethane	1.5 U	1.6 U	1.9 U	1.4 U	1.5 U	1.5 U	1.4 U	1.7 U	1.9 U	1.4 U
Vinyl acetate	1.5 U	1.6 U	1.9 U	1.4 U	1.5 U	1.5 U	1.4 U	1.7 U	1.9 U	1.4 U
Vinyl chloride	0.59 U	0.61 U	0.74 U	0.55 U	0.59 U	0.57 U	0.55 U	0.66 U	0.72 U	0.53 U
Xylenes, Total	2.3 U	2.4 U	2.9 U	2.2 U	2.3 U	2.3 U	2.2 U	2.6 U	2.8 U	2.1 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SWMU 9 AREA A/B - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB98	74SB98	74SB99	74SB99	74SB100	74SB100	74SB101	74SB101	74SB101	74SB102
Sample ID	74SB98-03	74SB98-04	74SB99-03	74SB99-04	74SB100-03	74SB100-04	74SB101-03	74SB101-03D	74SB101-04	74SB102-04
Date	5/5/2008	5/5/2008	5/5/2008	5/5/2008	5/5/2008	5/5/2008	5/5/2008	5/5/2008	5/5/2008	5/5/2008
Depth Range	5.0-7.0	7.0-9.0	5.0-7.0	7.0-9.0	5.0-7.0	7.0-9.0	5.0-7.0	5.0-7.0	7.0-9.0	7.0-9.0
LLPAHs (ug/kg)										
1-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[a]anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[a]pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[b]fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[g,h,i]perylene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[k]fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indeno[1,2,3-cd]pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SWMU 9 AREA A/B - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB98	74SB98	74SB99	74SB99	74SB100	74SB100	74SB101	74SB101	74SB101	74SB102
Sample ID	74SB98-03	74SB98-04	74SB99-03	74SB99-04	74SB100-03	74SB100-04	74SB101-03	74SB101-03D	74SB101-04	74SB102-04
Date	5/5/2008	5/5/2008	5/5/2008	5/5/2008	5/5/2008	5/5/2008	5/5/2008	5/5/2008	5/5/2008	5/5/2008
Depth Range	5.0-7.0	7.0-9.0	5.0-7.0	7.0-9.0	5.0-7.0	7.0-9.0	5.0-7.0	5.0-7.0	7.0-9.0	7.0-9.0
Metals (mg/kg)										
Antimony	0.087 UJ	0.096 UJ	0.093 UJ	0.095 UJ	0.084 UJ	0.089 UJ	0.089 UJ	0.09 UJ	0.082 UJ	0.083 UJ
Arsenic	2	0.66	2	0.87	3.3	3.9	2.9	3.6	2.6	2.7
Barium	82 J	9.1 J	33 J	12 J	150 J	26 J	23 J	14 J	20 J	35 J
Beryllium	0.17	0.16	0.16	0.12 J	0.31	0.32	0.12	0.15	0.082 U	0.13
Cadmium	0.04 J	0.039 U	0.046 J	0.039 U	0.33	0.048 J	0.037 U	0.057 J	0.034 U	0.034 U
Chromium	29 R	8.9 R	13 R	6 R	16 R	36 R	15 R	26 R	31 R	24 R
Cobalt	7	5.2	5.2	3.2	61	9.2	2.9	3.3	2.7	5.2
Copper	73	72	62	77	56	110	57	82	54	58
Lead	1.9 J	0.68 J	2.1 J	0.77 J	4.9 J	4.4 J	2.8 J	5.3 J	3.5 J	5 J
Mercury	0.077	0.004 U	0.048	0.005 U	0.079	0.15	0.081	0.027	0.005 U	0.19
Nickel	6.7	4.3	4.2	2.8	9.7	6.3	3.8	3.8	2.4	4.2
Selenium	1.4	0.22 J	2.6	0.5 J	2	2.2	2.8 J	5.2 J	2.4	6.9
Silver	0.033 UJ	0.037 UJ	0.035 UJ	0.02 UJ	0.088 UJ	0.035 UJ	0.061 UJ	0.055 UJ	0.034 UJ	0.054 UJ
Thallium	0.14 U	0.15 U	0.15 U	0.15 U	0.13 U	0.14 U	0.14 U	0.14 U	0.13 U	0.13 U
Tin	4.7 U	5.1 U	5 U	5.1 U	4.5 U	4.8 U	4.8 U	4.8 U	4.4 U	4.4 U
Vanadium	310	110	250	150	210	470	410	410	360	300
Zinc	39 J	50 J	31 J	24 J	91 J	78 J	21 J	23 J	13 J	24 J
TPH DRO/GRO (mg/kg)										
Diesel Range Organics	0.77 U	1.4 J	1.5 J	2.3 J	1.8 J	1.8 J	1.5 J	0.95 J	2 J	1.8 J
Gasoline Range Organics	0.058 U	0.063 U	0.063 U	0.064 U	0.059 J	0.066 U	0.057 U	0.069 U	0.061 U	0.062 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SWMU 9 AREA A/B - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB102	74SB103	74SB103	74SB104	74SB104	74SB105	74SB105	74SB106	74SB106	74SB107
Sample ID	74SB102-05	74SB103-03	74SB103-04	74SB104-03	74SB104-04	74SB105-03	74SB105-04	74SB106-01	74SB106-04	74SB107-03
Date	5/5/2008	5/5/2008	5/5/2008	5/5/2008	5/5/2008	5/5/2008	5/5/2008	5/5/2008	5/5/2008	5/6/2008
Depth Range	9.0-11.0	5.0-7.0	7.0-9.0	5.0-7.0	7.0-9.0	5.0-7.0	7.0-9.0	1.0-3.0	7.0-9.0	5.0-7.0
Volatile Organic Compounds (ug/kg)										
1,1,1,2-Tetrachloroethane	0.63 U	0.72 U	0.68 U	0.71 U	0.59 U	0.66 U	0.63 U	0.6 U	0.68 U	0.77 U
1,1,1-Trichloroethane	0.57 U	0.65 U	0.62 U	0.64 U	0.53 U	0.6 U	0.57 U	0.54 U	0.62 U	0.7 U
1,1,2,2-Tetrachloroethane	1.4 U	1.6 U	1.5 U	1.5 U	1.3 U	1.4 U	1.4 U	1.3 U	1.5 U	1.7 U
1,1,2-Trichloroethane	1.2 U	1.3 U	1.3 U	1.3 U	1.1 U	1.2 U	1.2 U	1.1 U	1.3 U	1.4 U
1,1-Dichloroethane	0.49 U	0.56 U	0.53 U	0.55 U	0.46 U	0.52 U	0.49 U	0.47 U	0.53 U	0.6 U
1,1-Dichloroethene	0.53 U	0.6 U	0.57 U	0.6 U	0.5 U	0.56 U	0.53 U	0.5 U	0.58 U	0.65 U
1,2,3-Trichloropropane	1.4 U	1.6 U	1.5 U	1.5 U	1.3 U	1.4 U	1.4 U	1.3 U	1.5 U	1.7 UJ
1,2-Dibromo-3-Chloropropane	2.8 UJ	3.1 UJ	3 UJ	3.1 UJ	2.6 UJ	2.9 UJ	2.8 UJ	2.6 UJ	3 UJ	3.4 UJ
1,2-Dichloroethane	0.99 U	1.1 U	1.1 U	1.1 U	0.92 U	1 U	0.99 U	0.93 U	1.1 U	1.2 U
1,2-Dichloropropane	1.1 U	1.2 U	1.2 U	1.2 U	1 U	1.1 U	1.1 U	1 U	1.2 U	1.3 U
2-Butanone (MEK)	2.7 U	3 U	2.9 U	3 U	2.5 U	7.1 U	2.7 U	7.8 U	2.9 U	3.2 U
2-Chloro-1,3-butadiene	0.56 U	0.64 U	0.61 U	0.63 U	0.53 U	0.59 U	0.56 U	0.53 U	0.61 U	0.68 U
2-Hexanone	2.1 U	2.3 U	2.2 U	2.3 U	1.9 U	2.2 U	2.1 U	2 U	2.2 U	2.5 U
3-Chloro-1-propene	1.5 U	1.7 U	1.6 U	1.7 U	1.4 U	1.5 U	1.5 U	1.4 U	1.6 U	1.8 UJ
4-Methyl-2-pentanone (MIBK)	2.9 U	3.2 U	3.1 U	3.2 U	2.7 U	3 U	2.9 U	2.7 U	3.1 U	3.5 U
Acetone	7 UJ	19 UJ	11 UJ	29 UJ	12 UJ	110 J	43 UJ	85 UJ	51 UJ	41 J
Acetonitrile	44 UJ	50 UJ	48 UJ	50 UJ	41 UJ	46 UJ	44 UJ	42 UJ	48 UJ	54 UJ
Acrolein	19 U	21 U	20 U	21 U	18 U	20 U	19 U	18 U	20 U	23 R
Acrylonitrile	23 U	26 U	24 U	25 U	21 U	24 U	23 U	21 U	25 U	28 U
Benzene	0.78 U	0.88 U	0.84 U	0.87 U	0.73 U	0.81 U	0.78 U	0.74 U	0.84 U	0.95 U
Bromoform	1.1 U	1.2 U	1.2 U	1.2 U	1 U	3.2 J	1.1 U	1 U	1.2 U	1.3 U
Bromomethane	1.6 U	1.8 U	1.7 U	1.8 U	1.5 U	1.7 U	1.6 U	1.5 U	1.7 U	1.9 UJ
Carbon disulfide	0.5 U	0.57 U	0.54 U	6.5 J	0.47 U	0.53 U	0.5 U	1.7 J	0.54 U	0.61 UJ
Carbon tetrachloride	0.99 U	1.1 U	1.1 U	1.1 U	0.92 U	1 U	0.99 U	0.93 U	1.1 U	1.2 U
Chlorobenzene	0.72 U	0.82 U	0.78 U	0.81 U	0.67 U	0.75 U	0.72 U	0.68 U	0.78 U	0.88 U
Chlorodibromomethane	0.49 U	0.56 U	0.53 U	0.55 U	0.46 U	0.52 U	0.49 U	0.47 U	0.53 U	0.6 U
Chloroethane	1.2 UJ	1.3 UJ	1.3 UJ	1.3 UJ	1.1 UJ	1.2 UJ	1.2 UJ	1.1 UJ	1.3 UJ	1.4 UJ

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SWMU 9 AREA A/B - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB102	74SB103	74SB103	74SB104	74SB104	74SB105	74SB105	74SB106	74SB106	74SB107
Sample ID	74SB102-05	74SB103-03	74SB103-04	74SB104-03	74SB104-04	74SB105-03	74SB105-04	74SB106-01	74SB106-04	74SB107-03
Date	5/5/2008	5/5/2008	5/5/2008	5/5/2008	5/5/2008	5/5/2008	5/5/2008	5/5/2008	5/5/2008	5/6/2008
Depth Range	9.0-11.0	5.0-7.0	7.0-9.0	5.0-7.0	7.0-9.0	5.0-7.0	7.0-9.0	1.0-3.0	7.0-9.0	5.0-7.0
Volatile Organic Compounds (ug/kg)										
Chloroform	0.49 U	0.56 U	0.53 U	0.55 U	0.46 U	0.52 U	0.49 U	0.47 U	0.53 U	0.6 U
Chloromethane	0.7 U	0.79 U	0.76 U	0.78 U	0.65 U	1.8 J	0.7 U	0.66 U	0.76 U	0.85 U
cis-1,3-Dichloropropene	0.86 U	0.97 U	0.93 U	0.96 U	0.8 U	0.9 U	0.86 U	0.81 U	0.93 U	1 U
Dibromomethane	1.2 U	1.3 U	1.3 U	1.3 U	1.1 U	1.2 U	1.2 U	1.1 U	1.3 U	1.4 U
Dichlorobromomethane	0.82 U	0.93 U	0.88 U	0.92 U	0.76 U	0.86 U	0.82 U	0.77 U	0.89 U	1 U
Dichlorodifluoromethane	0.88 U	1 U	0.95 U	0.98 U	0.82 U	0.92 U	0.88 U	0.83 U	0.95 U	1.1 U
Ethyl methacrylate	2.2 U	2.5 U	2.3 U	2.4 U	2 U	2.3 U	2.2 U	2 U	2.3 U	2.6 U
Ethylbenzene	0.74 U	0.84 U	0.8 U	0.83 U	0.69 U	0.77 U	0.74 U	0.7 U	0.8 U	0.9 U
Ethylene Dibromide	1.5 U	1.7 U	1.6 U	1.7 U	1.4 U	1.5 U	1.5 U	1.4 U	1.6 U	1.8 U
Iodomethane	0.99 UJ	1.1 UJ	1.1 UJ	1.1 UJ	0.92 UJ	6 J	0.99 UJ	0.93 UJ	1.1 UJ	1.2 UJ
Isobutyl alcohol	68 R	77 R	73 R	76 R	64 R	71 R	68 R	64 R	74 R	83 R
Methacrylonitrile	24 U	27 U	26 U	27 U	22 U	25 U	24 U	22 U	26 U	29 U
Methyl methacrylate	3.7 U	4.1 U	3.9 U	4.1 U	3.4 U	3.8 U	3.7 U	3.4 U	3.9 U	4.4 U
Methylene Chloride	0.99 U	1.1 U	1.1 U	1.1 U	0.92 U	1 U	0.99 U	0.93 U	1.1 U	1.2 U
Pentachloroethane	2.2 UJ	2.5 UJ	2.3 UJ	2.4 UJ	2 UJ	2.3 UJ	2.2 UJ	2 UJ	2.3 UJ	2.6 UJ
Propionitrile	21 U	23 U	22 U	23 U	19 U	22 U	21 U	20 U	22 U	25 U
Styrene	0.65 U	0.74 U	0.7 U	0.73 U	0.61 U	0.68 U	0.65 U	0.61 U	0.7 U	0.79 U
Tetrachloroethene	0.72 U	0.82 U	0.78 U	0.81 U	0.67 U	0.75 U	0.72 U	0.68 U	0.78 U	0.88 U
Toluene	0.78 U	0.88 U	0.84 U	0.87 U	0.73 U	0.81 U	0.78 U	0.74 U	0.84 U	0.95 U
trans-1,2-Dichloroethene	0.96 U	1.1 U	1 U	1.1 U	0.89 U	1 U	0.96 U	0.9 U	1 U	1.2 U
trans-1,3-Dichloropropene	0.86 U	0.97 U	0.93 U	0.96 U	0.8 U	0.9 U	0.86 U	1.4 J	0.93 U	1 U
trans-1,4-Dichloro-2-butene	3.1 U	3.5 U	3.3 U	3.4 U	2.9 U	3.2 U	3.1 U	2.9 U	3.3 U	3.7 U
Trichloroethene	0.99 U	1.1 U	1.1 U	1.1 U	0.92 U	1 U	0.99 U	0.93 U	1.1 U	1.2 U
Trichlorofluoromethane	1.5 U	1.7 U	1.6 U	1.7 U	1.4 U	1.5 U	1.5 U	1.4 U	1.6 U	1.8 U
Vinyl acetate	1.5 U	1.7 U	1.6 U	1.7 U	1.4 U	1.5 U	1.5 U	1.4 U	1.6 U	1.8 U
Vinyl chloride	0.57 U	0.65 U	0.62 U	0.64 U	0.53 U	0.6 U	0.57 U	0.54 U	0.62 U	0.7 U
Xylenes, Total	2.3 U	2.6 U	2.4 U	2.5 U	2.1 U	2.4 U	2.3 U	2.1 U	2.5 U	2.8 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SWMU 9 AREA A/B - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB102	74SB103	74SB103	74SB104	74SB104	74SB105	74SB105	74SB106	74SB106	74SB107
Sample ID	74SB102-05	74SB103-03	74SB103-04	74SB104-03	74SB104-04	74SB105-03	74SB105-04	74SB106-01	74SB106-04	74SB107-03
Date	5/5/2008	5/5/2008	5/5/2008	5/5/2008	5/5/2008	5/5/2008	5/5/2008	5/5/2008	5/5/2008	5/6/2008
Depth Range	9.0-11.0	5.0-7.0	7.0-9.0	5.0-7.0	7.0-9.0	5.0-7.0	7.0-9.0	1.0-3.0	7.0-9.0	5.0-7.0
LLPAHs (ug/kg)										
1-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[a]anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[a]pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[b]fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[g,h,i]perylene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[k]fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indeno[1,2,3-cd]pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SWMU 9 AREA A/B - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB102	74SB103	74SB103	74SB104	74SB104	74SB105	74SB105	74SB106	74SB106	74SB107
Sample ID	74SB102-05	74SB103-03	74SB103-04	74SB104-03	74SB104-04	74SB105-03	74SB105-04	74SB106-01	74SB106-04	74SB107-03
Date	5/5/2008	5/5/2008	5/5/2008	5/5/2008	5/5/2008	5/5/2008	5/5/2008	5/5/2008	5/5/2008	5/6/2008
Depth Range	9.0-11.0	5.0-7.0	7.0-9.0	5.0-7.0	7.0-9.0	5.0-7.0	7.0-9.0	1.0-3.0	7.0-9.0	5.0-7.0
Metals (mg/kg)										
Antimony	0.087 UJ	0.088 UJ	0.09 UJ	0.24 UJ	0.087 UJ	0.087 UJ	0.087 UJ	0.2 UJ	0.17 UJ	0.087 UJ
Arsenic	2	4.2	0.59 J	3.2	1.4	4.4	1.9	2.7	6.5	2.7
Barium	32 J	47 J	47	89	16	240	61	61	47	19
Beryllium	0.096 U	0.2	0.075 J	0.28	0.1 J	0.27	0.08 J	0.23	0.23	0.12
Cadmium	0.036 U	0.05 J	0.037 U	0.7	0.036 U	0.21	0.094 J	1.1	0.35	0.036 U
Chromium	18 R	25 R	4.8	31	8.3	14	5.7	21	34	15
Cobalt	4.1	14	1.6	17	2.2	620	8.3	12	49	4.4 J
Copper	43	82	22 J	170 J	48 J	68 J	45 J	170 J	100 J	49 J
Lead	7.3 J	3.4 J	2.2	2.6	2	3.2	1.6	2.7	4.8	1.7
Mercury	0.004 U	0.19	0.035	0.004 U	0.004 U	0.008 J	0.025	0.004 U	0.024	0.053
Nickel	3.1	8	3.3	15	1.8	7.6	3	14	13	4
Selenium	1.4	3.5	0.96	0.36 J	0.95	2.1	0.97	0.5 J	2.3	4.3
Silver	0.039 UJ	0.047 UJ	0.037 J	0.11 J	0.019 UJ	0.032 J	0.02 J	0.14 J	0.11 J	0.054 J
Thallium	0.14 U	0.14 U	0.14 U	0.12 U	0.14 U	0.23 J	0.14 U	0.12 U	0.13 U	0.14 U
Tin	4.7 U	4.7 U	4.8 U	4.1 U	4.7 U	4.6 U	4.6 U	4.2 U	4.3 U	4.6 U
Vanadium	300	360	40	140	150	190	130	100	320	270
Zinc	14 J	45 J	9.7 J	170 J	19 J	53 J	23 J	220 J	76 J	24 J
TPH DRO/GRO (mg/kg)										
Diesel Range Organics	3 J	5.6	4.1 J	5	2.6 J	2.8 J	2.6 J	3.2 J	3 J	3.1 J
Gasoline Range Organics	0.06 U	0.064 J	0.066 U	0.15 J	0.067 U	0.065 U	0.074 J	0.06 U	0.056 U	0.073 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SWMU 9 AREA A/B - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB107	74SB107	74SB108	74SB108	74SB109	74SB109	74SB110	74SB110	74SB111
Sample ID	74SB107-03D	74SB107-05	74SB108-03	74SB108-04	74SB109-04	74SB109-05	74SB110-04	74SB110-05	74SB111-03
Date	5/6/2008	5/6/2008	5/6/2008	5/6/2008	5/6/2008	5/6/2008	5/6/2008	5/6/2008	5/7/2008
Depth Range	5.0-7.0	9.0-11.0	5.0-7.0	7.0-9.0	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0	5.0-7.0
Volatile Organic Compounds (ug/kg)									
1,1,1,2-Tetrachloroethane	0.77 U	0.66 U	0.77 U	0.81 UJ	0.68 U	730 U	0.62 U	0.63 U	0.7 U
1,1,1-Trichloroethane	0.69 U	0.59 U	0.7 U	0.73 UJ	0.62 U	670 U	0.56 U	0.57 U	0.63 U
1,1,2,2-Tetrachloroethane	1.7 U	1.4 U	1.7 U	1.8 UJ	1.5 U	1600 U	1.4 U	1.4 U	1.5 U
1,1,2-Trichloroethane	1.4 U	1.2 U	1.4 U	1.5 UJ	1.3 U	1400 U	1.2 U	1.2 U	1.3 U
1,1-Dichloroethane	0.6 U	0.51 U	0.6 U	0.63 UJ	0.53 U	570 U	0.48 U	0.49 U	0.55 U
1,1-Dichloroethene	0.65 U	0.55 U	0.65 U	0.68 UJ	0.58 U	620 U	0.52 U	0.53 U	0.59 U
1,2,3-Trichloropropane	1.7 UJ	1.4 UJ	1.7 UJ	1.8 UJ	1.5 U	1600 U	1.4 U	1.4 U	1.5 U
1,2-Dibromo-3-Chloropropane	3.4 UJ	2.9 UJ	3.4 UJ	3.5 UJ	3 U	3200 U	2.7 U	2.7 U	3.1 U
1,2-Dichloroethane	1.2 U	1 U	1.2 U	1.3 UJ	1.1 U	1100 U	0.97 U	0.98 U	1.1 U
1,2-Dichloropropane	1.3 U	1.1 U	1.3 U	1.4 UJ	1.2 U	1300 U	1.1 U	1.1 U	1.2 U
2-Butanone (MEK)	4 U	2.8 U	3.3 U	4.1 UJ	2.9 U	3100 U	2.6 U	2.7 U	11 U
2-Chloro-1,3-butadiene	0.68 U	0.58 U	0.69 U	0.72 UJ	0.61 UJ	650 U	0.55 U	0.56 UJ	0.62 U
2-Hexanone	2.5 U	2.2 U	2.5 U	2.7 UJ	2.2 U	2400 U	2 U	2.1 U	2.3 U
3-Chloro-1-propene	1.8 UJ	1.5 UJ	1.8 UJ	1.9 UJ	1.6 U	1700 U	1.4 U	1.5 U	1.6 U
4-Methyl-2-pentanone (MIBK)	3.5 U	3 U	3.5 U	3.7 UJ	3.1 U	3300 U	2.8 U	2.8 U	3.2 U
Acetone	77 J	31 J	38 J	35 J	4.7 R	5100 R	15 J	7.1 J	140 J
Acetonitrile	54 UJ	46 UJ	54 UJ	57 UJ	48 R	52000 U	43 R	44 R	49 R
Acrolein	23 R	19 R	23 R	24 R	20 R	22000 R	18 U	19 R	21 U
Acrylonitrile	28 U	24 U	28 U	29 UJ	25 U	26000 U	22 U	23 U	25 U
Benzene	0.95 U	0.81 U	0.95 U	1 UJ	0.84 U	910 U	0.76 U	0.78 U	0.86 U
Bromoform	1.3 U	1.1 U	1.3 U	1.4 UJ	1.2 U	1300 U	1.1 U	1.1 U	1.2 U
Bromomethane	1.9 UJ	1.6 UJ	1.9 UJ	2 UJ	1.7 U	1800 U	1.5 U	1.6 U	1.8 U
Carbon disulfide	0.61 UJ	0.52 UJ	9.1 J	4.3 J	0.54 U	590 U	0.49 U	0.5 U	0.56 U
Carbon tetrachloride	1.2 U	1 U	1.2 U	1.3 UJ	1.1 U	1100 U	0.97 U	0.98 U	1.1 U
Chlorobenzene	0.87 U	0.75 U	0.88 U	0.92 UJ	0.78 U	840 U	0.7 U	0.72 U	0.8 U
Chlorodibromomethane	0.6 U	0.51 U	0.6 U	0.63 UJ	0.53 U	570 U	0.48 U	0.49 U	0.55 U
Chloroethane	1.4 UJ	1.2 UJ	1.4 UJ	1.5 UJ	1.3 U	1400 U	1.2 U	1.2 U	1.3 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SWMU 9 AREA A/B - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB107	74SB107	74SB108	74SB108	74SB109	74SB109	74SB110	74SB110	74SB111
Sample ID	74SB107-03D	74SB107-05	74SB108-03	74SB108-04	74SB109-04	74SB109-05	74SB110-04	74SB110-05	74SB111-03
Date	5/6/2008	5/6/2008	5/6/2008	5/6/2008	5/6/2008	5/6/2008	5/6/2008	5/6/2008	5/7/2008
Depth Range	5.0-7.0	9.0-11.0	5.0-7.0	7.0-9.0	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0	5.0-7.0
Volatile Organic Compounds (ug/kg)									
Chloroform	0.6 U	0.51 U	0.6 U	0.63 UJ	0.53 U	570 U	0.48 U	0.49 U	0.55 U
Chloromethane	0.85 U	0.73 U	0.86 U	0.9 UJ	0.76 U	810 U	0.69 U	0.7 U	0.78 U
cis-1,3-Dichloropropene	1 U	0.89 U	1.1 U	1.1 UJ	0.93 U	1000 U	0.84 U	0.85 U	0.95 U
Dibromomethane	1.4 U	1.2 U	1.4 U	1.5 UJ	1.3 U	1400 U	1.2 U	1.2 U	1.3 U
Dichlorobromomethane	0.99 U	0.85 U	1 U	1 UJ	0.88 U	950 U	0.8 U	0.81 U	0.91 U
Dichlorodifluoromethane	1.1 U	0.91 U	1.1 U	1.1 UJ	0.95 U	1000 U	0.86 U	0.87 U	0.97 U
Ethyl methacrylate	2.6 U	2.3 U	2.7 U	2.8 UJ	7.3	2500 U	2.1 U	2.2 U	2.4 U
Ethylbenzene	0.9 U	0.77 U	0.91 U	0.95 UJ	0.8 U	860 U	0.72 U	0.74 U	0.82 U
Ethylene Dibromide	1.8 U	1.5 U	1.8 U	1.9 UJ	1.6 U	1700 U	1.4 U	1.5 U	1.6 U
Iodomethane	1.2 UJ	1 UJ	1.2 UJ	1.3 UJ	1.1 U	1100 U	0.97 U	0.98 U	1.1 U
Isobutyl alcohol	83 R	71 R	83 R	87 R	450 J	79000 R	67 R	68 R	76 R
Methacrylonitrile	29 U	25 U	29 U	30 UJ	26 UJ	28000 U	23 UJ	24 UJ	26 UJ
Methyl methacrylate	4.4 U	3.8 U	4.5 U	4.7 UJ	3.9 U	4200 U	3.6 U	3.6 U	4 U
Methylene Chloride	1.2 U	1 U	1.2 U	1.3 UJ	2.8 J	1100 U	0.97 U	0.98 U	1.1 U
Pentachloroethane	2.6 UJ	2.3 UJ	2.7 UJ	2.8 UJ	2.3 UJ	2500 UJ	2.1 U	2.2 UJ	2.4 U
Propionitrile	25 U	22 U	25 U	27 UJ	22 U	24000 U	20 U	21 U	23 U
Styrene	0.79 U	0.68 U	0.8 U	0.83 UJ	0.7 U	760 U	0.64 U	0.65 U	0.72 U
Tetrachloroethene	0.87 U	0.75 U	0.88 U	0.92 UJ	0.78 U	840 U	0.7 U	0.72 U	0.8 U
Toluene	0.95 U	0.81 U	0.95 U	1 UJ	0.84 U	910 U	0.76 U	0.78 U	0.86 U
trans-1,2-Dichloroethene	1.2 U	0.99 U	1.2 U	1.2 UJ	1 U	1100 U	0.94 U	0.95 U	1.1 U
trans-1,3-Dichloropropene	1 U	0.89 U	1.1 U	1.1 UJ	0.93 U	1000 U	0.84 U	0.85 U	0.95 U
trans-1,4-Dichloro-2-butene	3.7 U	3.2 U	3.7 U	3.9 UJ	3.3 U	3600 U	3 U	3 U	3.4 U
Trichloroethene	1.2 U	1 U	1.2 U	1.3 UJ	1.1 U	1100 U	0.97 U	0.98 U	1.1 U
Trichlorofluoromethane	1.8 U	1.5 U	1.8 U	1.9 UJ	1.6 U	1700 U	1.4 U	1.5 U	1.6 U
Vinyl acetate	1.8 U	1.5 U	1.8 U	1.9 UJ	1.6 U	1700 U	1.4 U	1.5 U	1.6 U
Vinyl chloride	0.69 U	0.59 U	0.7 U	0.73 UJ	0.62 U	670 U	0.56 U	0.57 U	0.63 U
Xylenes, Total	2.8 U	2.4 U	2.8 U	2.9 UJ	2.5 U	2600 U	2.2 U	2.3 U	2.5 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SWMU 9 AREA A/B - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB107	74SB107	74SB108	74SB108	74SB109	74SB109	74SB110	74SB110	74SB111
Sample ID	74SB107-03D	74SB107-05	74SB108-03	74SB108-04	74SB109-04	74SB109-05	74SB110-04	74SB110-05	74SB111-03
Date	5/6/2008	5/6/2008	5/6/2008	5/6/2008	5/6/2008	5/6/2008	5/6/2008	5/6/2008	5/7/2008
Depth Range	5.0-7.0	9.0-11.0	5.0-7.0	7.0-9.0	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0	5.0-7.0
LLPAHs (ug/kg)									
1-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[a]anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[a]pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[b]fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[g,h,i]perylene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[k]fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indeno[1,2,3-cd]pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SWMU 9 AREA A/B - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB107	74SB107	74SB108	74SB108	74SB109	74SB109	74SB110	74SB110	74SB111
Sample ID	74SB107-03D	74SB107-05	74SB108-03	74SB108-04	74SB109-04	74SB109-05	74SB110-04	74SB110-05	74SB111-03
Date	5/6/2008	5/6/2008	5/6/2008	5/6/2008	5/6/2008	5/6/2008	5/6/2008	5/6/2008	5/7/2008
Depth Range	5.0-7.0	9.0-11.0	5.0-7.0	7.0-9.0	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0	5.0-7.0
Metals (mg/kg)									
Antimony	0.087 UJ	0.092 UJ	0.091 UJ	0.09 UJ	0.094 UJ	0.092 UJ	0.093 J	0.086 UJ	0.088 U
Arsenic	2.6	0.75	2.3	2	1	1.8	1.2	1.2	1.3
Barium	18	30	17	17	70 R	26 R	60 R	54 R	120
Beryllium	0.13	0.065 J	0.15	0.16	0.2	0.33	0.47	0.23	0.44
Cadmium	0.037 J	0.038 U	0.043 J	0.037 U	0.039 U	0.038 U	0.075 J	0.047 J	0.073 J
Chromium	15	5.1	24	16	6.1 J	10 J	11 J	9.4 J	9.1
Cobalt	6.6 J	1.8	3.3	3.8	8.8 J	8.3 J	36 J	26 J	37
Copper	53 J	22 J	57 J	65 J	81	110	89	41 J	92
Lead	1.7	0.47	12	10	6.3	5.3	2.6	1.4	1.2
Mercury	0.022 J	0.005 U	0.048	0.005 U	0.008 J	0.005 J	0.007 J	0.006 J	0.017 J
Nickel	4.1	1.6	4.3	3	3.2	4	7.1	5	7.4
Selenium	3.8	0.34 J	3.3	2.7	1.9	0.67	0.13 U	0.14 U	0.22 J
Silver	0.044 J	0.02 UJ	0.05 J	0.019 UJ	0.03 J	0.048 J	0.017 U	0.038 J	0.022 J
Thallium	0.14 U	0.15 U	0.15 U	0.14 U	0.15 U	0.15 U	0.13 U	0.14 U	0.14 U
Tin	4.7 U	4.9 U	4.9 U	4.8 U	5 U	4.9 U	4.2 U	4.6 U	4.7 U
Vanadium	280	63	240	300	130	260	230	220	180
Zinc	26 J	12 J	24 J	20 J	28	43	110	100	88
TPH DRO/GRO (mg/kg)									
Diesel Range Organics	3 J	2.7 J	6.8	9.9	4.9	2.2 J	0.69 U	0.75 U	2.6 J
Gasoline Range Organics	0.067 U	0.066 U	2.2	150 J	0.27	3600	0.048 U	0.19 J	0.075 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SWMU 9 AREA A/B - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB111	74SB111	74SB112	74SB112	74SB113	74SB113	74SB114	74SB114	74SB115
Sample ID	74SB111-03D	74SB111-05	74SB112-04	74SB112-05	74SB113-04	74SB113-05	74SB114-04	74SB114-05	74SB115-03
Date	5/7/2008	5/7/2008	5/7/2008	5/7/2008	5/7/2008	5/7/2008	5/13/2008	5/13/2008	5/13/2008
Depth Range	5.0-7.0	9.0-11.0	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0	5.0-7.0
Volatile Organic Compounds (ug/kg)									
1,1,1,2-Tetrachloroethane	0.69 U	0.79 U	0.69 U	0.61 U	0.64 U	0.85 UJ	0.77 U	0.87 U	0.7 U
1,1,1-Trichloroethane	0.62 U	0.71 U	0.62 U	0.55 U	0.58 U	0.77 UJ	0.69 U	0.79 U	0.63 U
1,1,2,2-Tetrachloroethane	1.5 U	1.7 U	1.5 U	1.3 U	1.4 U	1.9 UJ	1.7 U	1.9 U	1.5 U
1,1,2-Trichloroethane	1.3 U	1.5 U	1.3 U	1.1 U	1.2 U	1.6 UJ	1.4 U	1.6 U	1.3 U
1,1-Dichloroethane	0.54 U	0.62 U	0.54 U	0.48 U	0.5 U	0.67 UJ	0.6 U	0.68 U	0.54 U
1,1-Dichloroethene	0.58 U	0.66 U	0.58 U	0.52 U	0.54 U	0.72 UJ	0.65 U	0.74 U	0.59 U
1,2,3-Trichloropropane	1.5 U	1.7 U	1.5 U	1.3 U	1.4 U	1.9 UJ	1.7 U	1.9 U	1.5 U
1,2-Dibromo-3-Chloropropane	3 U	3.4 U	3 U	2.7 U	2.8 U	3.7 UJ	3.3 U	3.8 U	3 U
1,2-Dichloroethane	1.1 U	1.2 U	1.1 U	0.96 U	1 U	1.3 UJ	1.2 U	1.4 U	1.1 U
1,2-Dichloropropane	1.2 U	1.4 U	1.2 U	1.1 U	1.1 U	1.5 UJ	1.3 U	1.5 U	1.2 U
2-Butanone (MEK)	2.9 U	13 J	2.9 U	2.6 U	2.7 U	3.6 UJ	10 UJ	3.7 UJ	2.9 UJ
2-Chloro-1,3-butadiene	0.61 U	0.7 U	0.61 U	0.55 U	0.57 U	0.76 UJ	0.68 U	0.78 U	0.62 U
2-Hexanone	2.3 U	2.6 U	2.2 U	2 U	2.1 U	2.8 UJ	5.7 J	2.9 UJ	2.3 UJ
3-Chloro-1-propene	1.6 U	1.8 U	1.6 U	1.4 U	1.5 U	2 UJ	1.8 U	2 U	1.6 U
4-Methyl-2-pentanone (MIBK)	3.1 U	3.6 U	3.1 U	2.8 U	2.9 U	3.9 UJ	3.5 UJ	4 UJ	3.2 UJ
Acetone	40 J	73 J	12 U	17 J	27 U	5.9 R	43 J	30 J	21 J
Acetonitrile	48 R	55 R	48 U	43 U	45 U	60 UJ	54 U	61 U	49 U
Acrolein	20 U	23 U	20 R	18 R	31 J	25 R	23 UJ	26 UJ	21 UJ
Acrylonitrile	25 U	28 U	25 U	22 U	23 U	31 UJ	27 U	31 U	25 U
Benzene	0.85 U	0.97 U	0.85 U	0.76 U	0.79 U	1.1 UJ	0.94 U	1.1 U	0.86 U
Bromoform	1.2 U	1.4 U	1.2 U	1.1 U	1.1 U	1.5 UJ	1.3 U	1.5 U	1.2 U
Bromomethane	1.7 U	2 U	1.7 U	1.5 U	1.6 U	2.1 UJ	1.9 U	2.2 U	1.7 U
Carbon disulfide	0.55 U	2.3 J	0.55 U	0.53 J	2.6 J	3.7 J	0.61 U	1.8 J	0.55 U
Carbon tetrachloride	1.1 U	1.2 U	1.1 U	0.96 U	1 U	1.3 UJ	1.2 U	1.4 U	1.1 U
Chlorobenzene	0.78 U	0.9 U	0.78 U	0.7 U	0.73 U	0.97 UJ	0.87 U	1 U	0.79 U
Chlorodibromomethane	0.54 U	0.62 U	0.54 U	0.48 U	0.5 U	0.67 UJ	0.6 U	0.68 U	0.54 U
Chloroethane	1.3 U	1.5 U	1.3 U	1.1 U	1.2 U	1.6 UJ	1.4 U	1.6 U	1.3 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SWMU 9 AREA A/B - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB111	74SB111	74SB112	74SB112	74SB113	74SB113	74SB114	74SB114	74SB115
Sample ID	74SB111-03D	74SB111-05	74SB112-04	74SB112-05	74SB113-04	74SB113-05	74SB114-04	74SB114-05	74SB115-03
Date	5/7/2008	5/7/2008	5/7/2008	5/7/2008	5/7/2008	5/7/2008	5/13/2008	5/13/2008	5/13/2008
Depth Range	5.0-7.0	9.0-11.0	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0	5.0-7.0
Volatile Organic Compounds (ug/kg)									
Chloroform	0.54 U	0.62 U	0.54 U	0.48 U	0.5 U	0.67 UJ	0.6 U	0.68 U	0.54 U
Chloromethane	0.76 U	0.87 U	0.76 U	0.68 U	0.71 U	0.95 UJ	0.85 U	0.97 U	0.77 U
cis-1,3-Dichloropropene	0.93 U	1.1 U	0.93 U	0.83 U	0.87 U	1.2 UJ	1 U	1.2 U	0.95 U
Dibromomethane	1.3 U	1.5 U	1.3 U	1.1 U	1.2 U	1.6 UJ	1.4 U	1.6 U	1.3 U
Dichlorobromomethane	0.89 U	1 U	0.89 U	0.79 U	0.83 U	1.1 UJ	0.99 U	1.1 U	0.9 U
Dichlorodifluoromethane	0.95 U	1.1 U	0.95 U	0.85 U	0.89 U	1.2 UJ	1.1 U	1.2 U	0.97 U
Ethyl methacrylate	2.4 U	2.7 U	2.4 U	2.1 U	2.2 U	2.9 UJ	2.6 U	3 U	2.4 U
Ethylbenzene	0.8 U	0.92 U	0.8 U	0.72 U	0.75 U	14 J	0.9 U	1 U	0.82 U
Ethylene Dibromide	1.6 U	1.8 U	1.6 U	1.4 U	1.5 U	2 UJ	1.8 U	2 U	1.6 U
Iodomethane	1.1 U	1.2 U	1.1 U	0.96 U	1 U	1.3 UJ	1.2 UJ	1.4 UJ	1.1 UJ
Isobutyl alcohol	74 R	85 R	74 R	66 R	69 R	92 R	82 R	94 R	75 R
Methacrylonitrile	26 UJ	30 UJ	26 U	23 U	24 U	32 UJ	29 U	33 U	26 U
Methyl methacrylate	4 U	4.6 U	4 U	3.5 U	3.7 U	4.9 UJ	4.4 U	5.1 U	4 U
Methylene Chloride	1.1 U	1.2 U	1.1 U	0.96 U	1 U	1.3 UJ	1.2 U	1.4 U	1.1 U
Pentachloroethane	2.4 U	2.7 U	2.4 UJ	2.1 UJ	2.2 UJ	2.9 UJ	2.6 UJ	3 UJ	2.4 UJ
Propionitrile	23 U	26 U	22 U	20 U	21 U	28 UJ	25 U	29 U	23 U
Styrene	0.71 U	0.81 U	0.71 U	0.63 U	0.66 U	0.88 UJ	0.79 U	0.9 U	0.72 U
Tetrachloroethene	0.78 U	0.9 U	0.78 U	0.7 U	0.73 U	0.97 UJ	0.87 U	1 U	1.1 J
Toluene	0.85 U	0.97 U	0.85 U	0.76 U	0.79 U	1.1 UJ	0.94 U	1.1 U	0.86 U
trans-1,2-Dichloroethene	1 U	1.2 U	1 U	0.93 U	0.97 U	1.3 UJ	1.2 U	1.3 U	1.1 U
trans-1,3-Dichloropropene	0.93 U	1.1 U	0.93 U	0.83 U	0.87 U	1.2 UJ	1 U	1.2 U	0.95 U
trans-1,4-Dichloro-2-butene	3.3 U	3.8 U	3.3 U	3 U	3.1 U	4.1 UJ	3.7 U	4.2 U	3.4 U
Trichloroethene	1.1 U	1.2 U	1.1 U	0.96 U	1 U	1.3 UJ	1.2 U	1.4 U	1.1 U
Trichlorofluoromethane	1.6 U	1.8 U	1.6 U	1.4 U	1.5 U	2 UJ	1.8 U	2 U	1.6 U
Vinyl acetate	1.6 U	1.8 U	1.6 U	1.4 U	1.5 U	2 UJ	1.8 U	2 U	1.6 U
Vinyl chloride	0.62 U	0.71 U	0.62 U	0.55 U	0.58 U	0.77 UJ	0.69 U	0.79 U	0.63 U
Xylenes, Total	2.5 U	2.8 U	2.5 U	2.2 U	2.3 U	3.1 UJ	2.7 U	3.1 U	2.5 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SWMU 9 AREA A/B - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB111	74SB111	74SB112	74SB112	74SB113	74SB113	74SB114	74SB114	74SB115
Sample ID	74SB111-03D	74SB111-05	74SB112-04	74SB112-05	74SB113-04	74SB113-05	74SB114-04	74SB114-05	74SB115-03
Date	5/7/2008	5/7/2008	5/7/2008	5/7/2008	5/7/2008	5/7/2008	5/13/2008	5/13/2008	5/13/2008
Depth Range	5.0-7.0	9.0-11.0	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0	5.0-7.0
LLPAHs (ug/kg)									
1-Methylnaphthalene	NA	1.6 U	NA	NA	1.5 U	1.7 U	NA	1.8 U	NA
2-Methylnaphthalene	NA	2.2 U	NA	NA	2.1 U	2.4 U	NA	2.6 U	NA
Acenaphthene	NA	0.74 U	NA	NA	0.7 U	0.79 U	NA	0.87 U	NA
Acenaphthylene	NA	2.2 U	NA	NA	2.1 U	2.4 U	NA	2.6 U	NA
Anthracene	NA	2.2 U	NA	NA	2.1 U	2.4 U	NA	2.6 U	NA
Benzo[a]anthracene	NA	2.2 U	NA	NA	2.1 U	2.4 U	NA	2.6 U	NA
Benzo[a]pyrene	NA	0.86 U	NA	NA	0.81 U	0.91 U	NA	1 U	NA
Benzo[b]fluoranthene	NA	0.99 U	NA	NA	0.94 J	1.1 U	NA	1.2 U	NA
Benzo[g,h,i]perylene	NA	2.2 U	NA	NA	2.1 U	2.4 U	NA	2.6 U	NA
Benzo[k]fluoranthene	NA	1.3 U	NA	NA	1.2 U	1.4 U	NA	1.5 U	NA
Chrysene	NA	0.79 U	NA	NA	0.75 U	0.86 J	NA	1.7 J	NA
Dibenz(a,h)anthracene	NA	0.77 U	NA	NA	0.73 U	0.82 U	NA	0.9 U	NA
Fluoranthene	NA	2.2 U	NA	NA	2.1 U	8.8 J	NA	2.6 U	NA
Fluorene	NA	1 U	NA	NA	0.95 U	1.1 U	NA	1.2 U	NA
Indeno[1,2,3-cd]pyrene	NA	1.6 U	NA	NA	1.5 U	1.7 U	NA	1.8 U	NA
Naphthalene	NA	0.78 U	NA	NA	0.74 U	0.83 U	NA	0.91 U	NA
Phenanthrene	NA	2.2 U	NA	NA	2.1 U	2.4 U	NA	2.6 U	NA
Pyrene	NA	2.2 U	NA	NA	2.1 U	8.3 J	NA	8 J	NA

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SWMU 9 AREA A/B - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB111	74SB111	74SB112	74SB112	74SB113	74SB113	74SB114	74SB114	74SB115
Sample ID	74SB111-03D	74SB111-05	74SB112-04	74SB112-05	74SB113-04	74SB113-05	74SB114-04	74SB114-05	74SB115-03
Date	5/7/2008	5/7/2008	5/7/2008	5/7/2008	5/7/2008	5/7/2008	5/13/2008	5/13/2008	5/13/2008
Depth Range	5.0-7.0	9.0-11.0	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0	5.0-7.0
Metals (mg/kg)									
Antimony	0.084 U	0.091 U	0.083 U	0.082 U	0.083 U	0.097 U	0.11 UJ	0.12 UJ	0.13 UJ
Arsenic	1.5	1.6	0.85	0.96	0.59	0.82	2.2	3	3.4
Barium	87	120	40	25	130	97	210	270	13
Beryllium	0.33	0.32	0.2	0.22	0.19	0.19	0.56	0.7	0.3
Cadmium	0.099 J	0.081 J	0.12	0.13	0.035 J	0.11 J	0.085 J	0.09 J	0.037 U
Chromium	9.2	8.7	17	12	6.7	9	20	18	24
Cobalt	36	32	35	24	20	49	32	45	11
Copper	130	110	130	130	110	130	67	91	98
Lead	0.87	24	0.62	0.55	4.1	7.3	8.9	8.6	4.8
Mercury	0.018 J	0.014 J	0.007 J	0.007 J	0.006 J	0.01 J	0.017 J	0.006 U	0.043
Nickel	7.5	8	15	13	8.5	16	12	15	6.3
Selenium	0.31 J	0.22 J	0.13 U	0.13 U	0.13 U	0.16 U	0.61 J	0.37 J	2.8
Silver	0.026 J	0.024 J	0.031 J	0.025 J	0.018 U	0.024 J	0.024 J	0.027 J	0.019 U
Thallium	0.13 U	0.14 U	0.13 U	0.13 U	0.13 U	0.16 U	0.15 U	0.17 U	0.14 U
Tin	4.5 U	4.8 U	4.4 U	4.4 U	4.4 U	5.2 U	5.1 U	5.6 U	4.8 U
Vanadium	200	160	200	200	200	230	190	250	350
Zinc	76	76	65	93	94	82	210 J	280 J	46 J
TPH DRO/GRO (mg/kg)									
Diesel Range Organics	1.7 J	1.8 J	1.9 J	2.8 J	4.7	5.1	2.8 J	3.3 J	2.8 J
Gasoline Range Organics	0.064 U	0.55	0.06 U	0.059 J	140	4.8 J	0.072 U	40	0.059 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SWMU 9 AREA A/B - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB115	74SB116	74SB116	74SB116	74SB117	74SB117	74SB118	74SB118	74SB119
Sample ID	74SB115-05	74SB116-04	74SB116-05	74SB116-05D	74SB117-03	74SB117-04	74SB118-03	74SB118-05	74SB119-04
Date	5/13/2008	5/13/2008	5/13/2008	5/13/2008	5/13/2008	5/13/2008	5/13/2008	5/13/2008	5/13/2008
Depth Range	9.0-11.0	7.0-9.0	9.0-11.0	9.0-11.0	5.0-7.0	7.0-9.0	5.0-7.0	9.0-11.0	7.0-9.0
Volatile Organic Compounds (ug/kg)									
1,1,1,2-Tetrachloroethane	0.82 U	0.82 U	0.88 U	0.89 U	0.71 U	0.69 U	0.72 U	0.88 U	0.63 U
1,1,1-Trichloroethane	0.74 U	0.74 U	0.8 U	0.81 U	0.65 U	0.63 U	0.66 U	0.8 U	0.57 U
1,1,2,2-Tetrachloroethane	1.8 U	1.8 U	1.9 U	2 U	1.6 U	1.5 U	1.6 U	1.9 U	1.4 U
1,1,2-Trichloroethane	1.5 U	1.5 U	1.7 U	1.7 U	1.3 U	1.3 U	1.4 U	1.7 U	1.2 U
1,1-Dichloroethane	0.64 U	0.64 U	0.69 U	0.7 U	0.56 U	0.54 U	0.57 U	0.69 U	0.49 U
1,1-Dichloroethene	0.69 U	0.69 U	0.75 U	0.75 U	0.6 U	0.59 U	0.61 U	0.74 U	0.53 U
1,2,3-Trichloropropane	1.8 U	1.8 U	1.9 U	2 U	1.6 U	1.5 U	1.6 U	1.9 U	1.4 U
1,2-Dibromo-3-Chloropropane	3.6 U	3.6 U	3.9 U	3.9 U	3.1 U	3 U	3.2 U	3.9 U	2.7 U
1,2-Dichloroethane	1.3 U	1.3 U	1.4 U	1.4 U	1.1 U	1.1 U	1.1 U	1.4 U	0.98 U
1,2-Dichloropropane	1.4 U	1.4 U	1.5 U	1.5 U	1.2 U	1.2 U	1.2 U	1.5 U	1.1 U
2-Butanone (MEK)	3.5 UJ	3.4 UJ	3.7 UJ	3.8 UJ	3 UJ	2.9 UJ	3.1 UJ	3.7 UJ	2.6 UJ
2-Chloro-1,3-butadiene	0.73 U	0.73 U	0.79 U	0.79 U	0.63 U	0.62 U	0.65 U	0.79 U	0.56 U
2-Hexanone	2.7 UJ	2.7 UJ	2.9 UJ	2.9 UJ	2.3 UJ	2.3 UJ	2.4 UJ	2.9 UJ	2.1 UJ
3-Chloro-1-propene	1.9 U	1.9 U	2.1 U	2.1 U	1.7 U	1.6 U	1.7 U	2.1 U	1.5 U
4-Methyl-2-pentanone (MIBK)	3.7 UJ	3.7 UJ	4 UJ	4 UJ	3.2 UJ	3.1 UJ	3.3 UJ	4 UJ	2.8 UJ
Acetone	17 J	52 J	60 J	46 J	22 J	4.8 R	24 J	30 J	15 J
Acetonitrile	58 U	57 U	62 U	63 U	50 U	49 U	51 U	62 U	44 U
Acrolein	24 UJ	24 UJ	26 UJ	26 UJ	21 UJ	21 UJ	22 UJ	26 UJ	19 UJ
Acrylonitrile	29 U	29 U	32 U	32 U	26 U	25 U	26 U	32 U	23 U
Benzene	1 U	1 U	1.1 U	1.1 U	0.88 U	0.86 U	0.89 U	1.1 U	0.78 U
Bromoform	1.4 U	1.4 U	1.5 U	1.5 U	1.2 U	1.2 U	1.2 U	1.5 U	1.1 U
Bromomethane	2.1 U	2 U	2.2 U	2.2 U	1.8 U	1.7 U	1.8 U	2.2 U	1.6 U
Carbon disulfide	0.65 U	0.65 U	0.7 U	0.71 U	0.57 U	0.55 U	0.58 U	0.7 U	0.5 U
Carbon tetrachloride	1.3 U	1.3 U	1.4 U	1.4 U	1.1 U	1.1 U	1.1 U	1.4 U	0.98 U
Chlorobenzene	0.94 U	0.93 U	1 U	1 U	0.81 U	0.79 U	0.83 U	1 U	0.72 U
Chlorodibromomethane	0.64 U	0.64 U	0.69 U	0.7 U	0.56 U	0.54 U	0.57 U	0.69 U	0.49 U
Chloroethane	1.5 U	1.5 U	1.7 U	1.7 U	1.3 U	1.3 U	1.4 U	1.7 U	1.2 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SWMU 9 AREA A/B - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB115	74SB116	74SB116	74SB116	74SB117	74SB117	74SB118	74SB118	74SB119
Sample ID	74SB115-05	74SB116-04	74SB116-05	74SB116-05D	74SB117-03	74SB117-04	74SB118-03	74SB118-05	74SB119-04
Date	5/13/2008	5/13/2008	5/13/2008	5/13/2008	5/13/2008	5/13/2008	5/13/2008	5/13/2008	5/13/2008
Depth Range	9.0-11.0	7.0-9.0	9.0-11.0	9.0-11.0	5.0-7.0	7.0-9.0	5.0-7.0	9.0-11.0	7.0-9.0
Volatile Organic Compounds (ug/kg)									
Chloroform	0.64 U	0.64 U	0.69 U	0.7 U	0.56 U	0.54 U	0.57 U	0.69 U	0.49 U
Chloromethane	0.91 U	0.9 U	0.98 U	0.99 U	0.79 U	0.77 U	0.8 U	0.98 U	0.7 U
cis-1,3-Dichloropropene	1.1 U	1.1 U	1.2 U	1.2 U	0.97 U	0.94 U	0.98 U	1.2 U	0.85 U
Dibromomethane	1.5 U	1.5 U	1.7 U	1.7 U	1.3 U	1.3 U	1.4 U	1.7 U	1.2 U
Dichlorobromomethane	1.1 U	1.1 U	1.1 U	1.2 U	0.92 U	0.9 U	0.94 U	1.1 U	0.81 U
Dichlorodifluoromethane	1.1 U	1.1 U	1.2 U	1.2 U	0.99 U	0.96 U	1 U	1.2 U	0.87 U
Ethyl methacrylate	2.8 U	2.8 U	3 U	3.1 U	2.4 U	2.4 U	2.5 U	3 U	2.2 U
Ethylbenzene	0.96 U	0.96 U	1 U	1 U	0.83 U	0.81 U	0.85 U	1 U	0.74 U
Ethylene Dibromide	1.9 U	1.9 U	2.1 U	2.1 U	1.7 U	1.6 U	1.7 U	2.1 U	1.5 U
Iodomethane	1.3 UJ	1.3 UJ	1.4 UJ	1.4 UJ	1.1 UJ	1.1 UJ	1.1 UJ	1.4 J	0.98 UJ
Isobutyl alcohol	88 R	88 R	95 R	96 R	77 R	75 R	78 R	95 R	68 R
Methacrylonitrile	31 U	31 U	33 U	33 U	27 U	26 U	27 U	33 U	24 U
Methyl methacrylate	4.7 U	4.7 U	5.1 U	5.2 U	4.1 U	4 U	4.2 U	5.1 U	3.6 U
Methylene Chloride	1.3 U	1.3 U	1.4 U	1.4 U	1.1 U	1.1 U	1.1 U	1.4 U	0.98 U
Pentachloroethane	2.8 UJ	2.8 UJ	3 UJ	3.1 UJ	2.4 UJ	2.4 UJ	2.5 UJ	3 UJ	2.2 UJ
Propionitrile	27 U	27 U	29 U	29 U	23 U	23 U	24 U	29 U	21 U
Styrene	0.85 U	0.84 U	0.91 U	0.92 U	0.73 U	0.72 U	0.75 U	0.91 U	0.65 U
Tetrachloroethene	0.94 U	0.93 U	1 U	1 U	0.81 U	0.79 U	0.83 U	1 U	0.72 U
Toluene	1 U	1 U	1.1 U	1.1 U	0.88 U	0.86 U	0.89 U	1.1 U	0.78 U
trans-1,2-Dichloroethene	1.2 U	1.2 U	1.3 U	1.4 U	1.1 U	1.1 U	1.1 U	1.3 U	0.95 U
trans-1,3-Dichloropropene	1.1 U	1.1 U	1.2 U	1.2 U	0.97 U	0.94 U	0.98 U	1.2 U	0.85 U
trans-1,4-Dichloro-2-butene	4 U	3.9 U	4.3 U	4.3 U	3.4 U	3.4 U	3.5 U	4.3 U	3 U
Trichloroethene	1.3 U	1.3 U	1.4 U	1.4 U	1.1 U	1.1 U	1.1 U	1.4 U	0.98 U
Trichlorofluoromethane	1.9 U	1.9 U	2.1 U	2.1 U	1.7 U	1.6 U	1.7 U	2.1 U	1.5 U
Vinyl acetate	1.9 U	1.9 U	2.1 U	2.1 U	1.7 U	1.6 U	1.7 U	2.1 U	1.5 U
Vinyl chloride	0.74 U	0.74 U	0.8 U	0.81 U	0.65 U	0.63 U	0.66 U	0.8 U	0.57 U
Xylenes, Total	2.9 U	2.9 U	3.2 U	3.2 U	2.6 U	2.5 U	2.6 U	3.2 U	2.3 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SWMU 9 AREA A/B - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB115	74SB116	74SB116	74SB116	74SB117	74SB117	74SB118	74SB118	74SB119
Sample ID	74SB115-05	74SB116-04	74SB116-05	74SB116-05D	74SB117-03	74SB117-04	74SB118-03	74SB118-05	74SB119-04
Date	5/13/2008	5/13/2008	5/13/2008	5/13/2008	5/13/2008	5/13/2008	5/13/2008	5/13/2008	5/13/2008
Depth Range	9.0-11.0	7.0-9.0	9.0-11.0	9.0-11.0	5.0-7.0	7.0-9.0	5.0-7.0	9.0-11.0	7.0-9.0
LLPAHs (ug/kg)									
1-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[a]anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[a]pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[b]fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[g,h,i]perylene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[k]fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indeno[1,2,3-cd]pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SWMU 9 AREA A/B - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB115	74SB116	74SB116	74SB116	74SB117	74SB117	74SB118	74SB118	74SB119
Sample ID	74SB115-05	74SB116-04	74SB116-05	74SB116-05D	74SB117-03	74SB117-04	74SB118-03	74SB118-05	74SB119-04
Date	5/13/2008	5/13/2008	5/13/2008	5/13/2008	5/13/2008	5/13/2008	5/13/2008	5/13/2008	5/13/2008
Depth Range	9.0-11.0	7.0-9.0	9.0-11.0	9.0-11.0	5.0-7.0	7.0-9.0	5.0-7.0	9.0-11.0	7.0-9.0
Metals (mg/kg)									
Antimony	0.095 UJ	0.11 UJ	0.099 UJ	0.11 UJ	0.092 UJ	0.18 UJ	0.1 UJ	0.1 UJ	0.11 UJ
Arsenic	0.96	2.7	2.4	1.3	0.65	1.7	1.9	1.3	1.6
Barium	11	460	320	250	28	43	160	310	88
Beryllium	0.39	0.62	0.58	0.51	0.13	0.32	0.2	0.43	0.27
Cadmium	0.039 U	0.047 J	0.041 U	0.045 U	0.038 U	0.037 U	0.038 U	0.081 J	0.3
Chromium	9.8	8.3	8.6	8.3	7.2	16	24	9.4	16
Cobalt	19	40	30 J	18 J	4.6	4.7	12	27	14
Copper	110	83	81	71	45	97	150	67	200
Lead	3	1.9	1.8	2.5	1.3	2	2.6	13	1.6
Mercury	0.005 U	0.045	0.023 J	0.031	0.01 J	0.054	0.032	0.0056 U	0.013 J
Nickel	19	9.4	8.5	8.7	3.2	5.1	7.6	10	9.1
Selenium	0.66	1.5	1.1	1	0.27 J	0.56 J	0.65	0.17 U	0.22 J
Silver	0.026 J	0.025 J	0.021 U	0.036 J	0.046 J	0.021 J	0.027 J	0.045 J	0.052 J
Thallium	0.15 U	0.16 U	0.16 U	0.17 U	0.15 U	0.14 U	0.15 U	0.17 U	0.13 U
Tin	5.1 U	5.5 U	5.3 U	5.8 U	4.9 U	4.8 U	4.9 U	5.6 U	4.5 U
Vanadium	210	260	260	200	120	270	290	220	150
Zinc	89 J	170 J	150 J	130 J	34 J	54 J	49 J	79 J	100 J
TPH DRO/GRO (mg/kg)									
Diesel Range Organics	3.4 J	2.9 J	2.7 J	2.2 J	1.5 J	2.4 J	2.3 J	4.7 J	3.9 J
Gasoline Range Organics	0.078 U	0.079 U	0.091 U	0.087 U	0.07 U	0.073 U	0.071 U	0.081 U	0.058 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SWMU 9 AREA A/B - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB119	74SB120	74SB120	74SB121	74SB121
Sample ID	74SB119-05	74SB120-04	74SB120-05	74SB121-05	74SB121-05D
Date	5/13/2008	5/14/2008	5/14/2008	5/13/2008	5/13/2008
Depth Range	9.0-11.0	7.0-9.0	9.0-11.0	9.0-11.0	9.0-11.0
Volatile Organic Compounds (ug/kg)					
1,1,1,2-Tetrachloroethane	0.74 U	0.62 U	0.78 U	0.71 U	0.81 U
1,1,1-Trichloroethane	0.67 U	0.56 U	0.71 U	0.65 U	0.73 U
1,1,2,2-Tetrachloroethane	1.6 U	1.4 U	1.7 U	1.6 U	1.8 U
1,1,2-Trichloroethane	1.4 U	1.2 U	1.5 U	1.3 U	1.5 U
1,1-Dichloroethane	0.58 U	0.48 U	0.61 U	0.56 U	0.63 U
1,1-Dichloroethene	0.63 U	0.52 U	0.66 U	0.6 U	0.68 U
1,2,3-Trichloropropane	1.6 U	1.4 U	1.7 U	1.6 U	1.8 U
1,2-Dibromo-3-Chloropropane	3.2 U	2.7 U	3.4 U	3.1 U	3.5 U
1,2-Dichloroethane	1.2 U	0.97 U	1.2 U	1.1 U	1.3 U
1,2-Dichloropropane	1.3 U	1.1 U	1.3 U	1.2 U	1.4 U
2-Butanone (MEK)	3.1 UJ	2.6 UJ	3.3 UJ	3 U	3.4 U
2-Chloro-1,3-butadiene	0.66 U	0.55 U	0.7 U	0.64 UJ	0.72 UJ
2-Hexanone	2.4 UJ	2 UJ	2.6 UJ	2.3 U	2.7 U
3-Chloro-1-propene	1.7 U	1.4 U	1.8 U	1.7 U	1.9 U
4-Methyl-2-pentanone (MIBK)	3.4 UJ	2.8 UJ	3.6 UJ	3.2 U	3.7 U
Acetone	5.1 R	4.3 R	15 J	26 J	26 J
Acetonitrile	52 U	43 U	55 U	50 R	57 R
Acrolein	22 UJ	18 UJ	23 UJ	21 R	24 R
Acrylonitrile	27 U	22 U	28 U	26 U	29 U
Benzene	0.92 U	0.76 U	0.97 U	0.88 U	1 U
Bromoform	1.3 U	1.1 U	1.3 U	1.2 U	1.4 U
Bromomethane	1.9 U	1.5 U	2 U	1.8 U	2 U
Carbon disulfide	0.59 U	0.49 U	0.62 U	0.57 U	0.64 U
Carbon tetrachloride	1.2 U	0.97 U	1.2 U	1.1 U	1.3 U
Chlorobenzene	0.85 U	0.71 U	0.89 U	0.82 U	0.92 U
Chlorodibromomethane	0.58 U	0.48 U	0.61 U	0.56 U	0.63 U
Chloroethane	1.4 U	1.2 U	1.5 U	1.3 U	1.5 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SWMU 9 AREA A/B - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB119	74SB120	74SB120	74SB121	74SB121
Sample ID	74SB119-05	74SB120-04	74SB120-05	74SB121-05	74SB121-05D
Date	5/13/2008	5/14/2008	5/14/2008	5/13/2008	5/13/2008
Depth Range	9.0-11.0	7.0-9.0	9.0-11.0	9.0-11.0	9.0-11.0
Volatile Organic Compounds (ug/kg)					
Chloroform	0.58 U	0.48 U	0.61 U	0.56 U	0.63 U
Chloromethane	0.82 U	0.69 U	0.87 U	0.79 U	0.9 U
cis-1,3-Dichloropropene	1 U	0.84 U	1.1 U	0.97 U	1.1 U
Dibromomethane	1.4 U	1.2 U	1.5 U	1.3 U	1.5 U
Dichlorobromomethane	0.96 U	0.8 U	1 U	0.93 U	1 U
Dichlorodifluoromethane	1 U	0.86 U	1.1 U	0.99 U	1.1 U
Ethyl methacrylate	2.5 U	2.1 U	2.7 U	2.5 U	2.8 U
Ethylbenzene	0.87 U	0.72 U	0.92 U	0.84 U	0.95 U
Ethylene Dibromide	1.7 U	1.4 U	1.8 U	1.7 U	1.9 U
Iodomethane	1.2 UJ	0.97 UJ	1.2 UJ	1.1 U	1.3 U
Isobutyl alcohol	80 R	67 R	85 R	77 R	87 R
Methacrylonitrile	28 U	23 U	29 U	27 UJ	30 UJ
Methyl methacrylate	4.3 U	3.6 U	4.5 U	4.1 U	4.7 U
Methylene Chloride	1.2 U	0.97 U	1.2 U	1.1 U	1.3 U
Pentachloroethane	2.5 UJ	2.1 UJ	2.7 UJ	2.5 UJ	2.8 UJ
Propionitrile	24 U	20 U	26 U	23 U	27 U
Styrene	0.76 U	0.64 U	0.81 U	0.74 U	0.83 U
Tetrachloroethene	0.85 U	0.71 U	0.89 U	0.82 U	0.92 U
Toluene	0.92 U	0.76 U	0.97 U	0.88 U	1 U
trans-1,2-Dichloroethene	1.1 U	0.94 U	1.2 U	1.1 U	1.2 U
trans-1,3-Dichloropropene	1 U	0.84 U	1.1 U	0.97 U	1.1 U
trans-1,4-Dichloro-2-butene	3.6 U	3 U	3.8 U	3.5 U	3.9 U
Trichloroethene	1.2 U	0.97 U	1.2 U	1.1 U	1.3 U
Trichlorofluoromethane	1.7 U	1.4 U	1.8 U	1.7 U	1.9 U
Vinyl acetate	1.7 U	1.4 U	1.8 U	1.7 U	1.9 U
Vinyl chloride	0.67 U	0.56 U	0.71 U	0.65 U	0.73 U
Xylenes, Total	2.7 U	2.2 U	2.8 U	2.6 U	2.9 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SWMU 9 AREA A/B - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB119	74SB120	74SB120	74SB121	74SB121
Sample ID	74SB119-05	74SB120-04	74SB120-05	74SB121-05	74SB121-05D
Date	5/13/2008	5/14/2008	5/14/2008	5/13/2008	5/13/2008
Depth Range	9.0-11.0	7.0-9.0	9.0-11.0	9.0-11.0	9.0-11.0
LLPAHs (ug/kg)					
1-Methylnaphthalene	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA	NA
Acenaphthene	NA	NA	NA	NA	NA
Acenaphthylene	NA	NA	NA	NA	NA
Anthracene	NA	NA	NA	NA	NA
Benzo[a]anthracene	NA	NA	NA	NA	NA
Benzo[a]pyrene	NA	NA	NA	NA	NA
Benzo[b]fluoranthene	NA	NA	NA	NA	NA
Benzo[g,h,i]perylene	NA	NA	NA	NA	NA
Benzo[k]fluoranthene	NA	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	NA	NA	NA	NA	NA
Fluoranthene	NA	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA	NA
Indeno[1,2,3-cd]pyrene	NA	NA	NA	NA	NA
Naphthalene	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA
Pyrene	NA	NA	NA	NA	NA

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SWMU 9 AREA A/B - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB119	74SB120	74SB120	74SB121	74SB121
Sample ID	74SB119-05	74SB120-04	74SB120-05	74SB121-05	74SB121-05D
Date	5/13/2008	5/14/2008	5/14/2008	5/13/2008	5/13/2008
Depth Range	9.0-11.0	7.0-9.0	9.0-11.0	9.0-11.0	9.0-11.0
Metals (mg/kg)					
Antimony	0.089 UJ	0.076 UJ	0.12 UJ	0.089 UJ	0.085 UJ
Arsenic	1.1	2	0.77	0.93	0.93
Barium	76	52	35	250 R	43 R
Beryllium	0.32	0.24	0.14	0.27	0.24
Cadmium	0.076 J	0.11	0.088 J	0.066 J	0.039 J
Chromium	7.7	8.2	4.6	14 J	15 J
Cobalt	37	25	23	18	16
Copper	26	400	340	210	190
Lead	0.48	1.1	0.57	4.5 J	2.6 J
Mercury	0.011 J	0.006 J	0.006 J	0.0046 U	0.0048 U
Nickel	7.4	8.3	6	18	17
Selenium	0.34 J	0.23 J	0.16 U	0.14 U	0.14 U
Silver	0.097 J	0.11 J	0.12 J	0.019 U	0.018 U
Thallium	0.14 U	0.12 U	0.16 U	0.14 U	0.14 U
Tin	4.8 U	4.1 U	5.2 U	4.8 U	4.5 U
Vanadium	210	230	170	190	180
Zinc	84 J	78 J	68 J	140 J	130 J
TPH DRO/GRO (mg/kg)					
Diesel Range Organics	2.8 J	3.1 J	2.7 J	6.7	4.3
Gasoline Range Organics	0.066 U	0.068 U	0.083 U	0.064 U	0.069 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS - 9 A-B AREA
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB122	74SB122	74SB123	74SB123	74SB124	74SB124	74VP2a/9	74VP2a/9
Sample ID	74SB122-03	74SB122-04	74SB123-03	74SB123-05	74SB124-02	74SB124-05	74GWVP2a/9-08	74GWVP2a/9-10
Date	5/13/2008	5/13/2008	5/13/2008	5/13/2008	5/13/2008	5/13/2008	5/14/2008	5/14/2008
Depth Range	5.0-7.0	7.0-9.0	5.0-7.0	9.0-11.0	3.0-5.0	9.0-11.0	15.0-17.0	21.0-23.0
Volatile Organic Compounds (ug/kg)								
1,1,1,2-Tetrachloroethane	0.75 U	0.75 U	0.86 U	0.74 U	0.95 U	0.64 U	0.8 UJ	0.73 U
1,1,1-Trichloroethane	0.68 U	0.68 U	0.78 U	0.67 U	0.86 U	0.58 U	0.72 UJ	0.66 U
1,1,2,2-Tetrachloroethane	1.6 U	1.6 U	1.9 U	1.6 U	2.1 U	1.4 U	1.7 UJ	1.6 U
1,1,2-Trichloroethane	1.4 U	1.4 U	1.6 U	1.4 U	1.8 U	1.2 U	1.5 UJ	1.4 U
1,1-Dichloroethane	0.59 U	0.58 U	0.67 U	0.58 U	0.75 U	0.5 U	0.62 UJ	0.57 U
1,1-Dichloroethene	0.64 U	0.63 U	0.72 U	0.63 U	0.81 U	0.54 U	0.67 UJ	0.61 U
1,2,3-Trichloropropane	1.6 U	1.6 U	1.9 U	1.6 U	2.1 U	1.4 U	1.7 UJ	1.6 U
1,2-Dibromo-3-Chloropropane	3.3 U	3.3 U	3.8 U	3.3 U	4.2 U	2.8 U	3.5 UJ	3.2 U
1,2-Dichloroethane	1.2 U	1.2 U	1.3 U	1.2 U	1.5 U	1 U	1.2 UJ	1.1 U
1,2-Dichloropropane	1.3 U	1.3 U	1.5 U	1.3 U	1.6 U	1.1 U	1.4 UJ	1.2 U
2-Butanone (MEK)	3.2 U	3.1 U	3.6 U	3.1 U	7.4 U	2.7 U	3.4 UJ	3.1 U
2-Chloro-1,3-butadiene	0.67 U	0.66 U	0.76 U	0.66 U	0.85 U	0.57 U	0.71 UJ	0.65 U
2-Hexanone	2.5 U	2.4 U	2.8 U	2.4 U	3.1 U	2.1 U	2.6 UJ	2.4 U
3-Chloro-1-propene	1.8 U	1.7 U	2 U	1.7 U	2.2 U	1.5 U	1.9 UJ	1.7 UJ
4-Methyl-2-pentanone (MIBK)	3.4 U	3.4 U	3.9 U	3.4 U	4.3 U	2.9 U	3.6 UJ	3.3 U
Acetone	23 J	19 J	22 J	9.7 J	61 J	8 J	150 J	31 U
Acetonitrile	53 U	52 U	60 U	52 U	67 U	45 U	56 UJ	51 U
Acrolein	22 R	22 R	25 R	22 R	28 R	19 R	24 R	22 R
Acrylonitrile	27 U	27 U	31 U	27 U	34 U	23 U	29 UJ	26 U
Benzene	0.93 U	0.92 U	1.1 U	0.92 U	1.2 U	0.8 U	0.99 UJ	0.9 U
Bromoform	1.3 U	1.3 U	1.5 U	1.3 U	1.6 U	1.1 U	1.4 UJ	1.2 U
Bromomethane	1.9 U	1.9 U	2.1 U	1.9 U	2.4 U	1.6 U	2 UJ	1.8 U
Carbon disulfide	0.6 U	0.59 U	1.6 J	0.59 U	2.5 J	0.52 J	0.64 UJ	0.58 U
Carbon tetrachloride	1.2 U	1.2 U	1.3 U	1.2 U	1.5 U	1 U	1.2 UJ	1.1 U
Chlorobenzene	0.86 U	0.85 U	0.98 U	0.85 U	1.1 U	0.74 U	0.91 UJ	0.83 U
Chlorodibromomethane	0.59 U	0.58 U	0.67 U	0.58 U	0.75 U	0.5 U	0.62 UJ	0.57 U
Chloroethane	1.4 U	1.4 U	1.6 U	1.4 U	1.8 U	1.2 U	1.5 UJ	1.4 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS - 9 A-B AREA
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB122	74SB122	74SB123	74SB123	74SB124	74SB124	74VP2a/9	74VP2a/9
Sample ID	74SB122-03	74SB122-04	74SB123-03	74SB123-05	74SB124-02	74SB124-05	74GWVP2a/9-08	74GWVP2a/9-10
Date	5/13/2008	5/13/2008	5/13/2008	5/13/2008	5/13/2008	5/13/2008	5/14/2008	5/14/2008
Depth Range	5.0-7.0	7.0-9.0	5.0-7.0	9.0-11.0	3.0-5.0	9.0-11.0	15.0-17.0	21.0-23.0
Volatile Organic Compounds (ug/kg)								
Chloroform	0.59 U	0.58 U	0.67 U	0.58 U	0.75 U	0.5 U	0.62 UJ	0.57 U
Chloromethane	0.84 U	0.83 U	0.95 U	0.83 U	1.1 U	0.72 U	0.89 UJ	0.81 U
cis-1,3-Dichloropropene	1 U	1 U	1.2 U	1 U	1.3 U	0.88 U	1.1 UJ	0.99 U
Dibromomethane	1.4 U	1.4 U	1.6 U	1.4 U	1.8 U	1.2 U	1.5 UJ	1.4 U
Dichlorobromomethane	0.98 U	0.97 U	1.1 U	0.97 U	1.2 U	0.84 U	1 UJ	0.94 U
Dichlorodifluoromethane	1 U	1 U	1.2 U	1 U	1.3 U	0.9 U	1.1 UJ	1 U
Ethyl methacrylate	2.6 U	2.6 U	3 U	2.6 U	3.3 U	2.2 U	2.7 UJ	2.5 U
Ethylbenzene	0.88 U	0.87 U	1 U	0.87 U	1.1 U	0.76 U	0.94 UJ	0.85 U
Ethylene Dibromide	1.8 U	1.7 U	2 U	1.7 U	2.2 U	1.5 U	1.9 UJ	1.7 U
Iodomethane	1.2 U	1.2 U	1.3 U	1.2 U	1.5 U	1 U	1.2 UJ	1.1 UJ
Isobutyl alcohol	81 R	80 R	93 R	80 U	100 R	70 R	86 R	78 R
Methacrylonitrile	28 U	28 U	32 U	28 U	36 U	24 U	30 UJ	27 U
Methyl methacrylate	4.4 U	4.3 U	5 U	4.3 U	5.5 U	3.7 U	4.6 UJ	4.2 U
Methylene Chloride	1.2 U	1.2 U	1.3 U	1.2 U	1.5 U	1 U	1.2 UJ	1.1 U
Pentachloroethane	2.6 U	2.6 U	3 U	2.6 U	3.3 U	2.2 U	2.7 UJ	2.5 UJ
Propionitrile	25 U	24 U	28 U	24 U	31 U	21 U	26 UJ	24 U
Styrene	0.78 U	0.77 U	0.89 U	0.77 U	0.98 U	0.66 U	0.82 UJ	0.75 U
Tetrachloroethene	0.86 U	0.85 U	0.98 U	0.85 U	1.1 U	0.74 U	0.91 UJ	0.83 U
Toluene	0.93 U	0.92 U	1.1 U	0.92 U	1.2 U	0.8 U	0.99 UJ	0.9 U
trans-1,2-Dichloroethene	1.1 U	1.1 U	1.3 U	1.1 U	1.4 U	0.98 U	1.2 UJ	1.1 U
trans-1,3-Dichloropropene	1 U	1 U	1.2 U	1 U	1.3 U	0.88 U	1.1 UJ	0.99 U
trans-1,4-Dichloro-2-butene	3.6 U	3.6 U	4.2 U	3.6 U	4.6 U	3.1 U	3.9 UJ	3.5 U
Trichloroethene	1.2 U	1.2 U	1.3 U	1.2 U	1.5 U	1 U	1.2 UJ	1.1 U
Trichlorofluoromethane	1.8 U	1.7 U	2 U	1.7 U	2.2 U	1.5 U	1.9 UJ	1.7 U
Vinyl acetate	1.8 U	1.7 U	2 U	1.7 U	2.2 U	1.5 U	1.9 UJ	1.7 U
Vinyl chloride	0.68 U	0.68 U	0.78 U	0.67 U	0.86 U	0.58 U	0.72 UJ	0.66 U
Xylenes, Total	2.7 U	2.7 U	3.1 U	2.7 U	3.4 U	2.3 U	2.9 UJ	2.6 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS - 9 A-B AREA
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB122	74SB122	74SB123	74SB123	74SB124	74SB124	74VP2a/9	74VP2a/9
Sample ID	74SB122-03	74SB122-04	74SB123-03	74SB123-05	74SB124-02	74SB124-05	74GWVP2a/9-08	74GWVP2a/9-10
Date	5/13/2008	5/13/2008	5/13/2008	5/13/2008	5/13/2008	5/13/2008	5/14/2008	5/14/2008
Depth Range	5.0-7.0	7.0-9.0	5.0-7.0	9.0-11.0	3.0-5.0	9.0-11.0	15.0-17.0	21.0-23.0
LLPAHs (ug/kg)								
1-Methylnaphthalene	NA	NA	NA	NA	NA	NA	1.5 U	1.5 U
2-Methylnaphthalene	NA	NA	NA	NA	NA	NA	2.1 U	2.1 U
Acenaphthene	NA	NA	NA	NA	NA	NA	0.72 U	0.71 U
Acenaphthylene	NA	NA	NA	NA	NA	NA	2.1 U	2.1 U
Anthracene	NA	NA	NA	NA	NA	NA	2.1 U	2.1 U
Benzo[a]anthracene	NA	NA	NA	NA	NA	NA	2.1 U	2.1 U
Benzo[a]pyrene	NA	NA	NA	NA	NA	NA	0.83 U	0.82 U
Benzo[b]fluoranthene	NA	NA	NA	NA	NA	NA	0.96 U	0.95 U
Benzo[g,h,i]perylene	NA	NA	NA	NA	NA	NA	2.1 U	2.1 U
Benzo[k]fluoranthene	NA	NA	NA	NA	NA	NA	1.3 U	1.2 U
Chrysene	NA	NA	NA	NA	NA	NA	0.77 U	0.76 U
Dibenz(a,h)anthracene	NA	NA	NA	NA	NA	NA	0.74 U	0.74 U
Fluoranthene	NA	NA	NA	NA	NA	NA	5.1 J	2.1 U
Fluorene	NA	NA	NA	NA	NA	NA	6.3 J	0.96 U
Indeno[1,2,3-cd]pyrene	NA	NA	NA	NA	NA	NA	1.5 U	1.5 U
Naphthalene	NA	NA	NA	NA	NA	NA	0.75 U	0.75 U
Phenanthrene	NA	NA	NA	NA	NA	NA	2.1 U	2.1 U
Pyrene	NA	NA	NA	NA	NA	NA	5.5 J	2.1 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS - 9 A-B AREA
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB122	74SB122	74SB123	74SB123	74SB124	74SB124	74VP2a/9	74VP2a/9
Sample ID	74SB122-03	74SB122-04	74SB123-03	74SB123-05	74SB124-02	74SB124-05	74GWVP2a/9-08	74GWVP2a/9-10
Date	5/13/2008	5/13/2008	5/13/2008	5/13/2008	5/13/2008	5/13/2008	5/14/2008	5/14/2008
Depth Range	5.0-7.0	7.0-9.0	5.0-7.0	9.0-11.0	3.0-5.0	9.0-11.0	15.0-17.0	21.0-23.0
Metals (mg/kg)								
Antimony	0.093 U	0.14 UJ	0.096 UJ	0.098 J	0.22 UJ	0.086 UJ	0.089 UJ	0.089 UJ
Arsenic	0.52 J	1.7	1.9	2.5	1.6	0.92	1.7	1.7
Barium	530 J	25 J	27 J	43 J	140 J	85 J	75	54
Beryllium	0.21	0.39	0.19	0.38	0.43	0.36	0.28	0.24
Cadmium	0.038 U	0.13	0.04 U	0.04 U	0.084 J	0.036 U	0.12 J	0.21
Chromium	52	32	40	6.6	66	10	4.1	5.6
Cobalt	12 J	14 J	6 J	9.4 J	39 J	17 J	14	27
Copper	97	64	61	370	87	300	74	240
Lead	2.5	10	7.6	3.8	8.5	3.3	7.5	1.5
Mercury	0.005 U	0.004 U	0.029	0.006 U	0.058	0.004 U	0.0049 U	0.0048 U
Nickel	25 J	30 J	8.2 J	7.3 J	36 J	12 J	5.9	7.6
Selenium	0.17 J	0.15 J	2.5	0.37 J	0.7 J	0.14 U	0.14 U	0.14 U
Silver	0.022 J	0.023 J	0.023 J	0.022 J	0.04 J	0.026 J	0.026 J	0.03 J
Thallium	0.15 U	0.15 U	0.15 U	0.16 J	0.18 U	0.14 U	0.14 U	0.14 U
Tin	5 U	5 U	5.1 U	5.2 U	6 U	4.6 U	4.8 U	4.8 U
Vanadium	120	260	260	150	250	140	210	230
Zinc	170 J	170 J	19 J	88 J	57 J	72 J	70 J	87 J
TPH DRO/GRO (mg/kg)								
Diesel Range Organics [C10-C28]	0.81 U	0.77 U	0.86 U	0.84 U	4.5 J	3.7 J	9.4	28
Gasoline Range Organics (GRO)-C6-C10	0.074 U	0.074 U	0.072 U	0.082 U	0.084 U	0.067 U	120	0.3 J

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS - 9 A-B AREA
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74VP1Aa/9	74VP1Aa/9	74VP1Cb/9	74VP1Cb/9	74VP1Ba/9	74VP1Ba/9
Sample ID	74GWVP1Aa/9-03	74GWVP1Aa/9-04	74GWVP1Cb/9-02	74GWVP1Cb/9-04	74GWVP1Ba/9-05D	74GWVP1Ba/9-05
Date	5/7/2008	5/7/2008	5/7/2008	5/7/2008	5/13/2008	5/13/2008
Depth Range	5.0-7.0	7.0-9.0	3.0-5.0	7.0-9.0	9.0-11.0	9.0-11.0
Volatile Organic Compounds (ug/kg)						
1,1,1,2-Tetrachloroethane	0.58 U	0.52 U	0.59 U	0.58 U	0.66 U	0.75 U
1,1,1-Trichloroethane	0.52 U	0.47 U	0.54 U	0.53 U	0.6 U	0.68 U
1,1,2,2-Tetrachloroethane	1.3 U	1.1 U	1.3 U	1.3 U	1.4 U	1.6 U
1,1,2-Trichloroethane	1.1 U	0.97 U	1.1 U	1.1 U	1.2 U	1.4 U
1,1-Dichloroethane	0.45 U	0.41 U	0.46 U	0.45 U	0.51 U	0.59 U
1,1-Dichloroethene	0.49 U	0.44 U	0.5 U	0.49 U	0.56 U	0.63 U
1,2,3-Trichloropropane	1.3 U	1.1 U	1.3 U	1.3 U	1.4 U	1.6 U
1,2-Dibromo-3-Chloropropane	2.5 U	2.3 U	2.6 U	2.5 U	2.9 U	3.3 U
1,2-Dichloroethane	0.9 U	0.81 U	0.92 U	0.91 U	1 U	1.2 U
1,2-Dichloropropane	0.99 U	0.89 U	1 U	1 U	1.1 U	1.3 U
2-Butanone (MEK)	2.4 U	2.2 U	2.5 U	4.4 U	7.2 U	5.7 U
2-Chloro-1,3-butadiene	0.51 U	0.46 U	0.53 U	0.52 U	0.59 UJ	0.67 UJ
2-Hexanone	1.9 U	1.7 U	1.9 U	1.9 U	2.2 U	2.5 U
3-Chloro-1-propene	1.4 U	1.2 U	1.4 U	1.4 U	1.5 U	1.8 U
4-Methyl-2-pentanone (MIBK)	2.6 U	2.4 U	2.7 U	2.6 U	3 U	3.4 U
Acetone	10 J	16 J	32 J	43 J	66 J	40 J
Acetonitrile	41 U	37 U	42 U	41 U	46 R	53 R
Acrolein	17 R	15 R	18 R	17 R	20 R	22 R
Acrylonitrile	21 U	19 U	21 U	21 U	24 U	27 U
Benzene	0.71 U	0.64 U	0.73 U	0.72 U	0.81 U	0.92 U
Bromoform	0.99 U	0.89 U	1 U	1 U	1.1 U	1.3 U
Bromomethane	1.4 U	1.3 U	1.5 U	1.5 U	1.6 U	1.9 U
Carbon disulfide	0.46 U	1.6 J	0.55 J	0.46 U	0.61 J	0.75 J
Carbon tetrachloride	0.9 U	0.81 U	0.92 U	0.91 U	1 U	1.2 U
Chlorobenzene	0.66 U	0.59 U	0.67 U	0.66 U	0.75 U	0.85 U
Chlorodibromomethane	0.45 U	0.41 U	0.46 U	0.45 U	0.51 U	0.59 U
Chloroethane	1.1 U	0.97 U	1.1 U	1.1 U	1.2 U	1.4 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS - 9 A-B AREA
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74VP1Aa/9	74VP1Aa/9	74VP1Cb/9	74VP1Cb/9	74VP1Ba/9	74VP1Ba/9
Sample ID	74GWVP1Aa/9-03	74GWVP1Aa/9-04	74GWVP1Cb/9-02	74GWVP1Cb/9-04	74GWVP1Ba/9-05D	74GWVP1Ba/9-05
Date	5/7/2008	5/7/2008	5/7/2008	5/7/2008	5/13/2008	5/13/2008
Depth Range	5.0-7.0	7.0-9.0	3.0-5.0	7.0-9.0	9.0-11.0	9.0-11.0
Volatile Organic Compounds (ug/kg)						
Chloroform	0.45 U	0.41 U	0.46 U	0.45 U	0.51 U	0.59 U
Chloromethane	0.64 U	0.58 U	0.66 U	0.65 U	0.73 U	0.83 U
cis-1,3-Dichloropropene	0.78 U	0.71 U	0.8 U	0.79 U	0.9 U	1 U
Dibromomethane	1.1 U	0.97 U	1.1 U	1.1 U	1.2 U	1.4 U
Dichlorobromomethane	0.75 U	0.67 U	0.77 U	0.75 U	0.85 U	0.97 U
Dichlorodifluoromethane	0.8 U	0.72 U	0.82 U	0.81 U	0.92 U	1 U
Ethyl methacrylate	2 U	1.8 U	2 U	2 U	2.3 U	2.6 U
Ethylbenzene	0.68 U	0.61 U	0.69 U	0.68 U	0.77 U	0.88 U
Ethylene Dibromide	1.4 U	1.2 U	1.4 U	1.4 U	1.5 U	1.8 U
Iodomethane	0.9 U	0.81 U	0.92 U	0.91 U	1 U	1.2 U
Isobutyl alcohol	62 R	56 R	64 R	63 R	71 R	81 R
Methacrylonitrile	22 U	19 U	22 U	22 U	25 UJ	28 UJ
Methyl methacrylate	3.3 U	3 U	3.4 U	3.4 U	3.8 U	4.3 U
Methylene Chloride	0.9 U	0.81 U	0.92 U	0.91 U	1 U	1.2 U
Pentachloroethane	2 UJ	1.8 UJ	2 UJ	2 UJ	2.3 UJ	2.6 UJ
Propionitrile	19 U	17 U	19 U	19 U	22 U	25 U
Styrene	0.59 U	0.54 U	0.61 U	0.6 U	0.68 U	0.77 U
Tetrachloroethene	0.66 U	0.59 U	0.67 U	0.66 U	0.75 U	0.85 U
Toluene	0.71 U	0.64 U	0.73 U	0.72 U	0.81 U	0.92 U
trans-1,2-Dichloroethene	0.87 U	0.79 U	0.9 U	0.88 U	1 U	1.1 U
trans-1,3-Dichloropropene	0.78 U	0.71 U	0.8 U	0.79 U	0.9 U	1 U
trans-1,4-Dichloro-2-butene	2.8 U	2.5 U	2.9 U	2.8 U	3.2 U	3.6 U
Trichloroethene	0.9 U	0.81 U	0.92 U	0.91 U	1 U	1.2 U
Trichlorofluoromethane	1.4 U	1.2 U	1.4 U	1.4 U	1.5 U	1.8 U
Vinyl acetate	1.4 U	1.9 J	1.4 U	1.4 U	1.5 U	1.8 U
Vinyl chloride	0.52 U	0.47 U	0.54 U	0.53 U	0.6 U	0.68 U
Xylenes, Total	2.1 U	1.9 U	2.1 U	2.1 U	2.4 U	2.7 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS - 9 A-B AREA
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74VP1Aa/9	74VP1Aa/9	74VP1Cb/9	74VP1Cb/9	74VP1Ba/9	74VP1Ba/9
Sample ID	74GWVP1Aa/9-03	74GWVP1Aa/9-04	74GWVP1Cb/9-02	74GWVP1Cb/9-04	74GWVP1Ba/9-05D	74GWVP1Ba/9-05
Date	5/7/2008	5/7/2008	5/7/2008	5/7/2008	5/13/2008	5/13/2008
Depth Range	5.0-7.0	7.0-9.0	3.0-5.0	7.0-9.0	9.0-11.0	9.0-11.0
LLPAHs (ug/kg)						
1-Methylnaphthalene	NA	NA	NA	NA	1.4 U	1.4 U
2-Methylnaphthalene	NA	NA	NA	NA	2 U	2 U
Acenaphthene	NA	NA	NA	NA	0.66 U	0.66 U
Acenaphthylene	NA	NA	NA	NA	2 U	2 U
Anthracene	NA	NA	NA	NA	2 U	2 U
Benzo[a]anthracene	NA	NA	NA	NA	2 U	2 U
Benzo[a]pyrene	NA	NA	NA	NA	0.76 U	0.76 U
Benzo[b]fluoranthene	NA	NA	NA	NA	0.88 U	0.88 U
Benzo[g,h,i]perylene	NA	NA	NA	NA	2 U	2 U
Benzo[k]fluoranthene	NA	NA	NA	NA	1.2 U	1.2 U
Chrysene	NA	NA	NA	NA	0.71 U	0.71 U
Dibenz(a,h)anthracene	NA	NA	NA	NA	0.68 U	0.68 U
Fluoranthene	NA	NA	NA	NA	2 U	2 U
Fluorene	NA	NA	NA	NA	0.89 U	0.89 U
Indeno[1,2,3-cd]pyrene	NA	NA	NA	NA	1.4 U	1.4 U
Naphthalene	NA	NA	NA	NA	0.7 U	0.7 U
Phenanthrene	NA	NA	NA	NA	2 U	2 U
Pyrene	NA	NA	NA	NA	2 U	2 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS - 9 A-B AREA
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74VP1Aa/9	74VP1Aa/9	74VP1Cb/9	74VP1Cb/9	74VP1Ba/9	74VP1Ba/9
Sample ID	74GWVP1Aa/9-03	74GWVP1Aa/9-04	74GWVP1Cb/9-02	74GWVP1Cb/9-04	74GWVP1Ba/9-05D	74GWVP1Ba/9-05
Date	5/7/2008	5/7/2008	5/7/2008	5/7/2008	5/13/2008	5/13/2008
Depth Range	5.0-7.0	7.0-9.0	3.0-5.0	7.0-9.0	9.0-11.0	9.0-11.0
Metals (mg/kg)						
Antimony	0.075 U	0.074 U	0.085 U	0.088 U	0.087 UJ	0.1 UJ
Arsenic	0.92	0.98	1.1	0.67	0.81	0.87
Barium	33	20	99	100	110	97
Beryllium	0.22	0.18	0.41	0.25	0.25	0.24
Cadmium	0.054 J	0.039 J	0.082 J	0.062 J	0.075 J	0.057 J
Chromium	4.2	3.6	17	9.1	6.7 J	6.9 J
Cobalt	20	26	27	27	30	28
Copper	190	150	81	81	320	370
Lead	0.81	0.62	6.5	7.2	2.9	2
Mercury	0.0072 J	0.0048 J	0.019 J	0.013 J	0.012 J	0.0083 J
Nickel	6.1	4.4	8.4	6.7	7.1	6.9
Selenium	0.12 J	0.15 J	0.18 J	0.14 U	0.14 U	0.13 U
Silver	0.016 U	0.016 U	0.021 J	0.019 J	0.029 J	0.044 J
Thallium	0.12 U	0.12 U	0.14 U	0.14 U	0.14 U	0.13 U
Tin	4 U	4 U	4.5 U	4.7 U	4.5 U	4.3 U
Vanadium	150	140	170	160	200	210
Zinc	73	66	83	83	160 J	150 J
TPH DRO/GRO (mg/kg)						
Diesel Range Organics [C10-C28]	1.6 J	1.8 J	2.6 J	2.6 J	2.3 J	2.3 J
Gasoline Range Organics (GRO)-C6-C10	0.05 U	0.045 U	0.054 U	0.057 U	0.16 J	0.09 J

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS - 9 A-B AREA
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74VP1Ba/9	74VP3b/9	74VP3b/9	74VP3b	74VP3b	74GWVP11a	74VP11a
Sample ID	74GWVP1Ba/9-09	74GWVP3b/9-05	74GWVP3b/9-07	74GWVP3b-03	74GWVP3b-04	74GWVP11a-03	74GWVP11a-04
Date	5/13/2008	5/13/2008	5/13/2008	5/5/2008	5/5/2008	5/6/2008	5/6/2008
Depth Range	17.0-19.0	9.0-11.0	13.0-15.0	5.0-7.0	7.0-9.0	5.0-7.0	7.0-9.0
Volatile Organic Compounds (ug/kg)							
1,1,1,2-Tetrachloroethane	160 U	180 U	31 U	280 U	140 U	0.59 U	0.65 U
1,1,1-Trichloroethane	150 U	160 U	28 U	250 U	130 U	0.54 U	0.59 U
1,1,2,2-Tetrachloroethane	350 U	390 U	69 U	600 U	310 U	1.3 U	1.4 U
1,1,2-Trichloroethane	300 U	330 U	59 U	520 U	270 U	1.1 U	1.2 U
1,1-Dichloroethane	130 U	140 U	25 U	220 U	110 U	0.46 U	0.51 U
1,1-Dichloroethene	140 U	150 U	27 U	230 U	120 U	0.5 U	0.55 U
1,2,3-Trichloropropane	350 U	390 U	69 U	600 U	310 U	1.3 U	1.4 U
1,2-Dibromo-3-Chloropropane	710 U	780 U	140 U	1200 U	620 U	2.6 U	2.9 UJ
1,2-Dichloroethane	250 U	280 U	49 U	430 U	220 U	0.92 U	1 U
1,2-Dichloropropane	280 U	310 U	54 U	470 U	240 U	1 U	1.1 U
2-Butanone (MEK)	680 U	750 U	130 U	1200 U	600 U	2.5 U	2.7 U
2-Chloro-1,3-butadiene	140 U	160 U	28 U	250 U	130 U	0.53 U	0.58 U
2-Hexanone	530 U	590 U	100 U	900 U	470 U	1.9 U	2.1 U
3-Chloro-1-propene	380 UJ	420 UJ	74 U	650 U	330 U	1.4 U	1.5 U
4-Methyl-2-pentanone (MIBK)	730 U	810 U	140 U	1200 U	650 U	2.7 U	3 U
Acetone	1100 U	2500 U	530 J	1900 R	2500 J	30 J	28 UJ
Acetonitrile	11000 U	13000 U	2200 UJ	19000 R	10000 U	42 U	46 UJ
Acrolein	4800 R	5300 R	930 U	8200 U	4200 R	18 R	19 U
Acrylonitrile	5800 U	6400 U	1100 U	9900 U	5100 U	21 U	23 U
Benzene	200 U	220 U	39 U	340 U	180 U	0.73 U	0.8 U
Bromoform	280 U	310 U	54 U	470 U	240 U	1 U	1.1 U
Bromomethane	410 U	450 U	79 U	690 U	360 U	1.5 U	1.6 U
Carbon disulfide	130 U	140 U	25 U	220 U	110 U	0.47 U	0.52 U
Carbon tetrachloride	250 U	280 U	49 U	430 U	220 U	0.92 U	1 U
Chlorobenzene	180 U	200 U	36 U	310 U	160 U	0.67 U	0.74 U
Chlorodibromomethane	130 U	140 U	25 U	220 U	110 U	0.46 U	0.51 U
Chloroethane	300 U	330 U	59 U	520 U	270 U	1.1 U	1.2 UJ

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS - 9 A-B AREA
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74VP1Ba/9	74VP3b/9	74VP3b/9	74VP3b	74VP3b	74GWVP11a	74VP11a
Sample ID	74GWVP1Ba/9-09	74GWVP3b/9-05	74GWVP3b/9-07	74GWVP3b-03	74GWVP3b-04	74GWVP11a-03	74GWVP11a-04
Date	5/13/2008	5/13/2008	5/13/2008	5/5/2008	5/5/2008	5/6/2008	5/6/2008
Depth Range	17.0-19.0	9.0-11.0	13.0-15.0	5.0-7.0	7.0-9.0	5.0-7.0	7.0-9.0
Volatile Organic Compounds (ug/kg)							
Chloroform	130 U	140 U	25 U	220 U	110 U	0.46 U	0.51 U
Chloromethane	180 U	200 U	35 U	310 U	160 U	0.66 U	0.72 U
cis-1,3-Dichloropropene	220 U	240 U	43 U	370 U	190 U	0.8 U	0.89 U
Dibromomethane	300 U	330 U	59 U	520 U	270 U	1.1 U	1.2 U
Dichlorobromomethane	210 U	230 U	41 U	360 U	180 U	0.77 U	0.85 U
Dichlorodifluoromethane	230 U	250 U	44 U	380 U	200 U	0.82 U	0.91 U
Ethyl methacrylate	560 U	610 U	110 U	950 U	490 U	2 U	2.2 U
Ethylbenzene	190 U	210 U	37 U	320 U	170 U	0.69 U	0.76 U
Ethylene Dibromide	380 U	420 U	74 U	650 U	330 U	1.4 U	1.5 U
Iodomethane	250 UJ	280 UJ	49 U	430 U	220 U	0.92 U	1 UJ
Isobutyl alcohol	17000 R	19000 R	3400 R	30000 R	15000 R	64 R	70 R
Methacrylonitrile	6100 U	6700 U	1200 U	10000 UJ	5300 U	22 U	24 U
Methyl methacrylate	940 U	1000 U	180 U	1600 U	820 U	3.4 U	3.8 U
Methylene Chloride	250 U	280 U	49 U	430 U	220 U	0.92 U	1 U
Pentachloroethane	560 UJ	610 UJ	110 U	950 UJ	490 UJ	2 UJ	2.2 UJ
Propionitrile	5300 U	5900 U	1000 U	9000 UJ	4700 U	19 U	21 U
Styrene	170 U	180 U	32 U	280 U	150 U	0.61 U	0.67 U
Tetrachloroethene	180 U	200 U	36 U	310 U	160 U	0.67 U	0.74 U
Toluene	200 U	220 U	39 U	340 U	180 U	0.73 U	0.8 U
trans-1,2-Dichloroethene	250 U	270 U	48 U	420 U	220 U	0.9 U	0.99 U
trans-1,3-Dichloropropene	220 U	240 U	43 U	370 U	190 U	0.8 U	0.89 U
trans-1,4-Dichloro-2-butene	780 U	860 U	150 U	1300 U	690 U	2.9 U	3.2 U
Trichloroethene	250 U	280 U	49 U	430 U	220 U	0.92 U	1 U
Trichlorofluoromethane	380 U	420 U	74 U	650 U	330 U	1.4 U	1.5 U
Vinyl acetate	380 U	420 U	74 U	650 U	330 U	1.4 U	1.5 U
Vinyl chloride	150 U	160 U	28 U	250 U	130 U	0.54 U	0.59 U
Xylenes, Total	580 U	640 U	110 U	990 U	510 U	2.1 U	2.3 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS - 9 A-B AREA
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74VP1Ba/9	74VP3b/9	74VP3b/9	74VP3b	74VP3b	74GWVP11a	74VP11a
Sample ID	74GWVP1Ba/9-09	74GWVP3b/9-05	74GWVP3b/9-07	74GWVP3b-03	74GWVP3b-04	74GWVP11a-03	74GWVP11a-04
Date	5/13/2008	5/13/2008	5/13/2008	5/5/2008	5/5/2008	5/6/2008	5/6/2008
Depth Range	17.0-19.0	9.0-11.0	13.0-15.0	5.0-7.0	7.0-9.0	5.0-7.0	7.0-9.0
LLPAHs (ug/kg)							
1-Methylnaphthalene	1.5 U	1.6 U	1.6 U	1.3 U	1.3 U	NA	NA
2-Methylnaphthalene	2.1 U	2.2 U	2.3 U	1.9 U	1.9 U	NA	NA
Acenaphthene	0.7 U	0.75 U	0.78 U	0.62 U	0.62 U	NA	NA
Acenaphthylene	2.1 U	2.2 U	2.3 U	1.9 U	1.9 U	NA	NA
Anthracene	2.1 U	2.2 U	2.3 U	1.9 U	1.9 U	NA	NA
Benzo[a]anthracene	2.1 U	2.2 U	2.3 U	1.9 U	1.9 U	NA	NA
Benzo[a]pyrene	0.81 U	0.86 U	0.91 U	0.72 U	0.72 U	NA	NA
Benzo[b]fluoranthene	1.3 J	0.99 U	1 U	0.87 J	0.83 U	NA	NA
Benzo[g,h,i]perylene	2.1 U	2.2 U	2.3 U	1.9 U	1.9 U	NA	NA
Benzo[k]fluoranthene	1.2 U	1.3 U	1.4 U	1.1 U	1.1 U	NA	NA
Chrysene	2.6 J	0.85 J	1.1 J	0.67 U	0.67 U	NA	NA
Dibenz(a,h)anthracene	0.73 U	0.77 U	0.81 U	0.64 U	0.65 U	NA	NA
Fluoranthene	6.5 J	2.2 U	2.6 J	2.5 J	1.9 U	NA	NA
Fluorene	0.95 U	1 U	1.1 U	0.84 U	0.84 U	NA	NA
Indeno[1,2,3-cd]pyrene	1.5 U	1.6 U	1.6 U	1.3 U	1.3 U	NA	NA
Naphthalene	0.74 U	0.79 U	0.82 U	0.65 U	0.66 U	NA	NA
Phenanthrene	2.1 U	2.2 U	2.3 U	13	2.8 J	NA	NA
Pyrene	5.9 J	2.2 U	2.3 U	2.2 U	2.3 U	NA	NA

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS - 9 A-B AREA
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74VP1Ba/9	74VP3b/9	74VP3b/9	74VP3b	74VP3b	74GWVP11a	74VP11a
Sample ID	74GWVP1Ba/9-09	74GWVP3b/9-05	74GWVP3b/9-07	74GWVP3b-03	74GWVP3b-04	74GWVP11a-03	74GWVP11a-04
Date	5/13/2008	5/13/2008	5/13/2008	5/5/2008	5/5/2008	5/6/2008	5/6/2008
Depth Range	17.0-19.0	9.0-11.0	13.0-15.0	5.0-7.0	7.0-9.0	5.0-7.0	7.0-9.0
Metals (mg/kg)							
Antimony	0.09 UJ	0.092 UJ	0.097 UJ	0.087 UJ	0.086 UJ	0.089 UJ	0.091 UJ
Arsenic	0.36 U	1	0.39 U	0.71	0.42 J	1.8	1.5
Barium	88	27	20	43	42	17	23
Beryllium	0.19	0.16	0.12 J	0.11	0.081 J	0.3	0.23
Cadmium	0.037 U	0.038 U	0.04 U	0.039 J	0.037 J	0.12	0.062 J
Chromium	7.2 J	75 J	12 UJ	2.4	1.6	25	21
Cobalt	20	3	4.2	11	12	7.1	4.3
Copper	14	59	50	27 J	18 J	170 J	160 J
Lead	2.7	4.6	2.5	0.47	0.33	3	3
Mercury	0.16	0.0048 U	0.0052 U	0.0037 U	0.0044 U	0.02 J	0.015 J
Nickel	6.4	4.3	3.9	1.7	2.1	7.2	6.8
Selenium	0.14 U	1	0.16 U	0.12 U	0.12 U	1	0.5 J
Silver	0.022 J	0.02 J	0.021 U	0.022 J	0.027 J	0.032 J	0.027 J
Thallium	0.14 U	0.15 U	0.16 U	0.12 U	0.12 U	0.14 U	0.15 U
Tin	4.8 U	4.9 U	5.2 U	4.2 U	4 U	4.7 U	4.9 U
Vanadium	170	190	60	150	180	320	280
Zinc	140 J	28 J	36 J	36 J	42 J	45 J	55 J
TPH DRO/GRO (mg/kg)							
Diesel Range Organics [C10-C28]	2.5 J	2.4 J	2.9 J	340	150	1.6 J	1.7 J
Gasoline Range Organics (GRO)-C6-C10	3900	510	450 J	19 J	49 J	0.065 J	0.061 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SWMU 9 AREA C - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB144	74SB144	74SB145	74SB145	74SB146	74SB146	74SB146	74SB147	74SB147
Sample ID	74SB144-03	74SB144-05	74SB145-05	74SB145-09	74SB146-02D	74SB146-02	74SB146-05	74SB147-03	74SB147-04
Date	5/14/2008	5/14/2008	5/16/2008	5/16/2008	5/15/2008	5/15/2008	5/15/2008	5/15/2008	5/15/2008
Depth Range	5.0-7.0	9.0-11.0	9.0-11.0	17-19	3.0-5.0	3.0-5.0	9.0-11.0	5.0-7.0	7.0-9.0
Volatile Organic Compounds (ug/kg)									
1,1,1,2-Tetrachloroethane	0.71 U	0.82 U	0.71 U	0.75 U	0.56 U	0.59 U	0.71 U	0.87 U	0.61 U
1,1,1-Trichloroethane	0.64 U	0.75 U	0.64 U	0.68 U	0.51 U	0.54 U	0.65 U	0.79 U	0.55 U
1,1,2,2-Tetrachloroethane	1.5 U	1.8 U	1.5 U	1.6 U	1.2 U	1.3 U	1.6 U	1.9 U	1.3 U
1,1,2-Trichloroethane	1.3 U	1.5 U	1.3 U	1.4 U	1.1 U	1.1 U	1.3 U	1.6 U	1.1 U
1,1-Dichloroethane	0.55 U	0.64 U	0.55 U	0.58 U	0.44 U	0.46 U	0.56 U	0.68 U	0.48 U
1,1-Dichloroethene	0.6 U	0.69 U	0.6 U	0.63 U	0.47 U	0.5 U	0.6 U	0.73 U	0.51 U
1,2,3-Trichloropropane	1.5 U	1.8 U	1.5 U	1.6 U	1.2 U	1.3 U	1.6 U	1.9 U	1.3 U
1,2-Dibromo-3-Chloropropane	3.1 U	3.6 U	3.1 U	3.3 U	2.5 U	2.6 U	3.1 U	3.8 U	2.7 U
1,2-Dichloroethane	1.1 U	1.3 U	1.1 U	1.2 U	0.88 U	0.93 U	1.1 U	1.4 U	0.95 U
1,2-Dichloropropane	1.2 U	1.4 U	1.2 U	1.3 U	0.97 U	1 U	1.2 U	1.5 U	1 U
2-Butanone (MEK)	3 U	3.5 U	3.9 UJ	3.1 U	2.4 U	2.5 U	3 U	3.7 U	2.6 U
2-Chloro-1,3-butadiene	0.63 U	0.73 U	0.63 U	0.66 U	0.5 U	0.53 U	0.63 U	0.77 U	0.54 U
2-Hexanone	2.3 U	2.7 U	2.3 U	2.4 UJ	1.8 U	2 U	2.3 U	2.8 U	2 U
3-Chloro-1-propene	1.7 U	1.9 U	1.7 U	1.7 U	1.3 U	1.4 U	1.7 U	2 U	1.4 U
4-Methyl-2-pentanone (MIBK)	3.2 U	3.7 U	3.2 U	3.4 U	2.5 U	2.7 U	3.2 U	3.9 U	2.8 U
Acetone	11 J	13 J	23 J	11 J	18 J	4.1 U	8.6 J	53 J	4.5 J
Acetonitrile	50 U	58 U	50 U	52 U	40 U	42 U	50 U	61 U	43 U
Acrolein	21 R	24 R	21 U	22 U	17 R	18 R	21 R	26 R	18 R
Acrylonitrile	25 U	30 U	25 U	27 U	20 U	21 U	26 U	31 U	22 U
Benzene	0.87 U	1 U	0.87 U	0.92 U	0.69 U	0.73 U	0.88 U	1.1 U	0.75 U
Bromoform	1.2 U	7.7	1.2 U	1.3 U	0.97 U	1 U	1.2 U	1.5 U	1 U
Bromomethane	1.8 U	2.1 U	1.8 U	1.9 U	1.4 U	1.5 U	1.8 U	2.2 U	1.5 UJ
Carbon disulfide	0.56 U	0.66 U	0.56 U	0.59 U	0.45 U	0.47 U	0.57 U	2.5 J	0.49 U
Carbon tetrachloride	1.1 U	1.3 U	1.1 U	1.2 U	0.88 U	0.93 U	1.1 U	1.4 U	0.95 U
Chlorobenzene	0.81 U	0.94 U	0.8 U	0.85 U	0.64 U	0.68 U	0.81 U	0.99 U	0.7 U
Chlorodibromomethane	0.55 U	0.64 U	0.55 U	0.58 U	0.44 U	0.46 U	0.56 U	0.68 U	0.48 U
Chloroethane	1.3 U	1.5 U	1.3 U	1.4 U	1.1 UJ	1.1 UJ	1.3 UJ	1.6 UJ	1.1 UJ

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SWMU 9 AREA C - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB144	74SB144	74SB145	74SB145	74SB146	74SB146	74SB146	74SB147	74SB147
Sample ID	74SB144-03	74SB144-05	74SB145-05	74SB145-09	74SB146-02D	74SB146-02	74SB146-05	74SB147-03	74SB147-04
Date	5/14/2008	5/14/2008	5/16/2008	5/16/2008	5/15/2008	5/15/2008	5/15/2008	5/15/2008	5/15/2008
Depth Range	5.0-7.0	9.0-11.0	9.0-11.0	17-19	3.0-5.0	3.0-5.0	9.0-11.0	5.0-7.0	7.0-9.0
Volatile Organic Compounds (ug/kg)									
Chloroform	0.55 U	0.64 U	0.55 U	0.58 U	0.44 U	0.46 U	0.56 U	0.68 U	0.48 U
Chloromethane	0.79 U	0.91 U	0.78 U	0.83 U	0.62 U	0.66 U	0.79 U	0.96 U	0.68 U
cis-1,3-Dichloropropene	0.96 U	1.1 U	0.96 U	1 U	0.76 U	0.81 U	0.97 U	1.2 U	0.83 U
Dibromomethane	1.3 U	1.5 U	1.3 U	1.4 U	1.1 U	1.1 U	1.3 U	1.6 U	1.1 U
Dichlorobromomethane	0.92 U	1.1 U	0.91 U	0.97 U	0.73 U	0.77 U	0.92 U	1.1 U	0.79 U
Dichlorodifluoromethane	0.98 U	1.1 U	0.98 U	1 U	0.78 U	0.83 U	0.99 U	1.2 U	0.85 U
Ethyl methacrylate	2.4 U	2.8 U	2.4 U	2.6 U	1.9 U	2 U	2.5 U	3 U	2.1 U
Ethylbenzene	0.83 U	0.96 U	0.83 U	0.87 U	0.66 U	0.7 U	0.84 U	1 U	0.71 U
Ethylene Dibromide	1.7 U	1.9 U	1.7 U	1.7 U	1.3 U	1.4 U	1.7 U	2 U	1.4 U
Iodomethane	1.1 U	1.3 U	1.1 U	1.2 U	0.88 UJ	0.97 UJ	1.1 UJ	2.1 J	0.95 U
Isobutyl alcohol	76 R	89 R	76 U	80 U	61 R	64 R	77 R	93 R	66 R
Methacrylonitrile	27 U	31 U	26 U	28 U	21 U	22 U	27 U	33 U	23 U
Methyl methacrylate	4.1 U	4.8 U	4.1 U	4.3 U	3.3 U	3.4 U	4.1 U	5 U	3.5 U
Methylene Chloride	1.1 U	1.3 U	1.1 U	1.2 U	0.88 U	0.93 U	1.1 U	1.4 U	0.95 U
Pentachloroethane	2.4 U	2.8 U	2.4 R	2.6 R	1.9 UJ	2 UJ	2.5 UJ	3 UJ	2.1 U
Propionitrile	23 U	27 U	23 U	24 U	18 U	20 U	23 U	28 U	20 U
Styrene	0.73 U	0.85 U	0.73 U	0.77 U	0.58 U	0.61 U	0.74 U	0.89 U	0.63 U
Tetrachloroethene	0.81 U	0.94 U	0.8 U	0.85 U	0.64 U	0.68 U	0.81 U	0.99 U	0.7 U
Toluene	0.87 U	1 U	0.87 U	0.92 U	0.69 U	0.73 U	0.88 U	1.1 U	0.75 U
trans-1,2-Dichloroethene	1.1 U	1.2 U	1.1 U	1.1 U	0.85 U	0.9 U	1.1 U	1.3 U	0.92 U
trans-1,3-Dichloropropene	0.96 U	1.1 U	0.96 U	1 U	0.76 U	0.81 U	0.97 U	1.2 U	0.83 U
trans-1,4-Dichloro-2-butene	3.4 U	4 U	3.4 U	3.6 U	2.7 U	2.9 U	3.5 U	4.2 U	3 U
Trichloroethene	1.1 U	1.3 U	1.1 U	1.2 U	0.88 U	0.93 U	1.1 U	1.4 U	0.95 U
Trichlorofluoromethane	1.7 U	1.9 U	1.7 U	1.7 U	1.3 U	1.4 U	1.7 U	2 U	1.4 U
Vinyl acetate	1.7 U	1.9 U	1.7 U	1.7 U	1.3 U	1.4 U	1.7 U	2 U	1.4 U
Vinyl chloride	0.64 U	0.75 U	0.64 U	0.68 U	0.51 U	0.54 U	0.65 U	0.79 U	0.55 U
Xylenes, Total	2.5 U	3 U	2.5 U	2.7 U	2 U	2.1 U	2.6 U	3.1 U	2.2 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SWMU 9 AREA C - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB144	74SB144	74SB145	74SB145	74SB146	74SB146	74SB146	74SB147	74SB147
Sample ID	74SB144-03	74SB144-05	74SB145-05	74SB145-09	74SB146-02D	74SB146-02	74SB146-05	74SB147-03	74SB147-04
Date	5/14/2008	5/14/2008	5/16/2008	5/16/2008	5/15/2008	5/15/2008	5/15/2008	5/15/2008	5/15/2008
Depth Range	5.0-7.0	9.0-11.0	9.0-11.0	17-19	3.0-5.0	3.0-5.0	9.0-11.0	5.0-7.0	7.0-9.0
LLPAHs (ug/kg)									
1-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[a]anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[a]pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[b]fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[g,h,i]perylene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[k]fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indeno[1,2,3-cd]pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SWMU 9 AREA C - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB144	74SB144	74SB145	74SB145	74SB146	74SB146	74SB146	74SB147	74SB147
Sample ID	74SB144-03	74SB144-05	74SB145-05	74SB145-09	74SB146-02D	74SB146-02	74SB146-05	74SB147-03	74SB147-04
Date	5/14/2008	5/14/2008	5/16/2008	5/16/2008	5/15/2008	5/15/2008	5/15/2008	5/15/2008	5/15/2008
Depth Range	5.0-7.0	9.0-11.0	9.0-11.0	17-19	3.0-5.0	3.0-5.0	9.0-11.0	5.0-7.0	7.0-9.0
Metals (mg/kg)									
Antimony	0.094 UJ	0.086 UJ	0.086 UJ	0.081 UJ	0.075 U	0.28 U	0.094 U	0.12 U	0.076 U
Arsenic	1.4	0.86	0.66	0.87	1	1.1	0.74	1.6	0.95
Barium	190 J	150 J	62 J	27 J	54 J	76 J	95 J	92 J	87 J
Beryllium	0.38	0.48	0.44	0.14	0.23	0.32	0.63	0.45	0.53
Cadmium	0.039 U	0.036 U	0.056 J	0.1 J	0.31 R	1.2 R	0.047 J	0.41	0.07 J
Chromium	18	7.9	20 J	6.2 J	38 J	28 J	650 J	41 J	110 J
Cobalt	9.8 J	62 J	46	18	26 J	39 J	64 J	36 J	26 J
Copper	63	9.9	43	510	91 J	110 J	140 J	81 J	250 J
Lead	5.1	1.5	1	0.69	4.3	4.8	0.98	12	2.3
Mercury	0.007 J	0.0042 U	0.0044 U	0.0044 U	0.011 J	0.0078 J	0.0045 UJ	0.094 J	0.0043 UJ
Nickel	8.8 J	16 J	16	12	23	31	200	16	88
Selenium	1.2	0.17 J	0.23 J	0.12 U	0.14 J	0.18 J	0.15 U	1.3	0.12 U
Silver	0.02 U	0.028 J	0.031 J	0.11 J	0.037 J	0.12 J	0.063 J	0.2 J	0.082 J
Thallium	0.15 U	0.14 U	0.13 U	0.12 U	0.12 U	0.12 U	0.15 U	0.16 U	0.12 U
Tin	5 U	4.6 U	4.5 U	4.1 U	4 U	4 U	5 U	5.2 U	4.1 U
Vanadium	200	150	170	120	170 J	130 J	110 J	170 J	99 J
Zinc	56 J	120 J	78	56	96 J	130 J	95 J	65 J	45 J
TPH DRO/GRO (mg/kg)									
Diesel Range Organics	0.82 U	0.72 U	0.74 U	0.67 U	3.3 J	1.9 J	1.8 J	0.84 U	6.9
Gasoline Range Organics	0.073 U	0.067 U	0.074 U	0.058 U	0.073 U	0.068 U	0.08 U	0.083 U	0.066 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SWMU 9 AREA C - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB148	74SB148	74SB161	74SB161	74SB161	74SB162	74SB162	74SB163	74SB163
Sample ID	74SB148-02	74SB148-04	74SB161-04D	74SB161-04	74SB161-05	74SB162-04	74SB162-05	74SB163-03	74SB163-04
Date	5/15/2008	5/15/2008	5/16/2008	5/16/2008	5/16/2008	5/16/2008	5/16/2008	5/16/2008	5/16/2008
Depth Range	3.0-5.0	7.0-9.0	7.0-9.0	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0	5.0-7.0	7.0-9.0
Volatile Organic Compounds (ug/kg)									
1,1,1,2-Tetrachloroethane	0.78 U	0.83 U	0.77 U	0.69 U	0.73 U	1.1 U	0.96 U	0.84 U	0.63 U
1,1,1-Trichloroethane	0.71 U	0.76 U	0.7 U	0.63 U	0.67 U	1 U	0.87 U	0.76 U	0.57 U
1,1,2,2-Tetrachloroethane	1.7 U	1.8 U	1.7 U	1.5 U	1.6 U	2.5 U	2.1 U	1.8 U	1.4 U
1,1,2-Trichloroethane	1.5 U	1.6 U	1.4 U	1.3 U	1.4 U	2.1 U	1.8 U	1.6 U	1.2 U
1,1-Dichloroethane	0.61 U	0.65 U	0.6 U	0.54 U	0.57 U	0.88 U	0.75 U	0.65 U	0.49 U
1,1-Dichloroethene	0.66 U	0.7 U	0.65 U	0.59 U	0.62 U	0.95 U	0.81 U	0.71 U	0.53 U
1,2,3-Trichloropropane	1.7 U	1.8 U	1.7 U	1.5 U	1.6 U	2.5 U	2.1 U	1.8 U	1.4 U
1,2-Dibromo-3-Chloropropane	3.4 U	3.7 U	3.4 U	3 U	3.2 U	4.9 U	4.2 U	3.7 U	2.8 U
1,2-Dichloroethane	1.2 U	1.3 U	1.2 U	1.1 U	1.1 U	1.8 U	1.5 U	1.3 U	0.98 U
1,2-Dichloropropane	1.3 U	1.4 U	1.3 U	1.2 U	1.3 U	1.9 U	1.6 U	1.4 U	1.1 U
2-Butanone (MEK)	3.3 U	3.5 U	5.8 U	5.5 U	4.4 U	4.8 U	4 U	3.5 U	2.7 U
2-Chloro-1,3-butadiene	0.7 U	0.74 U	0.68 U	0.62 U	0.65 U	1 U	0.85 U	0.75 U	0.56 U
2-Hexanone	2.6 U	2.7 U	2.5 U	2.3 U	2.4 U	3.7 UJ	3.1 UJ	2.7 UJ	2.1 UJ
3-Chloro-1-propene	1.8 U	2 U	1.8 U	1.6 UJ	1.7 U	2.6 U	2.2 U	2 U	1.5 U
4-Methyl-2-pentanone (MIBK)	3.5 U	3.8 U	3.5 U	3.1 U	3.3 U	5.1 U	4.3 U	3.8 U	2.9 U
Acetone	7.8 J	42 J	34 J	41 J	28 J	55 J	22 J	11 J	9.2 J
Acetonitrile	55 U	59 U	54 UJ	49 U	52 UJ	79 U	67 U	59 U	44 U
Acrolein	23 R	25 R	23 UJ	21 R	22 UJ	33 U	28 U	25 U	19 U
Acrylonitrile	28 U	30 U	28 UJ	25 UJ	26 UJ	41 U	34 U	30 U	23 U
Benzene	0.97 U	1 U	0.95 U	0.86 U	0.91 U	1.4 U	1.2 U	1 U	0.78 U
Bromoform	1.3 U	1.4 U	1.3 U	1.2 U	1.3 U	1.9 U	1.6 U	1.4 U	1.1 U
Bromomethane	2 UJ	2.1 U	1.9 U	1.7 UJ	1.8 U	2.8 U	2.4 U	2.1 U	1.6 U
Carbon disulfide	0.62 U	0.66 U	0.61 U	0.55 U	0.59 U	0.9 U	0.76 U	0.67 U	0.5 U
Carbon tetrachloride	1.2 U	1.3 U	1.2 U	1.1 U	1.1 U	1.8 U	1.5 U	1.3 U	0.98 U
Chlorobenzene	0.89 U	0.95 U	0.88 U	0.79 U	0.84 U	1.3 U	1.1 U	0.95 U	0.72 U
Chlorodibromomethane	0.61 U	0.65 U	0.6 U	0.54 U	0.57 U	0.88 U	0.75 U	0.65 U	0.49 U
Chloroethane	1.5 UJ	1.6 UJ	1.4 UJ	1.3 U	1.4 UJ	2.1 U	1.8 U	1.6 U	1.2 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SWMU 9 AREA C - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB148	74SB148	74SB161	74SB161	74SB161	74SB162	74SB162	74SB163	74SB163
Sample ID	74SB148-02	74SB148-04	74SB161-04D	74SB161-04	74SB161-05	74SB162-04	74SB162-05	74SB163-03	74SB163-04
Date	5/15/2008	5/15/2008	5/16/2008	5/16/2008	5/16/2008	5/16/2008	5/16/2008	5/16/2008	5/16/2008
Depth Range	3.0-5.0	7.0-9.0	7.0-9.0	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0	5.0-7.0	7.0-9.0
Volatile Organic Compounds (ug/kg)									
Chloroform	0.61 U	0.65 U	0.6 U	0.54 U	0.57 U	0.88 U	0.75 U	0.65 U	0.49 U
Chloromethane	0.87 U	0.93 U	0.85 U	0.77 U	0.81 U	1.3 U	1.1 U	0.93 U	0.7 U
cis-1,3-Dichloropropene	1.1 U	1.1 U	1 U	0.94 U	1 U	1.5 U	1.3 U	1.1 U	0.86 U
Dibromomethane	1.5 U	1.6 U	1.4 U	1.3 U	1.4 U	2.1 U	1.8 U	1.6 U	1.2 U
Dichlorobromomethane	1 U	1.1 U	1 U	0.9 U	0.95 U	1.5 U	1.2 U	1.1 U	0.82 U
Dichlorodifluoromethane	1.1 U	1.2 U	1.1 U	0.97 U	1 U	1.6 U	1.3 U	1.2 U	0.88 U
Ethyl methacrylate	2.7 U	2.9 U	2.6 U	2.4 U	2.5 U	3.9 U	3.3 U	2.9 U	2.2 U
Ethylbenzene	0.92 U	0.98 U	0.9 U	0.81 U	0.86 U	1.3 U	1.1 U	0.98 U	0.74 U
Ethylene Dibromide	1.8 U	2 U	1.8 U	1.6 U	1.7 U	2.6 U	2.2 U	2 U	1.5 U
Iodomethane	1.2 U	1.3 UJ	1.2 U	1.1 UJ	1.1 U	1.8 U	1.5 U	1.3 U	0.98 U
Isobutyl alcohol	84 R	90 R	83 UJ	75 R	79 UJ	120 U	100 U	90 U	68 U
Methacrylonitrile	29 U	31 U	29 UJ	26 U	28 UJ	42 U	36 U	31 U	24 U
Methyl methacrylate	4.5 U	4.8 U	4.4 U	4 UJ	4.2 U	6.5 U	5.5 U	4.8 U	3.6 U
Methylene Chloride	1.2 U	1.3 U	1.2 U	1.1 U	1.1 U	1.8 U	1.5 U	1.3 U	0.98 U
Pentachloroethane	2.7 U	2.9 UJ	2.6 R	2.4 UJ	2.5 R	3.9 R	3.3 R	2.9 R	2.2 R
Propionitrile	26 U	27 U	25 UJ	23 U	24 UJ	37 U	31 U	27 U	21 U
Styrene	0.81 U	0.86 U	0.79 U	0.72 U	0.76 U	1.2 U	0.99 U	0.86 U	0.65 U
Tetrachloroethene	0.89 U	0.95 U	0.88 U	0.79 U	0.84 U	1.3 U	1.1 U	0.95 U	0.72 U
Toluene	0.97 U	1 U	0.95 U	0.86 U	0.91 U	1.4 U	1.2 U	1 U	0.78 U
trans-1,2-Dichloroethene	1.2 U	1.3 U	1.2 U	1.1 U	1.1 U	1.7 U	1.5 U	1.3 U	0.95 U
trans-1,3-Dichloropropene	1.1 U	1.1 U	1 U	0.94 U	1 U	1.5 U	1.3 U	1.1 U	0.86 U
trans-1,4-Dichloro-2-butene	3.8 U	4 U	3.7 U	3.4 U	3.6 U	5.5 U	4.6 U	4.1 U	3.1 U
Trichloroethene	1.2 U	1.3 U	1.2 U	1.1 U	1.1 U	1.8 U	1.5 U	1.3 U	0.98 U
Trichlorofluoromethane	1.8 U	2 U	1.8 U	1.6 U	1.7 U	2.6 U	2.2 U	2 U	1.5 U
Vinyl acetate	1.8 U	2 U	1.8 UJ	1.6 U	1.7 UJ	2.6 U	2.2 U	2 U	1.5 U
Vinyl chloride	0.71 U	0.76 U	0.7 U	0.63 U	0.67 U	1 U	0.87 U	0.76 U	0.57 U
Xylenes, Total	2.8 U	3 U	2.8 U	2.5 U	2.6 U	4.1 U	3.4 U	3 U	2.3 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SWMU 9 AREA C - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB148	74SB148	74SB161	74SB161	74SB161	74SB162	74SB162	74SB163	74SB163
Sample ID	74SB148-02	74SB148-04	74SB161-04D	74SB161-04	74SB161-05	74SB162-04	74SB162-05	74SB163-03	74SB163-04
Date	5/15/2008	5/15/2008	5/16/2008	5/16/2008	5/16/2008	5/16/2008	5/16/2008	5/16/2008	5/16/2008
Depth Range	3.0-5.0	7.0-9.0	7.0-9.0	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0	5.0-7.0	7.0-9.0
LLPAHs (ug/kg)									
1-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[a]anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[a]pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[b]fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[g,h,i]perylene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[k]fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indeno[1,2,3-cd]pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SWMU 9 AREA C - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB148	74SB148	74SB161	74SB161	74SB161	74SB162	74SB162	74SB163	74SB163
Sample ID	74SB148-02	74SB148-04	74SB161-04D	74SB161-04	74SB161-05	74SB162-04	74SB162-05	74SB163-03	74SB163-04
Date	5/15/2008	5/15/2008	5/16/2008	5/16/2008	5/16/2008	5/16/2008	5/16/2008	5/16/2008	5/16/2008
Depth Range	3.0-5.0	7.0-9.0	7.0-9.0	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0	5.0-7.0	7.0-9.0
Metals (mg/kg)									
Antimony	0.15 U	0.48 U	0.17 UJ	0.15 UJ	0.17 UJ	0.23 UJ	0.21 UJ	0.17 UJ	0.17 UJ
Arsenic	1.5	3.8	1.5	1.6	1.3	2.3	1.1	2.4	2.9
Barium	52 J	97 J	46 J	51 J	35 J	450 J	140 J	96	91
Beryllium	0.18	0.57	0.32	0.33	0.44	0.37	0.37	0.48	0.49
Cadmium	0.22	1.1	0.084 J	0.057 J	0.049 J	0.1 J	0.13	0.14	0.16
Chromium	34 J	65 J	26 J	24 J	26 J	61 J	62 J	41	32
Cobalt	21 J	91 J	26 J	22 J	23 J	29 J	36 J	25	23
Copper	79 J	170 J	89	93	89	77	81	230	210
Lead	7.3	16	20 J	15 J	4.4 J	12 J	1.4 J	3	2.7
Mercury	0.0063 J	0.054 J	0.005 J	0.0043 U	0.0093 J	0.0047 U	0.005 U	0.004 U	0.0038 U
Nickel	19	46	22	20	18	31	31	26	20
Selenium	0.16 J	1.2	0.16 J	0.15 J	0.14 U	0.3 J	0.15 U	0.51 J	0.53
Silver	0.06 J	0.16 J	0.04 J	0.041 J	0.049 J	0.032 J	0.037 J	0.081 J	0.11 J
Thallium	0.13 U	0.16 U	0.13 U	0.12 U	0.14 U	0.13 U	0.15 U	0.12 U	0.12 U
Tin	4.3 U	5.4 U	4.2 U	4 U	4.5 U	4.3 U	4.9 U	4.1 U	3.9 U
Vanadium	130 J	240 J	190	170	190	210	160	240	180
Zinc	79 J	87 J	75 J	63 J	68 J	84 J	89 J	92 J	91 J
TPH DRO/GRO (mg/kg)									
Diesel Range Organics	18	6.6	2.2 J	2.9 J	2.1 J	0.77 J	0.77 U	1.4 J	1.8 J
Gasoline Range Organics	0.065 U	0.081 U	0.065 U	0.065 U	0.07 U	0.066 U	0.084 U	0.063 U	0.069 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SWMU 9 AREA C - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB164	74SB164	74SB165	74SB165	74SB166	74SB166	74SB166	74SB167	74SB167
Sample ID	74SB164-04	74SB164-05	74SB165-04	74SB165-05	74SB166-04D	74SB166-04	74SB166-05	74SB167-04	74SB167-05
Date	5/16/2008	5/16/2008	5/16/2008	5/16/2008	5/16/2008	5/16/2008	5/16/2008	5/16/2008	5/16/2008
Depth Range	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0	7.0-9.0	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0
Volatile Organic Compounds (ug/kg)									
1,1,1,2-Tetrachloroethane	1.1 U	0.81 U	0.78 U	0.72 U	0.75 U	0.78 U	0.92 U	0.73 U	0.69 U
1,1,1-Trichloroethane	1 U	0.74 U	0.71 U	0.65 U	0.68 U	0.71 U	0.83 U	0.66 U	0.63 U
1,1,2,2-Tetrachloroethane	2.5 U	1.8 U	1.7 U	1.6 U	1.6 U	1.7 U	2 U	1.6 U	1.5 U
1,1,2-Trichloroethane	2.1 U	1.5 U	1.5 U	1.3 U	1.4 U	1.5 U	1.7 U	1.4 U	1.3 U
1,1-Dichloroethane	0.89 U	0.63 U	0.61 U	0.56 U	0.58 U	0.61 U	0.72 U	0.57 U	0.54 U
1,1-Dichloroethene	0.96 U	0.69 U	0.66 U	0.6 U	0.63 U	0.66 U	0.77 U	0.62 U	0.59 U
1,2,3-Trichloropropane	2.5 U	1.8 U	1.7 U	1.6 U	1.6 U	1.7 U	2 U	1.6 U	1.5 U
1,2-Dibromo-3-Chloropropane	5 U	3.6 U	3.4 U	3.1 U	3.3 U	3.4 U	4 U	3.2 U	3 U
1,2-Dichloroethane	1.8 U	1.3 U	1.2 U	1.1 U	1.2 U	1.2 U	1.4 U	1.1 U	1.1 U
1,2-Dichloropropane	2 U	1.4 U	1.3 U	1.2 U	1.3 U	1.3 U	1.6 U	1.3 U	1.2 U
2-Butanone (MEK)	5.8 UJ	3.4 U	3.3 U	3 U	3.1 U	3.3 U	3.9 U	3.3 UJ	2.9 U
2-Chloro-1,3-butadiene	1 U	0.72 U	0.7 U	0.64 U	0.66 U	0.7 U	0.82 U	0.65 U	0.62 U
2-Hexanone	3.7 U	2.7 U	2.6 U	2.3 U	2.4 UJ	2.6 U	3 U	2.4 U	2.3 U
3-Chloro-1-propene	2.7 U	1.9 U	1.8 U	1.7 U	1.7 U	1.8 U	2.2 U	1.7 U	1.6 U
4-Methyl-2-pentanone (MIBK)	5.2 U	3.7 U	3.5 U	3.2 U	3.4 U	3.6 U	4.2 U	3.3 U	3.1 U
Acetone	39 J	11 J	16 J	17 J	9.7 J	13 J	11 J	19 J	9.7 J
Acetonitrile	80 U	57 U	55 U	50 U	52 U	55 U	65 U	51 U	49 U
Acrolein	34 U	24 U	23 U	21 U	22 U	23 U	27 U	22 U	21 U
Acrylonitrile	41 U	29 U	28 U	26 U	27 U	28 U	33 U	26 U	25 U
Benzene	1.4 U	1 U	0.97 U	0.88 U	0.92 U	0.97 U	1.1 U	0.9 U	0.86 U
Bromoform	2 U	1.4 U	1.3 U	1.2 U	1.3 U	1.3 U	1.6 U	1.3 U	1.2 U
Bromomethane	2.9 U	2 U	2 U	1.8 U	1.9 U	2 U	2.3 U	1.8 U	1.7 U
Carbon disulfide	0.91 U	0.65 U	0.62 U	0.57 U	0.59 U	0.62 U	0.73 U	0.58 U	0.55 U
Carbon tetrachloride	1.8 U	1.3 U	1.2 U	1.1 U	1.2 U	1.2 U	1.4 U	1.1 U	1.1 U
Chlorobenzene	1.3 U	0.93 U	0.89 U	0.82 U	0.85 U	0.89 U	1 U	0.83 U	0.79 U
Chlorodibromomethane	0.89 U	0.63 U	0.61 U	0.56 U	0.58 U	0.61 U	0.72 U	0.57 U	0.54 U
Chloroethane	2.1 U	1.5 U	1.5 U	1.3 U	1.4 U	1.5 U	1.7 U	1.4 U	1.3 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SWMU 9 AREA C - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB164	74SB164	74SB165	74SB165	74SB166	74SB166	74SB166	74SB167	74SB167
Sample ID	74SB164-04	74SB164-05	74SB165-04	74SB165-05	74SB166-04D	74SB166-04	74SB166-05	74SB167-04	74SB167-05
Date	5/16/2008	5/16/2008	5/16/2008	5/16/2008	5/16/2008	5/16/2008	5/16/2008	5/16/2008	5/16/2008
Depth Range	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0	7.0-9.0	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0
Volatile Organic Compounds (ug/kg)									
Chloroform	0.89 U	0.63 U	0.61 U	0.56 U	0.58 U	0.61 U	0.72 U	0.57 U	0.54 U
Chloromethane	1.3 U	0.9 U	0.87 U	0.79 U	0.83 U	0.87 U	1 U	0.81 U	0.77 U
cis-1,3-Dichloropropene	1.6 U	1.1 U	1.1 U	0.97 U	1 U	1.1 U	1.2 U	0.99 U	0.94 U
Dibromomethane	2.1 U	1.5 U	1.5 U	1.3 U	1.4 U	1.5 U	1.7 U	1.4 U	1.3 U
Dichlorobromomethane	1.5 U	1.1 U	1 U	0.93 U	0.97 U	1 U	1.2 U	0.95 U	0.9 U
Dichlorodifluoromethane	1.6 U	1.1 U	1.1 U	0.99 U	1 U	1.1 U	1.3 U	1 U	0.97 U
Ethyl methacrylate	3.9 U	2.8 U	2.7 U	2.5 U	2.6 U	2.7 U	3.2 U	2.5 U	2.4 U
Ethylbenzene	1.3 U	0.95 U	0.92 U	0.84 U	0.87 U	0.92 U	1.1 U	0.85 U	0.81 U
Ethylene Dibromide	2.7 U	1.9 U	1.8 U	1.7 U	1.7 U	1.8 U	2.2 U	1.7 U	1.6 U
Iodomethane	1.8 U	1.3 U	1.2 U	1.1 U	1.2 U	1.2 U	1.4 U	1.1 U	1.1 U
Isobutyl alcohol	120 U	88 U	84 U	180 J	80 U	84 U	99 U	79 U	75 U
Methacrylonitrile	43 U	30 U	29 U	27 U	28 U	29 U	34 U	27 U	26 U
Methyl methacrylate	6.6 U	4.7 U	4.5 U	4.1 U	4.3 U	4.5 U	5.3 U	4.2 U	4 U
Methylene Chloride	1.8 U	1.3 U	1.2 U	1.1 U	1.2 U	1.2 U	1.4 U	1.1 U	1.1 U
Pentachloroethane	3.9 R	2.8 R	2.7 R	2.5 R	2.6 R	2.7 R	3.2 R	2.5 R	2.4 R
Propionitrile	37 U	27 U	26 U	23 U	24 U	26 U	30 U	24 U	23 U
Styrene	1.2 U	0.84 U	0.81 U	0.74 U	0.77 U	0.81 U	0.95 U	0.75 U	0.72 U
Tetrachloroethene	1.3 U	0.93 U	0.89 U	0.82 U	0.85 U	0.89 U	1 U	0.83 U	0.79 U
Toluene	1.4 U	1 U	0.97 U	0.88 U	0.92 U	0.97 U	1.1 U	0.9 U	0.86 U
trans-1,2-Dichloroethene	1.7 U	1.2 U	1.2 U	1.1 U	1.1 U	1.2 U	1.4 U	1.1 U	1.1 U
trans-1,3-Dichloropropene	1.6 U	1.1 U	1.1 U	0.97 U	1 U	1.1 U	1.2 U	0.99 U	0.94 U
trans-1,4-Dichloro-2-butene	5.5 U	3.9 U	3.8 U	3.5 U	3.6 U	3.8 U	4.4 U	3.5 U	3.4 U
Trichloroethene	1.8 U	1.3 U	1.2 U	1.1 U	1.2 U	1.2 U	1.4 U	1.1 U	1.1 U
Trichlorofluoromethane	2.7 U	1.9 U	1.8 U	1.7 U	1.7 U	1.8 U	2.2 U	1.7 U	1.6 U
Vinyl acetate	2.7 U	1.9 U	1.8 U	1.7 U	1.7 U	1.8 U	2.2 U	1.7 U	1.6 U
Vinyl chloride	1 U	0.74 U	0.71 U	0.65 U	0.68 U	0.71 U	0.83 U	0.66 U	0.63 U
Xylenes, Total	4.1 U	2.9 U	2.8 U	2.6 U	2.7 U	2.8 U	3.3 U	2.6 U	2.5 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SWMU 9 AREA C - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB164	74SB164	74SB165	74SB165	74SB166	74SB166	74SB166	74SB167	74SB167
Sample ID	74SB164-04	74SB164-05	74SB165-04	74SB165-05	74SB166-04D	74SB166-04	74SB166-05	74SB167-04	74SB167-05
Date	5/16/2008	5/16/2008	5/16/2008	5/16/2008	5/16/2008	5/16/2008	5/16/2008	5/16/2008	5/16/2008
Depth Range	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0	7.0-9.0	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0
LLPAHs (ug/kg)									
1-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[a]anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[a]pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[b]fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[g,h,i]perylene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[k]fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indeno[1,2,3-cd]pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SWMU 9 AREA C - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB164	74SB164	74SB165	74SB165	74SB166	74SB166	74SB166	74SB167	74SB167
Sample ID	74SB164-04	74SB164-05	74SB165-04	74SB165-05	74SB166-04D	74SB166-04	74SB166-05	74SB167-04	74SB167-05
Date	5/16/2008	5/16/2008	5/16/2008	5/16/2008	5/16/2008	5/16/2008	5/16/2008	5/16/2008	5/16/2008
Depth Range	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0	7.0-9.0	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0
Metals (mg/kg)									
Antimony	0.12 UJ	0.085 UJ	0.094 UJ	0.089 UJ	0.1 UJ	0.12 UJ	0.1 UJ	0.083 UJ	0.088 UJ
Arsenic	1.2	0.78	0.52	1.3	0.84	0.84	0.64 J	0.89	0.9
Barium	170 J	63 J	66 J	140 J	56 J	100 J	86 J	79 J	75 J
Beryllium	0.5	0.4	0.22	0.33	0.28	0.26	0.23	0.81	0.34
Cadmium	0.045 J	0.035 U	0.038 J	0.079 J	0.064 J	0.056 J	0.12 J	0.038 J	0.068 J
Chromium	21 J	24 J	28 J	21 J	18 J	23 J	29 J	25 J	36 J
Cobalt	31	24	33	34	29	31	26	39	22
Copper	130	57	83	59	120	92	78	90	130
Lead	2.7	1.7	2.1	3.3	2.4	2.3	1.2	4.9	1.9
Mercury	0.0055 U	0.0046 U	0.0048 J	0.004 U	0.0039 U	0.0043 U	0.0054 U	0.0042 U	0.0048 U
Nickel	24	22	28	29	30	27	22	13	20
Selenium	0.26 J	0.14 U	0.12 U	0.14 U	0.13 U	0.16 J	0.16 U	0.2 J	0.19 J
Silver	0.054 J	0.069 J	0.33	0.042 J	0.038 J	0.035 J	0.035 J	0.022 J	0.051 J
Thallium	0.16 U	0.14 U	0.12 U	0.14 U	0.13 U	0.13 U	0.16 U	0.13 U	0.14 U
Tin	5.5 U	4.6 U	4.1 U	4.6 U	4.2 U	4.4 U	5.3 U	4.4 U	4.7 U
Vanadium	240	190	200	160	280	270	210	140	170
Zinc	80	65	92	99	74	80	60	110	140
TPH DRO/GRO (mg/kg)									
Diesel Range Organics	0.93 UJ	0.73 UJ	2.2 UJ	1.3 UJ	0.68 UJ	0.69 UJ	0.86 UJ	1.2 UJ	0.75 UJ
Gasoline Range Organics	0.11 U	0.069 U	0.065 U	0.09 J	0.066 U	0.072 U	0.088 U	0.061 U	0.078 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SWMU 9 AREA C - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB168	74SB168	74SB169	74SB169	74SB170	74SB170	74SB171	74SB171	74SB171	74SB172
Sample ID	74SB168-04	74SB168-05	74SB169-04	74SB169-05	74SB170-04	74SB170-05	74SB171-04	74SB171-05D	74SB171-05	74SB172-04
Date	5/16/2008	5/16/2008	5/16/2008	5/16/2008	5/17/2008	5/17/2008	5/17/2008	5/17/2008	5/17/2008	5/17/2008
Depth Range	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0	9.0-11.0	7.0-9.0
Volatile Organic Compounds (ug/kg)										
1,1,1,2-Tetrachloroethane	0.72 U	0.66 U	0.75 U	0.82 U	0.77 U	0.83 U	0.66 U	0.78 U	0.87 U	0.83 U
1,1,1-Trichloroethane	0.65 U	0.59 U	0.68 U	0.75 U	0.7 U	0.76 U	0.59 U	0.7 U	0.79 U	0.75 U
1,1,2,2-Tetrachloroethane	1.6 U	1.4 U	1.6 U	1.8 U	1.7 U	1.8 U	1.4 U	1.7 U	1.9 U	1.8 U
1,1,2-Trichloroethane	1.3 U	1.2 U	1.4 U	1.5 U	1.4 U	1.6 U	1.2 U	1.5 U	1.6 U	1.6 U
1,1-Dichloroethane	0.56 U	0.51 U	0.58 U	0.64 U	0.6 U	0.65 U	0.51 U	0.61 U	0.68 U	0.65 U
1,1-Dichloroethene	0.6 U	0.55 U	0.63 U	0.69 U	0.65 U	0.7 U	0.55 U	0.66 U	0.74 U	0.7 U
1,2,3-Trichloropropane	1.6 U	1.4 U	1.6 U	1.8 U	1.7 UJ	1.8 UJ	1.4 UJ	1.7 U	1.9 U	1.8 U
1,2-Dibromo-3-Chloropropane	3.1 U	2.9 U	3.3 U	3.6 U	3.4 UJ	3.6 UJ	2.9 UJ	3.4 U	3.8 U	3.6 U
1,2-Dichloroethane	1.1 U	1 U	1.2 U	1.3 U	1.2 U	1.3 U	1 U	1.2 U	1.4 U	1.3 U
1,2-Dichloropropane	1.2 U	1.1 U	1.3 U	1.4 U	1.3 U	1.4 U	1.1 U	1.3 U	1.5 U	1.4 U
2-Butanone (MEK)	3 U	2.8 U	3.9 UJ	3.5 U	3.3 UJ	5.9 J	14 J	3.3 U	3.7 U	3.5 U
2-Chloro-1,3-butadiene	0.64 U	0.58 U	0.67 U	0.73 U	0.69 U	0.74 U	0.58 U	0.69 U	0.78 U	0.74 U
2-Hexanone	2.3 U	2.2 U	2.5 U	2.7 U	2.5 UJ	3 J	2.2 UJ	2.5 U	2.9 U	2.7 U
3-Chloro-1-propene	1.7 U	1.5 U	1.8 U	1.9 U	1.8 U	2 U	1.5 U	1.8 U	2 U	1.9 U
4-Methyl-2-pentanone (MIBK)	3.2 U	3 U	3.4 U	3.7 U	3.5 UJ	3.8 UJ	3 UJ	3.5 U	4 U	3.8 U
Acetone	20 J	6.2 J	42 J	18 J	27 UJ	40 UJ	180 J	72 UJ	46 UJ	62 UJ
Acetonitrile	50 U	46 U	53 U	58 U	54 UJ	59 UJ	46 UJ	55 UJ	61 UJ	58 UJ
Acrolein	21 U	19 U	22 U	24 U	23 U	25 U	19 U	23 U	26 U	25 U
Acrylonitrile	26 U	24 U	27 U	30 U	28 U	30 U	24 U	28 U	31 U	30 U
Benzene	0.88 U	0.81 U	0.92 U	1 U	0.95 U	1 U	0.81 U	0.96 U	1.1 U	1 U
Bromoform	1.2 U	1.1 U	1.3 U	1.4 U	1.3 U	1.4 U	1.1 U	1.3 U	1.5 U	1.4 U
Bromomethane	1.8 U	1.6 U	1.9 U	2.1 U	1.9 UJ	2.1 UJ	1.6 UJ	1.9 U	2.2 U	2.1 U
Carbon disulfide	0.57 U	0.52 U	0.6 U	0.66 U	0.61 U	0.66 U	0.52 U	0.62 U	0.7 U	0.66 U
Carbon tetrachloride	1.1 U	1 U	1.2 U	1.3 U	1.2 U	1.3 U	1 U	1.2 U	1.4 U	1.3 U
Chlorobenzene	0.82 U	0.75 U	0.85 U	0.94 U	0.88 U	0.95 U	0.75 U	0.89 U	0.99 U	0.95 U
Chlorodibromomethane	0.56 U	0.51 U	0.58 U	0.64 U	0.6 U	0.65 U	0.51 U	0.61 U	0.68 U	0.65 U
Chloroethane	1.3 U	1.2 U	1.4 U	1.5 U	1.4 U	1.6 U	1.2 U	1.5 U	1.6 U	1.6 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SWMU 9 AREA C - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB168	74SB168	74SB169	74SB169	74SB170	74SB170	74SB171	74SB171	74SB171	74SB172
Sample ID	74SB168-04	74SB168-05	74SB169-04	74SB169-05	74SB170-04	74SB170-05	74SB171-04	74SB171-05D	74SB171-05	74SB172-04
Date	5/16/2008	5/16/2008	5/16/2008	5/16/2008	5/17/2008	5/17/2008	5/17/2008	5/17/2008	5/17/2008	5/17/2008
Depth Range	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0	9.0-11.0	7.0-9.0
Volatile Organic Compounds (ug/kg)										
Chloroform	0.56 U	0.51 U	0.58 U	0.64 U	0.6 U	0.65 U	0.51 U	0.61 U	0.68 U	0.65 U
Chloromethane	0.79 U	0.73 U	0.83 U	0.91 U	0.86 U	0.93 U	0.73 U	0.86 U	0.97 U	0.92 U
cis-1,3-Dichloropropene	0.97 U	0.89 U	1 U	1.1 U	1 U	1.1 U	0.89 U	1.1 U	1.2 UJ	1.1 U
Dibromomethane	1.3 U	1.2 U	1.4 U	1.5 U	1.4 U	1.6 U	1.2 U	1.5 U	1.6 U	1.6 U
Dichlorobromomethane	0.93 U	0.85 U	0.97 U	1.1 U	1 U	1.1 U	0.85 U	1 U	1.1 U	1.1 U
Dichlorodifluoromethane	0.99 U	0.91 U	1 U	1.1 U	1.1 U	1.2 U	0.91 U	1.1 UJ	1.2 U	1.2 UJ
Ethyl methacrylate	2.5 U	2.3 U	2.6 U	2.8 U	2.6 U	2.9 U	2.3 U	2.7 U	3 U	2.9 U
Ethylbenzene	0.84 U	0.77 U	0.88 U	0.96 U	0.9 U	0.98 U	0.77 U	0.91 U	1 U	0.97 U
Ethylene Dibromide	1.7 U	1.5 U	1.8 U	1.9 U	1.8 U	2 U	1.5 U	1.8 U	2 U	1.9 U
Iodomethane	1.1 U	1 U	1.2 U	1.3 U	1.2 U	1.3 U	12	1.2 U	1.4 U	1.3 U
Isobutyl alcohol	77 U	71 U	81 U	89 U	83 R	90 R	71 R	84 R	94 R	90 R
Methacrylonitrile	27 U	25 U	28 U	31 U	29 U	31 U	25 U	29 U	33 U	31 U
Methyl methacrylate	4.1 U	3.8 U	4.3 U	4.8 U	4.5 UJ	4.8 UJ	3.8 UJ	4.5 U	5 U	4.8 U
Methylene Chloride	1.1 U	1 U	1.2 U	1.3 U	1.2 U	1.3 U	1 U	1.2 U	1.4 U	1.3 U
Pentachloroethane	2.5 R	2.3 R	2.6 R	2.8 R	2.6 UJ	2.9 UJ	2.3 UJ	2.7 U	3 U	2.9 U
Propionitrile	23 U	22 U	25 U	27 U	25 U	27 U	22 U	25 U	29 U	27 U
Styrene	0.74 U	0.68 U	0.77 U	0.85 U	0.79 U	0.86 U	0.68 U	0.8 U	0.9 U	0.86 U
Tetrachloroethene	0.82 U	0.75 U	0.85 U	0.94 U	0.88 U	0.95 U	0.75 U	0.89 U	0.99 U	0.95 U
Toluene	0.88 U	0.81 U	0.92 U	1 U	0.95 U	1 U	0.81 U	0.96 U	1.1 U	1 U
trans-1,2-Dichloroethene	1.1 U	0.99 U	1.1 U	1.2 U	1.2 U	1.3 U	0.99 U	1.2 U	1.3 U	1.3 U
trans-1,3-Dichloropropene	0.97 U	0.89 U	1 U	1.1 U	1 U	1.1 U	0.89 U	1.1 U	1.2 U	1.1 U
trans-1,4-Dichloro-2-butene	3.5 U	3.2 U	3.6 U	4 U	3.7 U	4 U	3.2 U	3.8 U	4.2 U	4 U
Trichloroethene	1.1 U	1 U	1.2 U	1.3 U	1.2 U	1.3 U	1 U	1.2 U	1.4 U	1.3 U
Trichlorofluoromethane	1.7 U	1.5 U	1.8 U	1.9 U	1.8 U	2 U	1.5 U	1.8 U	2 U	1.9 U
Vinyl acetate	1.7 U	1.5 U	1.8 U	1.9 U	1.8 U	2 U	1.5 U	1.8 U	2 U	1.9 U
Vinyl chloride	0.65 U	0.59 U	0.68 U	0.75 U	0.7 U	0.76 U	0.59 U	0.7 U	0.79 U	0.75 U
Xylenes, Total	2.6 U	2.4 U	2.7 U	3 U	2.8 U	3 U	2.4 U	2.8 U	3.1 U	3 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SWMU 9 AREA C - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB168	74SB168	74SB169	74SB169	74SB170	74SB170	74SB171	74SB171	74SB171	74SB172
Sample ID	74SB168-04	74SB168-05	74SB169-04	74SB169-05	74SB170-04	74SB170-05	74SB171-04	74SB171-05D	74SB171-05	74SB172-04
Date	5/16/2008	5/16/2008	5/16/2008	5/16/2008	5/17/2008	5/17/2008	5/17/2008	5/17/2008	5/17/2008	5/17/2008
Depth Range	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0	9.0-11.0	7.0-9.0
LLPAHs (ug/kg)										
1-Methylnaphthalene	NA	NA	NA	NA	1.5 U	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA	2.1 U	NA	NA	NA	NA	NA
Acenaphthene	NA	NA	NA	NA	0.71 U	NA	NA	NA	NA	NA
Acenaphthylene	NA	NA	NA	NA	2.1 U	NA	NA	NA	NA	NA
Anthracene	NA	NA	NA	NA	2.1 U	NA	NA	NA	NA	NA
Benzo[a]anthracene	NA	NA	NA	NA	2.1 U	NA	NA	NA	NA	NA
Benzo[a]pyrene	NA	NA	NA	NA	0.82 U	NA	NA	NA	NA	NA
Benzo[b]fluoranthene	NA	NA	NA	NA	0.94 U	NA	NA	NA	NA	NA
Benzo[g,h,i]perylene	NA	NA	NA	NA	2.1 U	NA	NA	NA	NA	NA
Benzo[k]fluoranthene	NA	NA	NA	NA	1.2 U	NA	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA	0.76 U	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	NA	NA	NA	NA	0.73 U	NA	NA	NA	NA	NA
Fluoranthene	NA	NA	NA	NA	2.1 U	NA	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA	0.95 U	NA	NA	NA	NA	NA
Indeno[1,2,3-cd]pyrene	NA	NA	NA	NA	1.5 U	NA	NA	NA	NA	NA
Naphthalene	NA	NA	NA	NA	0.74 U	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	2.1 U	NA	NA	NA	NA	NA
Pyrene	NA	NA	NA	NA	2.1 U	NA	NA	NA	NA	NA

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SWMU 9 AREA C - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB168	74SB168	74SB169	74SB169	74SB170	74SB170	74SB171	74SB171	74SB171	74SB172
Sample ID	74SB168-04	74SB168-05	74SB169-04	74SB169-05	74SB170-04	74SB170-05	74SB171-04	74SB171-05D	74SB171-05	74SB172-04
Date	5/16/2008	5/16/2008	5/16/2008	5/16/2008	5/17/2008	5/17/2008	5/17/2008	5/17/2008	5/17/2008	5/17/2008
Depth Range	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0	9.0-11.0	7.0-9.0
Metals (mg/kg)										
Antimony	0.11 UJ	0.12 UJ	0.094 UJ	0.088 UJ	0.15 UJ	0.084 UJ	0.12 UJ	0.11 UJ	0.13 UJ	0.12 UJ
Arsenic	2.4	2	1.1	0.8	0.75	0.71	2.5	0.92	1.4	2.6
Barium	230 J	66 J	300 J	92 J	51	83	44	29	31	8.7
Beryllium	0.75	1.1	0.66	0.27	0.31	0.49	0.45	0.38	0.43	0.73
Cadmium	0.095 J	0.22	0.097 J	0.14	0.067 J	0.21	1.6	0.071 J	0.08 J	0.1 J
Chromium	45 J	20 J	40 J	40 J	29	28	33	51	53	81
Cobalt	21	11	36	30	19 J	21 J	33 J	12 J	8.3 J	9 J
Copper	96	88	55	85	39	31	110	170	160	190
Lead	78	47	13	6.1	6.9 J	1.7 J	63 J	23 J	29 J	28 J
Mercury	0.0048 U	0.0044 U	0.015 J	0.02 J	0.0042 R	0.0046 R	0.013 R	0.011 R	0.0052 R	0.0044 R
Nickel	14	17	23	21	20	23	16	14	12	17
Selenium	1.6	0.37 J	0.98	0.14 U	0.2 J	0.13 U	1.9	0.92	2	2.5
Silver	0.035 J	0.36	0.12 J	0.67	0.036 J	0.18 J	0.65	0.075 J	0.061 J	0.055 J
Thallium	0.14 U	0.14 U	0.15 U	0.14 U	0.14 U	0.13 U	0.13 U	0.14 U	0.15 U	0.14 U
Tin	4.8 U	4.6 U	5 U	4.7 U	4.5 U	4.5 U	4.4 U	4.8 U	5.1 U	4.5 U
Vanadium	280	190	210	200	130	130	330	280	340	390
Zinc	120	130	110	95	110	100	140	130	120	110
TPH DRO/GRO (mg/kg)										
Diesel Range Organics	0.78 UJ	0.75 U	2.2 U	0.76 U	4.6	1.5 U	1.2 U	1.1 U	1.4 U	0.74 U
Gasoline Range Organics	0.075 U	0.065 U	0.071 U	0.07 U	0.078 U	0.087 U	0.071 U	0.073 U	0.072 U	0.081 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SWMU 9 AREA C - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB172	74SB173	74SB173	74SB174	74SB174	74SB175	74SB175	74SB176	74SB176	74SB176
Sample ID	74SB172-05	74SB173-04	74SB173-05	74SB174-04	74SB174-05	74SB175-04	74SB175-05	74SB176-04	74SB176-05D	74SB176-05
Date	5/17/2008	5/17/2008	5/17/2008	5/17/2008	5/17/2008	5/17/2008	5/17/2008	5/17/2008	5/17/2008	5/17/2008
Depth Range	9.0-11.0	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0	9.0-11.0
Volatile Organic Compounds (ug/kg)										
1,1,1,2-Tetrachloroethane	0.79 U	0.74 U	0.75 U	0.84 U	34 UJ	0.9 U	0.78 U	0.69 U	0.83 U	0.9 U
1,1,1-Trichloroethane	0.71 U	0.67 U	0.68 U	0.76 U	31 UJ	0.81 U	0.71 U	0.62 U	0.76 U	0.81 U
1,1,2,2-Tetrachloroethane	1.7 U	1.6 U	1.6 U	1.8 U	75 UJ	2 U	1.7 U	1.5 U	1.8 U	2 U
1,1,2-Trichloroethane	1.5 U	1.4 U	1.4 U	1.6 U	64 UJ	1.7 U	1.5 U	1.3 U	1.6 U	1.7 U
1,1-Dichloroethane	0.62 U	0.58 U	0.58 U	0.66 U	27 UJ	0.7 U	0.61 U	0.54 U	0.65 U	0.7 U
1,1-Dichloroethene	0.67 U	0.62 U	0.63 U	0.71 U	29 UJ	0.76 U	0.66 U	0.58 U	0.7 U	0.76 U
1,2,3-Trichloropropane	1.7 UJ	1.6 U	1.6 U	1.8 U	75 UJ	2 UJ	1.7 UJ	1.5 UJ	1.8 UJ	2 UJ
1,2-Dibromo-3-Chloropropane	3.4 UJ	3.2 U	3.3 U	3.7 U	150 UJ	3.9 UJ	3.4 U	3 UJ	3.7 UJ	3.9 UJ
1,2-Dichloroethane	1.2 U	1.2 U	1.2 U	1.3 U	53 UJ	1.4 U	1.2 U	1.1 U	1.3 U	1.4 U
1,2-Dichloropropane	1.4 U	1.3 U	1.3 U	1.4 U	59 UJ	1.5 U	1.3 U	1.2 U	1.4 U	1.5 U
2-Butanone (MEK)	7.6 J	3.1 U	3.2 U	3.5 U	140 UJ	3.8 UJ	3.3 UJ	2.9 UJ	3.5 UJ	3.8 UJ
2-Chloro-1,3-butadiene	0.7 U	5 J	0.67 U	0.75 U	30 UJ	0.8 U	0.7 U	0.61 U	0.74 U	0.8 U
2-Hexanone	2.6 UJ	2.4 U	2.5 U	2.8 U	110 UJ	2.9 UJ	2.6 UJ	2.2 UJ	2.7 UJ	2.9 UJ
3-Chloro-1-propene	1.8 U	1.7 U	1.8 U	2 U	80 UJ	2.1 U	1.8 U	1.6 U	2 U	2.1 U
4-Methyl-2-pentanone (MIBK)	3.6 UJ	3.3 U	3.4 U	3.8 U	160 UJ	4.1 UJ	3.6 UJ	3.1 UJ	3.8 UJ	4.1 UJ
Acetone	140 J	39 UJ	23 UJ	22 UJ	4000 J	40 UJ	38 J	16 UJ	19 UJ	24 UJ
Acetonitrile	55 UJ	52 UJ	53 UJ	59 UJ	2400 UJ	63 UJ	55 UJ	48 UJ	59 UJ	63 UJ
Acrolein	23 U	22 U	22 U	25 U	1000 R	27 U	23 UJ	20 U	25 U	27 U
Acrylonitrile	28 U	26 U	27 U	30 U	1200 UJ	32 U	28 UJ	25 U	30 U	32 U
Benzene	0.97 U	0.91 U	0.92 U	1 U	42 UJ	1.1 U	0.97 U	0.85 U	1 U	1.1 U
Bromoform	1.4 U	1.3 U	1.3 U	1.4 U	59 UJ	1.5 U	1.3 U	1.2 U	1.4 U	1.5 U
Bromomethane	2 UJ	1.8 U	1.9 U	2.1 U	86 UJ	2.2 UJ	2 UJ	1.7 UJ	2.1 UJ	2.2 UJ
Carbon disulfide	0.63 U	0.59 U	0.6 U	0.69 J	27 UJ	0.71 U	0.62 U	0.55 U	0.67 U	0.72 U
Carbon tetrachloride	1.2 U	1.2 U	1.2 U	1.3 U	53 UJ	1.4 U	1.2 U	1.1 U	1.3 U	1.4 U
Chlorobenzene	0.9 U	0.84 U	0.85 U	0.96 U	39 UJ	1 U	0.89 U	0.78 U	0.95 U	1 U
Chlorodibromomethane	0.62 U	0.58 U	0.58 U	0.66 U	27 UJ	0.7 U	0.61 U	0.54 U	0.65 U	0.7 U
Chloroethane	1.5 U	1.4 U	1.4 U	1.6 U	64 UJ	1.7 U	1.5 U	1.3 U	1.6 U	1.7 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SWMU 9 AREA C - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB172	74SB173	74SB173	74SB174	74SB174	74SB175	74SB175	74SB176	74SB176	74SB176
Sample ID	74SB172-05	74SB173-04	74SB173-05	74SB174-04	74SB174-05	74SB175-04	74SB175-05	74SB176-04	74SB176-05D	74SB176-05
Date	5/17/2008	5/17/2008	5/17/2008	5/17/2008	5/17/2008	5/17/2008	5/17/2008	5/17/2008	5/17/2008	5/17/2008
Depth Range	9.0-11.0	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0	9.0-11.0
Volatile Organic Compounds (ug/kg)										
Chloroform	0.62 U	0.58 U	0.58 U	0.66 U	27 UJ	0.7 U	0.61 U	0.54 U	0.65 U	0.7 U
Chloromethane	0.87 U	0.82 U	0.83 U	0.93 U	38 UJ	0.99 U	0.87 U	0.76 U	0.93 U	1 U
cis-1,3-Dichloropropene	1.1 U	1 U	1 U	1.1 U	47 UJ	1.2 U	1.1 U	0.93 U	1.1 U	1.2 U
Dibromomethane	1.5 U	1.4 U	1.4 U	1.6 U	64 UJ	1.7 U	1.5 U	1.3 U	1.6 U	1.7 U
Dichlorobromomethane	1 U	0.96 U	0.97 U	1.1 U	44 UJ	1.2 U	1 U	0.89 U	1.1 U	1.2 U
Dichlorodifluoromethane	1.1 U	1 UJ	1 UJ	1.2 UJ	48 UJ	1.2 U	1.1 U	0.95 U	1.2 U	1.2 U
Ethyl methacrylate	2.7 U	2.5 U	2.6 U	2.9 U	120 UJ	3.1 U	2.7 U	2.4 U	2.9 U	3.1 U
Ethylbenzene	0.92 U	0.86 U	0.88 U	0.99 U	1600 J	1 U	0.92 U	0.8 U	0.98 U	1.1 U
Ethylene Dibromide	1.8 U	1.7 U	1.8 U	2 U	80 UJ	2.1 U	1.8 U	1.6 U	2 U	2.1 U
Iodomethane	1.2 U	1.2 U	1.2 U	1.3 U	53 UJ	1.4 U	1.2 U	1.1 U	1.3 U	1.4 U
Isobutyl alcohol	85 R	79 R	81 R	91 R	3700 R	97 R	85 R	74 R	90 R	97 R
Methacrylonitrile	30 U	28 U	28 U	32 U	1300 UJ	34 U	29 U	26 U	31 U	34 U
Methyl methacrylate	4.6 UJ	4.3 U	4.3 U	4.9 U	200 UJ	5.2 UJ	4.5 U	4 UJ	4.8 UJ	5.2 UJ
Methylene Chloride	1.2 U	1.2 U	1.2 U	1.3 U	53 UJ	1.4 U	1.2 U	1.1 U	1.3 U	1.4 U
Pentachloroethane	2.7 UJ	2.5 U	2.6 U	2.9 U	120 UJ	3.1 UJ	2.7 UJ	2.4 UJ	2.9 UJ	3.1 UJ
Propionitrile	26 U	24 U	25 U	28 U	1100 UJ	29 U	26 U	22 U	27 U	29 U
Styrene	0.81 U	0.76 U	0.77 U	0.87 U	35 UJ	0.92 U	0.81 U	0.71 U	0.86 U	0.93 U
Tetrachloroethene	0.9 U	0.84 U	0.85 U	0.96 U	39 UJ	1 U	0.89 U	0.78 U	0.95 U	1 U
Toluene	0.97 U	0.91 U	0.92 U	1 U	42 UJ	1.1 U	0.97 U	0.85 U	1 U	1.1 U
trans-1,2-Dichloroethene	1.2 U	1.1 U	1.1 U	1.3 U	52 UJ	1.4 U	1.2 U	1 U	1.3 U	1.4 U
trans-1,3-Dichloropropene	1.1 U	1 U	1 U	1.1 U	47 UJ	1.2 U	1.1 U	0.93 U	1.1 U	1.2 U
trans-1,4-Dichloro-2-butene	3.8 U	3.6 U	3.6 U	4.1 U	170 UJ	4.3 U	3.8 U	3.3 U	4 U	4.4 U
Trichloroethene	1.2 U	1.2 U	1.2 U	1.3 U	53 UJ	1.4 U	1.2 U	1.1 U	1.3 U	1.4 U
Trichlorofluoromethane	1.8 U	1.7 U	1.8 U	2 U	80 UJ	2.1 U	1.8 U	1.6 U	2 U	2.1 U
Vinyl acetate	1.8 U	1.7 U	1.8 U	2 U	80 UJ	2.1 U	1.8 U	1.6 U	2 U	2.1 U
Vinyl chloride	0.71 U	0.67 U	0.68 U	0.76 U	31 UJ	0.81 U	0.71 U	0.62 U	0.76 U	0.81 U
Xylenes, Total	2.8 U	2.6 U	2.7 U	3 U	120 UJ	3.2 U	2.8 U	2.5 U	3 U	3.2 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SWMU 9 AREA C - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB172	74SB173	74SB173	74SB174	74SB174	74SB175	74SB175	74SB176	74SB176	74SB176
Sample ID	74SB172-05	74SB173-04	74SB173-05	74SB174-04	74SB174-05	74SB175-04	74SB175-05	74SB176-04	74SB176-05D	74SB176-05
Date	5/17/2008	5/17/2008	5/17/2008	5/17/2008	5/17/2008	5/17/2008	5/17/2008	5/17/2008	5/17/2008	5/17/2008
Depth Range	9.0-11.0	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0	9.0-11.0
LLPAHs (ug/kg)										
1-Methylnaphthalene	NA	NA	NA	170 R	1.7 U	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	240 R	2.4 U	NA	NA	NA	NA	NA
Acenaphthene	NA	NA	NA	1200 R	810	NA	NA	NA	NA	NA
Acenaphthylene	NA	NA	NA	240 R	2.4 U	NA	NA	NA	NA	NA
Anthracene	NA	NA	NA	4500	3000 R	NA	NA	NA	NA	NA
Benzo[a]anthracene	NA	NA	NA	4800	3900 R	NA	NA	NA	NA	NA
Benzo[a]pyrene	NA	NA	NA	2300	1800 R	NA	NA	NA	NA	NA
Benzo[b]fluoranthene	NA	NA	NA	5100	2700 R	NA	NA	NA	NA	NA
Benzo[g,h,i]perylene	NA	NA	NA	1100 R	640	NA	NA	NA	NA	NA
Benzo[k]fluoranthene	NA	NA	NA	140 R	1000 J	NA	NA	NA	NA	NA
Chrysene	NA	NA	NA	4800	3000 R	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	NA	NA	NA	82 R	250	NA	NA	NA	NA	NA
Fluoranthene	NA	NA	NA	14000	5700 R	NA	NA	NA	NA	NA
Fluorene	NA	NA	NA	1600	1300 R	NA	NA	NA	NA	NA
Indeno[1,2,3-cd]pyrene	NA	NA	NA	1000 R	740	NA	NA	NA	NA	NA
Naphthalene	NA	NA	NA	84 R	0.84 U	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	240 R	2.4 U	NA	NA	NA	NA	NA
Pyrene	NA	NA	NA	11000	4900 R	NA	NA	NA	NA	NA

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SWMU 9 AREA C - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB172	74SB173	74SB173	74SB174	74SB174	74SB175	74SB175	74SB176	74SB176	74SB176
Sample ID	74SB172-05	74SB173-04	74SB173-05	74SB174-04	74SB174-05	74SB175-04	74SB175-05	74SB176-04	74SB176-05D	74SB176-05
Date	5/17/2008	5/17/2008	5/17/2008	5/17/2008	5/17/2008	5/17/2008	5/17/2008	5/17/2008	5/17/2008	5/17/2008
Depth Range	9.0-11.0	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0	9.0-11.0
Metals (mg/kg)										
Antimony	0.094 UJ	0.1 UJ	0.087 UJ	0.12 UJ	0.12 UJ	0.092 UJ	0.12 UJ	0.17 UJ	0.13 UJ	0.099 UJ
Arsenic	1.3	2.2	0.64	1.5	1.4	0.73	0.76	1.1	0.72	0.61
Barium	12	30	4	34	84	89	130	80	94	110
Beryllium	0.55	0.35	0.27	0.28	0.21	0.27	0.5	0.14	0.12	0.14
Cadmium	0.098 J	0.039 U	0.044 J	0.042 U	0.13 J	0.063 J	0.24	0.22	0.29	0.42
Chromium	63	44	95	22	17	9.8	5.8	10	9.6	8.7
Cobalt	4.4 J	5.2 J	12 J	4.2 J	14 J	12 J	29 J	28 J	22 J	24 J
Copper	140	68	99	75	110	72	82	130	160	140
Lead	40 J	9.8 J	3.7 J	12 J	27 J	29 J	96 J	2.1 J	1.7 J	1.7 J
Mercury	0.005 R	0.0052 R	0.005 R	0.0049 R	0.006 R	0.0046 R	0.0043 R	0.0043 R	0.0042 R	0.0043 R
Nickel	12	9.9	28	8.6	14	6.9	8.3	9.8	9	9.1
Selenium	2.6	3.2	0.14 U	1.4	0.17 J	0.15 U	0.14 U	0.13 U	0.13 U	0.13 U
Silver	0.082 J	0.025 J	0.11 J	0.033 J	0.14 J	0.16 J	0.14 J	0.064 J	0.084 J	0.098 J
Thallium	0.15 U	0.15 U	0.14 U	0.16 U	0.16 U	0.15 U	0.14 U	0.13 U	0.13 U	0.13 U
Tin	5 U	5 U	4.6 U	5.4 U	5.2 U	4.9 U	4.6 U	4.3 U	4.4 U	4.3 U
Vanadium	350	340	160	310	240	180	170	280	210	200
Zinc	65	42	110	49	120	87	150	110	91	88
TPH DRO/GRO (mg/kg)										
Diesel Range Organics	0.78 U	0.94 U	2.5 U	1.1 U	140	1.1 U	1.1 U	1.1 U	2.3 U	2.2 U
Gasoline Range Organics	0.077 U	0.068 U	0.074 U	9.8 J	1800	0.082 U	0.073 U	0.072 U	0.07 U	0.085 J

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SWMU 9 AREA C - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB177	74SB177	74SB178	74SB178	74SB179	74SB179	74SB180	74SB180	74SB181	74SB181
Sample ID	74SB177-04	74SB177-05	74SB178-04	74SB178-05	74SB179-04	74SB179-05	74SB180-04	74SB180-05	74SB181-04	74SB181-05D
Date	5/17/2008	5/17/2008	5/19/2008	5/19/2008	5/19/2008	5/19/2008	5/19/2008	5/19/2008	5/19/2008	5/19/2008
Depth Range	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0
Volatile Organic Compounds (ug/kg)										
1,1,1,2-Tetrachloroethane	0.91 U	0.76 U	0.69 U	0.71 U	0.67 U	0.67 U	0.97 U	0.91 U	0.56 U	0.8 U
1,1,1-Trichloroethane	0.83 U	0.69 U	0.62 U	0.65 U	0.61 U	0.61 U	0.88 U	0.82 U	0.51 U	0.73 U
1,1,2,2-Tetrachloroethane	2 U	1.7 U	1.5 U	1.6 U	1.5 U	1.5 U	2.1 U	2 U	1.2 U	1.8 U
1,1,2-Trichloroethane	1.7 U	1.4 U	1.3 U	1.3 U	1.3 U	1.3 U	1.8 U	1.7 U	1 U	1.5 U
1,1-Dichloroethane	0.71 U	0.59 U	0.54 U	0.56 U	0.53 U	0.53 U	0.76 U	0.71 U	0.44 U	0.63 U
1,1-Dichloroethene	0.77 U	0.64 U	0.58 U	0.6 U	0.57 U	0.57 U	0.82 U	0.77 U	0.47 U	0.68 U
1,2,3-Trichloropropane	2 UJ	1.7 UJ	1.5 U	1.6 U	1.5 U	1.5 U	2.1 U	2 U	1.2 U	1.8 U
1,2-Dibromo-3-Chloropropane	4 UJ	3.3 UJ	3 U	3.1 U	2.9 U	3 U	4.3 UJ	4 UJ	2.4 UJ	3.5 UJ
1,2-Dichloroethane	1.4 U	1.2 U	1.1 U	1.1 U	1.1 U	1.1 U	1.5 U	1.4 U	0.87 U	1.3 U
1,2-Dichloropropane	1.6 U	1.3 U	1.2 U	1.2 U	1.2 U	1.2 U	1.7 U	1.6 U	0.96 U	1.4 U
2-Butanone (MEK)	3.9 UJ	3.2 UJ	2.9 U	3 U	2.8 U	2.8 U	4.1 UJ	3.8 UJ	2.4 UJ	3.4 UJ
2-Chloro-1,3-butadiene	0.81 U	0.68 U	0.61 UJ	0.63 UJ	0.6 UJ	0.6 UJ	0.87 U	0.81 U	0.5 U	0.71 U
2-Hexanone	3 UJ	2.5 UJ	2.3 U	2.3 U	2.2 U	2.2 U	3.2 UJ	3 UJ	1.8 UJ	2.6 UJ
3-Chloro-1-propene	2.1 U	1.8 U	1.6 U	1.7 U	1.6 U	1.6 U	2.3 UJ	2.1 UJ	1.3 UJ	1.9 UJ
4-Methyl-2-pentanone (MIBK)	4.1 UJ	3.4 UJ	3.1 U	3.2 U	3.1 U	3.1 U	4.4 UJ	4.1 UJ	2.5 UJ	3.6 UJ
Acetone	19 UJ	12 UJ	14 J	10 J	6.9 J	8 J	14 J	11 J	18 J	16 J
Acetonitrile	64 UJ	53 UJ	48 U	50 U	47 U	47 U	68 UJ	64 UJ	39 UJ	56 UJ
Acrolein	27 U	23 U	20 UJ	21 UJ	20 UJ	20 UJ	29 R	27 R	17 R	24 R
Acrylonitrile	33 U	27 U	25 UJ	26 UJ	24 UJ	24 UJ	35 UJ	33 UJ	20 UJ	29 UJ
Benzene	1.1 U	0.94 U	0.85 U	0.88 U	0.83 U	0.83 U	1.2 U	1.1 U	0.69 U	0.99 U
Bromoform	1.6 U	1.3 U	1.2 U	1.2 U	1.2 U	1.2 U	1.7 U	1.6 U	0.96 U	1.4 U
Bromomethane	2.3 UJ	1.9 UJ	1.7 U	1.8 U	1.7 U	1.7 U	2.4 UJ	2.3 UJ	1.4 UJ	2 UJ
Carbon disulfide	0.73 U	0.61 U	0.55 U	0.57 U	0.54 U	0.54 U	0.77 U	0.72 U	0.44 U	0.64 U
Carbon tetrachloride	1.4 U	1.2 U	1.1 U	1.1 U	1.1 U	1.1 U	1.5 U	1.4 U	0.87 U	1.3 U
Chlorobenzene	1 U	0.87 U	0.78 U	0.81 U	0.77 U	0.77 U	1.1 U	1 U	0.64 U	0.91 U
Chlorodibromomethane	0.71 U	0.59 U	0.54 U	0.56 U	0.53 U	0.53 U	0.76 U	0.71 U	0.44 U	0.63 U
Chloroethane	1.7 U	1.4 U	1.3 U	1.3 U	1.3 U	1.3 U	1.8 U	1.7 U	1 U	1.5 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SWMU 9 AREA C - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB177	74SB177	74SB178	74SB178	74SB179	74SB179	74SB180	74SB180	74SB181	74SB181
Sample ID	74SB177-04	74SB177-05	74SB178-04	74SB178-05	74SB179-04	74SB179-05	74SB180-04	74SB180-05	74SB181-04	74SB181-05D
Date	5/17/2008	5/17/2008	5/19/2008	5/19/2008	5/19/2008	5/19/2008	5/19/2008	5/19/2008	5/19/2008	5/19/2008
Depth Range	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0
Volatile Organic Compounds (ug/kg)										
Chloroform	0.71 U	0.59 U	0.54 U	0.56 U	0.53 U	0.53 U	0.76 U	0.71 U	0.44 U	0.63 U
Chloromethane	1 U	0.84 U	0.76 U	0.79 U	0.75 U	0.75 U	1.1 U	1 U	0.62 U	0.89 U
cis-1,3-Dichloropropene	1.2 U	1 U	0.94 U	0.97 U	0.92 U	0.92 U	1.3 U	1.2 U	0.76 U	1.1 U
Dibromomethane	1.7 U	1.4 U	1.3 U	1.3 U	1.3 U	1.3 U	1.8 U	1.7 U	1 U	1.5 U
Dichlorobromomethane	1.2 U	0.98 U	0.89 U	0.92 U	0.87 U	0.87 U	1.3 U	1.2 U	0.72 U	1 U
Dichlorodifluoromethane	1.3 U	1.1 U	0.96 U	0.99 U	0.94 U	0.94 U	1.4 U	1.3 U	0.78 U	1.1 U
Ethyl methacrylate	3.1 U	2.6 U	2.4 U	2.5 U	2.3 U	2.3 U	3.3 U	3.1 U	1.9 U	2.8 U
Ethylbenzene	1.1 U	0.89 U	0.81 U	0.84 U	0.79 U	0.79 U	1.1 U	1.1 U	0.65 U	0.94 U
Ethylene Dibromide	2.1 U	1.8 U	1.6 U	1.7 U	1.6 U	1.6 U	2.3 U	2.1 U	1.3 U	1.9 U
Iodomethane	1.4 U	1.2 U	1.1 U	1.1 U	1.1 U	1.1 U	1.5 UJ	1.4 UJ	0.87 UJ	1.3 UJ
Isobutyl alcohol	99 R	82 R	74 U	77 U	73 U	73 U	100 R	98 R	60 R	86 R
Methacrylonitrile	34 U	28 U	26 U	27 U	25 U	25 U	36 U	34 U	21 U	30 U
Methyl methacrylate	5.3 UJ	4.4 UJ	4 U	4.1 U	3.9 U	3.9 U	5.6 U	5.3 U	3.2 U	4.6 U
Methylene Chloride	1.4 U	1.2 U	1.1 U	1.1 U	1.1 U	1.1 U	1.5 U	1.4 U	0.87 U	1.3 U
Pentachloroethane	3.1 UJ	2.6 UJ	2.4 R	2.5 R	2.3 R	2.3 R	3.3 UJ	3.1 UJ	1.9 UJ	2.8 UJ
Propionitrile	30 U	25 U	23 U	23 U	22 U	22 U	32 UJ	30 UJ	18 UJ	26 UJ
Styrene	0.94 U	0.78 U	0.71 U	0.74 U	0.69 U	0.7 U	1 U	0.94 U	0.58 U	0.83 U
Tetrachloroethene	1 U	0.87 U	0.78 U	0.81 U	0.77 U	0.77 U	1.1 U	1 U	0.64 U	0.91 U
Toluene	1.1 U	0.94 U	0.85 U	0.88 U	0.83 U	0.83 U	1.2 U	1.1 U	0.69 U	0.99 U
trans-1,2-Dichloroethene	1.4 U	1.2 U	1 U	1.1 U	1 U	1 U	1.5 U	1.4 U	0.85 U	1.2 U
trans-1,3-Dichloropropene	1.2 U	1 U	0.94 U	0.97 U	0.92 U	0.92 U	1.3 U	1.2 U	0.76 U	1.1 U
trans-1,4-Dichloro-2-butene	4.4 U	3.7 U	3.3 U	3.5 U	3.3 U	3.3 U	4.7 U	4.4 U	2.7 U	3.9 U
Trichloroethene	1.4 U	1.2 U	1.1 U	1.1 U	1.1 U	1.1 U	1.5 U	1.4 U	0.87 U	1.3 U
Trichlorofluoromethane	2.1 U	1.8 U	1.6 U	1.7 U	1.6 U	1.6 U	2.3 U	2.1 U	1.3 U	1.9 U
Vinyl acetate	2.1 U	1.8 U	1.6 U	1.7 U	1.6 U	1.6 U	2.3 U	2.1 U	1.3 U	1.9 U
Vinyl chloride	0.83 U	0.69 U	0.62 U	0.65 U	0.61 U	0.61 U	0.88 U	0.82 U	0.51 U	0.73 U
Xylenes, Total	3.3 U	2.7 U	2.5 U	2.6 U	2.4 U	2.4 U	3.5 U	3.3 U	2 U	2.9 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SWMU 9 AREA C - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB177	74SB177	74SB178	74SB178	74SB179	74SB179	74SB180	74SB180	74SB181	74SB181
Sample ID	74SB177-04	74SB177-05	74SB178-04	74SB178-05	74SB179-04	74SB179-05	74SB180-04	74SB180-05	74SB181-04	74SB181-05D
Date	5/17/2008	5/17/2008	5/19/2008	5/19/2008	5/19/2008	5/19/2008	5/19/2008	5/19/2008	5/19/2008	5/19/2008
Depth Range	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0
LLPAHs (ug/kg)										
1-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[a]anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[a]pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[b]fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[g,h,i]perylene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[k]fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indeno[1,2,3-cd]pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SWMU 9 AREA C - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB177	74SB177	74SB178	74SB178	74SB179	74SB179	74SB180	74SB180	74SB181	74SB181
Sample ID	74SB177-04	74SB177-05	74SB178-04	74SB178-05	74SB179-04	74SB179-05	74SB180-04	74SB180-05	74SB181-04	74SB181-05D
Date	5/17/2008	5/17/2008	5/19/2008	5/19/2008	5/19/2008	5/19/2008	5/19/2008	5/19/2008	5/19/2008	5/19/2008
Depth Range	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0
Metals (mg/kg)										
Antimony	0.11 UJ	0.091 UJ	0.094 UJ	0.19 UJ	0.077 UJ	0.077 UJ	0.078 UJ	0.075 UJ	0.075 UJ	0.081 UJ
Arsenic	0.72	0.88	0.65	1.4	1.2	1	1.2	1.3	1	0.92
Barium	49	73	90 J	46 J	67 J	50 J	140 J	70 J	63	130 J
Beryllium	0.16	0.16	0.18	0.32	0.43	0.22	0.26	0.22	0.14	0.24
Cadmium	0.3	0.72	0.09 J	0.1 J	0.063 J	0.069 J	0.18	0.11	0.09 J	0.073 J
Chromium	23	23	50	36	11	9.2	43	30	21	61
Cobalt	28 J	33 J	38 J	30 J	27 J	27 J	41 J	51 J	29	53
Copper	68	30	160 J	66 J	110 J	84 J	150 J	580 J	91	15
Lead	6.4 J	120 J	0.91 J	0.99 J	1.6 J	1 J	0.85 J	1.5 J	1	1.6
Mercury	0.004 R	0.004 R	0.0043 U	0.0047 U	0.004 U	0.0037 U	0.0042 U	0.004 U	0.004 U	0.0044 U
Nickel	18	19	32	28	13	13	19	13	24	49
Selenium	0.12 U	0.13 U	0.13 U	0.14 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.13 U
Silver	0.044 J	0.017 U	0.027 J	0.044 J	0.058 J	0.077 J	0.048 J	0.046 J	0.074 J	0.054 J
Thallium	0.12 U	0.13 U	0.13 U	0.14 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.13 U
Tin	4.1 U	4.2 U	4.3 U	4.7 U	4.1 U	4.1 U	4.2 U	4 U	4 U	4.3 U
Vanadium	260	180	260	240	220	200	290	260	260	190
Zinc	100	410	180	85	70	74	75	51	66 J	90 J
TPH DRO/GRO (mg/kg)										
Diesel Range Organics	1.1 U	0.77 U	4.8	4.4	3.5 U	3.1 U	3 U	4.3	1.1 UJ	0.88 UJ
Gasoline Range Organics	0.076 U	0.067 U	0.0072 U	0.0074 U	0.0066 U	0.0062 U	0.0073 U	0.0071 U	0.0064 U	0.0082 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SWMU 9 AREA C - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB181	74SB182	74SB182	74SB183	74SB183	74SB184	74SB184	74SB188	74SB188	74SB189
Sample ID	74SB181-05	74SB182-04	74SB182-05	74SB183-04	74SB183-05	74SB184-04	74SB184-05	74SB188-03	74SB188-04	74SB189-03
Date	5/19/2008	5/19/2008	5/19/2008	5/19/2008	5/19/2008	5/19/2008	5/19/2008	5/19/2008	5/19/2008	5/19/2008
Depth Range	9.0-11.0	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0	5.0-7.0	7.0-9.0	5.0-7.0
Volatile Organic Compounds (ug/kg)										
1,1,1,2-Tetrachloroethane	0.9 U	0.74 U	0.87 U	0.81 U	0.75 U	0.69 U	0.75 U	0.64 U	0.69 U	0.71 U
1,1,1-Trichloroethane	0.81 U	0.67 U	0.79 U	0.73 U	0.68 U	0.63 U	0.68 U	0.58 U	0.63 U	0.65 U
1,1,2,2-Tetrachloroethane	2 U	1.6 U	1.9 U	1.8 U	1.6 U	1.5 U	1.6 U	1.4 U	1.5 U	1.6 U
1,1,2-Trichloroethane	1.7 U	1.4 U	1.6 U	1.5 U	1.4 U	1.3 U	1.4 U	1.2 U	1.3 U	1.3 U
1,1-Dichloroethane	0.7 U	0.58 U	0.68 U	0.63 U	0.58 U	0.54 U	0.59 U	0.5 U	0.54 U	0.56 U
1,1-Dichloroethene	0.76 U	0.62 U	0.74 U	0.68 U	0.63 U	0.59 U	0.64 U	0.54 U	0.58 U	0.6 U
1,2,3-Trichloropropane	2 U	1.6 U	1.9 U	1.8 U	1.6 U	1.5 U	1.6 U	1.4 U	1.5 U	1.6 U
1,2-Dibromo-3-Chloropropane	3.9 UJ	3.2 UJ	3.8 UJ	3.5 UJ	3.3 UJ	3 U	3.3 U	2.8 U	3 U	3.1 U
1,2-Dichloroethane	1.4 U	1.2 U	1.4 U	1.3 U	1.2 U	1.1 U	1.2 U	1 U	1.1 U	1.1 U
1,2-Dichloropropane	1.5 U	1.3 U	1.5 U	1.4 U	1.3 U	1.2 U	1.3 U	1.1 U	1.2 U	1.2 U
2-Butanone (MEK)	3.8 UJ	3.1 UJ	3.7 UJ	3.4 UJ	3.2 UJ	2.9 U	3.2 U	14 U	3.2 U	3 U
2-Chloro-1,3-butadiene	0.8 U	0.66 U	0.78 U	0.72 U	0.67 U	0.62 UJ	0.67 UJ	0.57 UJ	0.62 UJ	0.64 UJ
2-Hexanone	3 UJ	2.4 UJ	2.9 UJ	2.6 UJ	2.5 UJ	2.3 U	2.5 U	2.1 U	2.3 U	2.3 U
3-Chloro-1-propene	2.1 UJ	1.7 U	2 U	1.9 U	1.8 U	1.6 U	1.8 U	1.5 U	1.6 U	1.7 U
4-Methyl-2-pentanone (MIBK)	4.1 UJ	3.3 UJ	4 UJ	3.7 UJ	3.4 UJ	3.1 U	3.4 U	2.9 U	3.1 U	3.2 U
Acetone	18 J	8.2 J	11 J	7.4 J	5.1 U	10 J	11 J	150	24 J	23 J
Acetonitrile	63 UJ	52 UJ	61 UJ	57 UJ	53 UJ	49 U	53 U	45 U	49 U	50 U
Acrolein	27 R	22 UJ	26 R	24 UJ	22 UJ	21 UJ	22 UJ	19 UJ	21 UJ	21 UJ
Acrylonitrile	32 UJ	27 UJ	31 UJ	29 UJ	27 UJ	25 UJ	27 UJ	23 UJ	25 UJ	26 UJ
Benzene	1.1 U	0.91 U	1.1 U	1 U	0.92 U	0.86 U	0.93 U	0.79 U	0.85 U	0.88 U
Bromoform	1.5 U	1.3 U	1.5 U	1.4 U	1.3 U	1.2 U	1.3 U	2.1 J	1.2 U	1.2 U
Bromomethane	2.2 UJ	1.8 U	2.2 UJ	2 U	1.9 U	1.7 U	1.9 U	1.6 U	1.7 U	1.8 U
Carbon disulfide	0.72 U	0.59 U	0.7 U	0.64 U	0.6 U	0.55 U	0.6 U	0.51 U	0.55 U	0.57 U
Carbon tetrachloride	1.4 U	1.2 U	1.4 U	1.3 U	1.2 U	1.1 U	1.2 U	1 U	1.1 U	1.1 U
Chlorobenzene	1 U	0.84 U	1 U	0.92 U	0.85 U	0.79 U	0.86 U	0.73 U	0.79 U	0.81 U
Chlorodibromomethane	0.7 U	0.58 U	0.68 U	0.63 U	0.58 U	0.54 U	0.59 U	0.5 U	0.54 U	0.56 U
Chloroethane	1.7 U	1.4 UJ	1.6 U	1.5 UJ	1.4 UJ	1.3 U	1.4 U	1.2 U	1.3 U	1.3 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SWMU 9 AREA C - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB181	74SB182	74SB182	74SB183	74SB183	74SB184	74SB184	74SB188	74SB188	74SB189
Sample ID	74SB181-05	74SB182-04	74SB182-05	74SB183-04	74SB183-05	74SB184-04	74SB184-05	74SB188-03	74SB188-04	74SB189-03
Date	5/19/2008	5/19/2008	5/19/2008	5/19/2008	5/19/2008	5/19/2008	5/19/2008	5/19/2008	5/19/2008	5/19/2008
Depth Range	9.0-11.0	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0	5.0-7.0	7.0-9.0	5.0-7.0
Volatile Organic Compounds (ug/kg)										
Chloroform	0.7 U	0.58 U	0.68 U	0.63 U	0.58 U	0.54 U	0.59 U	0.5 U	0.54 U	0.56 U
Chloromethane	1 U	0.82 U	0.97 U	0.9 U	0.83 U	0.77 U	0.84 U	0.71 U	0.77 U	0.79 U
cis-1,3-Dichloropropene	1.2 U	1 U	1.2 U	1.1 U	1 U	0.94 U	1 U	0.87 U	0.94 U	0.97 U
Dibromomethane	1.7 U	1.4 U	1.6 U	1.5 U	1.4 U	1.3 U	1.4 U	1.2 U	1.3 U	1.3 U
Dichlorobromomethane	1.2 U	0.96 U	1.1 U	1 U	0.97 U	0.9 U	0.98 U	0.83 U	0.9 U	0.93 U
Dichlorodifluoromethane	1.3 U	1 U	1.2 U	1.1 U	1 U	0.96 U	1 U	0.89 U	0.96 U	0.99 U
Ethyl methacrylate	3.1 U	2.5 U	3 U	2.8 U	2.6 U	2.4 U	2.6 U	2.2 U	2.4 U	2.5 U
Ethylbenzene	1.1 U	0.87 U	1 U	0.95 U	0.88 U	0.81 U	0.88 U	0.75 U	0.81 U	0.84 U
Ethylene Dibromide	2.1 U	1.7 U	2 U	1.9 U	1.8 U	1.6 U	1.8 U	1.5 U	1.6 U	1.7 U
Iodomethane	1.4 UJ	1.2 U	1.4 UJ	1.3 U	1.2 U	1.1 U	1.2 U	5.7	1.1 U	1.1 U
Isobutyl alcohol	97 R	80 R	94 R	87 R	81 R	75 U	81 U	69 U	74 U	77 U
Methacrylonitrile	34 U	28 U	33 U	30 U	28 U	26 U	28 U	24 U	26 U	27 U
Methyl methacrylate	5.2 U	4.3 UJ	5 U	4.7 UJ	4.3 UJ	4 U	4.4 U	3.7 U	4 U	4.1 U
Methylene Chloride	1.4 U	1.2 U	1.4 U	1.3 U	1.2 U	1.1 U	1.2 U	1 U	1.1 U	1.1 U
Pentachloroethane	3.1 UJ	2.5 UJ	3 UJ	2.8 UJ	2.6 UJ	2.4 R	2.6 R	2.2 R	2.4 R	2.5 R
Propionitrile	30 UJ	24 U	29 UJ	26 U	25 U	23 U	25 U	21 U	23 U	23 U
Styrene	0.93 U	0.76 U	0.9 U	0.83 U	0.77 U	0.72 U	0.78 U	0.66 U	0.71 U	0.74 U
Tetrachloroethene	1 U	0.84 U	1 U	0.92 U	0.85 U	0.79 U	0.86 U	0.73 U	0.79 U	0.81 U
Toluene	1.1 U	0.91 U	1.1 U	1 U	0.92 U	0.86 U	0.93 U	0.79 U	0.85 U	0.88 U
trans-1,2-Dichloroethene	1.4 U	1.1 U	1.3 U	1.2 U	1.1 U	1.1 U	1.1 U	0.97 U	1 U	1.1 U
trans-1,3-Dichloropropene	1.2 U	1 U	1.2 U	1.1 U	1 U	0.94 U	1 U	0.87 U	0.94 U	0.97 U
trans-1,4-Dichloro-2-butene	4.4 U	3.6 U	4.2 U	3.9 U	3.6 U	3.4 U	3.6 U	3.1 U	3.3 U	3.5 U
Trichloroethene	1.4 U	1.2 U	1.4 U	1.3 U	1.2 U	1.1 U	1.2 U	1 U	1.1 U	1.1 U
Trichlorofluoromethane	2.1 U	1.7 U	2 U	1.9 U	1.8 U	1.6 U	1.8 U	1.5 U	1.6 U	1.7 U
Vinyl acetate	2.1 U	1.7 U	2 U	1.9 U	1.8 U	1.6 U	1.8 U	1.5 U	1.6 U	1.7 U
Vinyl chloride	0.81 U	0.67 U	0.79 U	0.73 U	0.68 U	0.63 U	0.68 U	0.58 U	0.63 U	0.65 U
Xylenes, Total	3.2 U	2.7 U	3.1 U	2.9 U	2.7 U	2.5 U	2.7 U	2.3 U	2.5 U	2.6 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SWMU 9 AREA C - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB181	74SB182	74SB182	74SB183	74SB183	74SB184	74SB184	74SB188	74SB188	74SB189
Sample ID	74SB181-05	74SB182-04	74SB182-05	74SB183-04	74SB183-05	74SB184-04	74SB184-05	74SB188-03	74SB188-04	74SB189-03
Date	5/19/2008	5/19/2008	5/19/2008	5/19/2008	5/19/2008	5/19/2008	5/19/2008	5/19/2008	5/19/2008	5/19/2008
Depth Range	9.0-11.0	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0	5.0-7.0	7.0-9.0	5.0-7.0
LLPAHs (ug/kg)										
1-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[a]anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[a]pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[b]fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[g,h,i]perylene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[k]fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indeno[1,2,3-cd]pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SWMU 9 AREA C - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB181	74SB182	74SB182	74SB183	74SB183	74SB184	74SB184	74SB188	74SB188	74SB189
Sample ID	74SB181-05	74SB182-04	74SB182-05	74SB183-04	74SB183-05	74SB184-04	74SB184-05	74SB188-03	74SB188-04	74SB189-03
Date	5/19/2008	5/19/2008	5/19/2008	5/19/2008	5/19/2008	5/19/2008	5/19/2008	5/19/2008	5/19/2008	5/19/2008
Depth Range	9.0-11.0	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0	5.0-7.0	7.0-9.0	5.0-7.0
Metals (mg/kg)										
Antimony	0.083 UJ	0.087 UJ	0.087 UJ	0.087 UJ	0.087 UJ	0.21 UJ	0.18 UJ	0.18 UJ	0.092 UJ	0.083 UJ
Arsenic	0.97	1.2	1.1	1.5	1.5	4.7	1.7	5.5	2.2	1.6
Barium	89 J	95	140	200	110	22 J	87 J	1500 J	69 J	11 J
Beryllium	0.24	0.23	0.23	0.64	0.25	0.38	0.64	0.81	0.29	0.13
Cadmium	0.067 J	0.04 J	0.043 J	0.29	0.32	0.11 J	0.082 J	1.1	0.038 U	0.034 U
Chromium	59	86	55	22	26	7.3	14	31	21	18
Cobalt	52	33	32	78	39	14 J	42 J	320 J	5.8 J	2.6 J
Copper	14	130	180	87	110	230 J	120 J	43 J	51 J	32 J
Lead	1.3	31	2	0.73	0.63	20 J	2.5 J	97 J	19 J	7.8 J
Mercury	0.0042 U	0.0045 U	0.0047 U	0.0046 U	0.0048 U	0.0047 U	0.005 U	0.061	0.28	0.12
Nickel	39	41	30	36	41	12	18	46	6.2	4.7
Selenium	0.13 U	0.14 U	0.14 U	0.14 U	0.14 U	0.23 J	0.15 U	3.2	2	1.7
Silver	0.056 J	0.047 J	0.059 J	0.083 J	0.092 J	0.063 J	0.04 J	0.075 J	0.02 U	0.082 J
Thallium	0.13 U	0.14 U	0.14 U	0.14 U	0.14 U	0.19 J	0.15 U	0.35 J	0.15 U	0.13 U
Tin	4.4 U	4.6 U	4.6 U	4.7 U	4.6 U	4.8 U	4.9 U	4.3 U	4.9 U	4.4 U
Vanadium	190	280	230	220	240	320	180	430	250	220
Zinc	93 J	74 J	86 J	69 J	74 J	92	84	100	34	19
TPH DRO/GRO (mg/kg)										
Diesel Range Organics	0.91 UJ	0.71 UJ	0.94 UJ	1.2 UJ	0.76 UJ	1.4 U	0.93 U	1.2 U	2.3 U	2.1 U
Gasoline Range Organics	0.0094 U	0.0071 U	0.0077 U	0.0076 U	0.0091 U	0.0078 U	0.0081 U	0.0079 U	0.023 J	0.0088 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SWMU 9 AREA C - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB189	74SB190	74SB190	74SB191	74SB191	74SB191	74SB192	74SB192	74SB193	74SB193
Sample ID	74SB189-05	74SB190-03	74SB190-05	74SB191-03D	74SB191-03	74SB191-05	74SB192-03	74SB192-05	74SB193-03	74SB193-05
Date	5/19/2008	5/19/2008	5/19/2008	5/19/2008	5/19/2008	5/19/2008	5/19/2008	5/19/2008	5/20/2008	5/20/2008
Depth Range	9.0-11.0	5.0-7.0	9.0-11.0	5.0-7.0	5.0-7.0	9.0-11.0	5.0-7.0	9.0-11.0	5.0-7.0	9.0-11.0
Volatile Organic Compounds (ug/kg)										
1,1,1,2-Tetrachloroethane	0.81 U	0.91 U	0.68 U	0.62 U	0.68 U	0.71 U	0.75 U	0.78 U	0.68 U	0.88 U
1,1,1-Trichloroethane	0.73 U	0.82 U	0.61 U	0.56 U	0.62 U	0.64 U	0.68 U	0.7 U	0.62 U	0.8 U
1,1,2,2-Tetrachloroethane	1.8 U	2 U	1.5 U	1.4 U	1.5 U	1.5 U	1.6 U	1.7 U	1.5 U	1.9 U
1,1,2-Trichloroethane	1.5 U	1.7 U	1.3 U	1.2 U	1.3 U	1.3 U	1.4 U	1.5 U	1.3 U	1.7 U
1,1-Dichloroethane	0.63 U	0.71 U	0.53 U	0.48 U	0.53 U	0.55 U	0.58 U	0.61 U	0.53 U	0.69 U
1,1-Dichloroethene	0.68 U	0.76 U	0.57 U	0.52 U	0.58 U	0.6 U	0.63 U	0.66 U	0.58 U	0.75 U
1,2,3-Trichloropropane	1.8 U	2 U	1.5 U	1.4 U	1.5 U	1.5 U	1.6 U	1.7 U	1.5 U	1.9 U
1,2-Dibromo-3-Chloropropane	3.5 U	4 U	3 U	2.7 U	3 U	3.1 U	3.3 U	3.4 U	3 UJ	3.9 UJ
1,2-Dichloroethane	1.3 U	1.4 U	1.1 U	0.97 U	1.1 U	1.1 U	1.2 U	1.2 U	1.1 U	1.4 U
1,2-Dichloropropane	1.4 U	1.6 U	1.2 U	1.1 U	1.2 U	1.2 U	1.3 U	1.3 U	1.2 U	1.5 U
2-Butanone (MEK)	3.4 U	29 U	2.9 U	8.5 U	7.8 U	3 U	3.2 U	3.3 U	2.9 UJ	3.7 UJ
2-Chloro-1,3-butadiene	0.72 UJ	0.81 UJ	0.6 UJ	0.55 UJ	0.61 UJ	0.63 UJ	0.67 UJ	0.69 UJ	0.61 U	0.79 U
2-Hexanone	2.6 U	3 U	2.2 U	2 U	2.2 U	2.3 U	2.5 U	2.5 U	2.2 UJ	2.9 UJ
3-Chloro-1-propene	1.9 U	2.1 U	1.6 U	1.5 U	1.6 U	1.7 U	1.8 U	1.8 U	1.6 UJ	2.1 UJ
4-Methyl-2-pentanone (MIBK)	3.7 U	4.1 U	3.1 U	2.8 U	3.1 U	3.2 U	3.4 U	3.5 U	3.1 U	4 U
Acetone	9.1 J	330	19 J	90	98	14 J	27 J	14 J	18 UJ	12 UJ
Acetonitrile	57 U	64 U	48 U	44 U	48 U	50 U	53 U	55 U	48 UJ	62 UJ
Acrolein	24 UJ	27 UJ	20 UJ	18 UJ	20 UJ	21 UJ	22 UJ	23 UJ	20 UJ	26 UJ
Acrylonitrile	29 UJ	33 UJ	24 UJ	22 UJ	25 UJ	25 UJ	27 UJ	28 UJ	25 U	32 U
Benzene	1 U	1.1 U	0.83 U	0.76 U	0.84 U	0.87 U	0.92 U	0.96 U	0.84 U	1.1 U
Bromoform	1.4 U	1.6 U	1.2 U	1.1 U	1.2 U	1.2 U	1.3 U	1.3 U	1.2 U	1.5 U
Bromomethane	2 U	2.3 U	1.7 U	1.5 U	1.7 U	1.8 U	1.9 U	1.9 U	1.7 UJ	2.2 UJ
Carbon disulfide	0.64 U	0.76 J	0.55 J	0.49 U	0.54 U	0.56 U	0.6 U	0.62 U	0.54 U	0.71 U
Carbon tetrachloride	1.3 U	1.4 U	1.1 U	0.97 U	1.1 U	1.1 U	1.2 U	1.2 U	1.1 U	1.4 U
Chlorobenzene	0.92 U	1 U	0.77 U	0.71 U	0.78 U	0.81 U	0.85 U	0.89 U	0.78 U	1 U
Chlorodibromomethane	0.63 U	0.71 U	0.53 U	0.48 U	0.53 U	0.55 U	0.58 U	0.61 U	0.53 U	0.69 U
Chloroethane	1.5 U	1.7 U	1.3 U	1.2 U	1.3 U	1.3 U	1.4 U	1.5 U	1.3 U	1.7 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SWMU 9 AREA C - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB189	74SB190	74SB190	74SB191	74SB191	74SB191	74SB192	74SB192	74SB193	74SB193
Sample ID	74SB189-05	74SB190-03	74SB190-05	74SB191-03D	74SB191-03	74SB191-05	74SB192-03	74SB192-05	74SB193-03	74SB193-05
Date	5/19/2008	5/19/2008	5/19/2008	5/19/2008	5/19/2008	5/19/2008	5/19/2008	5/19/2008	5/20/2008	5/20/2008
Depth Range	9.0-11.0	5.0-7.0	9.0-11.0	5.0-7.0	5.0-7.0	9.0-11.0	5.0-7.0	9.0-11.0	5.0-7.0	9.0-11.0
Volatile Organic Compounds (ug/kg)										
Chloroform	0.63 U	0.71 U	0.53 U	0.48 U	0.53 U	0.55 U	0.58 U	0.61 U	0.53 U	0.69 U
Chloromethane	0.89 U	1 U	0.75 U	0.69 U	0.76 U	0.78 U	0.83 U	0.86 U	0.76 U	0.98 U
cis-1,3-Dichloropropene	1.1 U	1.2 U	0.92 U	0.84 U	0.93 U	0.96 U	1 U	1.1 U	0.93 U	1.2 U
Dibromomethane	1.5 U	1.7 U	1.3 U	1.2 U	1.3 U	1.3 U	1.4 U	1.5 U	1.3 U	1.7 U
Dichlorobromomethane	1 U	1.2 U	0.88 U	0.8 U	0.89 U	0.92 U	0.97 U	1 U	0.89 U	1.1 U
Dichlorodifluoromethane	1.1 U	1.3 U	0.94 U	0.86 U	0.95 U	0.98 U	1 U	1.1 U	0.95 U	1.2 U
Ethyl methacrylate	2.8 U	3.1 U	2.3 U	2.1 U	2.3 U	2.4 U	2.6 U	2.7 U	2.4 UJ	3 UJ
Ethylbenzene	0.95 U	1.1 U	0.79 U	0.73 U	0.8 U	0.83 U	0.88 U	0.91 U	0.8 U	1 U
Ethylene Dibromide	1.9 U	2.1 U	1.6 U	1.5 U	1.6 U	1.7 U	1.8 U	1.8 U	1.6 U	2.1 U
Iodomethane	1.3 U	11	1.1 U	8	8.7	1.1 U	1.2 U	1.2 U	1.1 U	1.4 U
Isobutyl alcohol	87 U	98 U	73 U	67 U	74 U	76 U	81 U	84 U	74 R	95 R
Methacrylonitrile	30 U	34 U	25 U	23 U	26 U	26 U	28 U	29 U	26 U	110 J
Methyl methacrylate	4.7 U	5.2 U	3.9 U	3.6 U	4 U	4.1 U	4.3 U	4.5 U	4 U	5.1 U
Methylene Chloride	1.3 U	1.4 U	1.1 U	0.97 U	1.1 U	1.1 U	1.2 U	1.2 U	1.1 U	1.4 U
Pentachloroethane	2.8 R	3.1 R	2.3 R	2.1 R	2.3 R	2.4 R	2.6 R	2.7 R	2.4 UJ	3 UJ
Propionitrile	26 U	30 U	22 U	20 U	22 U	23 U	25 U	25 U	22 UJ	29 UJ
Styrene	0.83 U	0.93 U	0.7 U	0.64 U	0.7 U	0.73 U	0.77 U	0.8 U	0.71 U	0.91 U
Tetrachloroethene	0.92 U	1 U	0.77 U	0.71 U	0.78 U	0.81 U	0.85 U	0.89 U	0.78 U	1 U
Toluene	1 U	1.1 U	0.83 U	0.76 U	0.84 U	0.87 U	0.92 U	0.96 U	0.84 U	1.1 U
trans-1,2-Dichloroethene	1.2 U	1.4 U	1 U	0.94 U	1 U	1.1 U	1.1 U	1.2 U	1 U	1.3 U
trans-1,3-Dichloropropene	1.1 U	1.2 U	0.92 U	0.84 U	0.93 U	0.96 U	1 U	1.1 U	0.93 U	1.2 U
trans-1,4-Dichloro-2-butene	3.9 U	4.4 U	3.3 U	3 U	3.3 U	3.4 U	3.6 U	3.8 U	3.3 U	4.3 U
Trichloroethene	1.3 U	1.4 U	1.1 U	0.97 U	1.1 U	1.1 U	1.2 U	1.2 U	1.1 U	1.4 U
Trichlorofluoromethane	1.9 U	2.1 U	1.6 U	1.5 U	1.6 U	1.7 U	1.8 U	1.8 U	1.6 U	2.1 U
Vinyl acetate	1.9 U	2.1 U	1.6 U	1.5 U	1.6 U	1.7 U	1.8 U	1.8 U	1.6 U	2.1 U
Vinyl chloride	0.73 U	0.82 U	0.61 U	0.56 U	0.62 U	0.64 U	0.68 U	0.7 U	0.62 U	0.8 U
Xylenes, Total	2.9 U	3.3 U	2.4 U	2.2 U	2.5 U	2.5 U	2.7 U	2.8 U	2.5 U	3.2 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SWMU 9 AREA C - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB189	74SB190	74SB190	74SB191	74SB191	74SB191	74SB192	74SB192	74SB193	74SB193
Sample ID	74SB189-05	74SB190-03	74SB190-05	74SB191-03D	74SB191-03	74SB191-05	74SB192-03	74SB192-05	74SB193-03	74SB193-05
Date	5/19/2008	5/19/2008	5/19/2008	5/19/2008	5/19/2008	5/19/2008	5/19/2008	5/19/2008	5/20/2008	5/20/2008
Depth Range	9.0-11.0	5.0-7.0	9.0-11.0	5.0-7.0	5.0-7.0	9.0-11.0	5.0-7.0	9.0-11.0	5.0-7.0	9.0-11.0
LLPAHs (ug/kg)										
1-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[a]anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[a]pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[b]fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[g,h,i]perylene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[k]fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indeno[1,2,3-cd]pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SWMU 9 AREA C - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB189	74SB190	74SB190	74SB191	74SB191	74SB191	74SB192	74SB192	74SB193	74SB193
Sample ID	74SB189-05	74SB190-03	74SB190-05	74SB191-03D	74SB191-03	74SB191-05	74SB192-03	74SB192-05	74SB193-03	74SB193-05
Date	5/19/2008	5/19/2008	5/19/2008	5/19/2008	5/19/2008	5/19/2008	5/19/2008	5/19/2008	5/20/2008	5/20/2008
Depth Range	9.0-11.0	5.0-7.0	9.0-11.0	5.0-7.0	5.0-7.0	9.0-11.0	5.0-7.0	9.0-11.0	5.0-7.0	9.0-11.0
Metals (mg/kg)										
Antimony	0.1 UJ	0.28 UJ	0.088 UJ	0.13 UJ	0.16 UJ	0.11 UJ	0.091 UJ	0.095 UJ	0.095 UJ	0.087 UJ
Arsenic	0.56 J	6.3	2.7	2.5	3	2.9	2.2	0.69	2.8	1.7
Barium	39 J	210 J	77 J	34 R	280 R	15 J	11 J	5.5 J	33	7.6
Beryllium	0.16	0.78	0.26	0.41	0.39	0.17	0.099 J	0.056 J	0.12 J	0.11 J
Cadmium	0.042 U	0.73	0.036 U	0.097 J	0.11 J	0.08 J	0.038 U	0.039 U	0.039 U	0.036 U
Chromium	6.1	44	15	20	23	26	36	14	46	32
Cobalt	5.6 J	160 J	5.4 J	19 J	28 J	8.4 J	2.3 J	0.9 J	2.4	1.1
Copper	130 J	59 J	95 J	34 J	34 J	27 J	33 J	21 J	34	59
Lead	7.8 J	99 J	15 J	14 J	23 J	14 J	6.3 J	2.5 J	8.4	8.1
Mercury	0.02 J	0.064	0.066	0.024	0.09	0.088	0.071	0.0055 U	0.02 J	0.0044 U
Nickel	6.5	23	4.6	8.3	8	4.4	6.1	2.7	6.1	3
Selenium	0.32 J	4.4	1	1.2	2.1	1.8	3.4	0.56 J	5.3	1.4
Silver	0.022 U	0.12 J	0.043 J	0.075 J	0.055 J	0.07 J	0.23 J	0.026 J	0.17 U	0.019 U
Thallium	0.16 U	0.19 J	0.14 U	0.13 U	0.14 U	0.14 U	0.18 J	0.15 U	0.15 U	0.14 U
Tin	5.4 U	4.8 U	4.7 U	4.5 U	4.6 U	4.7 U	4.9 U	5.1 U	5 U	4.6 U
Vanadium	180	510	330	280	290	310	220	82	240 J	210 J
Zinc	47	83	30	57	44	19	18	7.2	20 J	9.8 J
TPH DRO/GRO (mg/kg)										
Diesel Range Organics	5.3	13	4.3 U	4 J	21 J	5.3	5.6	5	3.6 U	2 U
Gasoline Range Organics	0.0075 U	0.057 J	0.007 U	0.0059 U	0.0054 U	0.0073 U	0.0073 U	0.0078 U	0.007 U	0.0068 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SWMU 9 AREA C - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB194	74SB194	74SB195	74SB195	74SB196	74SB196	74SB196	74SB197	74SB197	74VP6Aa
Sample ID	74SB194-03	74SB194-05	74SB195-03	74SB195-05	74SB196-03D	74SB196-03	74SB196-05	74SB197-03	74SB197-05	74VP6Aa-04
Date	5/20/2008	5/20/2008	5/20/2008	5/20/2008	5/20/2008	5/20/2008	5/20/2008	5/20/2008	5/20/2008	5/17/2008
Depth Range	5.0-7.0	9.0-11.0	5.0-7.0	9.0-11.0	5.0-7.0	5.0-7.0	9.0-11.0	5.0-7.0	9.0-11.0	7.0-9.0
Volatile Organic Compounds (ug/kg)										
1,1,1,2-Tetrachloroethane	0.68 U	0.88 U	0.78 U	1 U	0.76 U	0.78 U	0.79 U	0.72 U	0.88 U	0.83 U
1,1,1-Trichloroethane	0.62 U	0.8 U	0.7 U	0.92 U	0.69 U	0.71 U	0.72 U	0.65 U	0.8 U	0.75 U
1,1,2,2-Tetrachloroethane	1.5 U	1.9 U	1.7 U	2.2 U	1.7 U	1.7 U	1.7 U	1.6 U	1.9 U	1.8 U
1,1,2-Trichloroethane	1.3 U	1.6 U	1.5 U	1.9 U	1.4 U	1.5 U	1.5 U	1.3 U	1.7 U	1.6 U
1,1-Dichloroethane	0.53 U	0.69 U	0.61 U	0.8 U	0.59 U	0.61 U	0.62 U	0.56 U	0.69 U	0.65 U
1,1-Dichloroethene	0.58 U	0.74 U	0.65 U	0.86 U	0.64 U	0.66 U	0.67 U	0.61 U	0.74 U	0.7 U
1,2,3-Trichloropropane	1.5 UJ	1.9 U	1.7 U	2.2 U	1.7 U	1.7 U	1.7 UJ	1.6 UJ	1.9 UJ	1.8 U
1,2-Dibromo-3-Chloropropane	3 UJ	3.8 UJ	3.4 UJ	4.5 UJ	3.3 UJ	3.4 UJ	3.5 UJ	3.1 UJ	3.9 UJ	3.6 U
1,2-Dichloroethane	1.1 U	1.4 U	1.2 U	1.6 U	1.2 U	1.2 U	1.2 U	1.1 U	1.4 U	1.3 U
1,2-Dichloropropane	1.2 U	1.5 U	1.3 U	1.8 U	1.3 U	1.3 U	1.4 U	1.2 U	1.5 U	1.4 U
2-Butanone (MEK)	3.7 UJ	3.7 UJ	7.6 UJ	5.3 UJ	3.2 UJ	3.3 UJ	9.2 UJ	4.9 UJ	4 UJ	3.5 UJ
2-Chloro-1,3-butadiene	0.61 U	0.78 U	0.69 U	0.91 U	0.67 U	0.7 U	0.7 U	0.64 U	0.79 U	0.74 U
2-Hexanone	2.2 UJ	2.9 UJ	2.5 UJ	3.3 UJ	2.5 UJ	2.6 UJ	2.6 UJ	2.4 UJ	2.9 UJ	2.7 UJ
3-Chloro-1-propene	1.6 UJ	2.1 UJ	1.8 UJ	2.4 UJ	1.8 UJ	1.8 UJ	1.8 UJ	1.7 UJ	2.1 UJ	1.9 U
4-Methyl-2-pentanone (MIBK)	3.1 UJ	4 U	3.5 U	4.6 U	3.4 U	3.5 U	3.6 UJ	3.3 UJ	4 UJ	3.8 UJ
Acetone	55 U	22 UJ	77 UJ	70 UJ	32 UJ	33 UJ	26 UJ	22 U	34 U	15 J
Acetonitrile	48 UJ	62 UJ	54 UJ	72 UJ	53 UJ	55 UJ	55 UJ	50 UJ	62 UJ	58 U
Acrolein	20 R	26 UJ	23 UJ	30 UJ	22 UJ	23 UJ	23 R	21 R	26 R	25 U
Acrylonitrile	25 UJ	32 U	28 U	37 U	27 U	28 U	28 UJ	26 UJ	32 UJ	30 UJ
Benzene	0.84 U	1.1 U	1.1 J	1.3 U	0.94 U	0.97 U	0.97 U	0.89 U	1.1 U	1 U
Bromoform	1.2 U	1.5 U	1.3 U	1.8 U	1.3 U	1.3 U	1.4 U	1.2 U	1.5 U	1.4 U
Bromomethane	1.7 UJ	2.2 UJ	1.9 UJ	2.5 UJ	1.9 UJ	2 UJ	2 UJ	1.8 UJ	2.2 UJ	2.1 U
Carbon disulfide	0.54 U	0.87 J	0.62 U	2.9 J	0.6 U	0.62 U	0.63 U	0.57 U	13	0.66 U
Carbon tetrachloride	1.1 U	1.4 U	1.2 U	1.6 U	1.2 U	1.2 U	1.2 U	1.1 U	1.4 U	1.3 U
Chlorobenzene	0.78 U	1 U	0.88 U	1.2 U	0.86 U	0.89 U	0.9 U	0.82 U	1 U	0.95 U
Chlorodibromomethane	0.53 U	0.69 U	0.61 U	0.8 U	0.59 U	0.61 U	0.62 U	0.56 U	0.69 U	0.65 U
Chloroethane	1.3 U	1.6 U	1.5 U	1.9 U	1.4 U	1.5 U	1.5 U	1.3 U	1.7 U	1.6 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SWMU 9 AREA C - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB194	74SB194	74SB195	74SB195	74SB196	74SB196	74SB196	74SB197	74SB197	74VP6Aa
Sample ID	74SB194-03	74SB194-05	74SB195-03	74SB195-05	74SB196-03D	74SB196-03	74SB196-05	74SB197-03	74SB197-05	74VP6Aa-04
Date	5/20/2008	5/20/2008	5/20/2008	5/20/2008	5/20/2008	5/20/2008	5/20/2008	5/20/2008	5/20/2008	5/17/2008
Depth Range	5.0-7.0	9.0-11.0	5.0-7.0	9.0-11.0	5.0-7.0	5.0-7.0	9.0-11.0	5.0-7.0	9.0-11.0	7.0-9.0
Volatile Organic Compounds (ug/kg)										
Chloroform	0.53 U	0.69 U	0.61 U	0.8 U	0.59 U	0.61 U	0.62 U	0.56 U	0.69 U	0.65 U
Chloromethane	0.76 U	0.97 U	0.86 U	1.1 U	0.84 U	0.87 U	0.88 U	0.8 U	0.98 U	0.92 U
cis-1,3-Dichloropropene	0.93 U	1.2 U	1.1 U	1.4 U	1 U	1.1 U	1.1 U	0.98 U	1.2 U	1.1 U
Dibromomethane	1.3 U	1.6 U	1.5 U	1.9 U	1.4 U	1.5 U	1.5 U	1.3 U	1.7 U	1.6 U
Dichlorobromomethane	0.88 U	1.1 U	1 U	1.3 U	0.98 U	1 U	1 U	0.93 U	1.1 U	1.1 U
Dichlorodifluoromethane	0.95 U	1.2 U	1.1 U	1.4 U	1.1 U	1.1 U	1.1 U	1 U	1.2 U	1.2 U
Ethyl methacrylate	2.3 U	3 UJ	2.7 UJ	3.5 UJ	2.6 UJ	2.7 UJ	2.7 U	2.5 U	3 U	2.9 UJ
Ethylbenzene	0.8 U	1 U	0.91 U	1.2 U	0.89 U	0.92 U	0.92 U	0.84 U	1 U	0.97 U
Ethylene Dibromide	1.6 U	2.1 U	1.8 U	2.4 U	1.8 U	1.8 U	1.8 U	1.7 U	2.1 U	1.9 U
Iodomethane	1.1 U	1.4 U	1.2 U	1.6 U	1.4 J	1.2 U	1.2 U	1.1 U	1.4 U	1.3 U
Isobutyl alcohol	74 R	95 R	84 R	110 R	82 R	84 R	85 R	77 R	95 R	90 U
Methacrylonitrile	26 U	33 U	29 U	38 U	28 U	29 U	30 U	27 U	33 U	31 U
Methyl methacrylate	3.9 U	5.1 U	4.5 U	5.9 U	4.4 U	4.5 U	4.6 U	4.1 U	5.1 U	4.8 U
Methylene Chloride	1.1 U	1.4 U	1.2 U	1.6 U	1.2 U	1.2 U	1.2 U	1.1 U	1.4 U	1.3 U
Pentachloroethane	2.3 UJ	3 UJ	2.7 UJ	3.5 UJ	2.6 UJ	2.7 UJ	2.7 UJ	2.5 UJ	3 UJ	2.9 R
Propionitrile	22 UJ	29 UJ	25 UJ	33 UJ	25 UJ	26 UJ	26 UJ	24 UJ	29 UJ	27 U
Styrene	0.7 U	0.91 U	0.8 U	1.1 U	0.78 U	0.81 U	0.81 U	0.74 U	0.91 U	0.86 U
Tetrachloroethene	0.78 U	1 U	0.88 U	1.2 U	0.86 U	0.89 U	0.9 U	0.82 U	1 U	0.95 U
Toluene	0.84 U	1.1 U	0.96 U	1.3 U	0.94 U	0.97 U	0.97 U	0.89 U	1.1 U	1 U
trans-1,2-Dichloroethene	1 U	1.3 U	1.2 U	1.5 U	1.1 U	1.2 U	1.2 U	1.1 U	1.3 U	1.3 U
trans-1,3-Dichloropropene	0.93 U	1.2 U	1.1 U	1.4 U	1 U	1.1 U	1.1 U	0.98 U	1.2 U	1.1 U
trans-1,4-Dichloro-2-butene	3.3 U	4.3 U	3.8 U	4.9 U	3.7 U	3.8 U	3.8 U	3.5 U	4.3 U	4 UJ
Trichloroethene	1.1 U	1.4 U	1.2 U	1.6 U	1.2 U	1.2 U	1.2 U	1.1 U	1.4 U	1.3 U
Trichlorofluoromethane	1.6 U	2.1 U	1.8 U	2.4 U	1.8 U	1.8 U	1.8 U	1.7 U	2.1 U	1.9 U
Vinyl acetate	1.6 U	2.1 U	1.8 U	2.4 U	1.8 U	1.8 U	1.8 U	1.7 U	2.1 U	1.9 U
Vinyl chloride	0.62 U	0.8 U	0.7 U	0.92 U	0.69 U	0.71 U	0.72 U	0.65 U	0.8 U	0.75 U
Xylenes, Total	2.5 U	3.2 U	2.8 U	3.7 U	2.7 U	2.8 U	2.8 U	2.6 U	3.2 U	3 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SWMU 9 AREA C - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB194	74SB194	74SB195	74SB195	74SB196	74SB196	74SB196	74SB197	74SB197	74VP6Aa
Sample ID	74SB194-03	74SB194-05	74SB195-03	74SB195-05	74SB196-03D	74SB196-03	74SB196-05	74SB197-03	74SB197-05	74VP6Aa-04
Date	5/20/2008	5/20/2008	5/20/2008	5/20/2008	5/20/2008	5/20/2008	5/20/2008	5/20/2008	5/20/2008	5/17/2008
Depth Range	5.0-7.0	9.0-11.0	5.0-7.0	9.0-11.0	5.0-7.0	5.0-7.0	9.0-11.0	5.0-7.0	9.0-11.0	7.0-9.0
LLPAHs (ug/kg)										
1-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[a]anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[a]pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[b]fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[g,h,i]perylene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[k]fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indeno[1,2,3-cd]pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SWMU 9 AREA C - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB194	74SB194	74SB195	74SB195	74SB196	74SB196	74SB196	74SB197	74SB197	74VP6Aa
Sample ID	74SB194-03	74SB194-05	74SB195-03	74SB195-05	74SB196-03D	74SB196-03	74SB196-05	74SB197-03	74SB197-05	74VP6Aa-04
Date	5/20/2008	5/20/2008	5/20/2008	5/20/2008	5/20/2008	5/20/2008	5/20/2008	5/20/2008	5/20/2008	5/17/2008
Depth Range	5.0-7.0	9.0-11.0	5.0-7.0	9.0-11.0	5.0-7.0	5.0-7.0	9.0-11.0	5.0-7.0	9.0-11.0	7.0-9.0
Metals (mg/kg)										
Antimony	0.085 UJ	0.12 J	0.13 J	0.12 J	0.093 UJ	0.091 UJ	0.098 UJ	0.095 U	0.092 U	0.091 U
Arsenic	1.9	3.4	2.7	2	2.2	1.6	0.74	1.7	0.91	0.95
Barium	49	6.9	220	55	57	57	18	18	37	75
Beryllium	0.13	0.46	0.3	0.39	0.38	0.33	0.42	0.21	0.22	0.18
Cadmium	0.035 U	0.051 J	0.16	0.24	0.099 J	0.066 J	0.04 U	0.074 J	0.05 J	0.14
Chromium	25	26	140	92	38	37	25	41	17	100
Cobalt	1.4	4.2	20	18	8.5	8.9	14	3.5	10	48 J
Copper	56	130	110	130	93	92	86	56	86	82
Lead	8.8	16	12	17	12	7.1	3.9	17	11	1.9
Mercury	0.07	0.0047 U	0.01 J	0.022 J	0.0056 J	0.005 U	0.0051 U	0.0051 U	0.0048 U	0.0051 U
Nickel	4.5	6.2	16	14	11	11	14	6.6	11	33
Selenium	1.4	1.4	0.92	0.69 J	1.6	1	0.16 U	1.7	0.25 J	0.15 U
Silver	0.15 U	0.039 U	0.058 U	0.08 U	0.039 U	0.036 U	0.11 U	0.074 J	0.059 J	0.047 J
Thallium	0.14 U	0.15 U	0.16 U	0.17 U	0.15 U	0.15 U	0.16 U	0.15 U	0.15 U	0.15 U
Tin	4.5 U	5.1 U	5.2 U	5.8 U	4.9 U	4.9 U	5.2 U	5 U	4.9 U	4.9 U
Vanadium	210 J	590 J	290 J	300 J	320 J	260 J	100 J	300	160	200
Zinc	18 J	38 J	58 J	73 J	48 J	46 J	60 J	36	70	110 J
TPH DRO/GRO (mg/kg)										
Diesel Range Organics	3 U	2.7 U	3.4	1.5 U	1.6 U	1.5 U	2.4 U	1.3 U	1.4 U	1.7 U
Gasoline Range Organics	0.0076 U	0.0064 U	0.0091 U	0.0096 U	0.0078 U	0.0075 U	0.0095 U	0.062 U	0.078 U	0.074 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SWMU 9 AREA C - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74VP6Aa	74VP6Ba	74VP6Ba	74VP6Cb	74VP6Cb
Sample ID	74VP6Aa-07	74VP6Ba-03	74VP6Ba-04	74VP6Cb-04	74VP6Cb-07
Date	5/18/2008	5/17/2008	5/17/2008	5/17/2008	5/17/2008
Depth Range	13.0-15.0	5.0-7.0	7.0-9.0	7.0-9.0	13.0-15.0
Volatile Organic Compounds (ug/kg)					
1,1,1,2-Tetrachloroethane	0.77 U	0.73 U	0.92 U	0.66 U	35 U
1,1,1-Trichloroethane	0.7 U	0.66 U	0.83 U	0.6 U	32 U
1,1,2,2-Tetrachloroethane	1.7 U	1.6 U	2 U	1.4 U	76 U
1,1,2-Trichloroethane	1.4 U	1.4 U	1.7 U	1.2 U	65 U
1,1-Dichloroethane	0.6 U	0.57 U	0.72 U	0.51 U	27 U
1,1-Dichloroethene	0.65 U	0.62 U	0.78 U	0.56 U	29 U
1,2,3-Trichloropropane	1.7 U	1.6 U	2 U	1.4 U	76 U
1,2-Dibromo-3-Chloropropane	3.4 UJ	3.2 U	4 U	2.9 U	150 UJ
1,2-Dichloroethane	1.2 U	1.1 U	1.4 U	1 U	54 U
1,2-Dichloropropane	1.3 U	1.3 U	1.6 U	1.1 U	60 U
2-Butanone (MEK)	3.3 UJ	3.1 UJ	3.9 UJ	2.8 UJ	150 UJ
2-Chloro-1,3-butadiene	0.69 U	0.65 U	0.82 U	0.59 U	31 U
2-Hexanone	2.5 UJ	2.4 UJ	3 UJ	2.2 UJ	110 UJ
3-Chloro-1-propene	1.8 UJ	1.7 U	2.2 U	1.5 U	82 UJ
4-Methyl-2-pentanone (MIBK)	3.5 U	3.3 UJ	4.2 UJ	3 UJ	160 UJ
Acetone	12 J	22 J	43 J	20 J	2500 J
Acetonitrile	54 UJ	51 U	65 U	46 U	2400 UJ
Acrolein	23 UJ	22 U	27 U	20 U	1000 R
Acrylonitrile	28 U	26 UJ	33 UJ	24 UJ	1300 UJ
Benzene	0.95 U	0.9 U	1.1 U	0.81 U	43 U
Bromoform	1.3 U	1.3 U	1.6 U	1.1 U	60 U
Bromomethane	1.9 UJ	1.8 U	2.3 U	1.6 U	87 UJ
Carbon disulfide	0.61 U	0.58 U	0.73 U	0.53 U	28 U
Carbon tetrachloride	1.2 U	1.1 U	1.4 U	1 U	54 U
Chlorobenzene	0.88 U	0.83 U	1.1 U	0.75 U	40 U
Chlorodibromomethane	0.6 U	0.57 U	0.72 U	0.51 U	27 U
Chloroethane	1.4 U	1.4 U	1.7 U	1.2 U	65 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SWMU 9 AREA C - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74VP6Aa	74VP6Ba	74VP6Ba	74VP6Cb	74VP6Cb
Sample ID	74VP6Aa-07	74VP6Ba-03	74VP6Ba-04	74VP6Cb-04	74VP6Cb-07
Date	5/18/2008	5/17/2008	5/17/2008	5/17/2008	5/17/2008
Depth Range	13.0-15.0	5.0-7.0	7.0-9.0	7.0-9.0	13.0-15.0
Volatile Organic Compounds (ug/kg)					
Chloroform	0.6 U	0.57 U	0.72 U	0.51 U	27 U
Chloromethane	0.86 U	0.81 U	1 U	0.73 U	39 U
cis-1,3-Dichloropropene	1 U	0.99 U	1.3 U	0.9 U	47 U
Dibromomethane	1.4 U	1.4 U	1.7 U	1.2 U	65 U
Dichlorobromomethane	1 U	0.95 U	1.2 U	0.85 U	45 U
Dichlorodifluoromethane	1.1 U	1 U	1.3 U	0.92 U	48 U
Ethyl methacrylate	2.7 UJ	2.5 UJ	3.2 UJ	2.3 UJ	120 U
Ethylbenzene	0.9 U	0.85 U	1.1 U	0.77 U	49 J
Ethylene Dibromide	1.8 U	1.7 U	2.2 U	1.5 U	82 U
Iodomethane	1.2 U	1.1 U	2.9 J	1 U	54 UJ
Isobutyl alcohol	83 R	79 U	99 U	71 U	3800 R
Methacrylonitrile	29 U	27 U	35 U	25 U	1300 U
Methyl methacrylate	4.5 U	4.2 U	5.3 U	3.8 U	200 U
Methylene Chloride	1.2 U	1.1 U	1.4 U	1 U	54 U
Pentachloroethane	2.7 UJ	2.5 R	3.2 R	2.3 R	120 UJ
Propionitrile	25 UJ	24 U	30 U	22 U	1100 UJ
Styrene	0.8 U	0.75 U	0.95 U	0.68 U	36 U
Tetrachloroethene	0.88 U	0.83 U	1.1 U	0.75 U	40 U
Toluene	0.95 U	0.9 U	1.1 U	0.81 U	43 U
trans-1,2-Dichloroethene	1.2 U	1.1 U	1.4 U	1 U	53 U
trans-1,3-Dichloropropene	1 U	0.99 U	1.3 U	0.9 U	47 U
trans-1,4-Dichloro-2-butene	3.7 U	3.5 UJ	4.5 UJ	3.2 UJ	170 U
Trichloroethene	1.2 U	1.1 U	1.4 U	1 U	54 U
Trichlorofluoromethane	1.8 U	1.7 U	2.2 U	1.5 U	82 U
Vinyl acetate	1.8 U	1.7 U	2.2 U	1.5 U	82 U
Vinyl chloride	0.7 U	0.66 U	0.83 U	0.6 U	32 U
Xylenes, Total	2.8 U	2.6 U	3.3 U	2.4 U	130 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SWMU 9 AREA C - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74VP6Aa	74VP6Ba	74VP6Ba	74VP6Cb	74VP6Cb
Sample ID	74VP6Aa-07	74VP6Ba-03	74VP6Ba-04	74VP6Cb-04	74VP6Cb-07
Date	5/18/2008	5/17/2008	5/17/2008	5/17/2008	5/17/2008
Depth Range	13.0-15.0	5.0-7.0	7.0-9.0	7.0-9.0	13.0-15.0
LLPAHs (ug/kg)					
1-Methylnaphthalene	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA	NA
Acenaphthene	NA	NA	NA	NA	NA
Acenaphthylene	NA	NA	NA	NA	NA
Anthracene	NA	NA	NA	NA	NA
Benzo[a]anthracene	NA	NA	NA	NA	NA
Benzo[a]pyrene	NA	NA	NA	NA	NA
Benzo[b]fluoranthene	NA	NA	NA	NA	NA
Benzo[g,h,i]perylene	NA	NA	NA	NA	NA
Benzo[k]fluoranthene	NA	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	NA	NA	NA	NA	NA
Fluoranthene	NA	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA	NA
Indeno[1,2,3-cd]pyrene	NA	NA	NA	NA	NA
Naphthalene	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA
Pyrene	NA	NA	NA	NA	NA

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SWMU 9 AREA C - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74VP6Aa	74VP6Ba	74VP6Ba	74VP6Cb	74VP6Cb
Sample ID	74VP6Aa-07	74VP6Ba-03	74VP6Ba-04	74VP6Cb-04	74VP6Cb-07
Date	5/18/2008	5/17/2008	5/17/2008	5/17/2008	5/17/2008
Depth Range	13.0-15.0	5.0-7.0	7.0-9.0	7.0-9.0	13.0-15.0
Metals (mg/kg)					
Antimony	0.096 J	0.096 U	0.11 U	0.099 J	0.094 U
Arsenic	1.3	1.8	1.6	3.2	1.2
Barium	61	130	61	270	57
Beryllium	0.2	0.37	0.71	0.33	0.32
Cadmium	0.16	0.063 J	0.11 J	0.045 J	0.2
Chromium	9.2	41	58	19	28
Cobalt	31 J	8.4 J	41 J	29 J	34 J
Copper	59	84	120	82	66
Lead	1.8	17	3.4	11	3.6
Mercury	0.0041 U	0.038	0.01 J	0.13	0.047
Nickel	8.7	14	31	17	36
Selenium	0.14 U	1.5	0.18 J	1.6	0.15 U
Silver	0.035 J	0.19 J	0.1 J	0.056 J	0.055 J
Thallium	0.14 U	0.15 U	0.17 U	0.14 U	0.15 U
Tin	4.8 U	5.1 U	5.7 U	4.6 U	5 U
Vanadium	270	240	240	110	130
Zinc	77 J	78 J	160 J	92 J	81 J
TPH DRO/GRO (mg/kg)					
Diesel Range Organics	0.77 U	1.2 U	1.8 U	1.4 U	0.99 U
Gasoline Range Organics	0.069 U	0.072 U	0.08 U	0.13 J	480 J

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - JP-5 HILL AND DFM AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB273	74SB273	74SB274	74SB274	74SB275	74SB275	74SB277	74SB278	74SB279	74SB279
Sample ID	74SB273-04	74SB273-05	74SB274-03	74SB274-05	74SB275-03D	74SB275-03	74SB277-02	74SB278-03	74SB279-03	74SB279-05
Date	5/28/2008	5/28/2008	5/28/2008	5/28/2008	5/28/2008	5/28/2008	5/28/2008	5/28/2008	5/28/2008	5/28/2008
Depth Range	7.0-9.0	9.0-11.0	5.0-7.0	9.0-11.0	5.0-7.0	5.0-7.0	3.0-5.0	5.0-7.0	5.0-7.0	9.0-11.0
Volatile Organic Compounds (ug/kg)										
1,1,1,2-Tetrachloroethane	0.69 U	0.74 U	0.63 U	0.67 U	0.96 U	0.74 U	0.98 U	0.79 U	0.93 U	0.86 U
1,1,1-Trichloroethane	0.62 UJ	0.67 UJ	0.57 UJ	0.61 UJ	0.87 UJ	0.67 UJ	0.89 UJ	0.72 UJ	0.84 UJ	0.78 UJ
1,1,2,2-Tetrachloroethane	1.5 U	1.6 U	1.4 U	1.5 U	2.1 U	1.6 U	2.1 U	1.7 U	2 U	1.9 U
1,1,2-Trichloroethane	1.3 U	1.4 U	1.2 U	1.3 U	1.8 U	1.4 U	1.8 U	1.5 U	1.7 U	1.6 U
1,1-Dichloroethane	0.54 U	0.58 U	0.49 U	0.52 U	0.75 U	0.57 U	0.77 U	0.62 U	0.73 U	0.67 U
1,1-Dichloroethene	0.58 U	0.63 U	0.53 U	0.56 U	0.81 U	0.62 U	0.83 U	0.67 U	0.79 U	0.73 U
1,2,3-Trichloropropane	1.5 U	1.6 U	1.4 U	1.5 U	2.1 U	1.6 U	2.1 U	1.7 U	2 U	1.9 U
1,2-Dibromo-3-Chloropropane	3 U	3.2 U	2.8 U	2.9 U	4.2 U	3.2 U	4.3 U	3.5 U	4.1 U	3.8 U
1,2-Dichloroethane	1.1 U	1.2 U	0.99 U	1 U	1.5 U	1.1 U	1.5 U	1.2 U	1.5 U	1.3 U
1,2-Dichloropropane	1.2 U	1.3 U	1.1 U	1.1 U	1.6 U	1.3 U	1.7 U	1.4 U	1.6 U	1.5 U
2-Butanone (MEK)	2.9 UJ	3.1 UJ	2.7 UJ	2.8 UJ	4 UJ	3.1 UJ	4.1 UJ	3.3 UJ	3.9 UJ	3.6 UJ
2-Chloro-1,3-butadiene	0.61 U	0.66 U	0.56 U	0.6 U	0.85 U	0.65 U	0.87 U	0.7 U	0.83 U	0.77 U
2-Hexanone	2.3 U	2.4 U	2.1 U	2.2 U	3.1 U	2.4 U	3.2 U	2.6 U	3.1 U	2.8 U
3-Chloro-1-propene	1.6 U	1.7 U	1.5 U	1.6 U	2.2 U	1.7 U	2.3 U	1.9 U	2.2 U	2 U
4-Methyl-2-pentanone (MIBK)	3.1 UJ	3.4 UJ	2.9 UJ	3 UJ	4.3 UJ	3.3 UJ	4.4 UJ	3.6 UJ	4.2 UJ	3.9 UJ
Acetone	4.8 UJ	12 UJ	5.1 UJ	6.7 UJ	13 UJ	9.6 UJ	34 UJ	7.4 UJ	14 UJ	8.8 UJ
Acetonitrile	48 U	52 U	45 U	47 U	67 UJ	52 UJ	69 UJ	56 UJ	65 U	60 U
Acrolein	20 U	22 U	19 U	20 U	28 U	22 U	29 U	23 U	28 U	26 U
Acrylonitrile	25 U	27 U	23 U	24 U	34 UJ	26 UJ	35 UJ	28 UJ	33 U	31 U
Benzene	0.85 U	0.92 U	0.78 U	0.83 U	1.2 U	0.91 U	1.2 U	0.98 U	1.1 U	1.1 U
Bromoform	1.2 U	1.3 U	1.1 U	1.1 U	1.6 U	1.3 U	1.7 U	1.4 U	1.6 U	1.5 U
Bromomethane	1.7 U	1.9 U	1.6 U	1.7 U	2.4 U	1.8 U	2.5 U	2 U	2.3 U	2.1 U
Carbon disulfide	0.55 U	0.59 U	0.5 U	0.53 U	0.76 U	0.59 U	0.78 U	0.63 U	0.74 U	0.68 U
Carbon tetrachloride	1.1 UJ	1.2 UJ	0.99 UJ	1 UJ	1.5 UJ	1.1 UJ	1.5 UJ	1.2 UJ	1.5 UJ	1.3 UJ
Chlorobenzene	0.78 U	0.85 U	0.72 U	0.76 U	1.1 U	0.84 U	1.1 U	0.9 U	1.1 U	0.98 U
Chlorodibromomethane	0.54 U	0.58 U	0.49 U	0.52 U	0.75 U	0.57 U	0.77 U	0.62 U	0.73 U	0.67 U
Chloroethane	1.3 UJ	1.4 UJ	1.2 UJ	1.3 UJ	1.8 UJ	1.4 UJ	1.8 UJ	1.5 UJ	1.7 UJ	1.6 UJ

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - JP-5 HILL AND DFM AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB273	74SB273	74SB274	74SB274	74SB275	74SB275	74SB277	74SB278	74SB279	74SB279
Sample ID	74SB273-04	74SB273-05	74SB274-03	74SB274-05	74SB275-03D	74SB275-03	74SB277-02	74SB278-03	74SB279-03	74SB279-05
Date	5/28/2008	5/28/2008	5/28/2008	5/28/2008	5/28/2008	5/28/2008	5/28/2008	5/28/2008	5/28/2008	5/28/2008
Depth Range	7.0-9.0	9.0-11.0	5.0-7.0	9.0-11.0	5.0-7.0	5.0-7.0	3.0-5.0	5.0-7.0	5.0-7.0	9.0-11.0
Volatile Organic Compounds (ug/kg)										
Chloroform	0.54 U	0.58 U	0.49 U	0.52 U	0.75 U	0.57 U	0.77 U	0.62 U	0.73 U	0.67 U
Chloromethane	0.76 U	0.82 U	0.7 U	0.74 U	1.1 U	0.82 U	1.1 U	0.88 U	1 U	0.95 U
cis-1,3-Dichloropropene	0.93 UJ	1 UJ	0.86 UJ	0.91 UJ	1.3 UJ	1 UJ	1.3 UJ	1.1 UJ	1.3 UJ	1.2 UJ
Dibromomethane	1.3 U	1.4 U	1.2 U	1.3 U	1.8 U	1.4 U	1.8 U	1.5 U	1.7 U	1.6 U
Dichlorobromomethane	0.89 U	0.96 U	0.82 U	0.87 U	1.2 U	0.95 U	1.3 U	1 U	1.2 U	1.1 U
Dichlorodifluoromethane	0.95 U	1 U	0.88 U	0.93 U	1.3 U	1 U	1.4 U	1.1 U	1.3 U	1.2 U
Ethyl methacrylate	2.4 U	2.5 U	2.2 U	2.3 U	3.3 U	2.5 U	3.4 U	2.7 U	3.2 U	3 U
Ethylbenzene	0.8 U	0.87 U	0.74 U	0.78 U	1.1 U	0.86 U	1.1 U	0.93 U	1.1 U	1 U
Ethylene Dibromide	1.6 U	1.7 U	1.5 U	1.6 U	2.2 U	1.7 U	2.3 U	1.9 U	2.2 U	2 U
Iodomethane	1.1 U	1.2 U	0.99 U	1 U	1.5 U	1.1 U	1.5 U	1.2 U	1.5 U	1.3 U
Isobutyl alcohol	74 U	80 U	68 U	72 U	100 R	79 R	110 R	85 R	100 U	93 U
Methacrylonitrile	26 U	28 U	24 U	25 U	36 UJ	28 UJ	37 UJ	30 UJ	35 U	32 U
Methyl methacrylate	4 U	4.3 U	3.7 U	3.9 U	5.5 UJ	4.2 UJ	5.7 UJ	4.6 UJ	5.4 U	5 U
Methylene Chloride	1.1 U	1.2 U	0.99 U	1 U	1.5 U	1.1 U	1.5 U	1.2 U	1.5 U	1.3 U
Pentachloroethane	2.4 R	2.5 R	2.2 R	2.3 R	3.3 R	2.5 R	3.4 R	2.7 R	3.2 R	3 R
Propionitrile	23 U	24 U	21 U	22 U	31 UJ	24 UJ	32 UJ	26 UJ	31 U	28 U
Styrene	0.71 U	0.76 U	0.65 U	0.69 U	0.99 U	0.76 U	1 U	0.82 U	0.96 U	0.89 U
Tetrachloroethene	0.78 U	0.85 U	0.72 U	0.76 U	1.1 U	0.84 U	1.1 U	0.9 U	1.1 U	0.98 U
Toluene	0.85 U	0.92 U	0.78 U	0.83 U	1.2 U	0.91 U	1.2 U	0.98 U	1.1 U	1.1 U
trans-1,2-Dichloroethene	1 U	1.1 U	0.96 U	1 U	1.5 U	1.1 U	1.5 U	1.2 U	1.4 U	1.3 U
trans-1,3-Dichloropropene	0.93 U	1 U	0.86 U	0.91 U	1.3 U	1 U	1.3 U	1.1 U	1.3 U	1.2 U
trans-1,4-Dichloro-2-butene	3.3 U	3.6 U	3.1 U	3.2 U	4.6 UJ	3.6 UJ	4.8 UJ	3.8 UJ	4.5 U	4.2 U
Trichloroethene	1.1 U	1.2 U	0.99 U	1 U	1.5 U	1.1 U	1.5 U	1.2 U	1.5 U	1.3 U
Trichlorofluoromethane	1.6 U	1.7 U	1.5 U	1.6 U	2.2 U	1.7 U	2.3 U	1.9 U	2.2 U	2 U
Vinyl acetate	1.6 U	1.7 U	1.5 U	1.6 U	2.2 U	1.7 U	2.3 U	1.9 U	2.2 U	2 U
Vinyl chloride	0.62 U	0.67 U	0.57 U	0.61 U	0.87 U	0.67 U	0.89 U	0.72 U	0.84 U	0.78 U
Xylenes, Total	2.5 U	2.7 U	2.3 U	2.4 U	3.4 U	2.6 U	3.5 U	2.8 U	3.3 U	3.1 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - JP-5 HILL AND DFM AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB273	74SB273	74SB274	74SB274	74SB275	74SB275	74SB277	74SB278	74SB279	74SB279
Sample ID	74SB273-04	74SB273-05	74SB274-03	74SB274-05	74SB275-03D	74SB275-03	74SB277-02	74SB278-03	74SB279-03	74SB279-05
Date	5/28/2008	5/28/2008	5/28/2008	5/28/2008	5/28/2008	5/28/2008	5/28/2008	5/28/2008	5/28/2008	5/28/2008
Depth Range	7.0-9.0	9.0-11.0	5.0-7.0	9.0-11.0	5.0-7.0	5.0-7.0	3.0-5.0	5.0-7.0	5.0-7.0	9.0-11.0
LLPAHs (ug/kg)										
1-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[a]anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[a]pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[b]fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[g,h,i]perylene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[k]fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indeno[1,2,3-cd]pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - JP-5 HILL AND DFM AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB273	74SB273	74SB274	74SB274	74SB275	74SB275	74SB277	74SB278	74SB279	74SB279
Sample ID	74SB273-04	74SB273-05	74SB274-03	74SB274-05	74SB275-03D	74SB275-03	74SB277-02	74SB278-03	74SB279-03	74SB279-05
Date	5/28/2008	5/28/2008	5/28/2008	5/28/2008	5/28/2008	5/28/2008	5/28/2008	5/28/2008	5/28/2008	5/28/2008
Depth Range	7.0-9.0	9.0-11.0	5.0-7.0	9.0-11.0	5.0-7.0	5.0-7.0	3.0-5.0	5.0-7.0	5.0-7.0	9.0-11.0
Metals (mg/kg)										
Antimony	0.083 UJ	0.094 UJ	0.078 UJ	0.095 UJ	0.11 UJ	0.083 UJ	0.082 UJ	0.074 UJ	0.095 UJ	0.096 UJ
Arsenic	0.8	1	0.89	2.8	1.4	1.7	0.97	1.1	1	1.2
Barium	24 J	140 J	24 J	37 J	36 J	82 J	56	110	190 J	150 J
Beryllium	0.2	0.26	0.23	0.29	0.3	0.27	0.24	0.26	0.57	0.34
Cadmium	0.1 J	0.28	0.45	0.79	0.043 U	0.083 U	0.072 U	0.059 U	0.039 U	0.06 J
Chromium	21 J	75 J	49 J	58 J	24	19	31	22	37 J	36 J
Cobalt	9.4	37	25	31	18	25	22	36	67	35
Copper	150	160	150	93	110	140	110	130	130	100
Lead	0.43	2.5	1.4	5.4	1.2	1.5	1.9	1.6	1.2	1.4
Mercury	0.0047 U	0.0041 U	0.0043 U	0.0044 U	0.01 J	0.0042 U	0.0047 U	0.0042 U	0.0052 U	0.0051 U
Nickel	22	50	29	31	16	16	22	17	26	32
Selenium	0.13 U	0.13 U	0.13 U	0.13 U	0.17 U	0.13 U	0.13 U	0.12 U	0.15 U	0.15 U
Silver	0.082 J	0.044 J	0.072 J	0.026 J	0.076 J	0.088 J	0.042 J	0.11 J	0.027 J	0.021 J
Thallium	0.13 U	0.13 U	0.13 U	0.13 U	0.17 U	0.13 U	0.13 U	0.12 U	0.15 U	0.15 U
Tin	4.4 U	4.3 U	4.2 U	4.2 U	5.6 U	4.4 U	4.4 U	4 U	5.1 U	5.1 U
Vanadium	220	140	180	260	200	230	170	160	160	200
Zinc	30 J	67 J	62 J	100 J	61 J	95 J	56 J	42 J	60 J	73 J
TPH DRO/GRO (mg/kg)										
Diesel Range Organics	0.84	2.2	1.1	0.62	1.4	1.1	1.8	0.53	0.73	0.91
Gasoline Range Organics	0.069 U	0.072 U	0.066 U	0.065 U	0.17 J	0.07 U	0.13 J	0.081 U	0.08 U	0.082 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - JP-5 HILL AND DFM AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB280	74SB280	74SB281	74SB281	74SB281	74SB282	74SB282	74SB283	74SB284	74SB284
Sample ID	74SB280-02	74SB280-05	74SB281-02	74SB281-05D	74SB281-05	74SB282-02	74SB282-05	74SB283-02	74SB284-02	74SB284-05
Date	5/28/2008	5/28/2008	5/28/2008	5/28/2008	5/28/2008	5/28/2008	5/28/2008	5/28/2008	5/28/2008	5/28/2008
Depth Range	3.0-5.0	9.0-11.0	3.0-5.0	9.0-11.0	9.0-11.0	3.0-5.0	9.0-11.0	3.0-5.0	3.0-5.0	9.0-11.0
Volatile Organic Compounds (ug/kg)										
1,1,1,2-Tetrachloroethane	0.87 U	0.97 U	0.93 U	0.71 U	0.74 U	0.89 U	0.7 U	0.61 U	0.83 U	0.88 U
1,1,1-Trichloroethane	0.79 UJ	0.88 UJ	0.85 UJ	0.65 UJ	0.67 UJ	0.8 UJ	0.63 UJ	0.55 UJ	0.76 UJ	0.8 UJ
1,1,2,2-Tetrachloroethane	1.9 U	2.1 U	2 U	1.6 U	1.6 U	1.9 U	1.5 U	1.3 U	1.8 U	1.9 U
1,1,2-Trichloroethane	1.6 U	1.8 U	1.8 U	1.3 U	1.4 U	1.7 U	1.3 U	1.1 U	1.6 U	1.7 U
1,1-Dichloroethane	0.68 U	0.76 U	0.73 U	0.56 U	0.57 U	0.69 U	0.55 U	0.47 U	0.65 U	0.69 U
1,1-Dichloroethene	0.74 U	0.82 U	0.79 U	0.6 U	0.62 U	0.75 U	0.59 U	0.51 U	0.7 U	0.74 U
1,2,3-Trichloropropane	1.9 U	2.1 U	2 U	1.6 U	1.6 U	1.9 U	1.5 U	1.3 U	1.8 U	1.9 U
1,2-Dibromo-3-Chloropropane	3.8 U	4.3 U	4.1 U	3.1 U	3.2 U	3.9 U	3.1 U	2.6 U	3.6 U	3.9 U
1,2-Dichloroethane	1.4 U	1.5 U	1.5 U	1.1 U	1.1 U	1.4 U	1.1 U	0.95 U	1.3 U	1.4 U
1,2-Dichloropropane	1.5 U	1.7 U	1.6 U	1.2 U	1.3 U	1.5 U	1.2 U	1 U	1.4 U	1.5 U
2-Butanone (MEK)	3.7 UJ	4.1 UJ	3.9 J	3 UJ	3.1 UJ	3.7 UJ	2.9 UJ	2.6 UJ	3.5 UJ	3.7 UJ
2-Chloro-1,3-butadiene	0.78 U	0.87 U	0.83 U	0.64 U	0.65 U	0.79 U	0.62 U	0.54 U	0.74 U	0.78 U
2-Hexanone	2.9 U	3.2 U	3.1 U	2.3 U	2.4 U	2.9 U	2.3 U	2 U	2.7 U	2.9 U
3-Chloro-1-propene	2 U	2.3 U	2.2 U	1.7 U	1.7 U	2.1 U	1.6 U	1.4 U	2 U	2.1 U
4-Methyl-2-pentanone (MIBK)	4 UJ	4.4 UJ	4.2 UJ	3.2 UJ	3.3 UJ	4 UJ	3.2 UJ	2.7 UJ	3.8 UJ	4 UJ
Acetone	10 UJ	9 UJ	24 J	4.9 UJ	5.1 UJ	16 UJ	6.3 UJ	24 UJ	35 UJ	18 UJ
Acetonitrile	61 UJ	68 UJ	66 UJ	50 UJ	52 UJ	62 UJ	49 UJ	43 U	59 U	62 U
Acrolein	26 U	29 U	28 U	21 U	22 U	26 U	21 U	18 U	25 U	26 U
Acrylonitrile	31 UJ	35 UJ	34 UJ	26 UJ	26 UJ	32 UJ	25 UJ	22 U	30 U	32 U
Benzene	1.1 U	1.2 U	1.2 J	0.88 U	0.91 U	1.1 U	0.86 U	0.75 U	1 U	1.1 U
Bromoform	1.5 U	1.7 U	1.6 U	1.2 U	1.3 U	1.5 U	1.2 U	1 U	1.4 U	1.5 U
Bromomethane	2.2 U	2.4 U	2.3 U	1.8 U	1.8 U	2.2 U	1.7 U	1.5 U	2.1 U	2.2 U
Carbon disulfide	0.7 U	0.77 U	0.74 J	0.57 U	0.59 U	0.71 U	0.56 U	0.48 U	0.66 U	0.7 U
Carbon tetrachloride	1.4 UJ	1.5 UJ	1.5 UJ	1.1 UJ	1.1 UJ	1.4 UJ	1.1 UJ	0.95 UJ	1.3 UJ	1.4 UJ
Chlorobenzene	1 U	1.1 U	1.1 U	0.82 U	0.84 U	1 U	0.8 U	0.69 U	0.95 U	1 U
Chlorodibromomethane	0.68 U	0.76 U	0.73 U	0.56 U	0.57 U	0.69 U	0.55 U	0.47 U	0.65 U	0.69 U
Chloroethane	1.6 UJ	1.8 UJ	1.8 UJ	1.3 UJ	1.4 UJ	1.7 UJ	1.3 UJ	1.1 UJ	1.6 UJ	1.7 UJ

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - JP-5 HILL AND DFM AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB280	74SB280	74SB281	74SB281	74SB281	74SB282	74SB282	74SB283	74SB284	74SB284
Sample ID	74SB280-02	74SB280-05	74SB281-02	74SB281-05D	74SB281-05	74SB282-02	74SB282-05	74SB283-02	74SB284-02	74SB284-05
Date	5/28/2008	5/28/2008	5/28/2008	5/28/2008	5/28/2008	5/28/2008	5/28/2008	5/28/2008	5/28/2008	5/28/2008
Depth Range	3.0-5.0	9.0-11.0	3.0-5.0	9.0-11.0	9.0-11.0	3.0-5.0	9.0-11.0	3.0-5.0	3.0-5.0	9.0-11.0
Volatile Organic Compounds (ug/kg)										
Chloroform	0.68 U	0.76 U	0.73 J	0.56 U	0.57 U	0.69 U	0.55 U	0.47 U	0.65 U	0.69 U
Chloromethane	0.97 U	1.1 U	1 J	0.79 U	0.82 U	0.98 U	0.78 U	0.67 U	0.92 U	0.98 U
cis-1,3-Dichloropropene	1.2 UJ	1.3 UJ	1.3 UJ	0.97 UJ	1 UJ	1.2 UJ	0.95 UJ	0.82 UJ	1.1 UJ	1.2 UJ
Dibromomethane	1.6 U	1.8 U	1.8 U	1.3 U	1.4 U	1.7 U	1.3 U	1.1 U	1.6 U	1.7 U
Dichlorobromomethane	1.1 U	1.3 U	1.2 U	0.93 U	0.95 U	1.2 U	0.91 U	0.78 U	1.1 U	1.1 U
Dichlorodifluoromethane	1.2 U	1.4 U	1.3 U	0.99 U	1 U	1.2 U	0.97 U	0.84 U	1.2 U	1.2 U
Ethyl methacrylate	3 U	3.3 U	3.2 U	2.5 U	2.5 U	3.1 U	2.4 U	2.1 U	2.9 U	3 U
Ethylbenzene	1 U	1.1 U	1.1 J	0.84 U	0.86 U	1 U	0.82 U	0.71 U	0.98 U	1 U
Ethylene Dibromide	2 U	2.3 U	2.2 U	1.7 U	1.7 U	2.1 U	1.6 U	1.4 U	2 U	2.1 U
Iodomethane	1.4 U	1.5 U	1.5 J	1.1 U	1.1 U	2.2 J	1.1 U	0.95 U	1.3 U	1.4 U
Isobutyl alcohol	94 R	100 R	100 R	77 R	79 R	96 R	75 R	65 U	90 U	95 U
Methacrylonitrile	33 UJ	36 UJ	35 J	27 UJ	28 UJ	33 UJ	26 UJ	23 U	31 U	33 U
Methyl methacrylate	5 UJ	5.6 UJ	5.4 UJ	4.1 UJ	4.3 UJ	5.1 UJ	4 UJ	3.5 U	4.8 U	5.1 U
Methylene Chloride	1.4 U	1.5 U	1.5 J	1.1 U	1.1 U	1.4 U	1.1 U	0.95 U	1.3 U	1.4 U
Pentachloroethane	3 R	3.3 R	3.2 R	2.5 R	2.5 R	3.1 R	2.4 R	2.1 R	2.9 R	3 R
Propionitrile	29 UJ	32 UJ	31 UJ	23 UJ	24 UJ	29 UJ	23 UJ	20 U	27 U	29 U
Styrene	0.9 U	1 U	0.96 U	0.74 U	0.76 U	0.92 U	0.72 U	0.62 U	0.86 U	0.91 U
Tetrachloroethene	1 U	1.1 U	1.1 U	0.82 U	0.84 U	1 U	0.8 U	0.69 U	0.95 U	1 U
Toluene	1.1 U	1.2 U	1.2 J	0.88 U	0.91 U	1.1 U	0.86 U	0.75 U	1 U	1.1 U
trans-1,2-Dichloroethene	1.3 U	1.5 U	1.4 J	1.1 U	1.1 U	1.3 U	1.1 U	0.92 U	1.3 U	1.3 U
trans-1,3-Dichloropropene	1.2 U	1.3 U	1.3 U	0.97 U	1 U	1.2 U	0.95 U	0.82 U	1.1 U	1.2 U
trans-1,4-Dichloro-2-butene	4.2 UJ	4.7 UJ	4.5 UJ	3.5 UJ	3.6 UJ	4.3 UJ	3.4 UJ	2.9 U	4 U	4.3 U
Trichloroethene	1.4 U	1.5 U	1.5 U	1.1 U	1.1 U	1.4 U	1.1 U	0.95 U	1.3 U	1.4 U
Trichlorofluoromethane	2 U	2.3 U	2.2 U	1.7 U	1.7 U	2.1 U	1.6 U	1.4 U	2 U	2.1 U
Vinyl acetate	2 U	2.3 U	2.2 U	1.7 U	1.7 U	2.1 U	1.6 U	1.4 U	2 U	2.1 U
Vinyl chloride	0.79 U	0.88 U	0.85 U	0.65 U	0.67 U	0.8 U	0.63 U	0.55 U	0.76 U	0.8 U
Xylenes, Total	3.1 U	3.5 U	3.4 J	2.6 U	2.6 U	3.2 U	2.5 U	2.2 U	3 U	3.2 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - JP-5 HILL AND DFM AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB280	74SB280	74SB281	74SB281	74SB281	74SB282	74SB282	74SB283	74SB284	74SB284
Sample ID	74SB280-02	74SB280-05	74SB281-02	74SB281-05D	74SB281-05	74SB282-02	74SB282-05	74SB283-02	74SB284-02	74SB284-05
Date	5/28/2008	5/28/2008	5/28/2008	5/28/2008	5/28/2008	5/28/2008	5/28/2008	5/28/2008	5/28/2008	5/28/2008
Depth Range	3.0-5.0	9.0-11.0	3.0-5.0	9.0-11.0	9.0-11.0	3.0-5.0	9.0-11.0	3.0-5.0	3.0-5.0	9.0-11.0
LLPAHs (ug/kg)										
1-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[a]anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[a]pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[b]fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[g,h,i]perylene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[k]fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indeno[1,2,3-cd]pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - JP-5 HILL AND DFM AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB280	74SB280	74SB281	74SB281	74SB281	74SB282	74SB282	74SB283	74SB284	74SB284
Sample ID	74SB280-02	74SB280-05	74SB281-02	74SB281-05D	74SB281-05	74SB282-02	74SB282-05	74SB283-02	74SB284-02	74SB284-05
Date	5/28/2008	5/28/2008	5/28/2008	5/28/2008	5/28/2008	5/28/2008	5/28/2008	5/28/2008	5/28/2008	5/28/2008
Depth Range	3.0-5.0	9.0-11.0	3.0-5.0	9.0-11.0	9.0-11.0	3.0-5.0	9.0-11.0	3.0-5.0	3.0-5.0	9.0-11.0
Metals (mg/kg)										
Antimony	0.097 UJ	0.096 UJ	0.099 UJ	0.09 UJ	0.085 UJ	0.079 UJ	0.083 UJ	0.073 UJ	0.082 UJ	0.076 UJ
Arsenic	1.5	0.6 J	2	2	2	1.1	1.1	1.7	1	1.1
Barium	90	19	420	150 J	240 J	63	89	59 J	330 J	34 J
Beryllium	0.34	0.22	0.31	0.69	0.75	0.22	0.28	0.3	0.44	0.28
Cadmium	0.04 U	0.04 U	0.052 U	0.09 U	0.09 U	0.036 U	0.046 U	0.049 J	0.054 J	0.17
Chromium	83	52	78	60	54	20	30	54 J	66 J	35 J
Cobalt	18	11	12	64	56	21	21	27	56	23
Copper	120	130	90	150	160	100	130	95	100	98
Lead	3	1.9	8.7	1.1	1.1	0.79	0.89	1.7	3.3	0.83
Mercury	0.0048 U	0.0051 U	0.022 J	0.0051 U	0.0046 U	0.0045 U	0.0044 U	0.011 J	0.0044 U	0.0043 U
Nickel	21	28	18	41	45	19	19	35	39	51
Selenium	1.1	0.15 U	1.5	0.21 U	0.2 U	0.13 U	0.13 U	0.23 J	0.13 U	0.12 U
Silver	0.021 UJ	0.023 J	0.025 J	0.024 J	0.018 UJ	0.036 J	0.022 J	0.056 J	0.033 J	0.051 J
Thallium	0.15 U	0.15 U	0.16 U	0.14 U	0.14 U	0.13 U	0.13 U	0.12 U	0.13 U	0.12 U
Tin	5.2 U	5.1 U	5.3 U	4.8 U	4.5 U	4.2 U	4.5 U	3.9 U	4.4 U	4 U
Vanadium	310	130	380	330	260	190	210	150	170	160
Zinc	39 J	66 J	41 J	96 J	88 J	30 J	36 J	42 J	92 J	62 J
TPH DRO/GRO (mg/kg)										
Diesel Range Organics	1	1.3	1.9	0.96	2.1	1.2	1.3	1.4	1.2	0.77
Gasoline Range Organics	0.082 U	0.11 J	0.087 U	0.064 UJ	0.079 UJ	0.077 U	0.062 U	0.066 U	0.076 U	0.091 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - JP-5 HILL AND DFM AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB285	74SB285	74VP05a	74VP05a	74VP08a	74VP08a	74VP9b/JP5Hill	74VP9b/JP5Hill
Sample ID	74SB285-02	74SB285-05	74VP05a-04	74VP05a-09	74VP08a-07	74VP08a-10	74VP9b/JP5Hill-03	74VP9b/JP5Hill-05
Date	5/28/2008	5/28/2008	5/16/2008	5/16/2008	5/15/2008	5/15/2008	5/16/2008	5/16/2008
Depth Range	3.0-5.0	9.0-11.0	7.0-9.0	17.0-19.0	13.0-15.0	19.0-21.0	5.0-7.0	9.0-11.0
Volatile Organic Compounds (ug/kg)								
1,1,1,2-Tetrachloroethane	0.85 U	1 U	0.68 U	0.73 U	1.1 U	0.75 U	38 U	0.86 U
1,1,1-Trichloroethane	0.77 UJ	0.92 UJ	0.62 U	0.66 U	0.97 U	0.68 U	34 U	0.78 U
1,1,2,2-Tetrachloroethane	1.9 U	2.2 U	1.5 U	1.6 U	2.4 U	1.6 U	82 U	1.9 U
1,1,2-Trichloroethane	1.6 U	1.9 U	1.3 U	1.4 U	2 U	1.4 U	71 U	1.6 U
1,1-Dichloroethane	0.66 U	0.8 U	0.53 U	0.57 U	0.84 U	0.59 U	29 U	0.67 U
1,1-Dichloroethene	0.71 U	0.86 U	0.58 U	0.61 U	0.91 U	0.64 U	32 U	0.72 U
1,2,3-Trichloropropane	1.9 U	2.2 U	1.5 U	1.6 U	2.4 U	1.6 U	82 U	1.9 UJ
1,2-Dibromo-3-Chloropropane	3.7 U	4.5 U	3 U	3.2 U	4.7 U	3.3 U	160 U	3.7 UJ
1,2-Dichloroethane	1.3 U	1.6 U	1.1 U	1.1 U	1.7 U	1.2 U	59 U	1.3 U
1,2-Dichloropropane	1.5 U	1.8 U	1.2 U	1.3 U	1.8 U	1.3 U	65 U	1.5 U
2-Butanone (MEK)	3.6 UJ	4.3 UJ	6.8 UJ	3.1 U	4.5 U	3.2 U	190 U	3.6 UJ
2-Chloro-1,3-butadiene	0.75 U	0.91 U	0.61 U	0.65 U	0.96 U	0.67 U	34 U	0.76 U
2-Hexanone	2.8 U	3.3 U	2.2 U	2.4 U	3.5 U	2.5 U	120 U	2.8 UJ
3-Chloro-1-propene	2 U	2.4 U	1.6 U	1.7 U	2.5 U	1.8 U	88 U	2 U
4-Methyl-2-pentanone (MIBK)	3.8 UJ	4.6 UJ	3.1 U	3.3 U	4.9 U	3.4 U	170 U	3.9 UJ
Acetone	9.5 UJ	9.4 UJ	53 J	10 J	12 U	8.5 U	270 J	19 UJ
Acetonitrile	60 U	72 U	48 U	51 U	76 U	53 U	2600 U	60 UJ
Acrolein	25 U	30 U	20 U	22 U	32 R	22 R	1100 U	25 U
Acrylonitrile	30 U	37 U	25 U	26 U	39 U	27 U	1400 U	31 U
Benzene	1 U	1.3 U	0.84 U	0.9 U	1.3 U	0.93 U	47 U	1.1 U
Bromoform	1.5 U	1.8 U	1.2 U	1.3 U	1.8 U	1.3 U	65 U	1.5 U
Bromomethane	2.1 U	2.5 U	1.7 U	1.8 U	2.7 U	1.9 U	94 U	2.1 UJ
Carbon disulfide	0.67 U	0.81 U	2.9 J	0.58 U	0.86 U	0.6 U	30 U	1.5 J
Carbon tetrachloride	1.3 UJ	1.6 UJ	1.1 U	1.1 U	1.7 U	1.2 U	59 U	1.3 U
Chlorobenzene	0.97 U	1.2 U	0.78 U	0.83 U	1.2 U	0.86 U	43 U	0.98 U
Chlorodibromomethane	0.66 U	0.8 U	0.53 U	0.57 U	0.84 U	0.59 U	29 U	0.67 U
Chloroethane	1.6 UJ	1.9 UJ	1.3 U	1.4 U	2 UJ	1.4 UJ	71 UJ	1.6 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - JP-5 HILL AND DFM AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB285	74SB285	74VP05a	74VP05a	74VP08a	74VP08a	74VP9b/JP5Hill	74VP9b/JP5Hill
Sample ID	74SB285-02	74SB285-05	74VP05a-04	74VP05a-09	74VP08a-07	74VP08a-10	74VP9b/JP5Hill-03	74VP9b/JP5Hill-05
Date	5/28/2008	5/28/2008	5/16/2008	5/16/2008	5/15/2008	5/15/2008	5/16/2008	5/16/2008
Depth Range	3.0-5.0	9.0-11.0	7.0-9.0	17.0-19.0	13.0-15.0	19.0-21.0	5.0-7.0	9.0-11.0
Volatile Organic Compounds (ug/kg)								
Chloroform	0.66 U	0.8 U	0.53 U	0.57 U	0.84 U	0.59 U	29 U	0.67 U
Chloromethane	0.94 U	1.1 U	0.76 U	0.81 U	1.2 U	0.84 U	42 U	0.95 U
cis-1,3-Dichloropropene	1.2 UJ	1.4 UJ	0.93 U	0.99 U	1.5 U	1 U	51 U	1.2 U
Dibromomethane	1.6 U	1.9 U	1.3 U	1.4 U	2 U	1.4 U	71 U	1.6 U
Dichlorobromomethane	1.1 U	1.3 U	0.89 U	0.94 U	1.4 U	0.98 U	49 U	1.1 U
Dichlorodifluoromethane	1.2 U	1.4 U	0.95 U	1 U	1.5 U	1 U	52 U	1.2 U
Ethyl methacrylate	2.9 U	3.5 U	2.4 U	2.5 U	3.7 U	2.6 U	130 U	2.9 U
Ethylbenzene	0.99 U	1.2 U	0.8 U	0.85 U	1.3 U	0.88 U	44 U	1 U
Ethylene Dibromide	2 U	2.4 U	1.6 U	1.7 U	2.5 U	1.8 U	88 U	2 U
Iodomethane	1.3 U	1.6 U	1.1 U	1.1 U	1.7 U	1.2 U	59 U	1.3 U
Isobutyl alcohol	91 U	110 U	74 U	78 U	120 R	81 R	4100 U	92 R
Methacrylonitrile	32 U	38 U	26 U	27 U	40 U	28 U	1400 U	32 U
Methyl methacrylate	4.9 U	5.9 U	4 U	4.2 U	6.2 U	4.4 U	220 U	4.9 UJ
Methylene Chloride	1.3 U	1.6 U	1.1 U	1.1 U	1.7 U	1.2 U	59 U	1.3 U
Pentachloroethane	2.9 R	3.5 R	2.4 R	2.5 R	3.7 UJ	2.6 UJ	130 R	2.9 UJ
Propionitrile	28 U	33 U	22 U	24 U	35 U	25 U	1200 U	28 U
Styrene	0.87 U	1.1 U	0.71 U	0.75 U	1.1 U	0.78 U	39 U	0.88 U
Tetrachloroethene	0.97 U	1.2 U	0.78 U	0.83 U	1.2 U	0.86 U	43 U	0.98 U
Toluene	1 U	1.3 U	0.84 U	0.9 U	1.3 U	0.93 U	47 U	1.1 U
trans-1,2-Dichloroethene	1.3 U	1.5 U	1 U	1.1 U	1.6 U	1.1 U	57 U	1.3 U
trans-1,3-Dichloropropene	1.2 U	1.4 U	0.93 U	0.99 U	1.5 U	1 U	51 U	1.2 U
trans-1,4-Dichloro-2-butene	4.1 U	4.9 U	3.3 U	3.5 U	5.2 U	3.7 U	180 U	4.1 U
Trichloroethene	1.3 U	1.6 U	1.1 U	1.1 U	1.7 U	1.2 U	59 U	1.3 U
Trichlorofluoromethane	2 U	2.4 U	1.6 U	1.7 U	2.5 U	1.8 U	88 U	2 U
Vinyl acetate	2 U	2.4 U	1.6 U	1.7 U	2.5 U	1.8 U	88 U	2 U
Vinyl chloride	0.77 U	0.92 U	0.62 U	0.66 U	0.97 U	0.68 U	34 U	0.78 U
Xylenes, Total	3 U	3.7 U	2.5 U	2.6 U	3.9 U	2.7 U	140 U	3.1 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - JP-5 HILL AND DFM AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB285	74SB285	74VP05a	74VP05a	74VP08a	74VP08a	74VP9b/JP5Hill	74VP9b/JP5Hill
Sample ID	74SB285-02	74SB285-05	74VP05a-04	74VP05a-09	74VP08a-07	74VP08a-10	74VP9b/JP5Hill-03	74VP9b/JP5Hill-05
Date	5/28/2008	5/28/2008	5/16/2008	5/16/2008	5/15/2008	5/15/2008	5/16/2008	5/16/2008
Depth Range	3.0-5.0	9.0-11.0	7.0-9.0	17.0-19.0	13.0-15.0	19.0-21.0	5.0-7.0	9.0-11.0
LLPAHs (ug/kg)								
1-Methylnaphthalene	NA	NA	NA	NA	NA	NA	18 U	1.4 U
2-Methylnaphthalene	NA	NA	NA	NA	NA	NA	25 U	1.9 U
Acenaphthene	NA	NA	NA	NA	NA	NA	8.4 U	4.6 J
Acenaphthylene	NA	NA	NA	NA	NA	NA	25 U	2.2 J
Anthracene	NA	NA	NA	NA	NA	NA	25 U	1.9 U
Benzo[a]anthracene	NA	NA	NA	NA	NA	NA	25 U	1.9 U
Benzo[a]pyrene	NA	NA	NA	NA	NA	NA	9.7 U	0.75 U
Benzo[b]fluoranthene	NA	NA	NA	NA	NA	NA	11 U	0.86 U
Benzo[g,h,i]perylene	NA	NA	NA	NA	NA	NA	25 U	1.9 U
Benzo[k]fluoranthene	NA	NA	NA	NA	NA	NA	15 U	1.1 U
Chrysene	NA	NA	NA	NA	NA	NA	9 U	0.69 U
Dibenz(a,h)anthracene	NA	NA	NA	NA	NA	NA	8.7 U	0.67 U
Fluoranthene	NA	NA	NA	NA	NA	NA	25 U	1.9 U
Fluorene	NA	NA	NA	NA	NA	NA	11 U	3.1 J
Indeno[1,2,3-cd]pyrene	NA	NA	NA	NA	NA	NA	18 U	1.4 U
Naphthalene	NA	NA	NA	NA	NA	NA	8.8 U	1.9 J
Phenanthrene	NA	NA	NA	NA	NA	NA	25 U	5 J
Pyrene	NA	NA	NA	NA	NA	NA	25 U	1.9 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - JP-5 HILL AND DFM AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB285	74SB285	74VP05a	74VP05a	74VP08a	74VP08a	74VP9b/JP5Hill	74VP9b/JP5Hill
Sample ID	74SB285-02	74SB285-05	74VP05a-04	74VP05a-09	74VP08a-07	74VP08a-10	74VP9b/JP5Hill-03	74VP9b/JP5Hill-05
Date	5/28/2008	5/28/2008	5/16/2008	5/16/2008	5/15/2008	5/15/2008	5/16/2008	5/16/2008
Depth Range	3.0-5.0	9.0-11.0	7.0-9.0	17.0-19.0	13.0-15.0	19.0-21.0	5.0-7.0	9.0-11.0
Metals (mg/kg)								
Antimony	0.089 UJ	0.087 UJ	0.11 UJ	0.13 UJ	0.098 U	0.083 UJ	0.11 UJ	0.079 UJ
Arsenic	0.79	0.64	1.4	0.96	0.5 J	0.95	0.26 J	0.37 J
Barium	130 J	60 J	120 J	57 J	91 J	48	34 J	43 J
Beryllium	0.26	0.18	0.42	0.33	0.24	0.2	0.12 J	0.29
Cadmium	0.037 U	0.036 U	0.042 J	0.27	0.05 J	0.25	0.1 J	0.097 J
Chromium	43 J	44 J	13 J	12 J	20 J	20	19 J	23 J
Cobalt	20	11	18	19	28 J	27 J	14	17
Copper	110	74	70	72	180 J	140	47	50
Lead	1.8	1.6	15	2.3	1.6	59	2.2	0.85
Mercury	0.0047 U	0.005 U	0.0098 J	0.058	0.0055 UJ	0.0042 U	0.0054 U	0.0041 U
Nickel	33	26	9	6.3	28	26	17	25
Selenium	0.14 U	0.14 U	0.61 J	0.14 U	0.16 U	0.32 J	0.17 U	0.13 U
Silver	0.14 J	0.11 J	0.026 J	0.08 J	0.24 J	0.081 J	0.035 J	0.078 J
Thallium	0.14 U	0.14 U	0.15 U	0.14 U	0.16 U	0.13 U	0.17 U	0.13 U
Tin	4.7 U	4.7 U	5 U	4.7 U	5.2 U	4.2 U	5.6 U	4.2 U
Vanadium	140	110	190	130	280 J	270	85	96
Zinc	70 J	60 J	56	68	150 J	160	54	49
TPH DRO/GRO (mg/kg)								
Diesel Range Organics	0.89	1.3	1.3 U	0.76 U	0.83 U	0.7 U	89	54
Gasoline Range Organics	0.097 U	0.088 U	0.074 U	0.073 U	0.3	0.097 U	0.43	8.3 J

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - JP-5 HILL AND DFM AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74VP10a/JP5Hill	74VP10a/JP5Hill	74VP10b/DFM	74VP10b/DFM	74VP11b/JP5Hill	74VP11b/JP5Hill
Sample ID	74VP10a/JP5Hill-04	74VP10a/JP5Hill-05	74VP10b/DFM-04	74VP10b/DFM-05	74VP11b/JP5Hill-04	74SBVP11b/JP5Hill-05
Date	5/16/2008	5/16/2008	5/17/2008	5/17/2008	5/17/2008	5/17/2008
Depth Range	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0
Volatile Organic Compounds (ug/kg)						
1,1,1,2-Tetrachloroethane	0.61 U	24 U	0.67 U	0.7 U	0.65 U	0.74 U
1,1,1-Trichloroethane	0.56 U	22 U	0.61 U	0.63 U	0.59 U	0.67 U
1,1,2,2-Tetrachloroethane	1.3 U	52 U	1.5 U	1.5 U	1.4 U	1.6 U
1,1,2-Trichloroethane	1.1 U	45 U	1.3 U	1.3 U	1.2 U	1.4 U
1,1-Dichloroethane	0.48 U	19 U	0.53 U	0.54 U	0.51 U	0.58 U
1,1-Dichloroethene	0.52 U	20 U	0.57 U	0.59 U	0.55 U	0.62 U
1,2,3-Trichloropropane	1.3 U	52 U	1.5 U	1.5 U	1.4 U	1.6 U
1,2-Dibromo-3-Chloropropane	2.7 U	100 U	2.9 U	3.1 U	2.8 U	3.2 U
1,2-Dichloroethane	0.96 U	37 U	1.1 U	1.1 U	1 U	1.2 U
1,2-Dichloropropane	1.1 U	41 U	1.2 U	1.2 U	1.1 U	1.3 U
2-Butanone (MEK)	2.6 U	130 UJ	19 UJ	7.7 UJ	6.7 UJ	3.1 UJ
2-Chloro-1,3-butadiene	0.55 U	21 U	0.6 U	0.62 U	0.58 U	0.66 U
2-Hexanone	2 UJ	78 U	2.2 UJ	2.3 UJ	2.1 UJ	2.4 UJ
3-Chloro-1-propene	1.4 U	56 U	1.6 U	1.6 U	1.5 U	1.7 U
4-Methyl-2-pentanone (MIBK)	2.8 U	110 U	3 UJ	3.2 UJ	3 UJ	3.4 UJ
Acetone	52 J	160 U	100	58	63	22 J
Acetonitrile	43 U	1700 U	47 U	49 U	46 U	52 U
Acrolein	18 U	710 U	20 U	21 U	19 U	22 U
Acrylonitrile	22 U	850 U	24 UJ	25 UJ	23 UJ	27 UJ
Benzene	0.76 U	29 U	0.83 U	0.86 U	0.8 U	0.91 U
Bromoform	1.1 U	41 U	1.2 U	1.2 U	1.1 U	1.3 U
Bromomethane	1.5 U	59 U	1.7 U	1.7 U	1.6 U	1.8 U
Carbon disulfide	0.98 J	19 U	0.54 U	0.56 U	0.52 U	0.59 U
Carbon tetrachloride	0.96 U	37 U	1.1 U	1.1 U	1 U	1.2 U
Chlorobenzene	0.7 U	27 U	0.77 U	0.8 U	0.74 U	0.84 U
Chlorodibromomethane	0.48 U	19 U	0.53 U	0.54 U	0.51 U	0.58 U
Chloroethane	1.1 U	45 UJ	1.3 U	1.3 U	1.2 U	1.4 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - JP-5 HILL AND DFM AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74VP10a/JP5Hill	74VP10a/JP5Hill	74VP10b/DFM	74VP10b/DFM	74VP11b/JP5Hill	74VP11b/JP5Hill
Sample ID	74VP10a/JP5Hill-04	74VP10a/JP5Hill-05	74VP10b/DFM-04	74VP10b/DFM-05	74VP11b/JP5Hill-04	74SBVP11b/JP5Hill-05
Date	5/16/2008	5/16/2008	5/17/2008	5/17/2008	5/17/2008	5/17/2008
Depth Range	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0
Volatile Organic Compounds (ug/kg)						
Chloroform	0.48 U	19 U	0.53 U	0.54 U	0.51 U	0.58 U
Chloromethane	0.68 U	26 U	0.75 U	0.77 U	0.72 U	0.82 U
cis-1,3-Dichloropropene	0.83 U	32 U	0.91 U	0.95 U	0.89 U	1 U
Dibromomethane	1.1 U	45 U	1.3 U	1.3 U	1.2 U	1.4 U
Dichlorobromomethane	0.79 U	31 U	0.87 U	0.9 U	0.84 U	0.96 U
Dichlorodifluoromethane	0.85 U	33 U	0.94 U	0.97 U	0.91 U	1 U
Ethyl methacrylate	2.1 U	82 U	2.3 UJ	2.4 UJ	2.2 UJ	2.5 UJ
Ethylbenzene	0.72 U	28 U	0.79 U	0.82 U	0.76 U	0.87 U
Ethylene Dibromide	1.4 U	56 U	1.6 U	1.6 U	1.5 U	1.7 U
Iodomethane	0.96 U	37 U	1.1 U	1.1 U	2.4 J	1.2 U
Isobutyl alcohol	66 U	2700 J	73 U	75 U	70 U	80 U
Methacrylonitrile	23 U	890 U	25 U	26 U	24 U	28 U
Methyl methacrylate	3.5 U	140 U	3.9 U	4 U	3.8 U	4.3 U
Methylene Chloride	0.96 U	37 U	1.1 U	1.1 U	1 U	1.2 U
Pentachloroethane	2.1 R	82 R	2.3 R	2.4 R	2.2 R	2.5 R
Propionitrile	20 U	780 U	22 U	23 U	21 U	24 U
Styrene	0.63 U	24 U	0.69 U	0.72 U	0.67 U	0.76 U
Tetrachloroethene	0.7 U	27 U	0.77 U	0.8 U	0.74 U	0.84 U
Toluene	0.76 U	29 U	0.83 U	0.86 U	0.8 U	0.91 U
trans-1,2-Dichloroethene	0.93 U	36 U	1 U	1.1 U	0.99 U	1.1 U
trans-1,3-Dichloropropene	0.83 U	32 U	0.91 U	0.95 U	0.89 U	1 U
trans-1,4-Dichloro-2-butene	3 U	120 U	3.3 UJ	3.4 UJ	3.2 UJ	3.6 UJ
Trichloroethene	0.96 U	37 U	1.1 U	1.1 U	1 U	1.2 U
Trichlorofluoromethane	1.4 U	56 U	1.6 U	1.6 U	1.5 U	1.7 U
Vinyl acetate	1.4 U	56 U	2.4 J	1.6 U	1.5 U	1.7 U
Vinyl chloride	0.56 U	22 U	0.61 U	0.63 U	0.59 U	0.67 U
Xylenes, Total	2.2 U	85 U	2.4 U	2.5 U	2.3 U	2.7 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - JP-5 HILL AND DFM AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74VP10a/JP5Hill	74VP10a/JP5Hill	74VP10b/DFM	74VP10b/DFM	74VP11b/JP5Hill	74VP11b/JP5Hill
Sample ID	74VP10a/JP5Hill-04	74VP10a/JP5Hill-05	74VP10b/DFM-04	74VP10b/DFM-05	74VP11b/JP5Hill-04	74SBVP11b/JP5Hill-05
Date	5/16/2008	5/16/2008	5/17/2008	5/17/2008	5/17/2008	5/17/2008
Depth Range	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0
LLPAHs (ug/kg)						
1-Methylnaphthalene	14 U	14 U	1.3 U	1.4 U	NA	NA
2-Methylnaphthalene	20 U	20 U	1.9 U	2 U	NA	NA
Acenaphthene	6.8 U	6.7 U	10	0.69 U	NA	NA
Acenaphthylene	20 U	20 U	1.9 U	2 U	NA	NA
Anthracene	20 U	20 U	44	2 U	NA	NA
Benzo[a]anthracene	20 U	20 U	53	2.7 J	NA	NA
Benzo[a]pyrene	7.9 U	7.7 U	29	0.79 U	NA	NA
Benzo[b]fluoranthene	9.1 U	8.9 U	57	0.91 U	NA	NA
Benzo[g,h,i]perylene	63 J	20 U	12	2 U	NA	NA
Benzo[k]fluoranthene	12 U	12 U	1.1 U	1.2 U	NA	NA
Chrysene	7.3 U	7.1 U	52	3 J	NA	NA
Dibenz(a,h)anthracene	7 U	6.9 U	5.3 J	0.71 U	NA	NA
Fluoranthene	44 J	230	140	7.6 J	NA	NA
Fluorene	9.2 U	9 U	16	0.93 U	NA	NA
Indeno[1,2,3-cd]pyrene	14 U	14 U	12	1.4 U	NA	NA
Naphthalene	7.2 U	7 U	0.89 J	0.72 U	NA	NA
Phenanthrene	20 U	20 U	1.9 J	2 U	NA	NA
Pyrene	69 J	220	110	6.9 J	NA	NA

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - JP-5 HILL AND DFM AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74VP10a/JP5Hill	74VP10a/JP5Hill	74VP10b/DFM	74VP10b/DFM	74VP11b/JP5Hill	74VP11b/JP5Hill
Sample ID	74VP10a/JP5Hill-04	74VP10a/JP5Hill-05	74VP10b/DFM-04	74VP10b/DFM-05	74VP11b/JP5Hill-04	74SBVP11b/JP5Hill-05
Date	5/16/2008	5/16/2008	5/17/2008	5/17/2008	5/17/2008	5/17/2008
Depth Range	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0
Metals (mg/kg)						
Antimony	0.08 UJ	0.26 UJ	0.081 J	0.11 J	0.084 U	0.082 U
Arsenic	1.1	1.4	1	0.83	1.3	1.2
Barium	83 J	82	310	36	220	110
Beryllium	0.26	0.18	0.43	0.42	0.48	0.33
Cadmium	0.14	0.43	0.06 J	0.073 J	0.8	0.42
Chromium	36 J	34	38	63	78	100
Cobalt	26	27 J	120 J	37 J	72 J	48 J
Copper	76	110	140	90	97	100
Lead	8	47 J	2	2	9.5	27
Mercury	0.01 J	0.0046 R	0.0044 J	0.0043 U	0.0074 J	0.0063 J
Nickel	26	25	30	39	69	52
Selenium	0.2 J	0.13 U	0.17 J	0.14 U	0.13 U	0.13 U
Silver	0.05 J	0.046 J	0.037 J	0.054 J	0.042 J	0.034 J
Thallium	0.13 U	0.13 U	0.12 U	0.14 U	0.13 U	0.13 U
Tin	4.2 U	4.4 U	4.1 U	4.6 U	4.5 U	4.4 U
Vanadium	150	160	140	220	120	130
Zinc	67	73	59 J	110 J	110 J	100 J
TPH DRO/GRO (mg/kg)						
Diesel Range Organics	370	240	3.1 U	4	1.5 U	1.4 U
Gasoline Range Organics	1	4.9	0.27	0.15 J	0.06 U	0.075 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - JP-5 HILL AND DFM AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74VP19b	74VP19b	74VP20	74VP20	74VP1982	74VP1982
Sample ID	74VP19b-03	74VP19b-05	74VP20-05	74VP20-06	74VP1982-03	74VP1982-05
Date	5/18/2008	5/18/2008	5/19/2008	5/19/2008	5/19/2008	5/19/2008
Depth Range	5.0-7.0	9.0-11.0	9.0-11.0	11.0-13.0	5.0-7.0	9.0-11.0
Volatile Organic Compounds (ug/kg)						
1,1,1,2-Tetrachloroethane	27 U	27 U	0.71 U	0.85 U	28 UJ	0.76 U
1,1,1-Trichloroethane	25 U	24 U	0.65 U	0.77 U	25 UJ	0.69 U
1,1,2,2-Tetrachloroethane	60 U	59 U	1.6 U	1.9 U	61 UJ	1.7 U
1,1,2-Trichloroethane	51 U	51 U	1.3 U	1.6 U	52 UJ	1.4 U
1,1-Dichloroethane	21 U	21 U	0.56 U	0.67 U	22 UJ	0.6 U
1,1-Dichloroethene	23 U	23 U	0.6 U	0.72 U	24 UJ	0.65 U
1,2,3-Trichloropropane	60 U	59 U	1.6 UJ	1.9 UJ	61 UJ	1.7 UJ
1,2-Dibromo-3-Chloropropane	120 U	120 U	3.1 U	3.7 U	120 UJ	3.3 U
1,2-Dichloroethane	43 U	42 U	1.1 U	1.3 U	44 UJ	1.2 U
1,2-Dichloropropane	47 U	46 U	1.2 U	1.5 U	48 UJ	1.3 U
2-Butanone (MEK)	120 U	130 U	6.2 UJ	3.6 UJ	320 UJ	15 UJ
2-Chloro-1,3-butadiene	24 U	24 U	0.64 U	0.76 U	25 UJ	0.68 U
2-Hexanone	90 U	89 U	2.3 UJ	2.8 UJ	92 UJ	2.5 UJ
3-Chloro-1-propene	64 U	63 U	1.7 U	2 U	65 UJ	1.8 U
4-Methyl-2-pentanone (MIBK)	120 U	120 U	3.2 UJ	3.9 UJ	130 UJ	3.5 UJ
Acetone	190 U	190 U	55 J	43 J	190 UJ	66 J
Acetonitrile	1900 U	1900 U	50 UJ	60 UJ	2000 UJ	54 UJ
Acrolein	810 U	800 U	21 UJ	25 UJ	830 UJ	23 UJ
Acrylonitrile	980 U	970 U	26 UJ	31 UJ	1000 UJ	27 UJ
Benzene	34 U	33 U	0.88 U	3.7 J	34 UJ	2.5 J
Bromoform	47 U	46 U	1.2 U	1.5 U	48 UJ	1.3 U
Bromomethane	68 U	68 U	1.8 UJ	2.1 UJ	70 UJ	1.9 UJ
Carbon disulfide	22 U	22 U	1.2 J	0.91 J	22 UJ	0.61 U
Carbon tetrachloride	43 U	42 U	1.1 U	1.3 U	44 UJ	1.2 U
Chlorobenzene	31 U	31 U	0.82 U	0.97 U	32 UJ	0.87 U
Chlorodibromomethane	21 U	21 U	0.56 U	0.67 U	22 UJ	0.6 U
Chloroethane	51 UJ	51 UJ	1.3 U	1.6 U	52 UJ	1.4 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - JP-5 HILL AND DFM AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74VP19b	74VP19b	74VP20	74VP20	74VP1982	74VP1982
Sample ID	74VP19b-03	74VP19b-05	74VP20-05	74VP20-06	74VP1982-03	74VP1982-05
Date	5/18/2008	5/18/2008	5/19/2008	5/19/2008	5/19/2008	5/19/2008
Depth Range	5.0-7.0	9.0-11.0	9.0-11.0	11.0-13.0	5.0-7.0	9.0-11.0
Volatile Organic Compounds (ug/kg)						
Chloroform	21 U	21 U	0.56 U	0.67 U	22 UJ	0.6 U
Chloromethane	30 U	30 U	0.79 U	0.95 U	31 UJ	0.85 U
cis-1,3-Dichloropropene	37 U	37 U	0.97 U	1.2 U	38 UJ	1 U
Dibromomethane	51 U	51 U	1.3 U	1.6 U	52 UJ	1.4 U
Dichlorobromomethane	35 U	35 U	0.93 U	1.1 U	36 UJ	0.99 U
Dichlorodifluoromethane	38 U	38 U	0.99 U	1.2 U	39 UJ	1.1 U
Ethyl methacrylate	94 U	93 U	2.5 U	2.9 U	96 UJ	2.6 U
Ethylbenzene	32 U	32 U	3 J	6 J	33 UJ	0.9 U
Ethylene Dibromide	64 U	63 U	1.7 U	2 U	65 UJ	1.8 U
Iodomethane	43 U	42 U	2.5 J	1.3 U	44 UJ	1.2 U
Isobutyl alcohol	2900 UJ	2900 U	77 R	92 R	3000 UJ	82 R
Methacrylonitrile	1000 U	1000 U	27 U	32 U	1000 UJ	29 U
Methyl methacrylate	160 U	160 U	4.1 U	4.9 U	160 UJ	4.4 U
Methylene Chloride	43 U	42 U	1.1 U	1.3 U	44 UJ	1.2 U
Pentachloroethane	94 R	93 R	2.5 UJ	2.9 UJ	96 R	2.6 UJ
Propionitrile	900 UJ	890 U	23 U	28 U	920 UJ	25 U
Styrene	28 U	28 U	0.74 U	0.88 U	29 UJ	0.79 U
Tetrachloroethene	31 U	31 U	0.82 U	0.97 U	32 UJ	0.87 U
Toluene	34 U	33 U	0.88 U	1.1 U	38 UJ	0.94 U
trans-1,2-Dichloroethene	41 U	41 U	1.1 U	1.3 U	42 UJ	1.2 U
trans-1,3-Dichloropropene	37 U	37 U	0.97 U	1.2 U	38 UJ	1 U
trans-1,4-Dichloro-2-butene	130 U	130 U	3.5 U	4.1 U	140 UJ	3.7 U
Trichloroethene	43 U	42 U	1.1 U	1.3 U	44 UJ	1.2 U
Trichlorofluoromethane	64 U	63 U	1.7 U	2 U	65 UJ	1.8 U
Vinyl acetate	64 U	63 U	1.7 U	2 U	65 UJ	1.8 U
Vinyl chloride	25 U	24 U	0.65 U	0.77 U	25 UJ	0.69 U
Xylenes, Total	98 U	97 U	9 J	3.1 U	100 UJ	2.7 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - JP-5 HILL AND DFM AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74VP19b	74VP19b	74VP20	74VP20	74VP1982	74VP1982
Sample ID	74VP19b-03	74VP19b-05	74VP20-05	74VP20-06	74VP1982-03	74VP1982-05
Date	5/18/2008	5/18/2008	5/19/2008	5/19/2008	5/19/2008	5/19/2008
Depth Range	5.0-7.0	9.0-11.0	9.0-11.0	11.0-13.0	5.0-7.0	9.0-11.0
LLPAHs (ug/kg)						
1-Methylnaphthalene	17 U	16 U	NA	680	9.4	NA
2-Methylnaphthalene	24 U	22 U	NA	670	10	NA
Acenaphthene	7.9 U	7.4 U	NA	8.5 U	0.74 U	NA
Acenaphthylene	24 U	22 U	NA	25 U	2.2 U	NA
Anthracene	24 U	22 U	NA	25 U	2.2 U	NA
Benzo[a]anthracene	130 J	22 U	NA	25 U	3.4 J	NA
Benzo[a]pyrene	9.2 U	8.5 U	NA	9.8 U	1.7 J	NA
Benzo[b]fluoranthene	11 U	9.8 U	NA	11 U	2 J	NA
Benzo[g,h,i]perylene	100 J	22 U	NA	25 U	2.2 U	NA
Benzo[k]fluoranthene	14 U	13 U	NA	15 U	1.3 U	NA
Chrysene	270 J	7.9 U	NA	9.1 U	5.1 J	NA
Dibenz(a,h)anthracene	8.2 U	7.6 U	NA	8.8 U	0.76 U	NA
Fluoranthene	360 J	22 U	NA	25 U	13	NA
Fluorene	2700 J	10 U	NA	29 J	29	NA
Indeno[1,2,3-cd]pyrene	17 U	16 U	NA	18 U	1.6 U	NA
Naphthalene	8.3 U	7.8 U	NA	200	0.78 U	NA
Phenanthrene	7900 J	22 U	NA	32 J	2.2 U	NA
Pyrene	650 J	200	NA	25 U	12	NA

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - JP-5 HILL AND DFM AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74VP19b	74VP19b	74VP20	74VP20	74VP1982	74VP1982
Sample ID	74VP19b-03	74VP19b-05	74VP20-05	74VP20-06	74VP1982-03	74VP1982-05
Date	5/18/2008	5/18/2008	5/19/2008	5/19/2008	5/19/2008	5/19/2008
Depth Range	5.0-7.0	9.0-11.0	9.0-11.0	11.0-13.0	5.0-7.0	9.0-11.0
Metals (mg/kg)						
Antimony	0.22 J	0.2 J	0.26 J	0.32 J	0.26 J	0.28 J
Arsenic	2.3	2.1	2.5	2.5	9.9	3
Barium	120 J	110 J	86	79	210	100
Beryllium	0.33	0.51	0.51	0.57	0.58	0.55
Cadmium	0.21	0.061 J	0.22	0.35	0.44	0.21
Chromium	49	60	180	170	29	140
Cobalt	43 J	37 J	39	34	42	37
Copper	110 J	120 J	59 J	65 J	70 J	78 J
Lead	8.4	8.1	6.7	8.1	11	6.5
Mercury	0.049	0.0049 J	0.081 J	0.27 J	0.013 J	0.072 J
Nickel	23 J	17 J	29	37	12	30
Selenium	0.81	1.6	1.5	1.4	1.3	1.1
Silver	0.082 J	0.025 J	1.2	1.9	0.033 J	0.32
Thallium	0.15 U	0.15 U	0.15 U	0.16 U	0.15 U	0.16 U
Tin	5 U	4.9 U	5 U	5.4 U	4.8 U	5.4 U
Vanadium	200	430	270	310	240	250
Zinc	82 J	59 J	36 J	38 J	55 J	59 J
TPH DRO/GRO (mg/kg)						
Diesel Range Organics	7400 J	280	6	190	270	20
Gasoline Range Organics	24 J	1.3 J	0.34 J	36 J	250 J	0.67

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - FUELING PIERS AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB213	74SB215	74SB216	74SB216	74SB216	74SB218	74SB218	74SB221
Sample ID	74SB213-03	74SB215-03	74SB216-03	74SB216-05	74SB216-05D	74SB218-03	74SB218-05	74SB221-02
Date	5/19/2008	5/19/2008	5/19/2008	5/19/2008	5/19/2008	5/19/2008	5/19/2008	5/20/2008
Depth Range	5.0-7.0	5.0-7.0	5.0-7.0	9.0-11.0	9.0-11.0	5.0-7.0	9.0-11.0	3.0-5.0
Volatile Organic Compounds (ug/kg)								
1,1,1,2-Tetrachloroethane	0.72 U	0.74 U	36 U	0.79 U	0.88 U	25 U	32 U	0.59 U
1,1,1-Trichloroethane	0.65 U	0.67 U	33 U	0.72 U	0.79 U	23 U	29 U	0.54 U
1,1,2,2-Tetrachloroethane	1.6 U	1.6 U	79 U	1.7 U	1.9 U	54 U	71 U	1.3 U
1,1,2-Trichloroethane	1.3 U	1.4 U	68 U	1.5 U	1.6 U	47 U	60 U	1.1 U
1,1-Dichloroethane	0.56 U	0.58 U	28 U	0.62 U	0.68 U	19 U	25 U	0.46 U
1,1-Dichloroethene	0.61 U	0.63 U	30 U	0.67 U	0.74 U	21 U	27 U	0.5 U
1,2,3-Trichloropropane	1.6 UJ	1.6 UJ	79 U	1.7 UJ	1.9 UJ	54 U	71 U	1.3 UJ
1,2-Dibromo-3-Chloropropane	3.1 U	3.2 U	160 U	3.5 U	3.8 U	110 U	140 U	2.6 U
1,2-Dichloroethane	1.1 U	1.2 U	56 U	1.2 U	1.4 U	39 U	50 U	0.92 U
1,2-Dichloropropane	1.2 U	1.3 U	62 U	1.4 U	1.5 U	43 U	55 U	1 U
2-Butanone (MEK)	6.8 UJ	5.4 UJ	150 U	3.3 UJ	3.7 UJ	100 UJ	140 UJ	14 UJ
2-Chloro-1,3-butadiene	0.64 U	0.66 U	32 U	0.7 U	0.78 U	22 U	29 U	0.53 U
2-Hexanone	2.4 UJ	2.4 UJ	120 UJ	2.6 UJ	2.9 UJ	82 UJ	110 UJ	1.9 UJ
3-Chloro-1-propene	1.7 U	1.7 U	84 U	1.9 U	2.1 U	58 U	76 U	1.4 U
4-Methyl-2-pentanone (MIBK)	3.3 UJ	3.4 UJ	160 UJ	3.6 UJ	4 UJ	110 U	150 U	2.7 UJ
Acetone	49 J	48 J	250 U	30 J	37 J	170 UJ	220 UJ	75 J
Acetonitrile	51 UJ	52 UJ	2500 U	56 UJ	62 UJ	1700 U	2300 U	42 UJ
Acrolein	21 UJ	22 UJ	1100 UJ	23 UJ	26 UJ	740 R	960 R	18 UJ
Acrylonitrile	26 UJ	27 UJ	1300 U	28 UJ	31 UJ	890 UJ	1200 UJ	21 UJ
Benzene	1 J	0.92 U	44 U	0.98 U	1.1 U	31 U	40 U	0.73 U
Bromoform	1.2 U	1.3 U	62 U	1.4 U	1.5 U	43 U	55 U	1 U
Bromomethane	1.8 UJ	1.9 UJ	90 U	2 UJ	2.2 UJ	62 U	81 U	1.5 UJ
Carbon disulfide	0.57 U	2.1 J	29 U	1.3 J	1.2 J	20 U	26 U	0.57 J
Carbon tetrachloride	1.1 U	1.2 U	56 U	1.2 U	1.4 U	39 U	50 U	0.92 U
Chlorobenzene	0.82 U	0.85 U	41 U	0.9 U	1 U	28 U	37 U	0.67 U
Chlorodibromomethane	0.56 U	0.58 U	28 U	0.62 U	0.68 U	19 U	25 U	0.46 U
Chloroethane	1.3 U	1.4 U	68 UJ	1.5 U	1.6 U	47 UJ	60 UJ	1.1 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - FUELING PIERS AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB213	74SB215	74SB216	74SB216	74SB216	74SB218	74SB218	74SB221
Sample ID	74SB213-03	74SB215-03	74SB216-03	74SB216-05	74SB216-05D	74SB218-03	74SB218-05	74SB221-02
Date	5/19/2008	5/19/2008	5/19/2008	5/19/2008	5/19/2008	5/19/2008	5/19/2008	5/20/2008
Depth Range	5.0-7.0	5.0-7.0	5.0-7.0	9.0-11.0	9.0-11.0	5.0-7.0	9.0-11.0	3.0-5.0
Volatile Organic Compounds (ug/kg)								
Chloroform	0.56 U	0.58 U	28 U	0.62 U	0.68 U	19 U	25 U	0.46 U
Chloromethane	0.8 U	0.82 U	40 U	0.88 U	0.97 U	28 U	36 U	0.86 J
cis-1,3-Dichloropropene	0.98 U	1 U	49 U	1.1 U	1.2 U	34 U	44 U	0.8 U
Dibromomethane	1.3 U	1.4 U	68 U	1.5 U	1.6 U	47 U	60 U	1.1 U
Dichlorobromomethane	0.93 U	0.96 U	47 U	1 U	1.1 U	32 U	42 U	0.77 U
Dichlorodifluoromethane	1 U	1 U	50 U	1.1 U	1.2 U	35 U	45 U	0.82 U
Ethyl methacrylate	2.5 U	2.6 U	120 U	2.7 U	3 U	85 U	110 U	2 U
Ethylbenzene	0.84 U	0.87 U	42 U	0.93 U	1 U	29 U	38 U	0.69 U
Ethylene Dibromide	1.7 U	1.7 U	84 U	1.9 U	2.1 U	58 U	76 U	1.4 U
Iodomethane	1.1 U	1.2 U	56 U	1.2 U	1.4 U	39 U	50 U	5.5
Isobutyl alcohol	78 R	80 R	3900 U	85 R	94 R	2700 U	3500 U	64 R
Methacrylonitrile	27 U	28 U	1400 U	30 U	33 U	930 U	1200 U	22 U
Methyl methacrylate	4.2 U	4.3 U	210 UJ	4.6 U	5.1 U	140 U	190 U	3.4 U
Methylene Chloride	1.1 U	1.2 U	56 U	1.2 U	1.4 U	39 U	50 U	0.92 U
Pentachloroethane	2.5 UJ	2.6 UJ	120 R	2.7 UJ	3 UJ	85 R	110 R	2 UJ
Propionitrile	24 U	24 U	1200 U	26 U	29 U	820 U	1100 U	19 U
Styrene	0.74 U	0.77 U	37 U	0.81 U	0.9 U	26 U	33 U	0.61 U
Tetrachloroethene	0.82 U	0.85 U	41 U	0.9 U	1 U	28 U	37 U	0.67 U
Toluene	0.89 U	0.92 U	69 U	0.98 U	1.1 U	51 U	61 U	0.73 U
trans-1,2-Dichloroethene	1.1 U	1.1 U	55 U	1.2 U	1.3 U	38 U	49 U	0.9 U
trans-1,3-Dichloropropene	0.98 U	1 U	49 U	1.1 U	1.2 U	34 U	44 U	0.8 U
trans-1,4-Dichloro-2-butene	3.5 U	3.6 U	170 U	3.8 U	4.2 U	120 U	160 U	2.9 U
Trichloroethene	1.1 U	1.2 U	56 U	1.2 U	1.4 U	39 U	50 U	0.92 U
Trichlorofluoromethane	1.7 U	1.7 U	84 U	1.9 U	2.1 U	58 U	76 U	1.4 U
Vinyl acetate	1.7 U	1.7 U	84 U	1.9 U	2.1 U	58 U	76 U	1.4 U
Vinyl chloride	0.65 U	0.67 U	33 U	0.72 U	0.79 U	23 U	29 U	0.54 U
Xylenes, Total	2.6 U	2.7 U	320 J	2.8 U	3.1 U	89 U	120 U	2.1 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - FUELING PIERS AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB213	74SB215	74SB216	74SB216	74SB216	74SB218	74SB218	74SB221
Sample ID	74SB213-03	74SB215-03	74SB216-03	74SB216-05	74SB216-05D	74SB218-03	74SB218-05	74SB221-02
Date	5/19/2008	5/19/2008	5/19/2008	5/19/2008	5/19/2008	5/19/2008	5/19/2008	5/20/2008
Depth Range	5.0-7.0	5.0-7.0	5.0-7.0	9.0-11.0	9.0-11.0	5.0-7.0	9.0-11.0	3.0-5.0
LLPAHs (ug/kg)								
1-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	14 U
2-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	20 U
Acenaphthene	NA	NA	NA	NA	NA	NA	NA	6.6 U
Acenaphthylene	NA	NA	NA	NA	NA	NA	NA	20 U
Anthracene	NA	NA	NA	NA	NA	NA	NA	20 U
Benzo[a]anthracene	NA	NA	NA	NA	NA	NA	NA	20 U
Benzo[a]pyrene	NA	NA	NA	NA	NA	NA	NA	7.7 U
Benzo[b]fluoranthene	NA	NA	NA	NA	NA	NA	NA	15 J
Benzo[g,h,i]perylene	NA	NA	NA	NA	NA	NA	NA	20 U
Benzo[k]fluoranthene	NA	NA	NA	NA	NA	NA	NA	12 U
Chrysene	NA	NA	NA	NA	NA	NA	NA	7.7 J
Dibenz(a,h)anthracene	NA	NA	NA	NA	NA	NA	NA	6.9 U
Fluoranthene	NA	NA	NA	NA	NA	NA	NA	20 U
Fluorene	NA	NA	NA	NA	NA	NA	NA	9 U
Indeno[1,2,3-cd]pyrene	NA	NA	NA	NA	NA	NA	NA	14 U
Naphthalene	NA	NA	NA	NA	NA	NA	NA	7 U
Phenanthrene	NA	NA	NA	NA	NA	NA	NA	20 U
Pyrene	NA	NA	NA	NA	NA	NA	NA	20 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - FUELING PIERS AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB213	74SB215	74SB216	74SB216	74SB216	74SB218	74SB218	74SB221
Sample ID	74SB213-03	74SB215-03	74SB216-03	74SB216-05	74SB216-05D	74SB218-03	74SB218-05	74SB221-02
Date	5/19/2008	5/19/2008	5/19/2008	5/19/2008	5/19/2008	5/19/2008	5/19/2008	5/20/2008
Depth Range	5.0-7.0	5.0-7.0	5.0-7.0	9.0-11.0	9.0-11.0	5.0-7.0	9.0-11.0	3.0-5.0
Metals (mg/kg)								
Antimony	0.39 J	0.26 J	0.5 J	0.35 J	0.4 J	0.091 J	0.09 U	0.31 J
Arsenic	1.9	1.9	2.5	2.4	2.4	1.2	0.62	2.7
Barium	70	190	81	68	73	24	28	51
Beryllium	0.32	0.49	0.38	0.7	0.8	0.19	0.22	0.19
Cadmium	0.096 J	0.047 J	0.039 U	0.041 J	0.049 J	0.048 J	0.056 J	0.23
Chromium	16	110	200	160	200	8.5	29	25
Cobalt	18	15	12	53	61	23	21	19
Copper	56 J	74 J	69 J	87 J	98 J	48 J	5.9 J	83 J
Lead	2.8	3.6	9.2	4.7	5.2	1.4	1	3.8
Mercury	0.0072 J	0.014 J	0.015 J	0.022 J	0.042 J	0.0038 U	0.005 U	0.0069 J
Nickel	14	20	23	36	40	10	9.5	12
Selenium	0.16 J	1.2	1.6	1.3	1.5	0.13 U	0.14 U	0.21 J
Silver	0.034 J	0.02 U	0.034 J	0.021 J	0.029 J	0.017 U	0.041 J	0.054 J
Thallium	0.12 U	0.15 U	0.15 U	0.15 U	0.16 U	0.13 U	0.14 U	0.14 U
Tin	4 U	4.9 U	5.1 U	5.1 U	5.3 U	4.4 U	4.8 U	4.5 U
Vanadium	110	240	250	250	300	270	160	110
Zinc	50 J	46 J	44 J	53 J	61 J	88 J	51 J	69 J
TPH DRO/GRO (mg/kg)								
Diesel Range Organics	8.8	320	2900	2300	2400	260	140	1400 J
Gasoline Range Organics	0.054 U	0.072 U	29	0.46	0.42	81	45	0.08 J

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - FUELING PIERS AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB221	74SB222	74SB223	74SB224	74SB224	74SB225	74SB225	74SB231
Sample ID	74SB221-02D	74SB222-03	74SB223-03	74SB224-04	74SB224-05	74SB225-04	74SB225-05	74SB231-04
Date	5/20/2008	5/20/2008	5/20/2008	5/20/2008	5/20/2008	5/20/2008	5/20/2008	5/20/2008
Depth Range	3.0-5.0	5.0-7.0	5.0-7.0	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0	7.0-9.0
Volatile Organic Compounds (ug/kg)								
1,1,1,2-Tetrachloroethane	22 U	0.85 U	27 U	23 U	0.76 U	0.67 U	0.65 U	0.93 U
1,1,1-Trichloroethane	20 U	0.77 U	24 U	21 U	0.68 U	0.61 U	0.59 U	0.84 U
1,1,2,2-Tetrachloroethane	47 U	1.9 U	58 U	50 U	1.7 U	1.5 U	1.4 U	2 U
1,1,2-Trichloroethane	41 U	1.6 U	50 U	43 U	1.4 U	1.3 U	1.2 U	1.7 U
1,1-Dichloroethane	17 U	0.66 U	21 U	18 U	0.59 U	0.52 U	0.51 U	0.73 U
1,1-Dichloroethene	18 U	0.72 U	22 U	19 U	0.64 U	0.56 U	0.55 U	0.79 U
1,2,3-Trichloropropane	47 U	1.9 U	58 U	50 U	1.7 U	1.5 U	1.4 U	2 UJ
1,2-Dibromo-3-Chloropropane	95 U	3.7 UJ	120 U	100 U	3.3 UJ	2.9 UJ	2.8 UJ	4.1 UJ
1,2-Dichloroethane	34 U	1.3 U	41 U	36 UJ	1.2 U	1 U	1 U	1.5 U
1,2-Dichloropropane	37 U	1.5 U	46 U	39 U	1.3 U	1.1 U	1.1 U	1.6 U
2-Butanone (MEK)	91 UJ	13 UJ	160 UJ	96 U	6.5 UJ	4.6 UJ	2.9 UJ	4.5 UJ
2-Chloro-1,3-butadiene	19 U	0.76 U	24 U	20 U	0.67 U	0.6 U	0.58 U	0.83 U
2-Hexanone	71 UJ	2.8 UJ	87 UJ	75 UJ	2.5 UJ	2.2 UJ	2.1 UJ	3.1 UJ
3-Chloro-1-propene	51 U	2 UJ	62 U	54 U	1.8 UJ	1.6 UJ	1.5 UJ	2.2 UJ
4-Methyl-2-pentanone (MIBK)	98 U	3.8 U	120 U	100 U	3.4 U	3 U	2.9 U	4.2 UJ
Acetone	150 UJ	40 UJ	180 UJ	160 UJ	47 UJ	34 UJ	24 UJ	34 U
Acetonitrile	1500 U	60 UJ	1900 U	1600 U	53 UJ	47 UJ	46 UJ	65 UJ
Acrolein	640 R	25 UJ	790 R	680 UJ	22 UJ	20 UJ	19 UJ	28 R
Acrylonitrile	780 UJ	31 U	950 UJ	820 UJ	27 U	24 U	23 U	33 UJ
Benzene	27 U	1.1 J	33 U	28 U	0.93 U	0.83 U	0.8 U	1.1 U
Bromoform	37 U	1.5 U	46 U	39 U	1.3 U	1.1 U	1.1 U	1.6 U
Bromomethane	54 U	2.1 UJ	66 U	57 U	1.9 UJ	1.7 UJ	1.6 UJ	2.3 UJ
Carbon disulfide	17 U	0.68 U	21 U	18 U	0.6 U	0.53 U	0.52 U	0.74 U
Carbon tetrachloride	34 U	1.3 U	41 U	36 U	1.2 U	1 U	1 U	1.5 U
Chlorobenzene	25 U	0.97 U	30 U	26 U	0.86 U	0.76 U	0.74 U	1.1 U
Chlorodibromomethane	17 U	0.66 U	21 U	18 U	0.59 U	0.52 U	0.51 U	0.73 U
Chloroethane	41 UJ	1.6 UJ	50 U	43 U	1.4 U	1.3 U	1.2 U	1.7 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - FUELING PIERS AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB221	74SB222	74SB223	74SB224	74SB224	74SB225	74SB225	74SB231
Sample ID	74SB221-02D	74SB222-03	74SB223-03	74SB224-04	74SB224-05	74SB225-04	74SB225-05	74SB231-04
Date	5/20/2008	5/20/2008	5/20/2008	5/20/2008	5/20/2008	5/20/2008	5/20/2008	5/20/2008
Depth Range	3.0-5.0	5.0-7.0	5.0-7.0	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0	7.0-9.0
Volatile Organic Compounds (ug/kg)								
Chloroform	17 U	0.66 U	21 U	18 U	0.59 U	0.52 U	0.51 U	1 U
Chloromethane	24 U	0.94 U	29 U	25 U	0.84 U	0.74 U	0.72 U	1 U
cis-1,3-Dichloropropene	29 U	1.2 U	36 U	31 U	1 U	0.91 U	0.88 U	1.3 U
Dibromomethane	41 U	1.6 U	50 U	43 U	1.4 U	1.3 U	1.2 U	1.7 U
Dichlorobromomethane	28 U	1.1 U	34 U	30 U	0.98 U	0.87 U	0.84 U	1.2 U
Dichlorodifluoromethane	30 U	1.2 U	37 U	32 U	1.1 U	0.93 U	0.9 U	1.3 U
Ethyl methacrylate	75 U	2.9 UJ	91 U	79 U	2.6 UJ	2.3 UJ	2.2 UJ	3.2 U
Ethylbenzene	25 U	0.99 U	31 U	30 J	0.89 U	0.78 U	0.76 U	1.1 U
Ethylene Dibromide	51 U	2 U	62 U	54 U	1.8 U	1.6 U	1.5 U	2.2 U
Iodomethane	34 U	1.3 U	41 U	36 U	1.2 U	1 U	1 U	1.5 U
Isobutyl alcohol	2300 U	92 R	2900 U	2500 U	81 R	72 R	70 R	100 R
Methacrylonitrile	810 U	32 U	1000 U	860 U	28 U	25 U	24 U	35 U
Methyl methacrylate	130 U	4.9 U	150 U	130 U	4.4 U	3.9 U	3.8 U	5.4 U
Methylene Chloride	34 U	1.3 U	41 U	36 UJ	1.2 U	1 U	1 U	1.5 U
Pentachloroethane	75 R	2.9 UJ	91 R	79 R	2.6 UJ	2.3 UJ	2.2 UJ	3.2 UJ
Propionitrile	710 U	28 UJ	870 U	750 U	25 UJ	22 UJ	21 UJ	31 UJ
Styrene	22 U	0.88 U	27 U	24 J	0.78 U	0.69 U	0.67 U	0.96 U
Tetrachloroethene	26 J	0.97 U	30 U	26 U	0.86 U	0.76 U	0.74 U	1.1 U
Toluene	35 U	1 U	47 J	74 U	0.93 U	0.83 U	0.8 U	1.1 U
trans-1,2-Dichloroethene	33 U	1.3 U	40 U	35 UJ	1.1 U	1 U	0.99 U	1.4 U
trans-1,3-Dichloropropene	29 U	1.2 U	36 U	31 U	1 U	0.91 U	0.88 U	1.3 U
trans-1,4-Dichloro-2-butene	110 U	4.1 U	130 U	110 U	3.7 U	3.2 U	3.1 U	4.5 U
Trichloroethene	34 U	1.3 U	41 U	36 U	1.2 U	1 U	1 U	1.5 U
Trichlorofluoromethane	51 U	2 U	62 U	54 U	1.8 U	1.6 U	1.5 U	2.2 U
Vinyl acetate	51 U	2 U	62 U	54 U	1.8 U	1.6 U	1.5 U	2.2 U
Vinyl chloride	20 U	0.77 U	24 U	21 U	0.68 U	0.61 U	0.59 U	0.84 U
Xylenes, Total	78 U	3.1 U	95 U	94 J	2.7 U	2.4 U	2.3 U	3.3 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - FUELING PIERS AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB221	74SB222	74SB223	74SB224	74SB224	74SB225	74SB225	74SB231
Sample ID	74SB221-02D	74SB222-03	74SB223-03	74SB224-04	74SB224-05	74SB225-04	74SB225-05	74SB231-04
Date	5/20/2008	5/20/2008	5/20/2008	5/20/2008	5/20/2008	5/20/2008	5/20/2008	5/20/2008
Depth Range	3.0-5.0	5.0-7.0	5.0-7.0	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0	7.0-9.0
LLPAHs (ug/kg)								
1-Methylnaphthalene	14 U	14 U	100	NA	NA	NA	NA	NA
2-Methylnaphthalene	20 U	20 U	19 U	NA	NA	NA	NA	NA
Acenaphthene	6.5 U	160	240	NA	NA	NA	NA	NA
Acenaphthylene	20 U	20 U	84	NA	NA	NA	NA	NA
Anthracene	20 U	20 U	19 U	NA	NA	NA	NA	NA
Benzo[a]anthracene	20 U	310	190	NA	NA	NA	NA	NA
Benzo[a]pyrene	13 J	360	110	NA	NA	NA	NA	NA
Benzo[b]fluoranthene	13 J	720	110	NA	NA	NA	NA	NA
Benzo[g,h,i]perylene	20 U	200	42 J	NA	NA	NA	NA	NA
Benzo[k]fluoranthene	11 U	12 U	11 U	NA	NA	NA	NA	NA
Chrysene	14 J	470	240	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	6.8 U	6.8 U	6.7 U	NA	NA	NA	NA	NA
Fluoranthene	20 U	380	350	NA	NA	NA	NA	NA
Fluorene	8.8 U	300	440	NA	NA	NA	NA	NA
Indeno[1,2,3-cd]pyrene	14 U	190	27 J	NA	NA	NA	NA	NA
Naphthalene	6.9 U	6.9 U	6.8 U	NA	NA	NA	NA	NA
Phenanthrene	20 U	20 U	280	NA	NA	NA	NA	NA
Pyrene	22 J	520	400	NA	NA	NA	NA	NA

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - FUELING PIERS AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB221	74SB222	74SB223	74SB224	74SB224	74SB225	74SB225	74SB231
Sample ID	74SB221-02D	74SB222-03	74SB223-03	74SB224-04	74SB224-05	74SB225-04	74SB225-05	74SB231-04
Date	5/20/2008	5/20/2008	5/20/2008	5/20/2008	5/20/2008	5/20/2008	5/20/2008	5/20/2008
Depth Range	3.0-5.0	5.0-7.0	5.0-7.0	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0	7.0-9.0
Metals (mg/kg)								
Antimony	0.35 J	0.25 J	0.44 J	0.086 J	0.076 UJ	0.16 J	0.12 J	0.2 U
Arsenic	3.9	2.5	2.9	0.99	1	1.7	0.91	3.9
Barium	53	53	80	180	160	36	21	8.5
Beryllium	0.3	0.13	0.54	0.25	0.18	0.19	0.23	0.02 U
Cadmium	0.48	0.36	0.058 J	0.13	0.079 J	0.15	0.33	0.035 U
Chromium	26	19	60	16	18	19	86	1.8
Cobalt	18	15	35	26	15	15	33	1.1
Copper	77 J	53	160	130	130	40	66	1.1 U
Lead	3.3	9.5	1.5	1.1	0.63	5.4	2.2	0.18 U
Mercury	0.0076 J	0.0098 J	0.008 J	0.0045 U	0.0039 U	0.0039 U	0.0041 U	0.0044 U
Nickel	17	11	42	23	12	13	18	0.86
Selenium	0.19 J	0.13 J	0.22 J	0.13 J	0.12 U	0.13 U	0.14 U	0.13 U
Silver	0.036 J	0.033 J	0.1 J	0.036 J	0.069 J	0.042 J	0.022 J	0.018 UJ
Thallium	0.12 U	0.13 U	0.13 U	0.12 U	0.12 U	0.13 U	0.14 U	0.13 U
Tin	4.1 U	4.2 U	4.2 U	4.1 U	4 U	4.2 U	4.6 U	4.5 U
Vanadium	110	110 J	210 J	150 J	150 J	91 J	150 J	2.9
Zinc	83 J	39 J	62 J	47 J	39 J	38 J	61 J	0.88 J
TPH DRO/GRO (mg/kg)								
Diesel Range Organics	44 J	1800	2500	25	180	18	1.5 U	1.6 U
Gasoline Range Organics	0.064 U	0.0079 U	75	130	7.3	0.0072 U	0.0069 U	0.12 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - FUELING PIERS AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB231	74SB231	74SB232	74SB232	74SB233	74SB233	74SB234
Sample ID	74SB231-05	74SB231-05D	74SB232-04	74SB232-05	74SB233-04	74SB233-05	74SB234-04
Date	5/20/2008	5/20/2008	5/20/2008	5/20/2008	5/20/2008	5/20/2008	5/20/2008
Depth Range	9.0-11.0	9.0-11.0	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0	7.0-9.0
Volatile Organic Compounds (ug/kg)							
1,1,1,2-Tetrachloroethane	0.78 U	0.61 U	0.88 U	0.79 U	1.1 U	0.95 U	0.57 U
1,1,1-Trichloroethane	0.71 U	0.55 U	0.79 U	0.72 U	1 U	0.86 U	0.52 U
1,1,2,2-Tetrachloroethane	1.7 U	1.3 U	1.9 U	1.7 U	2.4 U	2.1 U	1.2 U
1,1,2-Trichloroethane	1.5 U	1.1 U	1.6 U	1.5 U	2.1 U	1.8 U	1.1 U
1,1-Dichloroethane	0.61 U	0.47 U	0.68 U	0.62 U	0.86 U	0.74 U	0.45 U
1,1-Dichloroethene	0.66 U	0.51 U	0.74 U	0.67 U	0.93 U	0.8 U	0.48 U
1,2,3-Trichloropropane	1.7 UJ	1.3 UJ	1.9 UJ	1.7 UJ	2.4 UJ	2.1 UJ	1.2 UJ
1,2-Dibromo-3-Chloropropane	3.4 UJ	2.7 UJ	3.8 UJ	3.5 UJ	4.8 UJ	4.2 UJ	2.5 UJ
1,2-Dichloroethane	1.2 U	0.95 U	1.4 U	1.2 U	1.7 U	1.5 U	0.89 U
1,2-Dichloropropane	1.3 U	1 U	1.5 U	1.4 U	1.9 U	1.6 U	0.98 U
2-Butanone (MEK)	4.7 UJ	3.1 UJ	4.8 UJ	7.1 UJ	7.2 UJ	10 UJ	9 UJ
2-Chloro-1,3-butadiene	0.7 U	0.54 U	0.78 U	0.7 U	0.98 U	0.85 U	0.51 U
2-Hexanone	2.6 UJ	2 UJ	2.9 UJ	2.6 UJ	3.6 UJ	3.1 UJ	1.9 UJ
3-Chloro-1-propene	1.8 UJ	1.4 UJ	2.1 UJ	1.8 UJ	2.6 UJ	2.2 U	1.3 U
4-Methyl-2-pentanone (MIBK)	3.6 UJ	2.7 UJ	4 UJ	3.6 UJ	5 UJ	4.3 UJ	2.6 UJ
Acetone	30 U	17 U	29 U	41 U	54 U	52 UJ	100 J
Acetonitrile	55 UJ	43 UJ	62 UJ	55 UJ	77 UJ	67 UJ	40 UJ
Acrolein	23 R	18 R	26 R	23 R	33 R	28 U	17 U
Acrylonitrile	28 UJ	22 UJ	32 UJ	28 UJ	40 UJ	34 UJ	21 UJ
Benzene	0.97 U	0.75 U	1.1 U	0.97 U	1.4 U	1.2 U	0.71 U
Bromoform	1.3 U	1 U	1.5 U	1.4 U	1.9 U	1.6 U	0.98 U
Bromomethane	2 UJ	1.5 UJ	2.2 UJ	2 UJ	2.8 UJ	2.4 UJ	1.4 UJ
Carbon disulfide	0.63 U	0.48 U	0.7 U	12	0.88 U	1.4 J	0.46 U
Carbon tetrachloride	1.2 U	0.95 U	1.4 U	1.2 U	1.7 U	1.5 U	0.89 U
Chlorobenzene	0.89 U	0.69 U	1 U	0.9 U	1.3 U	1.1 U	0.65 U
Chlorodibromomethane	0.61 U	0.47 U	0.68 U	0.62 U	0.86 U	0.74 U	0.45 U
Chloroethane	1.5 U	1.1 U	1.6 U	1.5 U	2.1 U	1.8 U	1.1 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - FUELING PIERS AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB231	74SB231	74SB232	74SB232	74SB233	74SB233	74SB234
Sample ID	74SB231-05	74SB231-05D	74SB232-04	74SB232-05	74SB233-04	74SB233-05	74SB234-04
Date	5/20/2008	5/20/2008	5/20/2008	5/20/2008	5/20/2008	5/20/2008	5/20/2008
Depth Range	9.0-11.0	9.0-11.0	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0	7.0-9.0
Volatile Organic Compounds (ug/kg)							
Chloroform	0.61 U	0.47 U	0.68 U	0.62 U	0.86 U	0.74 U	0.45 U
Chloromethane	0.87 U	0.67 U	0.97 U	0.88 U	1.2 U	1.1 U	0.63 U
cis-1,3-Dichloropropene	1.1 U	0.82 U	1.2 U	1.1 U	1.5 U	1.3 U	0.78 U
Dibromomethane	1.5 U	1.1 U	1.6 U	1.5 U	2.1 U	1.8 U	1.1 U
Dichlorobromomethane	1 U	0.79 U	1.1 U	1 U	1.4 U	1.2 U	0.74 U
Dichlorodifluoromethane	1.1 U	0.84 U	1.2 U	1.1 U	1.5 U	1.3 U	0.79 U
Ethyl methacrylate	2.7 U	2.1 U	3 U	2.7 U	3.8 U	3.3 U	2 U
Ethylbenzene	0.92 U	0.71 U	1 U	0.92 U	1.3 U	1.1 U	0.67 U
Ethylene Dibromide	1.8 U	1.4 U	2.1 U	1.8 U	2.6 U	2.2 U	1.3 U
Iodomethane	1.2 U	0.95 U	1.4 U	1.2 U	1.7 U	1.5 U	4.6
Isobutyl alcohol	85 R	65 R	95 R	85 R	120 R	100 R	62 R
Methacrylonitrile	29 U	23 U	33 U	30 U	41 U	36 U	21 U
Methyl methacrylate	4.5 U	3.5 U	5.1 U	4.6 U	6.4 U	5.5 U	3.3 U
Methylene Chloride	1.2 U	0.95 U	1.4 U	1.2 U	1.7 U	1.5 U	0.89 U
Pentachloroethane	2.7 UJ	2.1 UJ	3 UJ	2.7 UJ	3.8 UJ	3.3 UJ	2 UJ
Propionitrile	26 UJ	20 UJ	29 UJ	26 UJ	36 UJ	31 UJ	19 UJ
Styrene	0.81 U	0.63 U	0.9 U	0.81 U	1.1 U	0.98 U	0.59 U
Tetrachloroethene	0.89 U	0.69 U	1 U	0.9 U	1.3 U	1.1 U	0.65 U
Toluene	0.97 U	0.75 U	1.1 U	0.97 U	1.4 U	1.2 U	0.71 U
trans-1,2-Dichloroethene	1.2 U	0.92 U	1.3 U	1.2 U	1.7 U	1.4 U	0.87 U
trans-1,3-Dichloropropene	1.1 U	0.82 U	1.2 U	1.1 U	1.5 U	1.3 U	0.78 U
trans-1,4-Dichloro-2-butene	3.8 U	2.9 U	4.2 U	3.8 U	5.3 U	4.6 U	2.8 U
Trichloroethene	1.2 U	0.95 U	1.4 U	1.2 U	1.7 U	1.5 U	0.89 U
Trichlorofluoromethane	1.8 U	1.4 U	2.1 U	1.8 U	2.6 U	2.2 U	1.3 U
Vinyl acetate	1.8 U	1.4 U	2.1 U	1.8 U	2.6 U	2.2 U	1.3 U
Vinyl chloride	0.71 U	0.55 U	0.79 U	0.72 U	1 U	0.86 U	0.52 U
Xylenes, Total	2.8 U	2.2 U	3.2 U	2.8 U	4 U	3.4 U	2.1 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - FUELING PIERS AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB231	74SB231	74SB232	74SB232	74SB233	74SB233	74SB234
Sample ID	74SB231-05	74SB231-05D	74SB232-04	74SB232-05	74SB233-04	74SB233-05	74SB234-04
Date	5/20/2008	5/20/2008	5/20/2008	5/20/2008	5/20/2008	5/20/2008	5/20/2008
Depth Range	9.0-11.0	9.0-11.0	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0	7.0-9.0
LLPAHs (ug/kg)							
1-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	NA	NA	NA	NA	NA	NA	NA
Anthracene	NA	NA	NA	NA	NA	NA	NA
Benzo[a]anthracene	NA	NA	NA	NA	NA	NA	NA
Benzo[a]pyrene	NA	NA	NA	NA	NA	NA	NA
Benzo[b]fluoranthene	NA	NA	NA	NA	NA	NA	NA
Benzo[g,h,i]perylene	NA	NA	NA	NA	NA	NA	NA
Benzo[k]fluoranthene	NA	NA	NA	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	NA	NA	NA	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA	NA	NA	NA
Indeno[1,2,3-cd]pyrene	NA	NA	NA	NA	NA	NA	NA
Naphthalene	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	NA	NA
Pyrene	NA	NA	NA	NA	NA	NA	NA

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - FUELING PIERS AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB231	74SB231	74SB232	74SB232	74SB233	74SB233	74SB234
Sample ID	74SB231-05	74SB231-05D	74SB232-04	74SB232-05	74SB233-04	74SB233-05	74SB234-04
Date	5/20/2008	5/20/2008	5/20/2008	5/20/2008	5/20/2008	5/20/2008	5/20/2008
Depth Range	9.0-11.0	9.0-11.0	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0	7.0-9.0
Metals (mg/kg)							
Antimony	0.32 U	0.21 U	0.21 U	0.31 U	0.25 U	0.24 U	0.086 U
Arsenic	5.5	5.4	4.8	7.2	4.5	6.7	1.8
Barium	11	12	8.9	8.4	11	9.8	110
Beryllium	0.17 J	0.04 U	0.041 U	0.045 U	0.049 U	0.047 U	0.38
Cadmium	0.46	0.068 U	0.071 U	0.078 U	0.084 U	0.081 U	0.27
Chromium	6	4.7	2.2 J	5.1	2.7	6	71
Cobalt	3.4 J	2.1 J	1.3	1.8	1.3	2.3	27
Copper	5.4	4.5	1.7 U	2.8 U	2.6 U	4.9 U	210
Lead	1.9 J	0.43 UJ	0.26 U	0.48 U	6.4	0.42 U	3.5
Mercury	0.0063 J	0.0045 J	0.0046 U	0.0045 U	0.0052 U	0.0053 U	0.029
Nickel	1.9	1.7	1.1	1.7	1.4	2.3	36
Selenium	0.25 U	0.26 U	0.28 U	0.3 U	0.33 U	0.31 U	0.54 J
Silver	0.11 J	0.035 UJ	0.037 UJ	0.04 UJ	0.043 UJ	0.042 UJ	0.052 J
Thallium	0.25 U	0.26 U	0.28 U	0.3 U	0.33 U	0.31 U	0.14 U
Tin	8.3 U	8.8 U	9.2 U	10 U	11 U	10 U	4.6 U
Vanadium	30 J	15 J	4.8	12	5.2	16	150
Zinc	6.5 J	3.5 J	1.5 U	3.5 J	2.4 J	4 J	100
TPH DRO/GRO (mg/kg)							
Diesel Range Organics	16 J	4.2 J	1.4 U	3.6 U	4.3 U	1.5 U	1.8 U
Gasoline Range Organics	0.064 U	0.086 U	0.091 U	0.08 U	0.1 U	0.081 U	0.06 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - FUELING PIERS AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB234	74SB235	74SB235	74SB236	74SB236	74SB236	74SB237
Sample ID	74SB234-05	74SB235-04	74SB235-05	74SB236-04	74SB236-05	74SB236-05D	74SB237-04
Date	5/20/2008	5/20/2008	5/20/2008	5/21/2008	5/21/2008	5/21/2008	5/21/2008
Depth Range	9.0-11.0	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0	9.0-11.0	7.0-9.0
Volatile Organic Compounds (ug/kg)							
1,1,1,2-Tetrachloroethane	0.71 U	0.7 R	1 U	0.82 U	1.1 U	0.99 U	1.1 U
1,1,1-Trichloroethane	0.65 U	0.64 R	0.92 U	0.74 U	0.97 U	0.9 U	1 U
1,1,2,2-Tetrachloroethane	1.6 U	1.5 R	2.2 U	1.8 U	2.3 U	2.2 U	2.4 U
1,1,2-Trichloroethane	1.3 U	1.3 R	1.9 U	1.5 U	2 U	1.9 U	2.1 U
1,1-Dichloroethane	0.56 U	0.55 R	0.79 U	0.64 U	0.84 U	0.77 U	0.86 U
1,1-Dichloroethene	0.6 U	0.59 R	0.86 U	0.69 U	0.91 U	0.83 U	0.93 U
1,2,3-Trichloropropane	1.6 UJ	1.5 R	2.2 UJ	1.8 UJ	2.3 UJ	2.2 UJ	2.4 UJ
1,2-Dibromo-3-Chloropropane	3.1 UJ	3.1 R	4.4 UJ	3.6 UJ	4.7 UJ	4.3 UJ	4.8 UJ
1,2-Dichloroethane	1.1 U	1.1 R	1.6 U	1.3 U	1.7 U	1.5 U	1.7 U
1,2-Dichloropropane	1.2 U	1.2 R	1.7 U	1.4 U	1.8 U	1.7 U	1.9 U
2-Butanone (MEK)	3 UJ	5.4 R	5.1 UJ	3.4 UJ	4.5 UJ	11 UJ	4.6 UJ
2-Chloro-1,3-butadiene	0.64 U	0.63 R	0.9 U	0.73 UJ	0.96 UJ	0.88 U	0.98 UJ
2-Hexanone	2.3 UJ	3 J	3.3 UJ	2.7 UJ	3.5 UJ	3.2 UJ	3.6 UJ
3-Chloro-1-propene	1.7 UJ	1.7 R	2.4 UJ	1.9 UJ	2.5 UJ	2.3 UJ	2.6 UJ
4-Methyl-2-pentanone (MIBK)	3.2 UJ	3.2 R	4.6 UJ	3.7 UJ	4.9 UJ	4.5 UJ	5 UJ
Acetone	18 U	22 R	51 U	53 U	55 U	52 UJ	46 U
Acetonitrile	50 UJ	50 R	71 UJ	57 UJ	75 UJ	70 UJ	77 UJ
Acrolein	21 U	21 R	30 U	24 UJ	32 UJ	29 R	33 UJ
Acrylonitrile	26 U	25 R	36 U	29 U	39 U	36 UJ	39 U
Benzene	0.88 U	0.87 R	2.3 J	1 U	1.3 U	1.2 U	1.4 U
Bromoform	1.2 U	1.2 R	1.7 U	1.4 UJ	1.8 UJ	1.7 UJ	1.9 UJ
Bromomethane	1.8 UJ	1.8 R	2.5 UJ	2 U	2.7 U	2.5 UJ	2.7 U
Carbon disulfide	0.57 U	0.56 R	0.81 U	0.65 U	0.86 U	0.79 U	0.88 U
Carbon tetrachloride	1.1 U	1.1 R	1.6 U	1.3 U	1.7 U	1.5 U	1.7 U
Chlorobenzene	0.81 U	0.8 R	1.2 U	0.93 U	1.2 U	1.1 U	1.3 U
Chlorodibromomethane	0.56 U	0.55 R	0.79 U	0.64 U	0.84 U	0.77 U	0.86 U
Chloroethane	1.3 U	1.3 R	1.9 U	1.5 U	2 U	1.9 U	2.1 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - FUELING PIERS AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB234	74SB235	74SB235	74SB236	74SB236	74SB236	74SB237
Sample ID	74SB234-05	74SB235-04	74SB235-05	74SB236-04	74SB236-05	74SB236-05D	74SB237-04
Date	5/20/2008	5/20/2008	5/20/2008	5/21/2008	5/21/2008	5/21/2008	5/21/2008
Depth Range	9.0-11.0	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0	9.0-11.0	7.0-9.0
Volatile Organic Compounds (ug/kg)							
Chloroform	0.56 U	0.55 R	0.79 U	0.64 U	0.84 U	0.77 U	0.86 U
Chloromethane	0.79 U	0.78 R	1.1 U	0.91 U	1.2 U	1.1 UJ	1.2 U
cis-1,3-Dichloropropene	0.97 U	0.96 R	1.4 U	1.1 U	1.5 U	1.3 U	1.5 U
Dibromomethane	1.3 U	1.3 R	1.9 U	1.5 U	2 U	1.9 U	2.1 U
Dichlorobromomethane	0.93 U	0.91 R	1.3 U	1.1 U	1.4 U	1.3 U	1.4 U
Dichlorodifluoromethane	0.99 U	0.98 R	1.4 U	1.1 U	1.5 U	1.4 UJ	1.5 U
Ethyl methacrylate	2.5 U	2.4 R	3.5 U	2.8 U	3.7 U	3.4 U	3.8 U
Ethylbenzene	0.84 U	0.83 R	1.2 U	0.96 U	1.3 U	1.2 U	1.3 U
Ethylene Dibromide	1.7 U	1.7 R	2.4 U	1.9 U	2.5 U	2.3 U	2.6 U
Iodomethane	1.1 U	1.1 R	1.6 U	1.3 UJ	1.7 UJ	1.5 U	1.7 UJ
Isobutyl alcohol	77 R	76 R	110 R	88 R	120 R	110 R	120 R
Methacrylonitrile	27 U	26 R	38 U	31 U	40 U	37 U	41 U
Methyl methacrylate	4.1 U	4.1 R	5.9 U	4.7 U	6.2 U	5.7 U	6.4 U
Methylene Chloride	1.1 U	1.6 R	1.6 U	1.3 U	1.7 U	1.5 U	1.7 U
Pentachloroethane	2.5 UJ	2.4 R	3.5 UJ	2.8 UJ	3.7 UJ	3.4 UJ	3.8 UJ
Propionitrile	23 U	23 R	33 U	27 U	35 U	32 UJ	36 U
Styrene	0.74 U	0.73 R	1 U	0.84 U	1.1 U	1 U	1.1 U
Tetrachloroethene	0.81 U	0.8 R	1.2 U	0.93 U	1.2 U	1.1 U	1.3 U
Toluene	0.88 U	0.87 R	1.3 U	1 U	1.3 U	1.2 U	1.4 U
trans-1,2-Dichloroethene	1.1 U	1.1 R	1.5 U	1.2 U	1.6 U	1.5 U	1.7 U
trans-1,3-Dichloropropene	0.97 U	0.96 R	1.4 U	1.1 U	1.5 U	1.3 U	1.5 U
trans-1,4-Dichloro-2-butene	3.5 U	3.4 R	4.9 U	4 U	5.2 U	4.8 U	5.3 U
Trichloroethene	1.1 U	1.1 R	1.6 U	1.3 U	1.7 U	1.5 U	1.7 U
Trichlorofluoromethane	1.7 U	1.7 R	2.4 U	1.9 U	2.5 U	2.3 U	2.6 U
Vinyl acetate	1.7 U	1.7 R	2.4 U	1.9 U	2.5 U	2.3 U	2.6 U
Vinyl chloride	0.65 U	0.64 R	0.92 U	0.74 U	0.97 U	0.9 U	1 U
Xylenes, Total	2.6 U	2.5 R	3.6 U	2.9 U	3.9 U	3.6 U	3.9 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - FUELING PIERS AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB234	74SB235	74SB235	74SB236	74SB236	74SB236	74SB237
Sample ID	74SB234-05	74SB235-04	74SB235-05	74SB236-04	74SB236-05	74SB236-05D	74SB237-04
Date	5/20/2008	5/20/2008	5/20/2008	5/21/2008	5/21/2008	5/21/2008	5/21/2008
Depth Range	9.0-11.0	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0	9.0-11.0	7.0-9.0
LLPAHs (ug/kg)							
1-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	NA	NA	NA	NA	NA	NA	NA
Anthracene	NA	NA	NA	NA	NA	NA	NA
Benzo[a]anthracene	NA	NA	NA	NA	NA	NA	NA
Benzo[a]pyrene	NA	NA	NA	NA	NA	NA	NA
Benzo[b]fluoranthene	NA	NA	NA	NA	NA	NA	NA
Benzo[g,h,i]perylene	NA	NA	NA	NA	NA	NA	NA
Benzo[k]fluoranthene	NA	NA	NA	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	NA	NA	NA	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA	NA	NA	NA
Indeno[1,2,3-cd]pyrene	NA	NA	NA	NA	NA	NA	NA
Naphthalene	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	NA	NA
Pyrene	NA	NA	NA	NA	NA	NA	NA

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - FUELING PIERS AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB234	74SB235	74SB235	74SB236	74SB236	74SB236	74SB237
Sample ID	74SB234-05	74SB235-04	74SB235-05	74SB236-04	74SB236-05	74SB236-05D	74SB237-04
Date	5/20/2008	5/20/2008	5/20/2008	5/21/2008	5/21/2008	5/21/2008	5/21/2008
Depth Range	9.0-11.0	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0	9.0-11.0	7.0-9.0
Metals (mg/kg)							
Antimony	0.19 U	0.23 U	0.32 U	0.4 J	0.19 J	0.17 J	0.15 J
Arsenic	1.9	3.5	7	7.2	2	2	2
Barium	87	26	14	13 J	9.8 J	9.4 J	11 J
Beryllium	0.37	0.042 J	0.06 J	0.06 U	0.024 U	0.025 U	0.022 U
Cadmium	0.078 J	0.07 U	0.055 J	0.044 J	0.042 U	0.044 U	0.038 U
Chromium	40	7.2	17	16 J	3.7 J	4.2 J	2.6 J
Cobalt	22	2.9	2	1.6 J	0.62 J	0.64 J	0.54 J
Copper	88	11	11	8.4 J	1.4 UJ	1.6 UJ	0.71 UJ
Lead	1.4	1.2	0.74	0.76	0.41	0.33 J	0.11 J
Mercury	0.016 J	0.0046 U	0.0063 U	0.0053 J	0.0051 U	0.0052 U	0.0047 U
Nickel	21	3.1	5.1	5.1 J	0.97 J	1.1 J	0.66 J
Selenium	0.47 J	0.27 U	0.77	0.42 J	0.16 U	0.17 U	0.15 U
Silver	0.03 J	0.036 UJ	0.026 J	0.021 J	0.022 U	0.023 U	0.02 U
Thallium	0.14 U	0.27 U	0.18 U	0.15 U	0.16 U	0.17 U	0.15 U
Tin	4.6 U	9 U	5.9 U	5.1 U	5.4 U	5.7 U	4.9 U
Vanadium	130	18	24	30 J	5.4 J	6.1 J	2.4 J
Zinc	90	7.3 J	8.8	7.1	1.1 J	1.3 J	0.78 U
TPH DRO/GRO (mg/kg)							
Diesel Range Organics	1.2	1.5	1.7 U	3.1	2.9	1.8	0.88
Gasoline Range Organics	0.059 U	0.076 U	0.097 U	0.0078 U	0.0093 U	0.0092 U	0.14 UJ

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - FUELING PIERS AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB237	74SB238	74SB238	74SB239	74SB239	74SB240	74SB240
Sample ID	74SB237-05	74SB238-04	74SB238-05	74SB239-04	74SB239-05	74SB240-04	74SB240-05
Date	5/21/2008	5/21/2008	5/21/2008	5/21/2008	5/21/2008	5/21/2008	5/21/2008
Depth Range	9.0-11.0	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0
Volatile Organic Compounds (ug/kg)							
1,1,1,2-Tetrachloroethane	1.2 U	0.92 U	0.88 U	0.82 U	1.1 U	0.69 U	0.89 U
1,1,1-Trichloroethane	1.1 U	0.83 U	0.8 U	0.74 U	0.99 U	0.62 U	0.8 U
1,1,2,2-Tetrachloroethane	2.5 U	2 U	1.9 U	1.8 U	2.4 U	1.5 U	1.9 U
1,1,2-Trichloroethane	2.2 U	1.7 U	1.6 U	1.5 U	2 U	1.3 U	1.7 U
1,1-Dichloroethane	0.91 U	0.72 U	0.69 U	0.64 U	0.85 U	0.54 U	0.69 U
1,1-Dichloroethene	0.98 U	0.77 U	0.74 U	0.69 U	0.92 U	0.58 U	0.75 U
1,2,3-Trichloropropane	2.5 UJ	2 UJ	1.9 UJ	1.8 UJ	2.4 UJ	1.5 UJ	1.9 UJ
1,2-Dibromo-3-Chloropropane	5.1 UJ	4 UJ	3.8 UJ	3.6 UJ	4.8 UJ	3 UJ	3.9 UJ
1,2-Dichloroethane	1.8 U	1.4 U	1.4 U	1.3 U	1.7 U	1.1 U	1.4 U
1,2-Dichloropropane	2 U	1.6 U	1.5 U	1.4 U	1.9 U	1.2 U	1.5 U
2-Butanone (MEK)	11 UJ	3.9 UJ	39 J	16 UJ	21 UJ	11 UJ	14 UJ
2-Chloro-1,3-butadiene	1 UJ	0.82 UJ	0.78 U	0.73 U	0.97 U	0.61 U	0.79 U
2-Hexanone	3.8 UJ	3 UJ	2.9 UJ	2.7 UJ	3.6 UJ	2.3 UJ	2.9 UJ
3-Chloro-1-propene	2.7 UJ	2.2 UJ	2.1 UJ	1.9 UJ	2.6 UJ	1.6 UJ	2.1 UJ
4-Methyl-2-pentanone (MIBK)	5.3 UJ	4.2 UJ	4 UJ	3.7 UJ	5 UJ	3.1 UJ	4 UJ
Acetone	56 U	42 U	170	97 U	150 U	65 U	60 U
Acetonitrile	82 UJ	65 UJ	62 UJ	58 UJ	77 UJ	48 UJ	62 UJ
Acrolein	35 UJ	27 UJ	26 U	24 U	32 U	20 U	26 U
Acrylonitrile	42 U	33 U	32 U	29 U	39 U	25 U	32 U
Benzene	1.4 U	1.1 U	1.1 U	1 U	1.3 U	0.85 U	1.1 U
Bromoform	2 UJ	1.6 UJ	1.5 U	1.4 U	1.9 U	1.2 U	1.5 U
Bromomethane	2.9 U	2.3 U	2.2 UJ	2 UJ	2.7 UJ	1.7 UJ	2.2 UJ
Carbon disulfide	3.8 J	0.73 U	7.2	0.65 U	13	1.8 J	4.3 J
Carbon tetrachloride	1.8 U	1.4 U	1.4 U	1.3 U	1.7 U	1.1 U	1.4 U
Chlorobenzene	1.3 U	1 U	1 U	0.93 U	1.2 U	0.78 U	1 U
Chlorodibromomethane	0.91 U	0.72 U	0.69 U	0.64 U	0.85 U	0.54 U	0.69 U
Chloroethane	2.2 U	1.7 U	1.6 U	1.5 U	2 U	1.3 U	1.7 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - FUELING PIERS AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB237	74SB238	74SB238	74SB239	74SB239	74SB240	74SB240
Sample ID	74SB237-05	74SB238-04	74SB238-05	74SB239-04	74SB239-05	74SB240-04	74SB240-05
Date	5/21/2008	5/21/2008	5/21/2008	5/21/2008	5/21/2008	5/21/2008	5/21/2008
Depth Range	9.0-11.0	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0
Volatile Organic Compounds (ug/kg)							
Chloroform	0.91 U	0.72 U	0.69 U	0.64 U	0.85 U	0.54 U	0.69 U
Chloromethane	1.3 U	1 U	0.98 U	0.91 U	1.2 U	0.76 U	0.98 U
cis-1,3-Dichloropropene	1.6 U	1.2 U	1.2 U	1.1 U	1.5 U	0.93 U	1.2 U
Dibromomethane	2.2 U	1.7 U	1.6 U	1.5 U	2 U	1.3 U	1.7 U
Dichlorobromomethane	1.5 U	1.2 U	1.1 U	1.1 U	1.4 U	0.89 U	1.2 U
Dichlorodifluoromethane	1.6 U	1.3 U	1.2 U	1.1 U	1.5 U	0.95 U	1.2 U
Ethyl methacrylate	4 U	3.2 U	3 U	2.8 U	3.8 U	2.4 U	3 U
Ethylbenzene	1.4 U	1.1 U	1 U	0.96 U	1.3 U	0.8 U	1 U
Ethylene Dibromide	2.7 U	2.2 U	2.1 U	1.9 U	2.6 U	1.6 U	2.1 U
Iodomethane	1.8 UJ	1.4 UJ	1.4 U	1.3 U	1.7 U	1.1 U	1.4 U
Isobutyl alcohol	130 R	99 R	95 R	88 R	120 R	74 R	96 R
Methacrylonitrile	44 U	34 U	33 U	31 U	41 U	26 U	33 U
Methyl methacrylate	6.7 U	5.3 U	5.1 U	4.7 U	6.3 U	4 U	5.1 U
Methylene Chloride	1.8 U	1.4 U	1.4 U	1.3 U	1.7 U	1.1 U	1.4 U
Pentachloroethane	4 UJ	3.2 UJ	3 UJ	2.8 UJ	3.8 UJ	2.4 UJ	3 UJ
Propionitrile	38 U	30 U	29 U	27 U	36 U	23 U	29 U
Styrene	1.2 U	0.95 U	0.91 U	0.84 U	1.1 U	0.71 U	0.91 U
Tetrachloroethene	1.3 U	1 U	1 U	0.93 U	1.2 U	0.78 U	1 U
Toluene	1.4 U	1.1 J	1.1 U	1 U	1.3 U	0.85 U	1.1 U
trans-1,2-Dichloroethene	1.8 U	1.4 U	1.3 U	1.2 U	1.7 U	1 U	1.3 U
trans-1,3-Dichloropropene	1.6 U	1.2 U	1.2 U	1.1 U	1.5 U	0.93 U	1.2 U
trans-1,4-Dichloro-2-butene	5.6 U	4.4 U	4.3 U	4 U	5.3 U	3.3 U	4.3 U
Trichloroethene	1.8 U	1.4 U	1.4 U	1.3 U	1.7 U	1.1 U	1.4 U
Trichlorofluoromethane	2.7 U	2.2 U	2.1 U	1.9 U	2.6 U	1.6 U	2.1 U
Vinyl acetate	2.7 U	2.2 U	2.1 U	1.9 U	2.6 U	1.6 U	2.1 U
Vinyl chloride	1.1 U	0.83 U	0.8 U	0.74 U	0.99 U	0.62 U	0.8 U
Xylenes, Total	4.2 U	3.3 U	3.2 U	2.9 U	3.9 U	2.5 U	3.2 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - FUELING PIERS AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB237	74SB238	74SB238	74SB239	74SB239	74SB240	74SB240
Sample ID	74SB237-05	74SB238-04	74SB238-05	74SB239-04	74SB239-05	74SB240-04	74SB240-05
Date	5/21/2008	5/21/2008	5/21/2008	5/21/2008	5/21/2008	5/21/2008	5/21/2008
Depth Range	9.0-11.0	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0
LLPAHs (ug/kg)							
1-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	NA	NA	NA	NA	NA	NA	NA
Anthracene	NA	NA	NA	NA	NA	NA	NA
Benzo[a]anthracene	NA	NA	NA	NA	NA	NA	NA
Benzo[a]pyrene	NA	NA	NA	NA	NA	NA	NA
Benzo[b]fluoranthene	NA	NA	NA	NA	NA	NA	NA
Benzo[g,h,i]perylene	NA	NA	NA	NA	NA	NA	NA
Benzo[k]fluoranthene	NA	NA	NA	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	NA	NA	NA	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA	NA	NA	NA
Indeno[1,2,3-cd]pyrene	NA	NA	NA	NA	NA	NA	NA
Naphthalene	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	NA	NA
Pyrene	NA	NA	NA	NA	NA	NA	NA

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - FUELING PIERS AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB237	74SB238	74SB238	74SB239	74SB239	74SB240	74SB240
Sample ID	74SB237-05	74SB238-04	74SB238-05	74SB239-04	74SB239-05	74SB240-04	74SB240-05
Date	5/21/2008	5/21/2008	5/21/2008	5/21/2008	5/21/2008	5/21/2008	5/21/2008
Depth Range	9.0-11.0	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0	7.0-9.0	9.0-11.0
Metals (mg/kg)							
Antimony	0.18 J	0.25 J	0.23 J	0.19 J	0.39 J	0.24 J	0.23 J
Arsenic	2.3	2.3	3.4	2.8	6.7	2.5	2.2
Barium	11 J	18 J	19 J	12 J	13 J	20 J	9.5 J
Beryllium	0.026 U	0.044 J	0.039 U	0.049 U	0.062 U	0.069 U	0.024 U
Cadmium	0.044 U	0.042 J	0.063 J	0.078 J	0.092 J	0.088 J	0.041 U
Chromium	3.2 J	10 J	9.5 J	12 J	17 J	9.2 J	3 J
Cobalt	0.69 J	2.2 J	2.9 J	1.4 J	1.8 J	4.9 J	0.62 J
Copper	1.5 UJ	11 J	13 J	6.9 J	11 J	42 J	1.4 UJ
Lead	0.57	1.1	2	0.47	0.76	4.2	0.21 J
Mercury	0.006 U	0.0054 J	0.0064 J	0.0054 J	0.0062 U	0.0064 J	0.005 U
Nickel	0.75 J	3.3 J	3.2 J	3.6 J	5.9 J	6.1 J	0.87 J
Selenium	0.17 U	0.25 J	0.25 J	0.65 J	0.82	0.21 J	0.17 J
Silver	0.023 U	0.019 U	0.019 U	0.031 J	0.028 J	0.027 J	0.021 U
Thallium	0.17 U	0.14 U	0.14 U	0.17 U	0.18 U	0.14 U	0.16 U
Tin	5.7 U	4.7 U	4.6 U	5.5 U	5.9 U	4.6 U	5.2 U
Vanadium	4.1 J	23 J	28 J	15 J	32 J	40 J	3.7 J
Zinc	1.5 J	9.3	11	5.5	9.3	20	1.2 J
TPH DRO/GRO (mg/kg)							
Diesel Range Organics	1.7	11	14	8.3	9.2	25	3.1
Gasoline Range Organics	0.011 U	0.0074 U	0.035 J	0.0094 U	0.011 U	0.0076 U	0.0095 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - FUELING PIERS AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB241	74SB241	74SB241	74SB245	74SB245	74SB246	74SB246
Sample ID	74SB241-04D	74SB241-04	74SB241-05	74SB245-03	74SB245-05	74SB246-03D	74SB246-03
Date	5/21/2008	5/21/2008	5/21/2008	5/21/2008	5/21/2008	5/21/2008	5/21/2008
Depth Range	7.0-9.0	7.0-9.0	9.0-11.0	5.0-7.0	9.0-11.0	5.0-7.0	5.0-7.0
Volatile Organic Compounds (ug/kg)							
1,1,1,2-Tetrachloroethane	0.91 U	0.87 U	0.89 U	1 U	0.71 U	3.5 U	1.5 U
1,1,1-Trichloroethane	0.83 U	0.79 U	0.81 U	0.94 U	0.65 U	3.2 U	1.4 U
1,1,2,2-Tetrachloroethane	2 U	1.9 U	1.9 U	2.3 U	1.6 U	7.7 U	3.4 U
1,1,2-Trichloroethane	1.7 U	1.6 U	1.7 U	1.9 U	1.3 U	6.6 U	2.9 U
1,1-Dichloroethane	0.71 U	0.68 U	0.7 U	0.81 U	0.56 U	2.7 U	1.2 U
1,1-Dichloroethene	0.77 U	0.74 U	0.75 U	0.87 U	0.6 U	3 U	1.3 U
1,2,3-Trichloropropane	2 UJ	1.9 UJ	1.9 UJ	2.3 UJ	1.6 UJ	7.7 UJ	3.4 UJ
1,2-Dibromo-3-Chloropropane	4 UJ	3.8 UJ	3.9 UJ	4.5 UJ	3.1 UJ	15 UJ	6.7 UJ
1,2-Dichloroethane	1.4 U	1.4 U	1.4 U	1.6 U	1.1 U	5.5 U	2.4 U
1,2-Dichloropropane	1.6 U	1.5 U	1.5 U	1.8 U	1.2 U	6 U	2.6 U
2-Butanone (MEK)	16 UJ	7.6 UJ	11 UJ	10 UJ	6.2 UJ	20 UJ	10 UJ
2-Chloro-1,3-butadiene	0.81 U	0.78 U	0.79 U	0.92 U	0.63 U	3.1 U	1.4 U
2-Hexanone	3 UJ	2.9 UJ	2.9 UJ	3.4 UJ	2.3 UJ	11 UJ	5.1 UJ
3-Chloro-1-propene	2.1 UJ	2 UJ	2.1 UJ	2.4 UJ	1.7 UJ	8.2 UJ	3.6 UJ
4-Methyl-2-pentanone (MIBK)	4.1 UJ	4 UJ	4 UJ	4.7 UJ	3.2 UJ	16 UJ	7 UJ
Acetone	78 U	51 U	58 U	76 U	47 U	160 U	65 U
Acetonitrile	64 UJ	61 UJ	63 UJ	73 UJ	50 UJ	250 UJ	110 UJ
Acrolein	27 U	26 U	26 U	31 U	21 U	100 U	46 U
Acrylonitrile	33 U	31 U	32 U	37 U	26 U	130 U	55 U
Benzene	1.1 U	1.1 U	1.1 U	1.3 U	0.88 U	4.3 U	1.9 U
Bromoform	1.6 U	1.5 U	1.5 U	1.8 U	1.2 U	6 U	2.6 U
Bromomethane	2.3 UJ	2.2 UJ	2.2 UJ	2.6 UJ	1.8 UJ	8.7 UJ	3.8 UJ
Carbon disulfide	0.73 U	0.7 U	4 J	1.4 J	0.7 J	2.8 U	1.2 U
Carbon tetrachloride	1.4 U	1.4 U	1.4 U	1.6 U	1.1 U	5.5 U	2.4 U
Chlorobenzene	1 U	1 U	1 U	1.2 U	0.81 U	4 U	1.8 U
Chlorodibromomethane	0.71 U	0.68 U	0.7 U	0.81 U	0.56 U	2.7 U	1.2 U
Chloroethane	1.7 U	1.6 U	1.7 U	1.9 U	1.3 U	6.6 U	2.9 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - FUELING PIERS AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB241	74SB241	74SB241	74SB245	74SB245	74SB246	74SB246
Sample ID	74SB241-04D	74SB241-04	74SB241-05	74SB245-03	74SB245-05	74SB246-03D	74SB246-03
Date	5/21/2008	5/21/2008	5/21/2008	5/21/2008	5/21/2008	5/21/2008	5/21/2008
Depth Range	7.0-9.0	7.0-9.0	9.0-11.0	5.0-7.0	9.0-11.0	5.0-7.0	5.0-7.0
Volatile Organic Compounds (ug/kg)							
Chloroform	0.71 U	0.68 U	0.7 U	0.81 U	0.56 U	2.7 U	1.2 U
Chloromethane	1 U	0.97 U	0.99 U	1.1 U	0.79 U	3.9 U	1.7 U
cis-1,3-Dichloropropene	1.2 U	1.2 U	1.2 U	1.4 U	0.97 U	4.8 U	2.1 U
Dibromomethane	1.7 U	1.6 U	1.7 U	1.9 U	1.3 U	6.6 U	2.9 U
Dichlorobromomethane	1.2 U	1.1 U	1.2 U	1.3 U	0.92 U	4.5 U	2 U
Dichlorodifluoromethane	1.3 U	1.2 U	1.2 U	1.4 U	0.99 U	4.9 U	2.1 U
Ethyl methacrylate	3.1 U	3 U	3.1 U	3.5 U	2.4 U	12 U	5.3 U
Ethylbenzene	1.1 U	1 U	1 U	1.2 U	0.83 U	4.1 U	1.8 U
Ethylene Dibromide	2.1 U	2 U	2.1 U	2.4 U	1.7 U	8.2 U	3.6 U
Iodomethane	1.4 U	1.4 U	1.4 U	1.6 U	1.2 J	5.5 U	2.4 U
Isobutyl alcohol	98 R	94 R	96 R	110 R	77 R	380 R	170 R
Methacrylonitrile	34 U	33 U	33 U	39 U	27 U	130 U	58 U
Methyl methacrylate	5.3 U	5 U	5.1 U	6 U	4.1 U	20 U	8.9 U
Methylene Chloride	1.4 U	1.4 U	1.4 U	1.6 U	1.1 U	5.5 U	2.4 U
Pentachloroethane	3.1 UJ	3 UJ	3.1 UJ	3.5 UJ	2.4 UJ	12 UJ	5.3 UJ
Propionitrile	30 U	29 U	29 U	34 U	23 U	110 U	51 U
Styrene	0.94 U	0.9 U	0.92 U	1.1 U	0.73 U	3.6 U	1.6 U
Tetrachloroethene	1 U	1 U	1 U	1.2 U	0.81 U	4 U	1.8 U
Toluene	1.1 U	1.1 U	1.1 U	1.3 U	0.88 U	4.3 U	1.9 U
trans-1,2-Dichloroethene	1.4 U	1.3 U	1.3 U	1.6 U	1.1 U	5.3 U	2.3 U
trans-1,3-Dichloropropene	1.2 U	1.2 U	1.2 U	1.4 U	0.97 U	4.8 U	2.1 U
trans-1,4-Dichloro-2-butene	4.4 U	4.2 U	4.3 U	5 U	3.5 U	17 U	7.5 U
Trichloroethene	1.4 U	1.4 U	1.4 U	1.6 U	1.1 U	5.5 U	2.4 U
Trichlorofluoromethane	2.1 U	2 U	2.1 U	2.4 U	1.7 U	8.2 U	3.6 U
Vinyl acetate	2.1 U	2 U	2.1 U	2.4 U	1.7 U	8.2 U	3.6 U
Vinyl chloride	0.83 U	0.79 U	0.81 U	0.94 U	0.65 U	3.2 U	1.4 U
Xylenes, Total	3.3 U	3.1 U	3.2 U	3.7 U	2.6 U	13 U	5.5 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - FUELING PIERS AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB241	74SB241	74SB241	74SB245	74SB245	74SB246	74SB246
Sample ID	74SB241-04D	74SB241-04	74SB241-05	74SB245-03	74SB245-05	74SB246-03D	74SB246-03
Date	5/21/2008	5/21/2008	5/21/2008	5/21/2008	5/21/2008	5/21/2008	5/21/2008
Depth Range	7.0-9.0	7.0-9.0	9.0-11.0	5.0-7.0	9.0-11.0	5.0-7.0	5.0-7.0
LLPAHs (ug/kg)							
1-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	NA	NA	NA	NA	NA	NA	NA
Anthracene	NA	NA	NA	NA	NA	NA	NA
Benzo[a]anthracene	NA	NA	NA	NA	NA	NA	NA
Benzo[a]pyrene	NA	NA	NA	NA	NA	NA	NA
Benzo[b]fluoranthene	NA	NA	NA	NA	NA	NA	NA
Benzo[g,h,i]perylene	NA	NA	NA	NA	NA	NA	NA
Benzo[k]fluoranthene	NA	NA	NA	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	NA	NA	NA	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA	NA	NA	NA
Indeno[1,2,3-cd]pyrene	NA	NA	NA	NA	NA	NA	NA
Naphthalene	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	NA	NA
Pyrene	NA	NA	NA	NA	NA	NA	NA

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - FUELING PIERS AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB241	74SB241	74SB241	74SB245	74SB245	74SB246	74SB246
Sample ID	74SB241-04D	74SB241-04	74SB241-05	74SB245-03	74SB245-05	74SB246-03D	74SB246-03
Date	5/21/2008	5/21/2008	5/21/2008	5/21/2008	5/21/2008	5/21/2008	5/21/2008
Depth Range	7.0-9.0	7.0-9.0	9.0-11.0	5.0-7.0	9.0-11.0	5.0-7.0	5.0-7.0
Metals (mg/kg)							
Antimony	0.35 J	0.21 J	0.37 J	0.19 J	0.2 J	0.53 J	0.4 J
Arsenic	3.7	3.7	3.1	2.8	3.5	6.9	4.5
Barium	12	9.4 J	10	38	45	21	15
Beryllium	0.049 U	0.02 U	0.045 U	0.074 J	0.15 J	0.095 J	0.053 U
Cadmium	0.042 U	0.034 U	0.038 U	0.23	0.21	0.067 U	0.046 U
Chromium	9.7	3.6 J	3.8	11	16	23 R	4.4 R
Cobalt	1	0.57 J	0.81	9.1	8.1	4.7 J	1.6 J
Copper	4.1 U	0.89 UJ	1.4 U	64	67	16	5.3 U
Lead	0.5 U	0.66	0.22 U	6.3	3.4	1.2 U	0.5 U
Mercury	0.0052 U	0.0042 U	0.0051 U	0.0041 U	0.0053 J	0.0082 U	0.0057 U
Nickel	2.7	0.73 J	0.96	5.9	7.2	6.5	1.4
Selenium	0.33 U	0.13 U	0.3 U	0.28 U	0.47 J	0.51 U	0.35 U
Silver	0.044 UJ	0.018 U	0.04 UJ	0.045 J	0.062 J	0.069 UJ	0.047 UJ
Thallium	0.33 U	0.13 U	0.3 U	0.28 U	0.25 U	0.51 U	0.35 U
Tin	11 U	4.4 U	9.9 U	9.2 U	8.2 U	17 U	12 U
Vanadium	13	3.3 J	4.6	63	68	38 R	13 R
Zinc	5 U	0.7 U	2.6 U	42 J	46 J	17 U	4.6 U
TPH DRO/GRO (mg/kg)							
Diesel Range Organics	2.4	1.9	2.1	1.7	2.9	4.3 J	1.4 J
Gasoline Range Organics	0.01 U	0.011 U	0.0089 U	0.029 J	0.01 U	0.032 U	0.016 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - FUELING PIERS AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB246	74SB247	74SB248	74SB249	74SB250	74SB250	74SB251
Sample ID	74SB246-05	74SB247-03	74SB248-03	74SB249-03	74SB250-03	74SB250-05	74SB251-03
Date	5/21/2008	5/21/2008	5/21/2008	5/21/2008	5/21/2008	5/21/2008	5/21/2008
Depth Range	9.0-11.0	5.0-7.0	5.0-7.0	5.0-7.0	5.0-7.0	9.0-11.0	5.0-7.0
Volatile Organic Compounds (ug/kg)							
1,1,1,2-Tetrachloroethane	1.2 U	0.88 U	0.93 U	0.91 U	0.9 U	1.2 U	1 U
1,1,1-Trichloroethane	1.1 U	0.8 U	0.84 U	0.83 U	0.82 U	1.1 U	0.95 U
1,1,2,2-Tetrachloroethane	2.7 U	1.9 U	2 U	2 U	2 U	2.5 U	2.3 U
1,1,2-Trichloroethane	2.3 U	1.6 U	1.7 U	1.7 U	1.7 U	2.2 U	2 U
1,1-Dichloroethane	0.95 U	0.69 U	0.73 U	0.71 U	0.71 U	0.91 U	0.82 U
1,1-Dichloroethene	1 U	0.74 U	0.79 U	0.77 U	0.76 U	0.98 U	0.88 U
1,2,3-Trichloropropane	2.7 UJ	1.9 UJ	2 UJ	2 UJ	2 UJ	2.5 UJ	2.3 UJ
1,2-Dibromo-3-Chloropropane	5.3 UJ	3.8 UJ	4.1 UJ	4 UJ	4 UJ	5.1 UJ	4.6 UJ
1,2-Dichloroethane	1.9 U	1.4 U	1.5 U	1.4 U	1.4 U	1.8 U	1.6 U
1,2-Dichloropropane	2.1 U	1.5 U	1.6 U	1.6 U	1.6 U	2 U	1.8 U
2-Butanone (MEK)	17 UJ	4.4 UJ	3.9 UJ	7.3 UJ	4.7 UJ	7.8 UJ	8.6 UJ
2-Chloro-1,3-butadiene	1.1 U	0.78 U	0.83 U	0.81 U	0.81 U	1 U	0.93 U
2-Hexanone	4 UJ	2.9 UJ	3.1 UJ	3 UJ	3 UJ	3.8 UJ	3.4 UJ
3-Chloro-1-propene	2.8 UJ	2.1 UJ	2.2 UJ	2.1 UJ	2.1 UJ	2.7 UJ	2.4 UJ
4-Methyl-2-pentanone (MIBK)	5.5 UJ	4 UJ	4.2 UJ	4.1 UJ	4.1 UJ	5.3 UJ	4.7 UJ
Acetone	85 UJ	34 U	20 J	56 UJ	36 UJ	64 UJ	69 UJ
Acetonitrile	85 UJ	62 UJ	66 UJ	64 UJ	64 UJ	82 UJ	73 UJ
Acrolein	36 R	26 U	28 U	27 R	27 R	35 R	31 R
Acrylonitrile	44 UJ	32 U	33 U	33 UJ	33 UJ	42 UJ	38 UJ
Benzene	1.5 U	1.1 J	1.2 U	1.1 U	1.1 U	1.4 U	1.3 U
Bromoform	2.1 UJ	1.5 U	1.6 U	1.6 UJ	1.6 UJ	2 UJ	1.8 UJ
Bromomethane	3 UJ	2.2 UJ	2.3 UJ	2.3 UJ	2.3 UJ	2.9 UJ	2.6 UJ
Carbon disulfide	0.97 U	0.7 U	0.74 U	0.73 U	0.72 U	0.93 U	0.83 U
Carbon tetrachloride	1.9 U	1.4 U	1.5 U	1.4 U	1.4 U	1.8 U	1.6 U
Chlorobenzene	1.4 U	1 U	1.1 U	1 U	1 U	1.3 U	1.2 U
Chlorodibromomethane	0.95 U	0.69 U	0.73 U	0.71 U	0.71 U	0.91 U	0.82 U
Chloroethane	2.3 U	1.6 U	1.7 U	1.7 U	1.7 U	2.2 U	2 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - FUELING PIERS AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB246	74SB247	74SB248	74SB249	74SB250	74SB250	74SB251
Sample ID	74SB246-05	74SB247-03	74SB248-03	74SB249-03	74SB250-03	74SB250-05	74SB251-03
Date	5/21/2008	5/21/2008	5/21/2008	5/21/2008	5/21/2008	5/21/2008	5/21/2008
Depth Range	9.0-11.0	5.0-7.0	5.0-7.0	5.0-7.0	5.0-7.0	9.0-11.0	5.0-7.0
Volatile Organic Compounds (ug/kg)							
Chloroform	0.95 U	0.69 U	0.73 U	0.71 U	0.71 U	0.91 U	0.82 U
Chloromethane	1.3 UJ	0.97 U	1 U	1 UJ	1 UJ	1.3 UJ	1.2 UJ
cis-1,3-Dichloropropene	1.6 U	1.2 U	1.3 U	1.2 U	1.2 U	1.6 U	1.4 U
Dibromomethane	2.3 U	1.6 U	1.7 U	1.7 U	1.7 U	2.2 U	2 U
Dichlorobromomethane	1.6 U	1.1 U	1.2 U	1.2 U	1.2 U	1.5 U	1.4 U
Dichlorodifluoromethane	1.7 UJ	1.2 U	1.3 U	1.3 UJ	1.3 UJ	1.6 UJ	1.5 UJ
Ethyl methacrylate	4.2 U	3 U	3.2 U	3.1 U	3.1 U	4 U	3.6 U
Ethylbenzene	1.4 U	1 U	1.1 U	1.1 U	1.1 U	1.4 U	1.2 U
Ethylene Dibromide	2.8 U	2.1 U	2.2 U	2.1 U	2.1 U	2.7 U	2.4 U
Iodomethane	1.9 U	1.4 U	1.5 U	1.4 U	1.4 U	1.8 U	3.9 J
Isobutyl alcohol	130 R	95 R	100 R	98 R	98 R	130 R	110 R
Methacrylonitrile	45 U	33 U	35 U	34 U	34 U	44 U	39 U
Methyl methacrylate	7 U	5.1 U	5.4 U	5.3 U	5.2 U	6.7 U	6 U
Methylene Chloride	1.9 U	1.4 U	1.5 U	1.4 U	1.4 U	1.8 U	1.6 U
Pentachloroethane	4.2 UJ	3 UJ	3.2 U	3.1 UJ	3.1 UJ	4 UJ	3.6 UJ
Propionitrile	40 UJ	29 U	31 UJ	30 UJ	30 UJ	38 UJ	34 UJ
Styrene	1.2 U	0.91 U	0.96 U	0.94 U	0.93 U	1.2 U	1.1 U
Tetrachloroethene	1.4 U	1 U	1.1 U	1 U	1 U	1.3 U	1.2 U
Toluene	1.5 U	1.1 U	1.2 U	1.1 U	1.1 U	1.4 U	1.3 U
trans-1,2-Dichloroethene	1.8 U	1.3 U	1.4 U	1.4 U	1.4 U	1.8 U	1.6 U
trans-1,3-Dichloropropene	1.6 U	1.2 U	1.3 U	1.2 U	1.2 U	1.6 U	1.4 U
trans-1,4-Dichloro-2-butene	5.9 U	4.3 U	4.5 UJ	4.4 U	4.4 U	5.6 U	5.1 U
Trichloroethene	1.9 U	1.4 U	1.5 U	1.4 U	1.4 U	1.8 U	1.6 U
Trichlorofluoromethane	2.8 U	2.1 U	2.2 U	2.1 U	2.1 U	2.7 U	2.4 U
Vinyl acetate	2.8 U	2.1 U	2.2 U	2.1 U	2.1 U	2.7 U	2.4 U
Vinyl chloride	1.1 U	0.8 U	0.84 U	0.83 U	0.82 U	1.1 U	0.95 U
Xylenes, Total	4.4 U	3.2 U	3.3 U	3.3 U	3.3 U	4.2 U	3.8 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - FUELING PIERS AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB246	74SB247	74SB248	74SB249	74SB250	74SB250	74SB251
Sample ID	74SB246-05	74SB247-03	74SB248-03	74SB249-03	74SB250-03	74SB250-05	74SB251-03
Date	5/21/2008	5/21/2008	5/21/2008	5/21/2008	5/21/2008	5/21/2008	5/21/2008
Depth Range	9.0-11.0	5.0-7.0	5.0-7.0	5.0-7.0	5.0-7.0	9.0-11.0	5.0-7.0
LLPAHs (ug/kg)							
1-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	NA	NA	NA	NA	NA	NA	NA
Anthracene	NA	NA	NA	NA	NA	NA	NA
Benzo[a]anthracene	NA	NA	NA	NA	NA	NA	NA
Benzo[a]pyrene	NA	NA	NA	NA	NA	NA	NA
Benzo[b]fluoranthene	NA	NA	NA	NA	NA	NA	NA
Benzo[g,h,i]perylene	NA	NA	NA	NA	NA	NA	NA
Benzo[k]fluoranthene	NA	NA	NA	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	NA	NA	NA	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA	NA	NA	NA
Indeno[1,2,3-cd]pyrene	NA	NA	NA	NA	NA	NA	NA
Naphthalene	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	NA	NA
Pyrene	NA	NA	NA	NA	NA	NA	NA

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - FUELING PIERS AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB246	74SB247	74SB248	74SB249	74SB250	74SB250	74SB251
Sample ID	74SB246-05	74SB247-03	74SB248-03	74SB249-03	74SB250-03	74SB250-05	74SB251-03
Date	5/21/2008	5/21/2008	5/21/2008	5/21/2008	5/21/2008	5/21/2008	5/21/2008
Depth Range	9.0-11.0	5.0-7.0	5.0-7.0	5.0-7.0	5.0-7.0	9.0-11.0	5.0-7.0
Metals (mg/kg)							
Antimony	0.16 UJ	0.2 J	0.2 UJ	0.2 UJ	0.18 UJ	0.27 J	0.19 UJ
Arsenic	1.8	3.1	2.9	3.7	2.8	5.9	0.99 J
Barium	76	35	14	19	27	16	110
Beryllium	0.13 J	0.12 J	0.048 U	0.047 U	0.043 U	0.088 J	0.23 J
Cadmium	0.08 J	0.11 J	0.041 U	0.041 U	0.087 J	0.044 U	0.05 J
Chromium	27	19	5.1	6.3	5.9	14	14
Cobalt	10	12	2.5	1.8	3.8	2.5	29
Copper	63	74	13	7.4	27	14	240
Lead	1.7	3.8	0.39 U	0.44 U	0.49 U	0.61 U	0.96
Mercury	0.0071 J	0.0044 U	0.0049 U	0.0054 U	0.005 U	0.0065 J	0.0047 U
Nickel	13	9.4	2.1	1.8	2.9	4.6	12
Selenium	0.25 U	0.3 U	0.32 U	0.31 U	0.29 U	0.45 J	0.41 J
Silver	0.036 J	0.04 UJ	0.042 UJ	0.042 UJ	0.038 UJ	0.046 UJ	0.046 J
Thallium	0.25 U	0.3 U	0.32 U	0.31 U	0.29 U	0.34 U	0.3 U
Tin	8.4 U	10 U	11 U	10 U	9.6 U	11 U	10 U
Vanadium	82	97	15	12	24	22	190
Zinc	37 J	36 J	9.7 U	5.8 U	24 J	11 U	50 J
TPH DRO/GRO (mg/kg)							
Diesel Range Organics	1.7	1.4	1.2	0.97	0.9	1.5	1.8
Gasoline Range Organics	0.058 J	0.013 U	0.089 UJ	0.012 U	0.15 UJ	0.32 UJ	0.0084 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - FUELING PIERS AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB251	74SB251	74SB252	74SB253	74SB254	74SB255	74SB256	74SB256
Sample ID	74SB251-03D	74SB251-05	74SB252-03	74SB253-03	74SB254-03	74SB255-03	74SB256-03	74SB256-03D
Date	5/21/2008	5/21/2008	5/21/2008	5/21/2008	5/21/2008	5/21/2008	5/21/2008	5/21/2008
Depth Range	5.0-7.0	9.0-11.0	5.0-7.0	5.0-7.0	5.0-7.0	5.0-7.0	5.0-7.0	5.0-7.0
Volatile Organic Compounds (ug/kg)								
1,1,1,2-Tetrachloroethane	0.88 U	0.75 U	0.84 U	0.85 U	0.72 U	0.72 U	0.54 U	0.53 U
1,1,1-Trichloroethane	0.8 U	0.68 U	0.76 U	0.77 U	0.65 U	0.65 U	0.49 U	0.48 U
1,1,2,2-Tetrachloroethane	1.9 U	1.6 U	1.8 U	1.9 U	1.6 U	1.6 U	1.2 U	1.2 U
1,1,2-Trichloroethane	1.7 U	1.4 U	1.6 U	1.6 U	1.3 U	1.4 U	1 U	0.99 U
1,1-Dichloroethane	0.69 U	0.59 U	0.65 U	0.67 U	0.56 U	0.56 U	0.42 U	0.41 U
1,1-Dichloroethene	0.74 U	0.64 U	0.71 U	0.72 U	0.61 U	0.61 U	0.46 U	0.45 U
1,2,3-Trichloropropane	1.9 UJ	1.6 UJ	1.8 UJ	1.9 UJ	1.6 UJ	1.6 UJ	1.2 UJ	1.2 UJ
1,2-Dibromo-3-Chloropropane	3.9 UJ	3.3 UJ	3.7 UJ	3.7 UJ	3.1 UJ	3.2 UJ	2.4 UJ	2.3 UJ
1,2-Dichloroethane	1.4 U	1.2 U	1.3 U	1.3 U	1.1 U	1.1 U	0.85 U	0.83 U
1,2-Dichloropropane	1.5 U	1.3 U	1.4 U	1.5 U	1.2 U	1.2 U	0.93 U	0.91 U
2-Butanone (MEK)	38 J	3.2 UJ	16 UJ	8.5 UJ	3 UJ	3 UJ	6.5 UJ	2.2 UJ
2-Chloro-1,3-butadiene	0.79 U	0.67 U	0.74 U	0.76 U	0.64 U	0.64 U	0.48 U	0.47 U
2-Hexanone	13 J	2.5 UJ	2.7 UJ	2.8 UJ	2.4 UJ	2.4 UJ	1.8 UJ	1.7 UJ
3-Chloro-1-propene	2.1 UJ	1.8 UJ	2 UJ	2 UJ	1.7 UJ	1.7 UJ	1.3 U	1.2 U
4-Methyl-2-pentanone (MIBK)	5.6 J	3.4 UJ	3.8 UJ	3.9 UJ	3.3 UJ	3.3 UJ	2.5 UJ	2.4 UJ
Acetone	250 J	18 J	180 J	83 J	4.9 UJ	30 J	61 UJ	27 UJ
Acetonitrile	62 UJ	53 UJ	59 UJ	60 UJ	51 UJ	51 UJ	38 UJ	37 UJ
Acrolein	26 U	22 U	25 U	25 U	21 U	21 U	16 U	16 U
Acrylonitrile	32 U	27 U	30 U	31 U	26 U	26 U	19 UJ	19 UJ
Benzene	1.1 U	0.93 U	1 U	1.1 U	0.89 U	0.89 U	0.67 U	0.65 U
Bromoform	1.5 U	1.3 U	1.4 U	1.5 U	1.2 U	1.2 U	0.93 U	0.91 U
Bromomethane	2.2 UJ	1.9 UJ	2.1 UJ	2.1 UJ	1.8 UJ	1.8 UJ	1.4 UJ	1.3 UJ
Carbon disulfide	0.7 U	0.6 U	0.67 U	0.68 U	0.57 U	0.58 U	0.43 U	0.42 U
Carbon tetrachloride	1.4 U	1.2 U	1.3 U	1.3 U	1.1 U	1.1 U	0.85 U	0.83 U
Chlorobenzene	1 U	0.86 U	0.95 U	0.97 U	0.82 U	0.82 U	0.62 U	0.6 U
Chlorodibromomethane	0.69 U	0.59 U	0.65 U	0.67 U	0.56 U	0.56 U	0.42 U	0.41 U
Chloroethane	1.7 U	1.4 U	1.6 U	1.6 U	1.3 U	1.4 U	1 U	0.99 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - FUELING PIERS AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB251	74SB251	74SB252	74SB253	74SB254	74SB255	74SB256	74SB256
Sample ID	74SB251-03D	74SB251-05	74SB252-03	74SB253-03	74SB254-03	74SB255-03	74SB256-03	74SB256-03D
Date	5/21/2008	5/21/2008	5/21/2008	5/21/2008	5/21/2008	5/21/2008	5/21/2008	5/21/2008
Depth Range	5.0-7.0	9.0-11.0	5.0-7.0	5.0-7.0	5.0-7.0	5.0-7.0	5.0-7.0	5.0-7.0
Volatile Organic Compounds (ug/kg)								
Chloroform	0.69 U	0.59 U	0.65 U	0.67 U	0.56 U	0.56 U	0.42 U	0.41 U
Chloromethane	0.98 U	0.84 U	0.93 U	0.95 U	0.8 U	0.8 U	0.6 U	0.59 U
cis-1,3-Dichloropropene	1.2 U	1 U	1.1 U	1.2 U	0.98 U	0.98 U	0.74 U	0.72 U
Dibromomethane	1.7 U	1.4 U	1.6 U	1.6 U	1.3 U	1.4 U	1 U	0.99 U
Dichlorobromomethane	1.1 U	0.98 U	1.1 U	1.1 U	0.93 U	0.94 U	0.7 U	0.69 U
Dichlorodifluoromethane	1.2 U	1 U	1.2 U	1.2 U	1 U	1 U	0.75 U	0.74 U
Ethyl methacrylate	3 U	2.6 U	2.9 U	2.9 U	2.5 U	2.5 U	1.9 U	1.8 U
Ethylbenzene	1 U	0.88 U	0.98 U	1 U	0.84 U	0.85 U	0.63 U	0.62 U
Ethylene Dibromide	2.1 U	1.8 U	2 U	2 U	1.7 U	1.7 U	1.3 U	1.2 U
Iodomethane	7.3	1.2 U	1.3 U	1.3 U	1.1 U	1.1 U	0.85 U	0.83 U
Isobutyl alcohol	95 R	81 R	90 R	92 R	78 R	78 R	58 R	57 R
Methacrylonitrile	33 U	28 U	31 U	32 U	27 U	27 U	20 U	20 U
Methyl methacrylate	5.1 U	4.4 U	4.8 U	4.9 U	4.2 U	4.2 U	3.1 U	3.1 U
Methylene Chloride	1.4 U	1.2 U	1.3 U	1.3 U	1.1 U	1.1 U	0.85 U	0.83 U
Pentachloroethane	3 U	2.6 U	2.9 U	2.9 U	2.5 U	2.5 U	1.9 UJ	1.8 UJ
Propionitrile	29 UJ	25 UJ	27 UJ	28 UJ	24 UJ	24 UJ	18 UJ	17 UJ
Styrene	0.91 U	0.78 U	0.86 U	0.88 U	0.74 U	0.74 U	0.56 U	0.55 U
Tetrachloroethene	1 U	0.86 U	0.95 U	0.97 U	0.82 U	0.82 U	0.62 U	0.6 U
Toluene	1.1 U	0.93 U	1 U	1.1 U	0.89 U	0.89 U	0.67 U	0.65 U
trans-1,2-Dichloroethene	1.3 U	1.1 U	1.3 U	1.3 U	1.1 U	1.1 U	0.82 U	0.8 U
trans-1,3-Dichloropropene	1.2 U	1 U	1.1 U	1.2 U	0.98 U	0.98 U	0.74 U	0.72 U
trans-1,4-Dichloro-2-butene	4.3 UJ	3.6 UJ	4.1 UJ	4.1 UJ	3.5 UJ	3.5 UJ	2.6 U	2.6 U
Trichloroethene	1.4 U	1.2 U	1.3 U	1.3 U	1.1 U	1.1 U	0.85 U	0.83 U
Trichlorofluoromethane	2.1 U	1.8 U	2 U	2 U	1.7 U	1.7 U	1.3 U	1.2 U
Vinyl acetate	2.1 U	1.8 U	2 U	2 U	1.7 U	1.7 U	1.3 U	1.2 U
Vinyl chloride	0.8 U	0.68 U	0.76 U	0.77 U	0.65 U	0.65 U	0.49 U	0.48 U
Xylenes, Total	3.2 U	2.7 U	3 U	3.1 U	2.6 U	2.6 U	1.9 U	1.9 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - FUELING PIERS AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB251	74SB251	74SB252	74SB253	74SB254	74SB255	74SB256	74SB256
Sample ID	74SB251-03D	74SB251-05	74SB252-03	74SB253-03	74SB254-03	74SB255-03	74SB256-03	74SB256-03D
Date	5/21/2008	5/21/2008	5/21/2008	5/21/2008	5/21/2008	5/21/2008	5/21/2008	5/21/2008
Depth Range	5.0-7.0	9.0-11.0	5.0-7.0	5.0-7.0	5.0-7.0	5.0-7.0	5.0-7.0	5.0-7.0
LLPAHs (ug/kg)								
1-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[a]anthracene	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[a]pyrene	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[b]fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[g,h,i]perylene	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[k]fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA	NA	NA	NA	NA
Indeno[1,2,3-cd]pyrene	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	NA	NA	NA	NA	NA	NA	NA	NA

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - FUELING PIERS AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB251	74SB251	74SB252	74SB253	74SB254	74SB255	74SB256	74SB256
Sample ID	74SB251-03D	74SB251-05	74SB252-03	74SB253-03	74SB254-03	74SB255-03	74SB256-03	74SB256-03D
Date	5/21/2008	5/21/2008	5/21/2008	5/21/2008	5/21/2008	5/21/2008	5/21/2008	5/21/2008
Depth Range	5.0-7.0	9.0-11.0	5.0-7.0	5.0-7.0	5.0-7.0	5.0-7.0	5.0-7.0	5.0-7.0
Metals (mg/kg)								
Antimony	0.19 UJ	0.17 UJ	0.28 J	0.15 UJ	0.72 J	0.17 J	0.17 U	0.2 U
Arsenic	1.2 J	0.83 J	3.1	1.3	3.4	3.7	1.3	1.5
Barium	110	97	41	72	23	42	59	43
Beryllium	0.22 J	0.14 J	0.14 J	0.2 J	0.62	0.44	0.17	0.14
Cadmium	0.073 J	0.083 J	0.18	0.31	0.15	0.2	0.16	0.15
Chromium	15	14	34	16	17	7.5	27	19
Cobalt	24	13	13	19	18	31	19	14
Copper	220	120	66	100	72	96	110	150
Lead	1.2	1.4	6.7	4.1	5	5.1	15	18
Mercury	0.0061 J	0.0048 U	0.0041 U	0.0037 U	0.23	0.0057 J	0.0047 J	0.0052 J
Nickel	12	10	15	12	16	20	13	9.5
Selenium	0.41 J	0.28 U	0.33 J	0.24 U	0.24 U	0.26 U	0.13 J	0.13 J
Silver	0.071 J	0.05 J	0.054 J	0.035 J	0.032 UJ	0.035 UJ	0.041 J	0.046 J
Thallium	0.3 U	0.28 U	0.25 U	0.24 U	0.24 U	0.26 U	0.12 U	0.12 U
Tin	9.9 U	9.2 U	8.2 U	8 U	8.1 U	8.8 U	4 U	4 U
Vanadium	180	110	89	130	110	200	140	110
Zinc	62 J	41 J	55 J	93 J	76 J	110 J	61 J	50 J
TPH DRO/GRO (mg/kg)								
Diesel Range Organics	1.1	18	1.2	1.6	1.3	1.2	20	0.98
Gasoline Range Organics	0.0092 U	0.099	0.012 U	0.006 U	0.0065 U	0.0069 U	0.38 R	0.065 J

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - FUELING PIERS AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB256	74SB258	74SB258	74SB259	74SB259	74SB260	74SB260
Sample ID	74SB256-04	74SB258-03	74SB258-05	74SB259-03	74SB259-04	74SB260-03	74SB260-04
Date	5/21/2008	5/21/2008	5/21/2008	5/21/2008	5/21/2008	5/21/2008	5/21/2008
Depth Range	7.0-9.0	5.0-7.0	9.0-11.0	5.0-7.0	7.0-9.0	5.0-7.0	7.0-9.0
Volatile Organic Compounds (ug/kg)							
1,1,1,2-Tetrachloroethane	0.79 U	0.53 U	0.61 U	0.64 U	1.3 U	0.65 U	0.69 U
1,1,1-Trichloroethane	0.71 U	0.48 U	0.55 U	0.58 U	1.2 U	0.59 U	0.63 U
1,1,2,2-Tetrachloroethane	1.7 U	1.2 U	1.3 U	1.4 U	2.9 U	1.4 U	1.5 U
1,1,2-Trichloroethane	1.5 U	0.99 U	1.1 U	1.2 U	2.5 U	1.2 U	1.3 U
1,1-Dichloroethane	0.62 U	0.41 U	0.47 U	0.5 U	1 U	0.51 U	0.54 U
1,1-Dichloroethene	0.67 U	0.45 U	0.51 U	0.54 U	1.1 U	0.55 U	0.59 U
1,2,3-Trichloropropane	1.7 UJ	1.2 UJ	1.3 UJ	1.4 UJ	2.9 UJ	1.4 UJ	1.5 UJ
1,2-Dibromo-3-Chloropropane	3.4 UJ	2.3 UJ	2.7 UJ	2.8 UJ	5.8 UJ	2.8 UJ	3 UJ
1,2-Dichloroethane	1.2 U	0.83 U	0.95 U	1 U	2.1 U	1 U	1.1 U
1,2-Dichloropropane	1.4 U	0.91 U	1 U	1.1 U	2.3 U	1.1 U	1.2 U
2-Butanone (MEK)	4.6 UJ	8 UJ	3.5 UJ	7.4 UJ	10 UJ	8.1 UJ	6.7 UJ
2-Chloro-1,3-butadiene	0.7 UJ	0.47 UJ	0.54 UJ	0.57 UJ	1.2 UJ	0.58 U	0.62 UJ
2-Hexanone	2.6 UJ	1.7 UJ	2 UJ	2.1 UJ	4.3 UJ	4.8 J	2.3 UJ
3-Chloro-1-propene	1.8 UJ	1.2 UJ	1.4 UJ	1.5 UJ	3.1 UJ	1.5 UJ	1.6 UJ
4-Methyl-2-pentanone (MIBK)	3.6 UJ	2.4 UJ	2.8 UJ	2.9 UJ	6 UJ	3.5 J	3.1 UJ
Acetone	34 U	47 U	31 U	46 U	74 U	33 UJ	58 U
Acetonitrile	55 UJ	37 UJ	43 UJ	45 UJ	92 UJ	45 UJ	49 UJ
Acrolein	23 UJ	16 UJ	18 UJ	19 UJ	39 UJ	19 R	21 UJ
Acrylonitrile	28 U	19 U	22 U	23 U	47 U	23 UJ	25 U
Benzene	0.97 U	0.65 U	0.75 U	0.79 U	1.6 U	0.8 U	0.86 U
Bromoform	1.4 UJ	0.91 UJ	1 UJ	1.1 UJ	2.3 U	1.1 UJ	1.2 UJ
Bromomethane	2 U	1.3 U	1.5 U	1.6 U	3.3 UJ	1.6 UJ	1.7 U
Carbon disulfide	3.9 J	0.42 U	0.48 U	0.51 U	1 U	0.52 U	0.74 J
Carbon tetrachloride	1.2 U	0.83 U	0.95 U	1 U	2.1 U	1 U	1.1 U
Chlorobenzene	0.9 U	0.6 U	0.69 U	0.73 U	1.5 U	0.74 U	0.79 U
Chlorodibromomethane	0.62 U	0.41 U	0.47 U	0.5 U	1 U	0.51 U	0.54 U
Chloroethane	1.5 U	0.99 U	1.1 U	1.2 U	2.5 U	1.2 U	1.3 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - FUELING PIERS AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB256	74SB258	74SB258	74SB259	74SB259	74SB260	74SB260
Sample ID	74SB256-04	74SB258-03	74SB258-05	74SB259-03	74SB259-04	74SB260-03	74SB260-04
Date	5/21/2008	5/21/2008	5/21/2008	5/21/2008	5/21/2008	5/21/2008	5/21/2008
Depth Range	7.0-9.0	5.0-7.0	9.0-11.0	5.0-7.0	7.0-9.0	5.0-7.0	7.0-9.0
Volatile Organic Compounds (ug/kg)							
Chloroform	0.62 U	0.41 U	0.47 U	0.5 U	1 U	0.51 U	0.54 U
Chloromethane	0.87 U	0.59 U	0.67 U	0.71 U	1.5 U	0.72 UJ	0.77 U
cis-1,3-Dichloropropene	1.1 U	0.72 U	0.83 U	0.87 U	1.8 U	0.88 U	0.94 U
Dibromomethane	1.5 U	0.99 U	1.1 U	1.2 U	2.5 U	1.2 U	1.3 U
Dichlorobromomethane	1 U	0.69 U	0.79 U	0.83 U	1.7 U	0.84 U	0.9 U
Dichlorodifluoromethane	1.1 U	0.74 U	0.84 U	0.89 U	1.8 U	0.9 UJ	0.97 U
Ethyl methacrylate	2.7 U	1.8 U	2.1 U	2.2 U	4.5 U	2.2 U	2.4 U
Ethylbenzene	0.92 U	0.62 U	0.71 U	0.75 U	1.5 U	0.76 U	0.81 U
Ethylene Dibromide	1.8 U	1.2 U	1.4 U	1.5 U	3.1 U	1.5 U	1.6 U
Iodomethane	1.2 UJ	0.9 U	0.95 UJ	1 UJ	2.1 UJ	1 U	1.1 UJ
Isobutyl alcohol	85 R	57 R	65 R	69 R	140 R	70 R	75 R
Methacrylonitrile	30 U	20 U	23 U	24 U	49 U	24 U	26 U
Methyl methacrylate	4.6 U	3.1 U	3.5 U	3.7 U	7.6 U	3.7 U	4 U
Methylene Chloride	1.2 U	0.83 U	0.95 U	1 U	2.1 U	1 U	1.1 U
Pentachloroethane	2.7 UJ	1.8 UJ	2.1 UJ	2.2 UJ	4.5 UJ	2.2 UJ	2.4 UJ
Propionitrile	26 U	17 U	20 U	21 U	43 U	21 UJ	23 U
Styrene	0.81 U	0.55 U	0.63 U	0.66 U	1.4 U	0.67 U	0.72 U
Tetrachloroethene	0.9 U	0.6 U	0.69 U	0.73 U	1.5 U	0.74 U	0.79 U
Toluene	0.97 U	0.65 U	0.75 U	0.79 U	1.6 U	0.8 U	0.86 U
trans-1,2-Dichloroethene	1.2 U	0.8 U	0.92 U	0.97 U	2 U	0.98 U	1.1 U
trans-1,3-Dichloropropene	1.1 U	0.72 U	0.83 U	0.87 U	1.8 U	0.88 U	0.94 U
trans-1,4-Dichloro-2-butene	3.8 U	2.6 U	2.9 U	3.1 U	6.4 U	3.1 U	3.4 U
Trichloroethene	1.2 U	0.83 U	0.95 U	1 U	2.1 U	1 U	1.1 U
Trichlorofluoromethane	1.8 U	1.2 U	1.4 U	1.5 U	3.1 U	1.5 U	1.6 U
Vinyl acetate	1.8 U	1.2 U	1.4 U	1.5 U	3.1 U	1.5 U	1.6 U
Vinyl chloride	0.71 U	0.48 U	0.55 U	0.58 U	1.2 U	0.59 U	0.63 U
Xylenes, Total	2.8 U	1.9 U	2.2 U	2.3 U	4.7 U	2.3 U	2.5 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - FUELING PIERS AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB256	74SB258	74SB258	74SB259	74SB259	74SB260	74SB260
Sample ID	74SB256-04	74SB258-03	74SB258-05	74SB259-03	74SB259-04	74SB260-03	74SB260-04
Date	5/21/2008	5/21/2008	5/21/2008	5/21/2008	5/21/2008	5/21/2008	5/21/2008
Depth Range	7.0-9.0	5.0-7.0	9.0-11.0	5.0-7.0	7.0-9.0	5.0-7.0	7.0-9.0
LLPAHs (ug/kg)							
1-Methylnaphthalene	NA	NA	NA	NA	NA	NA	71 U
2-Methylnaphthalene	NA	NA	NA	NA	NA	NA	100 U
Acenaphthene	NA	NA	NA	NA	NA	NA	34 U
Acenaphthylene	NA	NA	NA	NA	NA	NA	100 U
Anthracene	NA	NA	NA	NA	NA	NA	100 U
Benzo[a]anthracene	NA	NA	NA	NA	NA	NA	100 U
Benzo[a]pyrene	NA	NA	NA	NA	NA	NA	39 U
Benzo[b]fluoranthene	NA	NA	NA	NA	NA	NA	45 U
Benzo[g,h,i]perylene	NA	NA	NA	NA	NA	NA	100 U
Benzo[k]fluoranthene	NA	NA	NA	NA	NA	NA	59 U
Chrysene	NA	NA	NA	NA	NA	NA	36 U
Dibenz(a,h)anthracene	NA	NA	NA	NA	NA	NA	35 U
Fluoranthene	NA	NA	NA	NA	NA	NA	100 U
Fluorene	NA	NA	NA	NA	NA	NA	45 U
Indeno[1,2,3-cd]pyrene	NA	NA	NA	NA	NA	NA	71 U
Naphthalene	NA	NA	NA	NA	NA	NA	200 J
Phenanthrene	NA	NA	NA	NA	NA	NA	100 U
Pyrene	NA	NA	NA	NA	NA	NA	100 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - FUELING PIERS AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB256	74SB258	74SB258	74SB259	74SB259	74SB260	74SB260
Sample ID	74SB256-04	74SB258-03	74SB258-05	74SB259-03	74SB259-04	74SB260-03	74SB260-04
Date	5/21/2008	5/21/2008	5/21/2008	5/21/2008	5/21/2008	5/21/2008	5/21/2008
Depth Range	7.0-9.0	5.0-7.0	9.0-11.0	5.0-7.0	7.0-9.0	5.0-7.0	7.0-9.0
Metals (mg/kg)							
Antimony	0.63 U	0.16 U	0.078 U	0.24 U	1.2	0.3 J	0.42 J
Arsenic	2.7	2.5	1.2	2.4	1.5	2.2	1.5
Barium	230	41	48	23	28 J	47 J	110 J
Beryllium	0.55	0.11	0.2	0.068 J	0.34	0.15	0.32
Cadmium	0.086 J	0.1	1.6	0.077 J	0.2	0.12	0.12
Chromium	90	51	18	44	32 J	39 J	39 J
Cobalt	30	17	20	14	23 J	17 J	29 J
Copper	130	56	100	32	66 J	350 J	140 J
Lead	5	2.3	1	1.6	24	8.7	4.5
Mercury	0.02 J	0.012 J	0.0039 U	0.016 J	0.022	0.013 J	0.0073 J
Nickel	23	23	11	16	19 J	15 J	24 J
Selenium	0.66	0.12 J	0.12 U	0.12 U	0.12 U	0.14 J	0.26 J
Silver	0.061 J	0.035 J	0.07 J	0.021 J	0.056 J	0.034 J	0.037 J
Thallium	0.15 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.13 U
Tin	5.1 U	4 U	4.1 U	4.1 U	4 U	3.9 U	4.3 U
Vanadium	250	110	200	92	120 J	110 J	170 J
Zinc	59 J	35 J	73 J	22 J	100	41	71
TPH DRO/GRO (mg/kg)							
Diesel Range Organics	1000	37	96	1.3	17	25	150
Gasoline Range Organics	0.096 U	0.056 U	0.06 U	0.067 U	0.01 U	0.018 J	0.044 J

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - FUELING PIERS AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB261	74SB261	74SB262	74SB263	74SB263	74SB264	74SB264
Sample ID	74SB261-03	74SB261-03D	74SB262-03	74SB263-03	74SB263-04	74SB264-03	74SB264-04
Date	5/21/2008	5/21/2008	5/21/2008	5/21/2008	5/21/2008	5/21/2008	5/21/2008
Depth Range	5.0-7.0	5.0-7.0	5.0-7.0	5.0-7.0	7.0-9.0	5.0-7.0	7.0-9.0
Volatile Organic Compounds (ug/kg)							
1,1,1,2-Tetrachloroethane	0.66 U	27 U	0.86 U	0.74 U	0.67 U	0.85 U	0.86 U
1,1,1-Trichloroethane	0.6 U	24 U	0.78 U	0.67 U	0.6 U	0.77 U	0.78 U
1,1,2,2-Tetrachloroethane	1.4 U	58 U	1.9 U	1.6 U	1.5 U	1.9 U	1.9 U
1,1,2-Trichloroethane	1.2 U	50 U	1.6 U	1.4 U	1.2 U	1.6 U	1.6 U
1,1-Dichloroethane	0.52 U	21 U	0.67 U	0.58 U	0.52 U	0.66 U	0.67 U
1,1-Dichloroethene	0.56 U	23 U	0.73 U	0.63 U	0.56 U	0.72 U	0.73 U
1,2,3-Trichloropropane	1.4 UJ	58 U	1.9 UJ	1.6 UJ	1.5 UJ	1.9 UJ	1.9 UJ
1,2-Dibromo-3-Chloropropane	2.9 UJ	120 U	3.8 UJ	3.2 UJ	2.9 UJ	3.7 UJ	3.8 UJ
1,2-Dichloroethane	1 U	42 UJ	1.3 U	1.2 U	1 U	1.3 U	1.3 U
1,2-Dichloropropane	1.1 U	46 U	1.5 U	1.3 U	1.1 U	1.5 U	1.5 U
2-Butanone (MEK)	2.8 UJ	170 U	8.2 UJ	8.7 UJ	8 UJ	4.3 UJ	25 UJ
2-Chloro-1,3-butadiene	0.59 UJ	24 U	0.77 U	0.66 UJ	0.59 U	0.76 U	0.77 U
2-Hexanone	2.2 UJ	88 UJ	2.8 UJ	2.4 UJ	2.2 UJ	2.8 UJ	2.8 UJ
3-Chloro-1-propene	1.6 UJ	63 U	2 UJ	1.7 UJ	1.6 U	2 U	2 U
4-Methyl-2-pentanone (MIBK)	3 UJ	120 U	3.9 UJ	3.4 UJ	3 UJ	3.9 UJ	3.9 UJ
Acetone	75 U	180 UJ	44 UJ	61 U	69 UJ	46 UJ	160 J
Acetonitrile	47 UJ	1900 U	61 UJ	52 UJ	47 UJ	60 UJ	61 UJ
Acrolein	20 UJ	790 UJ	26 R	22 UJ	20 U	25 U	26 U
Acrylonitrile	24 U	960 UJ	31 UJ	27 U	24 UJ	31 UJ	31 UJ
Benzene	0.82 U	33 U	1.1 U	0.92 U	0.82 U	1.1 U	1.1 U
Bromoform	1.1 UJ	46 U	1.5 UJ	1.3 UJ	1.1 U	1.5 U	1.5 U
Bromomethane	1.7 U	67 U	2.2 UJ	1.9 U	1.7 UJ	2.1 UJ	2.2 UJ
Carbon disulfide	0.53 U	21 U	0.69 U	0.59 U	0.53 U	4.4 J	0.75 J
Carbon tetrachloride	1 U	42 U	1.3 U	1.2 U	1 U	1.3 U	1.3 U
Chlorobenzene	0.75 U	30 U	0.98 U	0.85 U	0.76 U	0.97 U	0.98 U
Chlorodibromomethane	0.52 U	21 U	0.67 U	0.58 U	0.52 U	0.66 U	0.67 U
Chloroethane	1.2 U	50 UJ	1.6 U	1.4 U	1.2 U	1.6 U	1.6 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - FUELING PIERS AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB261	74SB261	74SB262	74SB263	74SB263	74SB264	74SB264
Sample ID	74SB261-03	74SB261-03D	74SB262-03	74SB263-03	74SB263-04	74SB264-03	74SB264-04
Date	5/21/2008	5/21/2008	5/21/2008	5/21/2008	5/21/2008	5/21/2008	5/21/2008
Depth Range	5.0-7.0	5.0-7.0	5.0-7.0	5.0-7.0	7.0-9.0	5.0-7.0	7.0-9.0
Volatile Organic Compounds (ug/kg)							
Chloroform	0.52 U	21 U	0.67 U	0.58 U	0.52 U	0.66 U	0.67 U
Chloromethane	0.73 U	30 U	0.96 UJ	0.82 U	0.74 U	0.94 U	0.95 U
cis-1,3-Dichloropropene	0.9 U	36 U	1.2 U	1 U	0.91 U	1.2 U	1.2 U
Dibromomethane	1.2 U	50 U	1.6 U	1.4 U	1.2 U	1.6 U	1.6 U
Dichlorobromomethane	0.86 U	35 U	1.1 U	0.96 U	0.86 U	1.1 U	1.1 U
Dichlorodifluoromethane	0.92 U	37 U	1.2 UJ	1 U	0.93 U	1.2 U	1.2 U
Ethyl methacrylate	2.3 U	92 U	3 U	2.6 U	2.3 U	2.9 U	3 U
Ethylbenzene	0.78 U	31 U	1 U	0.87 U	0.78 U	1 U	1 U
Ethylene Dibromide	1.6 U	63 U	2 U	1.7 U	1.6 U	2 U	2 U
Iodomethane	1 UJ	42 U	1.3 U	1.2 UJ	1 U	1.3 U	1.3 U
Isobutyl alcohol	71 R	2900 U	93 R	80 R	72 R	92 R	93 R
Methacrylonitrile	25 U	1000 U	32 U	28 U	25 U	32 U	32 U
Methyl methacrylate	3.8 U	150 U	5 U	4.3 U	3.9 U	4.9 U	5 U
Methylene Chloride	1 U	42 UJ	1.3 U	1.2 U	1 U	1.3 U	1.3 U
Pentachloroethane	2.3 UJ	92 R	3 UJ	2.6 UJ	2.3 UJ	2.9 UJ	3 UJ
Propionitrile	22 U	880 U	28 UJ	24 U	22 UJ	28 UJ	28 UJ
Styrene	0.68 U	28 U	0.89 U	0.77 U	0.69 U	0.88 U	0.89 U
Tetrachloroethene	0.75 U	30 U	0.98 U	0.85 U	0.76 U	0.97 U	0.98 U
Toluene	0.96 J	43 U	1.1 U	0.92 U	0.82 U	1.1 U	1.1 U
trans-1,2-Dichloroethene	1 U	40 UJ	1.3 U	1.1 U	1 U	1.3 U	1.3 U
trans-1,3-Dichloropropene	0.9 U	36 U	1.2 U	1 U	0.91 U	1.2 U	1.2 U
trans-1,4-Dichloro-2-butene	3.2 U	130 U	4.2 U	3.6 U	3.2 U	4.1 U	4.2 U
Trichloroethene	1 U	42 U	1.3 U	1.2 U	1 U	1.3 U	1.3 U
Trichlorofluoromethane	1.6 U	63 U	2 U	1.7 U	1.6 U	2 U	2 U
Vinyl acetate	1.6 U	63 U	2 U	1.7 U	1.6 U	2 U	2 U
Vinyl chloride	0.6 U	24 U	0.78 U	0.67 U	0.6 U	0.77 U	0.78 U
Xylenes, Total	2.4 U	96 U	3.1 U	2.7 U	2.4 U	3.1 U	3.1 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - FUELING PIERS AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB261	74SB261	74SB262	74SB263	74SB263	74SB264	74SB264
Sample ID	74SB261-03	74SB261-03D	74SB262-03	74SB263-03	74SB263-04	74SB264-03	74SB264-04
Date	5/21/2008	5/21/2008	5/21/2008	5/21/2008	5/21/2008	5/21/2008	5/21/2008
Depth Range	5.0-7.0	5.0-7.0	5.0-7.0	5.0-7.0	7.0-9.0	5.0-7.0	7.0-9.0
LLPAHs (ug/kg)							
1-Methylnaphthalene	NA	NA	NA	NA	NA	NA	2400
2-Methylnaphthalene	NA	NA	NA	NA	NA	NA	1700
Acenaphthene	NA	NA	NA	NA	NA	NA	7.7 U
Acenaphthylene	NA	NA	NA	NA	NA	NA	23 U
Anthracene	NA	NA	NA	NA	NA	NA	23 U
Benzo[a]anthracene	NA	NA	NA	NA	NA	NA	23 U
Benzo[a]pyrene	NA	NA	NA	NA	NA	NA	8.9 U
Benzo[b]fluoranthene	NA	NA	NA	NA	NA	NA	10 U
Benzo[g,h,i]perylene	NA	NA	NA	NA	NA	NA	23 U
Benzo[k]fluoranthene	NA	NA	NA	NA	NA	NA	13 U
Chrysene	NA	NA	NA	NA	NA	NA	8.2 U
Dibenz(a,h)anthracene	NA	NA	NA	NA	NA	NA	7.9 U
Fluoranthene	NA	NA	NA	NA	NA	NA	60 J
Fluorene	NA	NA	NA	NA	NA	NA	61 J
Indeno[1,2,3-cd]pyrene	NA	NA	NA	NA	NA	NA	16 U
Naphthalene	NA	NA	NA	NA	NA	NA	8.1 U
Phenanthrene	NA	NA	NA	NA	NA	NA	80 J
Pyrene	NA	NA	NA	NA	NA	NA	77 J

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - FUELING PIERS AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB261	74SB261	74SB262	74SB263	74SB263	74SB264	74SB264
Sample ID	74SB261-03	74SB261-03D	74SB262-03	74SB263-03	74SB263-04	74SB264-03	74SB264-04
Date	5/21/2008	5/21/2008	5/21/2008	5/21/2008	5/21/2008	5/21/2008	5/21/2008
Depth Range	5.0-7.0	5.0-7.0	5.0-7.0	5.0-7.0	7.0-9.0	5.0-7.0	7.0-9.0
Metals (mg/kg)							
Antimony	0.27 J	0.3 J	0.26 J	0.4 U	0.17 U	0.5 U	0.4 U
Arsenic	4	4.3	3.2	6.1	0.98	2.9	3.5
Barium	19 J	19 J	73 J	23	7.3	40	71
Beryllium	0.038 U	0.052 U	0.34	0.076 J	0.2	0.18	0.22
Cadmium	0.062 J	0.17	0.29	0.08 J	1.4	0.13	0.15
Chromium	21 J	28 J	99 J	16	25	27	48
Cobalt	5.5 J	7.1 J	24 J	6.9	23	16	26
Copper	17 J	15 J	64 J	18	1.7 J	52	98
Lead	0.72	0.83	3.9	1.6	13	3.2	8.6
Mercury	0.0067 J	0.0058 J	0.0085 J	0.011 J	0.012 J	0.017 J	0.0083 J
Nickel	7.1 J	9.9 J	29 J	6.5	22	13	21
Selenium	0.14 J	0.17 J	0.5 J	0.17 J	0.12 U	0.2 J	0.25 J
Silver	0.018 U	0.021 J	0.019 U	0.029 J	0.11 J	0.032 J	0.051 J
Thallium	0.13 U	0.13 U	0.14 U	0.15 U	0.12 U	0.14 U	0.15 U
Tin	4.5 U	4.3 U	4.8 U	4.9 U	4 U	4.5 U	4.9 U
Vanadium	40 J	53 J	300 J	44	110	120	160
Zinc	10 J	16 J	56	14 J	120 J	36 J	61 J
TPH DRO/GRO (mg/kg)							
Diesel Range Organics	32 J	370 J	13	1	29	2.4	1.4
Gasoline Range Organics	0.076 UJ	0.0073 U	0.098	0.07 U	0.077 U	0.067 U	53

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - FUELING PIERS AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB265	74SB265	74SB265	74SB266	74SB267	74SB267
Sample ID	74SB265-03	74SB265-03D	74SB265-04	74SB266-03	74SB267-02	74SB267-03
Date	5/20/2008	5/20/2008	5/20/2008	5/20/2008	5/20/2008	5/20/2008
Depth Range	5.0-7.0	5.0-7.0	7.0-9.0	5.0-7.0	3.0-5.0	5.0-7.0
Volatile Organic Compounds (ug/kg)						
1,1,1,2-Tetrachloroethane	0.64 U	260 U	530 U	0.81 U	0.74 U	25 U
1,1,1-Trichloroethane	0.58 U	240 U	480 U	0.73 U	0.67 U	22 U
1,1,2,2-Tetrachloroethane	1.4 U	580 U	1200 U	1.8 U	1.6 U	54 U
1,1,2-Trichloroethane	1.2 U	490 U	1000 U	1.5 U	1.4 U	46 U
1,1-Dichloroethane	0.5 U	210 U	420 U	0.63 U	0.58 U	19 U
1,1-Dichloroethene	0.54 U	220 U	450 U	0.68 U	0.63 U	21 U
1,2,3-Trichloropropane	1.4 UJ	580 U	1200 U	1.8 UJ	1.6 UJ	54 U
1,2-Dibromo-3-Chloropropane	2.8 UJ	1200 U	2300 U	3.5 UJ	3.3 UJ	110 U
1,2-Dichloroethane	1 U	410 UJ	830 UJ	1.3 U	1.2 U	39 U
1,2-Dichloropropane	1.1 U	450 U	910 U	1.4 U	1.3 U	42 U
2-Butanone (MEK)	9.5 UJ	1100 U	2200 U	7.5 UJ	16 UJ	100 U
2-Chloro-1,3-butadiene	0.57 U	230 U	470 U	0.72 U	0.66 U	22 U
2-Hexanone	2.1 UJ	870 UJ	1700 UJ	2.6 UJ	2.4 UJ	81 UJ
3-Chloro-1-propene	1.5 U	620 U	1200 U	1.9 U	1.7 U	58 U
4-Methyl-2-pentanone (MIBK)	2.9 UJ	1200 U	2400 R	3.7 UJ	3.4 UJ	110 UJ
Acetone	110 J	1800 UJ	3700 UJ	73 UJ	110 UJ	270 U
Acetonitrile	45 UJ	19000 U	37000 U	57 UJ	52 UJ	1700 U
Acrolein	19 U	7800 UJ	16000 UJ	24 U	22 U	730 UJ
Acrylonitrile	23 UJ	9500 UJ	19000 UJ	29 UJ	27 UJ	890 U
Benzene	1.2 J	330 U	660 U	1 U	0.92 U	30 U
Bromoform	1.1 U	450 U	910 U	1.4 U	1.3 U	42 U
Bromomethane	1.6 UJ	660 U	1300 U	2 UJ	1.9 UJ	62 U
Carbon disulfide	1.3 J	210 U	420 U	0.64 U	0.59 U	20 U
Carbon tetrachloride	1 U	410 U	830 U	1.3 U	1.2 U	39 U
Chlorobenzene	0.73 U	300 U	610 U	0.92 U	0.85 U	28 U
Chlorodibromomethane	0.5 U	210 U	420 U	0.63 U	0.58 U	19 U
Chloroethane	1.2 U	490 UJ	1000 UJ	1.5 U	1.4 U	46 UJ

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - FUELING PIERS AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB265	74SB265	74SB265	74SB266	74SB267	74SB267
Sample ID	74SB265-03	74SB265-03D	74SB265-04	74SB266-03	74SB267-02	74SB267-03
Date	5/20/2008	5/20/2008	5/20/2008	5/20/2008	5/20/2008	5/20/2008
Depth Range	5.0-7.0	5.0-7.0	7.0-9.0	5.0-7.0	3.0-5.0	5.0-7.0
Volatile Organic Compounds (ug/kg)						
Chloroform	0.5 U	210 U	420 U	0.63 U	0.58 U	19 U
Chloromethane	0.71 U	290 U	590 U	0.89 U	0.83 U	27 U
cis-1,3-Dichloropropene	0.87 U	360 U	720 U	1.1 U	1 U	34 U
Dibromomethane	1.2 U	490 U	1000 U	1.5 U	1.4 U	46 U
Dichlorobromomethane	0.83 U	340 U	690 U	1 U	0.97 U	32 U
Dichlorodifluoromethane	0.89 U	370 U	740 U	1.1 U	1 U	34 U
Ethyl methacrylate	2.2 U	910 U	1800 U	2.8 U	2.6 U	85 U
Ethylbenzene	0.75 U	310 U	620 U	0.94 U	0.87 U	54 J
Ethylene Dibromide	1.5 U	620 U	1200 U	1.9 U	1.7 U	58 U
Iodomethane	1 U	410 U	830 U	1.3 U	1.2 U	39 U
Isobutyl alcohol	69 R	28000 U	57000 U	87 R	80 R	2700 U
Methacrylonitrile	24 U	9900 U	20000 U	30 U	28 U	930 U
Methyl methacrylate	3.7 U	1500 U	3100 U	4.7 U	4.3 U	140 UJ
Methylene Chloride	1 U	410 UJ	830 UJ	1.3 U	1.2 U	39 U
Pentachloroethane	2.2 UJ	910 R	1800 U	2.8 UJ	2.6 UJ	85 R
Propionitrile	21 UJ	8700 U	17000 U	26 UJ	24 UJ	810 U
Styrene	0.66 U	270 U	550 U	0.83 U	0.77 U	25 U
Tetrachloroethene	0.73 U	300 U	610 U	0.92 U	0.85 U	28 U
Toluene	0.79 U	330 U	660 U	1 U	0.92 U	60 J
trans-1,2-Dichloroethene	0.97 U	400 UJ	810 UJ	1.2 U	1.1 U	37 U
trans-1,3-Dichloropropene	0.87 U	360 U	720 U	1.1 U	1 U	34 U
trans-1,4-Dichloro-2-butene	3.1 U	1300 U	2600 U	3.9 U	3.6 U	120 U
Trichloroethene	1 U	410 U	830 U	1.3 U	1.2 U	39 U
Trichlorofluoromethane	1.5 U	620 U	1200 U	1.9 U	1.7 U	58 U
Vinyl acetate	1.5 U	620 U	1200 U	1.9 U	1.7 U	58 U
Vinyl chloride	0.58 U	240 U	480 U	0.73 U	0.67 U	22 U
Xylenes, Total	2.3 U	950 U	1900 U	2.9 U	2.7 U	480

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - FUELING PIERS AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB265	74SB265	74SB265	74SB266	74SB267	74SB267
Sample ID	74SB265-03	74SB265-03D	74SB265-04	74SB266-03	74SB267-02	74SB267-03
Date	5/20/2008	5/20/2008	5/20/2008	5/20/2008	5/20/2008	5/20/2008
Depth Range	5.0-7.0	5.0-7.0	7.0-9.0	5.0-7.0	3.0-5.0	5.0-7.0
LLPAHs (ug/kg)						
1-Methylnaphthalene	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA	NA	NA
Acenaphthene	NA	NA	NA	NA	NA	NA
Acenaphthylene	NA	NA	NA	NA	NA	NA
Anthracene	NA	NA	NA	NA	NA	NA
Benzo[a]anthracene	NA	NA	NA	NA	NA	NA
Benzo[a]pyrene	NA	NA	NA	NA	NA	NA
Benzo[b]fluoranthene	NA	NA	NA	NA	NA	NA
Benzo[g,h,i]perylene	NA	NA	NA	NA	NA	NA
Benzo[k]fluoranthene	NA	NA	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	NA	NA	NA	NA	NA	NA
Fluoranthene	NA	NA	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA	NA	NA
Indeno[1,2,3-cd]pyrene	NA	NA	NA	NA	NA	NA
Naphthalene	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	NA
Pyrene	NA	NA	NA	NA	NA	NA

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - FUELING PIERS AREA - SUBSURFACE SOIL
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB265	74SB265	74SB265	74SB266	74SB267	74SB267
Sample ID	74SB265-03	74SB265-03D	74SB265-04	74SB266-03	74SB267-02	74SB267-03
Date	5/20/2008	5/20/2008	5/20/2008	5/20/2008	5/20/2008	5/20/2008
Depth Range	5.0-7.0	5.0-7.0	7.0-9.0	5.0-7.0	3.0-5.0	5.0-7.0
Metals (mg/kg)						
Antimony	0.49 U	0.41 U	0.51 U	0.15 U	0.58	0.21 U
Arsenic	2.2	2.1	2.7	2.1	2.8	1.9
Barium	57	50	47	27	58	88
Beryllium	0.19	0.19	0.17	0.062 J	0.23	0.4
Cadmium	0.17	0.13	0.16	0.078 J	0.18	0.09 J
Chromium	32	38	44	58	56	95
Cobalt	18	18	17	11	19	35
Copper	55	60	51	42	58	81
Lead	8.6 J	4.6 J	7.4	1.6	6.6	5.2
Mercury	0.01 J	0.011 J	0.013 J	0.008 J	0.006 J	0.013 J
Nickel	12	13	15	13	19	27
Selenium	0.22 J	0.21 J	0.23 J	0.13 U	0.26 J	0.37 J
Silver	0.055 J	0.047 J	0.044 J	0.038 J	0.036 J	0.036 J
Thallium	0.12 U	0.12 U	0.14 U	0.13 U	0.12 U	0.13 U
Tin	4.1 U	4 U	4.6 U	4.3 U	4 U	4.3 U
Vanadium	120	120	120	89	110	170
Zinc	46 J	42 J	39 J	26 J	51 J	63 J
TPH DRO/GRO (mg/kg)						
Diesel Range Organics	31 J	290 R	1100	22	44	400
Gasoline Range Organics	33 R	210 R	180	0.43	1.7	120

Groundwater Data

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - AIRFIELD - GROUNDWATER
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB05	74SB09	74SB22	74SB26	74SB26
Sample ID	74GW05	74GW09	74GW22	74GW26	74GW26
Date	5/5/2008	5/6/2008	5/5/2008	5/5/2008	5/5/2008
Volatile Organic Compounds (ug/L)					
1,1,1,2-Tetrachloroethane	0.29 U	0.29 U	0.29 U	0.29 U	NA
1,1,1-Trichloroethane	0.39 U	0.39 U	0.39 U	0.39 U	NA
1,1,2,2-Tetrachloroethane	0.26 U	0.26 U	0.26 U	0.26 U	NA
1,1,2-Trichloroethane	0.51 U	0.51 U	0.51 U	0.51 U	NA
1,1-Dichloroethane	0.32 U	0.32 U	0.32 U	0.32 U	NA
1,1-Dichloroethene	0.36 U	0.36 U	0.36 U	0.36 U	NA
1,2,3-Trichloropropane	0.42 U	0.42 U	0.42 U	0.42 U	NA
1,2-Dibromo-3-Chloropropane	0.48 U	0.48 U	0.48 U	0.48 U	NA
1,2-Dichloroethane	0.31 U	0.31 U	0.31 U	0.31 U	NA
1,2-Dichloropropane	0.36 U	0.36 U	0.36 U	0.36 U	NA
2-Butanone (MEK)	0.60 U	1.5 U	1.3 U	7.2 U	NA
2-Chloro-1,3-butadiene	0.35 U	0.35 U	0.35 U	0.35 U	NA
2-Hexanone	0.68 U	0.68 U	0.68 U	0.68 U	NA
3-Chloro-1-propene	0.46 U	0.46 U	0.46 U	0.46 U	NA
4-Methyl-2-pentanone (MIBK)	0.60 U	0.60 U	0.60 U	0.89 J	NA
Acetone	5.0 U	7.7 J	5.0 U	30	NA
Acetonitrile	15 U	15 U	15 U	15 U	NA
Acrolein	18 R	18 R	18 R	18 R	NA
Acrylonitrile	3.8 UJ	3.8 UJ	3.8 UJ	3.8 UJ	NA
Benzene	0.32 U	0.32 U	0.32 U	3.0	NA
Bromoform	0.41 U	0.41 U	0.41 U	0.41 U	NA
Bromomethane	0.50 UJ	0.50 U	0.50 UJ	0.50 U	NA
Carbon disulfide	0.17 U	0.17 U	0.17 U	0.17 U	NA
Carbon tetrachloride	0.27 U	0.27 U	0.27 U	0.27 U	NA
Chlorobenzene	0.34 U	0.34 U	0.34 U	0.34 U	NA
Chlorodibromomethane	0.30 U	0.30 U	0.30 U	0.30 U	NA
Chloroethane	1.0 UJ	1.0 U	1.0 UJ	1.0 U	NA
Chloroform	0.29 U	0.29 U	0.29 U	0.29 U	NA
Chloromethane	0.28 U	0.28 U	0.28 U	0.29 J	NA
cis-1,3-Dichloropropene	0.37 UJ	0.37 UJ	0.37 UJ	0.37 UJ	NA
Dibromomethane	0.29 U	0.29 U	0.29 U	0.29 U	NA
Dichlorobromomethane	0.34 U	0.34 U	0.34 U	0.34 U	NA
Dichlorodifluoromethane	0.33 U	0.33 UJ	0.33 U	0.33 UJ	NA
Ethyl methacrylate	1.0 U	1.0 U	1.0 U	1.0 U	NA
Ethylbenzene	0.30 U	0.30 U	0.30 U	2.7	NA
Ethylene Dibromide	0.30 U	0.30 U	0.30 U	0.30 U	NA
Iodomethane	1.0 UJ	1.0 U	1.0 UJ	1.0 U	NA
Isobutyl alcohol	19 U	19 R	19 U	19 R	NA
Methacrylonitrile	6.6 U	6.6 U	6.6 U	6.6 U	NA
Methyl methacrylate	0.38 U	0.38 U	0.38 U	0.38 U	NA
Methylene Chloride	1.0 U	1.0 U	1.0 U	1.0 U	NA
Pentachloroethane	1.3 UJ	1.3 UJ	1.3 UJ	1.3 UJ	NA

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - AIRFIELD - GROUNDWATER
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB05	74SB09	74SB22	74SB26	74SB26
Sample ID	74GW05	74GW09	74GW22	74GW26	74GW26
Date	5/5/2008	5/6/2008	5/5/2008	5/5/2008	5/5/2008
Volatile Organic Compounds (ug/L)					
Propionitrile	9.2 U	9.2 U	9.2 U	9.2 U	NA
Styrene	0.36 U	0.36 U	0.36 U	0.36 U	NA
Tetrachloroethene	2.0	0.28 U	0.28 U	0.28 U	NA
Toluene	0.31 U	0.31 U	0.31 U	0.31 U	NA
trans-1,2-Dichloroethene	0.30 U	0.30 U	0.30 U	0.30 U	NA
trans-1,3-Dichloropropene	0.27 U	0.27 U	0.27 U	0.27 U	NA
trans-1,4-Dichloro-2-butene	0.83 U	0.83 U	0.83 U	0.83 U	NA
Trichloroethene	0.40 U	0.40 U	0.40 U	0.40 U	NA
Trichlorofluoromethane	0.29 UJ	0.29 U	0.29 UJ	0.29 U	NA
Vinyl acetate	0.62 U	0.62 U	0.62 U	0.62 U	NA
Vinyl chloride	0.20 U	0.20 U	0.20 U	0.20 U	NA
Xylenes, Total	0.87 U	0.87 U	0.87 U	0.87 U	NA
LLPAHs (ug/L)					
1-Methylnaphthalene	0.049 U	0.049 U	0.049 U	NA	NA
2-Methylnaphthalene	0.022 U	0.022 U	0.097 J	NA	NA
Acenaphthene	0.019 U	0.019 U	0.019 U	NA	NA
Acenaphthylene	0.049 U	0.049 U	0.049 U	NA	NA
Anthracene	0.021 U	0.021 U	0.021 U	NA	NA
Benzo[a]anthracene	0.025 U	0.025 U	0.025 U	NA	NA
Benzo[a]pyrene	0.024 U	0.024 U	0.024 U	NA	NA
Benzo[b]fluoranthene	0.036 U	0.036 U	0.036 U	NA	NA
Benzo[g,h,i]perylene	0.023 U	0.023 U	0.023 U	NA	NA
Benzo[k]fluoranthene	0.019 U	0.019 U	0.019 U	NA	NA
Chrysene	0.027 U	0.027 U	0.027 U	NA	NA
Dibenz(a,h)anthracene	0.023 U	0.023 U	0.023 U	NA	NA
Fluoranthene	0.049 U	0.049 U	0.049 U	NA	NA
Fluorene	0.018 U	0.018 U	0.018 U	NA	NA
Indeno[1,2,3-cd]pyrene	0.022 U	0.022 U	0.022 U	NA	NA
Naphthalene	0.049 U	0.049 U	0.049 U	NA	NA
Phenanthrene	0.017 U	0.020 J	0.017 U	NA	NA
Pyrene	0.026 U	0.026 U	0.026 U	NA	NA
Total Metals (ug/L)					
Antimony	0.36 U	0.36 U	0.45 U	0.56 U	NA
Arsenic	1.0 U	0.99 U	0.99 U	0.82 U	NA
Barium	97	230	950	1300	NA
Beryllium	0.078 U	0.065 U	0.065 U	0.065 U	NA
Cadmium	0.12 U	0.12 U	0.12 U	0.12 U	NA
Chromium	5.3	3.5 J	2.1 J	0.68 J	NA
Cobalt	6.0	4.3	2.4	12	NA
Copper	26	16	8.5	3.9 U	NA
Lead	1.7	0.70 U	0.16 U	0.15 U	NA
Mercury	0.080 U	0.080 U	0.080 U	0.080 U	NA
Nickel	2.4	2.6	7.5	3.5	NA
Selenium	0.600 U	0.60 U	0.60 U	0.60 U	NA

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - AIRFIELD - GROUNDWATER
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB05	74SB09	74SB22	74SB26	74SB26
Sample ID	74GW05	74GW09	74GW22	74GW26	74GW26
Date	5/5/2008	5/6/2008	5/5/2008	5/5/2008	5/5/2008
Total Metals (ug/L)					
Silver	0.090 U	0.090 U	0.090 U	0.090 U	NA
Thallium	0.55 U	0.55 U	0.55 U	0.55 U	NA
Tin	0.90 U	1.3 U	1.8 U	1.0 U	NA
Vanadium	52	26	3.2 U	1.6 U	NA
Zinc	19 J	16 J	23 J	16 J	NA
Dissolved Metals (ug/L)					
Antimony	0.36 U	0.36 U	0.47 U	NA	NA
Arsenic	0.61 J	0.75 J	0.81 J	NA	NA
Barium	71	190	1000	NA	NA
Beryllium	0.065 U	0.065 U	0.065 U	NA	NA
Cadmium	0.12 U	0.12 U	0.12 U	NA	NA
Chromium	0.60 U	0.6 U	0.92 J	NA	NA
Cobalt	1.8	3.1	2.9	NA	NA
Copper	2.2 U	2.4 U	7.6	NA	NA
Lead	0.15 U	0.15 U	0.15 U	NA	NA
Mercury	0.080 U	0.08 U	0.08 U	NA	NA
Nickel	0.63 J	1.6	6.7	NA	NA
Selenium	0.60 U	0.6 U	0.6 U	NA	NA
Silver	0.090 U	0.09 U	0.09 U	NA	NA
Thallium	0.55 U	0.55 U	0.55 U	NA	NA
Tin	0.90 U	0.9 U	1.2 U	NA	NA
Vanadium	3.2 J	2.2 J	2.8 J	NA	NA
Zinc	6.5 U	10 J	17 J	NA	NA
TPH DRO and GRO (mg/L)					
Diesel Range Organics	0.18	0.62	1.0	16	NA
Gasoline Range Organics	0.012 U	0.013 J	0.012 U	0.040 J	NA

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - AIRFIELD - GROUNDWATER
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB26	74SB34	74SB57	74GWHYD3D	74GWHYD3
Sample ID	74GW26	74GW34	74GW57	74GWHYD3D	74GWHYD3
Date	7/23/2008	5/6/2008	5/6/2008	5/5/2008	5/5/2008
Volatile Organic Compounds (ug/L)					
1,1,1,2-Tetrachloroethane	NA	0.29 U	0.29 U	0.29 U	0.29 U
1,1,1-Trichloroethane	NA	0.39 U	0.39 U	0.39 U	0.39 U
1,1,2,2-Tetrachloroethane	NA	0.26 U	0.26 U	0.26 U	0.26 U
1,1,2-Trichloroethane	NA	0.51 U	0.51 U	0.51 U	0.51 U
1,1-Dichloroethane	NA	0.32 U	0.32 U	0.32 U	0.32 U
1,1-Dichloroethene	NA	0.36 U	0.36 U	0.36 U	0.36 U
1,2,3-Trichloropropane	NA	0.42 U	0.42 U	0.42 U	0.42 U
1,2-Dibromo-3-Chloropropane	NA	0.48 U	0.48 U	0.48 U	0.48 U
1,2-Dichloroethane	NA	0.31 U	0.31 U	0.31 U	0.31 U
1,2-Dichloropropane	NA	0.36 U	0.36 U	0.36 U	0.36 U
2-Butanone (MEK)	NA	2.8 U	0.60 U	0.60 U	0.60 U
2-Chloro-1,3-butadiene	NA	0.35 U	0.35 U	0.35 U	0.35 U
2-Hexanone	NA	0.68 U	0.68 U	0.68 U	0.68 U
3-Chloro-1-propene	NA	0.46 U	0.46 U	0.46 U	0.46 U
4-Methyl-2-pentanone (MIBK)	NA	0.60 U	0.60 U	0.60 U	0.60 U
Acetone	NA	9.4 J	5.0 U	5.0 U	5.0 U
Acetonitrile	NA	15 U	15 U	15 U	15 U
Acrolein	NA	18 R	18 R	18 R	18 R
Acrylonitrile	NA	3.8 UJ	3.8 UJ	3.8 UJ	3.8 UJ
Benzene	NA	0.32 U	0.32 U	0.32 U	0.32 U
Bromoform	NA	0.41 U	0.41 U	0.41 U	0.41 U
Bromomethane	NA	0.50 U	0.50 UJ	0.50 UJ	0.50 UJ
Carbon disulfide	NA	0.17 U	0.17 U	0.17 U	0.17 U
Carbon tetrachloride	NA	0.27 U	0.27 U	0.27 U	0.27 U
Chlorobenzene	NA	0.34 U	0.34 U	0.34 U	0.34 U
Chlorodibromomethane	NA	0.30 U	0.30 U	0.30 U	0.30 U
Chloroethane	NA	1.0 U	1.0 U	1.0 UJ	1.0 UJ
Chloroform	NA	0.29 U	0.29 U	0.29 U	0.29 U
Chloromethane	NA	0.28 U	0.28 U	0.28 U	0.28 U
cis-1,3-Dichloropropene	NA	0.37 UJ	0.37 UJ	0.37 UJ	0.37 UJ
Dibromomethane	NA	0.29 U	0.29 U	0.29 U	0.29 U
Dichlorobromomethane	NA	0.34 U	0.34 U	0.34 U	0.34 U
Dichlorodifluoromethane	NA	0.33 UJ	0.33 UJ	0.33 U	0.33 U
Ethyl methacrylate	NA	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	NA	0.30 U	0.30 U	0.30 U	0.30 U
Ethylene Dibromide	NA	0.30 U	0.30 U	0.30 U	0.30 U
Iodomethane	NA	1.0 U	1.0 U	1.0 UJ	1.0 UJ
Isobutyl alcohol	NA	19 R	19 U	19 U	19 U
Methacrylonitrile	NA	6.6 U	6.6 U	6.6 U	6.6 U
Methyl methacrylate	NA	0.38 U	0.38 U	0.38 U	0.38 U
Methylene Chloride	NA	1.0 U	1.0 U	1.0 U	1.0 U
Pentachloroethane	NA	1.3 UJ	1.3 UJ	1.3 UJ	1.3 UJ

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - AIRFIELD - GROUNDWATER
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB26	74SB34	74SB57	74GWHYD3D	74GWHYD3
Sample ID	74GW26	74GW34	74GW57	74GWHYD3D	74GWHYD3
Date	7/23/2008	5/6/2008	5/6/2008	5/5/2008	5/5/2008
Volatile Organic Compounds (ug/L)					
Propionitrile	NA	9.2 U	9.2 U	9.2 U	9.2 U
Styrene	NA	0.36 U	0.36 U	0.36 U	0.36 U
Tetrachloroethene	NA	0.28 U	0.28 U	0.28 U	0.28 U
Toluene	NA	0.31 U	0.31 U	0.31 U	0.31 U
trans-1,2-Dichloroethene	NA	0.30 U	0.30 U	0.30 U	0.30 U
trans-1,3-Dichloropropene	NA	0.27 U	0.27 UJ	0.27 U	0.27 U
trans-1,4-Dichloro-2-butene	NA	0.83 U	0.83 U	0.83 U	0.83 U
Trichloroethene	NA	0.40 U	0.40 U	0.40 U	0.40 U
Trichlorofluoromethane	NA	0.29 U	0.29 U	0.29 UJ	0.29 UJ
Vinyl acetate	NA	0.62 U	0.62 UJ	0.62 U	0.62 U
Vinyl chloride	NA	0.20 U	0.20 U	0.20 U	0.20 U
Xylenes, Total	NA	0.87 U	0.87 U	0.87 U	0.87 U
LLPAHs (ug/L)					
1-Methylnaphthalene	NA	NA	NA	0.047 U	0.049 U
2-Methylnaphthalene	NA	NA	NA	0.022 U	0.022 U
Acenaphthene	NA	NA	NA	0.019 U	0.019 U
Acenaphthylene	NA	NA	NA	0.047 U	0.049 U
Anthracene	NA	NA	NA	0.021 U	0.021 U
Benzo[a]anthracene	NA	NA	NA	0.025 U	0.025 U
Benzo[a]pyrene	NA	NA	NA	0.024 U	0.024 U
Benzo[b]fluoranthene	NA	NA	NA	0.035 U	0.036 U
Benzo[g,h,i]perylene	NA	NA	NA	0.023 U	0.023 U
Benzo[k]fluoranthene	NA	NA	NA	0.019 U	0.019 U
Chrysene	NA	NA	NA	0.026 U	0.027 U
Dibenz(a,h)anthracene	NA	NA	NA	0.023 U	0.023 U
Fluoranthene	NA	NA	NA	0.047 U	0.049 U
Fluorene	NA	NA	NA	0.018 U	0.018 U
Indeno[1,2,3-cd]pyrene	NA	NA	NA	0.022 U	0.022 U
Naphthalene	NA	NA	NA	0.047 U	0.049 U
Phenanthrene	NA	NA	NA	0.017 U	0.017 U
Pyrene	NA	NA	NA	0.025 U	0.026 U
Total Metals (ug/L)					
Antimony	NA	0.80 U	0.38 U	0.36 U	0.36 U
Arsenic	NA	1.2 U	1.5 U	1.1 U	1.4 U
Barium	NA	56	110	68	69
Beryllium	NA	0.065 U	0.068 U	0.065 U	0.065 U
Cadmium	NA	0.12 U	0.12 U	0.12 U	0.12 U
Chromium	NA	1.9 J	8.1	0.60 U	0.60 U
Cobalt	NA	1.6	6.4	3.5	3.4
Copper	NA	15	29	1.2 U	2.4 U
Lead	NA	0.22 U	1.8	0.15 U	0.15 U
Mercury	NA	0.080 U	0.080 U	0.080 U	0.080 U
Nickel	NA	9.9	5.3	0.47 J	0.61 J
Selenium	NA	2.7	0.60 U	0.60 U	0.60 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - AIRFIELD - GROUNDWATER
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB26	74SB34	74SB57	74GWHYD3D	74GWHYD3
Sample ID	74GW26	74GW34	74GW57	74GWHYD3D	74GWHYD3
Date	7/23/2008	5/6/2008	5/6/2008	5/5/2008	5/5/2008
Total Metals (ug/L)					
Silver	NA	0.090 U	0.099 U	0.090 U	0.090 U
Thallium	NA	0.55 U	0.55 U	0.55 U	0.55 U
Tin	NA	1.6 U	1.3 U	0.90 U	0.90 U
Vanadium	NA	4.0 U	43	1.3 U	1.4 U
Zinc	NA	12 J	24 J	6.5 U	6.5 U
Dissolved Metals (ug/L)					
Antimony	0.36 U	0.77 U	0.45 U	0.36 U	0.36 U
Arsenic	0.64 J	1.1 J	0.83 J	0.9 J	0.98 J
Barium	1700 J	56	91	58	55
Beryllium	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U
Cadmium	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Chromium	0.6 U	1.3 J	0.60 U	0.6 U	0.60 U
Cobalt	8.4 J	1.9	4.4	2.9	3.3
Copper	1.2 U	13	1.2 U	1.2 U	3.0 U
Lead	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U
Mercury	0.08 U	0.080 U	0.080 U	0.080 U	0.080 U
Nickel	1.3	9.6	2.4	0.36 J	0.64 J
Selenium	0.81 J	2.8	0.60 U	0.6 U	0.60 U
Silver	0.09 U	0.090 U	0.090 U	0.09 U	0.090 U
Thallium	0.55 U	0.55 U	0.55 U	0.55 U	0.55 U
Tin	0.9 U	1.2 U	0.90 U	0.9 U	0.90 U
Vanadium	0.8 U	3.7 J	1.2 J	0.93 J	1.1 J
Zinc	6.5 U	12 J	7.9 J	6.5 U	6.9 J
TPH DRO and GRO (mg/L)					
Diesel Range Organics	NA	0.38	0.045 J	0.028 U	0.028 U
Gasoline Range Organics	NA	0.012 U	0.012 U	0.012 U	0.012 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - AIRFIELD - GROUNDWATER
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74GWVP1A	74GWVP1B	74GWVP2A	74GWVP2B
Sample ID	74GWVP1A	74GWVP1B	74GWVP2A	74GWVP2B
Date	5/6/2008	5/5/2008	5/5/2008	5/6/2008
Volatile Organic Compounds (ug/L)				
1,1,1,2-Tetrachloroethane	0.29 U	0.29 U	0.29 U	0.29 U
1,1,1-Trichloroethane	0.39 U	0.39 U	0.39 U	0.39 U
1,1,2,2-Tetrachloroethane	0.26 U	0.26 U	0.26 U	0.26 U
1,1,2-Trichloroethane	0.51 U	0.51 U	0.51 U	0.51 U
1,1-Dichloroethane	0.32 U	0.32 U	0.32 U	0.32 U
1,1-Dichloroethene	0.36 U	0.36 U	0.36 U	0.36 U
1,2,3-Trichloropropane	0.42 U	0.42 U	0.42 U	0.42 U
1,2-Dibromo-3-Chloropropane	0.48 U	0.48 U	0.48 U	0.48 U
1,2-Dichloroethane	0.31 U	0.31 U	0.31 U	0.31 U
1,2-Dichloropropane	0.36 U	0.36 U	0.36 U	0.36 U
2-Butanone (MEK)	0.60 U	0.60 U	0.60 U	0.60 U
2-Chloro-1,3-butadiene	0.35 U	0.35 U	0.35 U	0.35 U
2-Hexanone	0.68 U	0.68 U	0.68 U	0.68 U
3-Chloro-1-propene	0.46 U	0.46 U	0.46 U	0.46 U
4-Methyl-2-pentanone (MIBK)	0.60 U	0.60 U	0.60 U	0.60 U
Acetone	5.0 U	5.0 U	5.0 U	9.5 J
Acetonitrile	15 U	15 U	15 U	15 U
Acrolein	18 R	18 R	18 R	18 R
Acrylonitrile	3.8 UJ	3.8 UJ	3.8 UJ	3.8 UJ
Benzene	0.32 U	0.32 U	0.32 U	0.32 U
Bromoform	0.41 U	0.41 U	0.41 U	0.41 U
Bromomethane	0.50 UJ	0.50 U	0.50 U	0.50 UJ
Carbon disulfide	0.17 U	0.17 U	0.17 U	0.17 U
Carbon tetrachloride	0.27 U	0.27 U	0.27 U	0.27 U
Chlorobenzene	0.34 U	0.34 U	0.34 U	0.34 U
Chlorodibromomethane	0.30 U	0.30 U	0.30 U	0.30 U
Chloroethane	1.0 UJ	1.0 U	1.0 U	1.0 UJ
Chloroform	0.29 U	0.29 U	0.29 U	0.29 U
Chloromethane	0.28 U	0.28 U	0.28 U	0.28 U
cis-1,3-Dichloropropene	0.37 UJ	0.37 UJ	0.37 UJ	0.37 UJ
Dibromomethane	0.29 U	0.29 U	0.29 U	0.29 U
Dichlorobromomethane	0.34 U	0.34 U	0.34 U	0.34 U
Dichlorodifluoromethane	0.33 U	0.33 UJ	0.33 UJ	0.33 U
Ethyl methacrylate	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	0.30 U	0.30 U	0.30 U	0.30 U
Ethylene Dibromide	0.30 U	0.30 U	0.30 U	0.30 U
Iodomethane	1.0 UJ	1.0 U	1.0 U	1.0 UJ
Isobutyl alcohol	19 U	19 R	19 R	19 U
Methacrylonitrile	6.6 U	6.6 U	6.6 U	6.6 U
Methyl methacrylate	0.38 U	0.38 U	0.38 U	0.38 U
Methylene Chloride	1.0 U	1.0 U	1.0 U	1.0 U
Pentachloroethane	1.3 UJ	1.3 UJ	1.3 UJ	1.3 UJ

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - AIRFIELD - GROUNDWATER
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74GWVP1A	74GWVP1B	74GWVP2A	74GWVP2B
Sample ID	74GWVP1A	74GWVP1B	74GWVP2A	74GWVP2B
Date	5/6/2008	5/5/2008	5/5/2008	5/6/2008
Volatile Organic Compounds (ug/L)				
Propionitrile	9.2 U	9.2 U	9.2 U	9.2 U
Styrene	0.36 U	0.36 U	0.36 U	0.36 U
Tetrachloroethene	0.28 U	0.28 U	0.28 U	0.28 U
Toluene	0.31 U	0.31 U	0.31 U	0.31 U
trans-1,2-Dichloroethene	0.30 U	0.30 U	0.30 U	0.30 U
trans-1,3-Dichloropropene	0.27 U	0.27 U	0.27 U	0.27 U
trans-1,4-Dichloro-2-butene	0.83 U	0.83 U	0.83 U	0.83 U
Trichloroethene	0.40 U	0.40 U	0.40 U	0.40 U
Trichlorofluoromethane	0.29 UJ	0.29 U	0.29 U	0.29 UJ
Vinyl acetate	0.62 U	0.62 U	0.62 U	0.62 U
Vinyl chloride	0.20 U	0.20 U	0.20 U	0.20 U
Xylenes, Total	0.87 U	0.87 U	0.87 U	0.87 U
LLPAHs (ug/L)				
1-Methylnaphthalene	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA
Acenaphthene	NA	NA	NA	NA
Acenaphthylene	NA	NA	NA	NA
Anthracene	NA	NA	NA	NA
Benzo[a]anthracene	NA	NA	NA	NA
Benzo[a]pyrene	NA	NA	NA	NA
Benzo[b]fluoranthene	NA	NA	NA	NA
Benzo[g,h,i]perylene	NA	NA	NA	NA
Benzo[k]fluoranthene	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA
Dibenz(a,h)anthracene	NA	NA	NA	NA
Fluoranthene	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA
Indeno[1,2,3-cd]pyrene	NA	NA	NA	NA
Naphthalene	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA
Pyrene	NA	NA	NA	NA
Total Metals (ug/L)				
Antimony	0.36 U	0.36 U	0.36 U	0.36 U
Arsenic	0.51 U	1.0 U	0.99 U	0.59 U
Barium	9.9	74	16	17
Beryllium	0.065 U	0.065 U	0.065 U	0.065 U
Cadmium	0.12 U	0.12 U	0.26 J	0.13 J
Chromium	0.97 J	0.60 U	3.2 J	0.76 J
Cobalt	1.7	2.1	2.3	0.77 J
Copper	5.3	5.7	23	6.3
Lead	0.15 U	0.15 U	1.1 J	0.21 U
Mercury	0.080 U	0.080 U	0.080 U	0.080 U
Nickel	0.72 J	0.79 J	2.8	0.66 J
Selenium	0.60 U	0.60 U	0.60 U	0.60 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - AIRFIELD - GROUNDWATER
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74GWVP1A	74GWVP1B	74GWVP2A	74GWVP2B
Sample ID	74GWVP1A	74GWVP1B	74GWVP2A	74GWVP2B
Date	5/6/2008	5/5/2008	5/5/2008	5/6/2008
Total Metals (ug/L)				
Silver	0.090 U	0.090 U	0.090 U	0.090 U
Thallium	0.55 U	0.55 U	0.55 U	0.55 U
Tin	0.90 U	0.90 U	0.90 U	0.90 U
Vanadium	5.9	6.2	20	14
Zinc	7.3 J	6.8 J	35 J	8.3 J
Dissolved Metals (ug/L)				
Antimony	0.36 U	0.36 U	0.44 U	0.36 U
Arsenic	0.56 U	0.84 U	0.41 U	0.61 U
Barium	8.2	64	8.4	15
Beryllium	0.073 J	0.065 U	0.065 U	0.065 U
Cadmium	0.12 U	0.12 U	0.12 U	0.12 U
Chromium	0.60 U	0.60 U	0.60 U	0.60 U
Cobalt	1.8	2.0	2.1	0.96 J
Copper	1.2 U	1.2 U	3.5 U	2.9 U
Lead	0.15 U	0.15 U	0.15 U	0.15 U
Mercury	0.080 U	0.080 U	0.080 U	0.080 U
Nickel	0.39 J	0.63 J	0.86 J	0.44 J
Selenium	0.60 U	0.60 U	0.60 U	0.60 U
Silver	0.090 U	0.090 U	0.090 U	0.090 U
Thallium	0.55 U	0.55 U	0.55 U	0.55 U
Tin	0.90 U	0.90 U	0.90 U	0.90 U
Vanadium	1.2 J	2.4 J	8.8	12
Zinc	9.1 J	7.4 J	6.5 U	6.5 U
TPH DRO and GRO (mg/L)				
Diesel Range Organics	0.028 U	0.082 J	0.028 U	0.028 U
Gasoline Range Organics	0.012 U	0.012 U	0.012 U	0.012 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SWMU 9 AREA A/B - GROUNDWATER
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74VP1Ca/9	74VP1Cb/9	74VP1Cb/9	74VP3a	74VP3b
Sample ID	74GWVP1Ca/9	74GWVP1Cb/9	74GWVP1Cb/9D	74GWVP3a	74GWVP3b
Date	5/14/2008	5/14/2008	5/14/2008	5/14/2008	5/14/2008
Volatile Organic Compounds (ug/L)					
1,1,1,2-Tetrachloroethane	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U
1,1,1-Trichloroethane	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U
1,1,2,2-Tetrachloroethane	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U
1,1,2-Trichloroethane	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U
1,1-Dichloroethane	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U
1,1-Dichloroethene	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U
1,2,3-Trichloropropane	0.42 U	0.42 U	0.42 U	0.42 UJ	0.42 UJ
1,2-Dibromo-3-Chloropropane	0.48 U	0.48 U	0.48 U	0.48 UJ	0.48 UJ
1,2-Dichloroethane	0.31 U	0.31 U	0.31 U	0.31 U	0.31 U
1,2-Dichloropropane	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U
2-Butanone (MEK)	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U
2-Chloro-1,3-butadiene	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U
2-Hexanone	0.68 U	9.9 J	0.68 U	0.68 U	0.68 U
3-Chloro-1-propene	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U
4-Methyl-2-pentanone (MIBK)	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U
Acetone	44 U	11 J	36 U	19 J	13 J
Acetonitrile	15 U	15 U	15 U	15 U	15 U
Acrolein	18 U	18 U	18 U	18 U	18 U
Acrylonitrile	3.8 UJ	3.8 UJ	3.8 UJ	3.8 UJ	3.8 UJ
Benzene	0.32 U	8.1	12	0.32 U	0.32 U
Bromoform	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U
Bromomethane	0.5 U	0.5 UJ	0.5 U	0.5 UJ	0.5 UJ
Carbon disulfide	0.17 U	0.44 U	0.54 J	0.17 U	0.17 U
Carbon tetrachloride	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U
Chlorobenzene	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U
Chlorodibromomethane	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Chloroethane	1 U	1 U	1 U	1 U	1 U
Chloroform	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U
Chloromethane	0.28 U	0.52 J	0.28 U	0.28 U	1.5
cis-1,3-Dichloropropene	0.37 U	0.37 U	0.37 U	0.37 UJ	0.37 UJ
Dibromomethane	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U
Dichlorobromomethane	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U
Dichlorodifluoromethane	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U
Ethyl methacrylate	1 U	1 U	1 U	1 U	1 U
Ethylbenzene	0.3 U	0.3 U	0.73 J	0.3 U	0.3 U
Ethylene Dibromide	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Iodomethane	1 U	1 U	1 U	1 U	1 U
Isobutyl alcohol	19 U	19 U	19 U	19 U	19 U
Methacrylonitrile	6.6 U	6.6 U	6.6 U	6.6 U	6.6 U
Methyl methacrylate	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U
Methylene Chloride	1 U	1 U	1 U	1 U	1 U
Pentachloroethane	1.3 R	1.3 R	1.3 R	1.3 UJ	1.3 UJ

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SWMU 9 AREA A/B - GROUNDWATER
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74VP1Ca/9	74VP1Cb/9	74VP1Cb/9	74VP3a	74VP3b
Sample ID	74GWVP1Ca/9	74GWVP1Cb/9	74GWVP1Cb/9D	74GWVP3a	74GWVP3b
Date	5/14/2008	5/14/2008	5/14/2008	5/14/2008	5/14/2008
Volatile Organic Compounds (ug/L)					
Propionitrile	9.2 U	9.2 U	9.2 U	9.2 U	9.2 U
Styrene	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U
Tetrachloroethene	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U
Toluene	0.31 U	0.31 U	0.31 U	0.31 U	0.31 U
trans-1,2-Dichloroethene	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
trans-1,3-Dichloropropene	0.27 U	0.27 U	0.27 U	0.27 UJ	0.27 UJ
trans-1,4-Dichloro-2-butene	0.83 U	0.83 U	0.83 U	0.83 U	0.83 U
Trichloroethene	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
Trichlorofluoromethane	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U
Vinyl acetate	0.62 U	0.62 U	0.62 U	0.62 U	0.62 U
Vinyl chloride	0.2 U	0.26 J	0.2 U	0.2 U	0.2 U
Xylenes, Total	0.87 U	0.87 U	1.3 J	0.87 U	0.87 U
LLPAHs (ug/L)					
1-Methylnaphthalene	0.049 U	0.049 U	0.048 U	0.048 U	1.1 J
2-Methylnaphthalene	0.022 U	0.023 U	0.022 U	0.022 U	0.76 J
Acenaphthene	0.019 U	0.02 U	0.019 U	0.019 U	0.93 J
Acenaphthylene	0.049 U	0.049 U	0.048 U	0.048 U	0.84 J
Anthracene	0.021 U	0.022 U	0.021 U	0.021 U	1.1 J
Benzo[a]anthracene	0.025 U	0.025 U	0.025 U	0.025 U	0.95 J
Benzo[a]pyrene	0.024 U	0.025 U	0.024 U	0.024 U	1 J
Benzo[b]fluoranthene	0.036 U	0.036 U	0.035 U	0.036 U	0.89 J
Benzo[g,h,i]perylene	0.023 U	0.024 U	0.023 U	0.023 U	1.2 J
Benzo[k]fluoranthene	0.019 U	0.02 U	0.019 U	0.019 U	1 J
Chrysene	0.027 U	0.027 U	0.027 U	0.027 U	1.2 J
Dibenz(a,h)anthracene	0.023 U	0.024 U	0.023 U	0.023 U	1.3 J
Fluoranthene	0.049 U	0.049 U	0.048 U	0.048 U	1.2 J
Fluorene	0.018 U	0.12 J	0.16 J	0.018 U	0.92 J
Indeno[1,2,3-cd]pyrene	0.022 U	0.023 U	0.022 U	0.022 U	1.1 J
Naphthalene	0.049 U	0.049 U	0.048 U	0.048 U	0.49 UJ
Phenanthrene	0.017 U	0.018 U	0.017 U	0.017 U	1.2 J
Pyrene	0.026 U	0.026 U	0.026 U	0.026 U	1.3 J
Total Metals (ug/L)					
Antimony	0.69 U	1.1 U	1.2 U	0.67 U	0.83 U
Arsenic	1.8 U	12	11	0.86 U	0.93 U
Barium	13	66	70	23 J	27
Beryllium	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U
Cadmium	0.15 J	0.12 U	0.12 J	0.31 J	0.22 J
Chromium	0.62 J	0.6 U	0.6 U	0.6 U	1 J
Cobalt	0.77	2.4 J	2.7	1 J	0.14 J
Copper	2.2 U	1.8 U	2 U	6.4	1.8 U
Lead	36	81	84	0.82 U	0.15 U
Mercury	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
Nickel	0.84 J	1.3	1.3	0.75 J	0.92 J

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SWMU 9 AREA A/B - GROUNDWATER
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74VP1Ca/9	74VP1Cb/9	74VP1Cb/9	74VP3a	74VP3b
Sample ID	74GWVP1Ca/9	74GWVP1Cb/9	74GWVP1Cb/9D	74GWVP3a	74GWVP3b
Date	5/14/2008	5/14/2008	5/14/2008	5/14/2008	5/14/2008
Selenium	0.68 J	0.6 U	0.6 U	0.6 U	0.6 U
Total Metals (ug/L)					
Silver	0.09 U	0.09 U	0.09 U	0.09 U	0.09 U
Thallium	0.55 U	0.55 U	0.55 U	0.55 U	0.55 U
Tin	0.93 J	1.3 J	0.92 J	0.93 J	0.9 U
Vanadium	23	9.3	10 J	34	28
Zinc	6.5 U	6.5 J	9.5 J	12 J	6.5 U
Dissolved Metals (ug/L)					
Antimony	0.4 U	0.99 U	0.88 U	0.59 U	0.73 U
Arsenic	1.5 J	12	9.7	0.7 J	0.93 J
Barium	15	73	64	32 J	29
Beryllium	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U
Cadmium	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Chromium	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U
Cobalt	0.95	3.1 J	2.5	1.5 J	0.61
Copper	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U
Lead	32 J	78 J	81 J	0.15 UJ	0.15 UJ
Mercury	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
Nickel	1.6	1.5	1.2	1.1	0.73 J
Selenium	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U
Silver	0.09 UJ	0.09 UJ	0.09 UJ	0.09 UJ	0.09 UJ
Thallium	0.55 U	0.55 U	0.55 U	0.55 U	0.55 U
Tin	1.1 J	0.9 U	0.9 U	0.9 U	0.9 U
Vanadium	22	9.3	13 J	21	28
Zinc	6.5 U	6.5 U	6.5 U	6.5 U	6.5 U
TPH DRO and GRO (mg/L)					
Diesel Range Organics	1.5	2	2.4	0.38	1.4
Gasoline Range Organics	1.1 J	0.58 J	0.86 J	0.012 U	0.012 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SWMU 9 AREA A/B - GROUNDWATER
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74VP11a	74VP11b	74VP1Aa/9	74VP1Ab/9	74VP1Bb/9
Sample ID	74GWVP11a	74GWVP11b	74GWVP1Aa/9	74GWVP1Ab/9	74GWVP1Bb/9
Date	5/15/2008	5/15/2008	5/16/2008	5/18/2008	5/16/2008
Volatile Organic Compounds (ug/L)					
1,1,1,2-Tetrachloroethane	0.29 U	0.29 U	5.8 U	0.29 U	0.29 U
1,1,1-Trichloroethane	0.39 U	0.39 U	7.8 U	0.39 U	0.39 U
1,1,2,2-Tetrachloroethane	0.26 U	0.26 U	5.2 U	0.26 U	0.26 U
1,1,2-Trichloroethane	0.51 U	0.51 U	10 U	0.51 U	0.51 U
1,1-Dichloroethane	0.32 U	0.32 U	6.4 U	0.32 U	0.32 U
1,1-Dichloroethene	0.36 U	0.36 U	7.2 U	0.36 U	0.36 U
1,2,3-Trichloropropane	0.42 U	0.42 U	8.4 U	0.42 U	0.42 U
1,2-Dibromo-3-Chloropropane	0.48 U	0.48 U	9.6 U	0.48 U	0.48 U
1,2-Dichloroethane	0.31 U	0.31 UJ	6.2 U	0.31 UJ	0.31 U
1,2-Dichloropropane	0.36 U	0.36 U	7.2 U	0.36 U	0.36 U
2-Butanone (MEK)	0.6 U	1.4 U	82 U	0.6 U	130
2-Chloro-1,3-butadiene	0.35 U	0.35 U	7 U	0.35 U	0.35 U
2-Hexanone	0.68 U	0.68 U	14 U	0.68 U	0.68 U
3-Chloro-1-propene	0.46 U	0.46 U	9.2 U	0.46 U	0.46 U
4-Methyl-2-pentanone (MIBK)	0.6 U	0.6 U	210	0.6 U	0.6 U
Acetone	38	25	190 J	9.2 J	1000
Acetonitrile	15 U	15 U	300 U	15 U	15 U
Acrolein	18 U	18 U	360 U	18 U	18 U
Acrylonitrile	3.8 UJ	3.8 UJ	76 UJ	3.8 UJ	3.8 UJ
Benzene	0.32 U	0.32 U	2500	0.32 U	0.32 U
Bromoform	0.41 U	0.41 U	8.2 U	0.41 U	0.41 U
Bromomethane	0.5 UJ	0.5 U	10 UJ	0.5 U	0.5 UJ
Carbon disulfide	0.77 U	0.33 J	7.6 U	0.17 U	0.17 U
Carbon tetrachloride	0.27 U	0.27 U	5.4 U	0.27 U	0.27 U
Chlorobenzene	0.34 U	0.34 U	6.8 U	0.34 U	0.34 U
Chlorodibromomethane	0.3 U	0.3 U	6 U	0.3 U	0.3 U
Chloroethane	1 U	1 U	20 U	1 U	1 U
Chloroform	0.29 U	0.29 U	5.8 U	0.29 U	0.29 U
Chloromethane	0.28 U	0.28 U	5.6 U	0.28 U	0.28 U
cis-1,3-Dichloropropene	0.37 U	0.37 U	7.4 U	0.37 U	0.37 U
Dibromomethane	0.29 U	0.29 U	5.8 U	0.29 U	0.29 U
Dichlorobromomethane	0.34 U	0.34 U	6.8 U	0.34 U	0.34 U
Dichlorodifluoromethane	0.33 U	0.33 U	6.6 U	0.33 U	0.33 U
Ethyl methacrylate	1 U	1 U	20 U	1 U	1 U
Ethylbenzene	2.7	0.3 U	460	0.3 U	0.3 U
Ethylene Dibromide	0.3 U	0.3 U	6 U	0.3 U	0.3 U
Iodomethane	1 U	1 U	20 U	1 U	1 U
Isobutyl alcohol	19 U	19 U	380 U	19 U	19 U
Methacrylonitrile	6.6 U	6.6 U	130 U	6.6 U	6.6 U
Methyl methacrylate	0.38 U	0.38 U	7.6 U	0.38 U	0.38 U
Methylene Chloride	2.1 J	1 U	20 U	1 U	1 U
Pentachloroethane	1.3 R	1.3 R	26 R	1.3 R	1.3 R

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SWMU 9 AREA A/B - GROUNDWATER
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74VP11a	74VP11b	74VP1Aa/9	74VP1Ab/9	74VP1Bb/9
Sample ID	74GWVP11a	74GWVP11b	74GWVP1Aa/9	74GWVP1Ab/9	74GWVP1Bb/9
Date	5/15/2008	5/15/2008	5/16/2008	5/18/2008	5/16/2008
Volatile Organic Compounds (ug/L)					
Propionitrile	9.2 U	9.2 U	180 U	9.2 U	9.2 U
Styrene	0.36 U	0.36 U	7.2 U	0.36 U	0.36 U
Tetrachloroethene	0.28 U	0.28 U	5.6 U	0.28 U	0.28 U
Toluene	0.31 U	0.88 U	3800	0.31 U	0.31 U
trans-1,2-Dichloroethene	0.3 U	0.3 U	6 U	0.3 U	0.3 U
trans-1,3-Dichloropropene	0.27 U	0.27 U	5.4 U	0.27 U	0.27 U
trans-1,4-Dichloro-2-butene	0.83 U	0.83 U	17 U	0.83 U	0.83 U
Trichloroethene	0.4 U	0.4 U	8 U	0.4 U	0.4 U
Trichlorofluoromethane	0.29 U	0.29 U	5.8 U	0.29 U	0.29 U
Vinyl acetate	0.62 U	0.62 U	12 U	0.62 U	0.62 U
Vinyl chloride	0.2 U	0.2 U	4 U	0.2 U	0.2 U
Xylenes, Total	23	0.87 U	3100	0.87 U	0.87 U
LLPAHs (ug/L)					
1-Methylnaphthalene	3.7 J	0.36	18 J	0.049 U	0.047 U
2-Methylnaphthalene	1.5 J	0.11 J	31 J	0.11 J	0.022 U
Acenaphthene	0.19 U	0.019 U	0.19 UJ	0.019 U	0.019 U
Acenaphthylene	0.47 U	0.047 U	0.47 UJ	0.049 U	0.047 U
Anthracene	0.21 U	0.021 U	0.21 UJ	0.021 U	0.021 U
Benzo[a]anthracene	0.25 U	0.025 U	0.25 UJ	0.025 U	0.025 U
Benzo[a]pyrene	0.24 U	0.024 U	0.24 UJ	0.024 U	0.024 U
Benzo[b]fluoranthene	0.35 U	0.035 U	0.35 UJ	0.036 U	0.035 U
Benzo[g,h,i]perylene	0.23 U	0.023 U	0.23 UJ	0.023 U	0.023 U
Benzo[k]fluoranthene	0.19 U	0.019 U	0.19 UJ	0.019 U	0.019 U
Chrysene	0.26 U	0.026 U	0.26 UJ	0.027 U	0.026 U
Dibenz(a,h)anthracene	0.23 U	0.023 U	0.23 UJ	0.023 U	0.023 U
Fluoranthene	0.47 U	0.047 U	0.47 UJ	0.049 U	0.047 U
Fluorene	0.18 U	0.018 U	0.18 UJ	0.018 U	0.018 U
Indeno[1,2,3-cd]pyrene	0.22 U	0.022 U	0.22 UJ	0.022 U	0.022 U
Naphthalene	4.1 J	0.92	120 J	0.049 U	0.047 U
Phenanthrene	0.17 U	0.017 U	0.17 UJ	0.017 U	0.017 U
Pyrene	0.25 U	0.025 U	0.25 UJ	0.026 U	0.025 U
Total Metals (ug/L)					
Antimony	0.54 U	0.56 U	0.7 U	0.36 U	0.36 U
Arsenic	0.78 U	2 U	1.2 U	1.3 U	0.79 J
Barium	110	350	55	41	14
Beryllium	0.065 U	0.73	0.065 U	0.065 U	0.065 U
Cadmium	0.62	13	0.17 J	0.12 U	0.12 U
Chromium	1 J	0.6 U	0.73 J	2.5 J	3.2 J
Cobalt	64	670	3.3 J	2	0.39 R
Copper	3.9 U	29	3.8 U	2.8 U	2.2 U
Lead	0.15 U	0.15 U	16	3	12
Mercury	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
Nickel	8.4	160	1.5	1.9	2.3

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SWMU 9 AREA A/B - GROUNDWATER
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74VP11a	74VP11b	74VP1Aa/9	74VP1Ab/9	74VP1Bb/9
Sample ID	74GWVP11a	74GWVP11b	74GWVP1Aa/9	74GWVP1Ab/9	74GWVP1Bb/9
Date	5/15/2008	5/15/2008	5/16/2008	5/18/2008	5/16/2008
Selenium	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U
Total Metals (ug/L)					
Silver	0.09 U	0.21 J	0.09 U	0.09 U	0.09 UJ
Thallium	0.55 U	0.55 U	0.55 U	0.55 U	0.55 U
Tin	1.8 J	1.1 J	2 J	4.7 J	1.8 J
Vanadium	4 U	2.6 U	15	15	8.6
Zinc	35	530	48	39 J	11 J
Dissolved Metals (ug/L)					
Antimony	0.36 U	0.36 U	0.46 U	0.42 U	0.77 U
Arsenic	1 J	3.8	1.5 J	1.2 U	0.71 U
Barium	110	340	49	36	11
Beryllium	0.065 U	0.63	0.065 U	0.065 U	0.065 U
Cadmium	0.57	11	0.12 U	0.12 U	0.12 U
Chromium	0.61 J	0.6 U	0.6 U	2.8 J	0.6 U
Cobalt	64	680	4.1 J	2.2	1 R
Copper	1.7 U	27	1.3 U	1.2 U	1.2 U
Lead	0.15 UJ	0.15 UJ	17 J	2.6	15 J
Mercury	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
Nickel	8.6	150	1.7	1.9	0.86 J
Selenium	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U
Silver	0.09 UJ	0.13 J	0.09 UJ	0.09 UJ	0.09 U
Thallium	0.55 U	0.55 U	0.55 U	0.55 U	0.55 U
Tin	1.3 J	0.9 U	1.3 J	4 J	1.2 J
Vanadium	3.3 U	1.4 U	8.7	8.8	8.9
Zinc	29	490	46	31	6.5 U
TPH DRO and GRO (mg/L)					
Diesel Range Organics		1.2	5.7	0.99	1.6
Gasoline Range Organics	0.24	0.014 J	44	0.15	0.26 J

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SWMU 9 AREA A/B - GROUNDWATER
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB74	74SB84	74VP2a/9	74VP3a/9	74VP3b/9
Sample ID	74GW74	74GW84	74GWVP2a/9	74GWVP3a/9	74GWVP3b/9
Date	5/15/2008	5/17/2008	5/19/2008	5/17/2008	5/17/2008
Volatile Organic Compounds (ug/L)					
1,1,1,2-Tetrachloroethane	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U
1,1,1-Trichloroethane	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U
1,1,2,2-Tetrachloroethane	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U
1,1,2-Trichloroethane	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U
1,1-Dichloroethane	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U
1,1-Dichloroethene	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U
1,2,3-Trichloropropane	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U
1,2-Dibromo-3-Chloropropane	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U
1,2-Dichloroethane	0.31 UJ	0.31 U	0.31 U	0.31 U	0.31 U
1,2-Dichloropropane	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U
2-Butanone (MEK)	0.6 U	3.1 U	0.6 U	12 U	0.6 U
2-Chloro-1,3-butadiene	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U
2-Hexanone	0.68 U	0.68 U	0.68 U	0.68 U	0.68 U
3-Chloro-1-propene	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U
4-Methyl-2-pentanone (MIBK)	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U
Acetone	5 U	30	10 J	58	12 J
Acetonitrile	15 U	15 U	15 U	15 U	15 U
Acrolein	18 U	18 U	18 R	18 U	18 U
Acrylonitrile	3.8 UJ	3.8 UJ	3.8 U	3.8 UJ	3.8 UJ
Benzene	0.32 U	0.32 U	0.35 J	0.32 U	0.32 U
Bromoform	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U
Bromomethane	0.5 U	0.5 UJ	0.5 U	0.5 UJ	0.5 UJ
Carbon disulfide	0.43 J	0.63 U	0.97 UJ	0.42 U	0.67 U
Carbon tetrachloride	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U
Chlorobenzene	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U
Chlorodibromomethane	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Chloroethane	1 U	1 U	1 UJ	1 U	1 U
Chloroform	0.29 U	0.29 U	0.67 J	0.29 U	0.29 U
Chloromethane	0.28 U	0.28 U	0.28 UJ	0.28 U	0.28 U
cis-1,3-Dichloropropene	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U
Dibromomethane	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U
Dichlorobromomethane	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U
Dichlorodifluoromethane	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U
Ethyl methacrylate	1 U	1 U	1 U	1 U	1 U
Ethylbenzene	0.3 U	0.3 U	0.99 J	0.3 U	0.3 U
Ethylene Dibromide	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Iodomethane	1 U	1 U	1 U	1 U	1 U
Isobutyl alcohol	19 U	19 U	19 U	19 U	19 U
Methacrylonitrile	6.6 U	6.6 U	6.6 U	6.6 U	6.6 U
Methyl methacrylate	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U
Methylene Chloride	1 U	1 U	1 U	1 U	1 U
Pentachloroethane	1.3 R	1.3 R	1.3 R	1.3 R	1.3 R

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SWMU 9 AREA A/B - GROUNDWATER
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB74	74SB84	74VP2a/9	74VP3a/9	74VP3b/9
Sample ID	74GW74	74GW84	74GWVP2a/9	74GWVP3a/9	74GWVP3b/9
Date	5/15/2008	5/17/2008	5/19/2008	5/17/2008	5/17/2008
Volatile Organic Compounds (ug/L)					
Propionitrile	9.2 U	9.2 U	9.2 U	9.2 U	9.2 U
Styrene	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U
Tetrachloroethene	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U
Toluene	0.51 U	0.31 U	0.31 U	0.31 U	0.31 U
trans-1,2-Dichloroethene	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
trans-1,3-Dichloropropene	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U
trans-1,4-Dichloro-2-butene	0.83 U	0.83 U	0.83 U	0.83 U	0.83 U
Trichloroethene	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
Trichlorofluoromethane	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U
Vinyl acetate	0.62 U	0.62 U	0.62 U	0.62 U	0.62 U
Vinyl chloride	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Xylenes, Total	0.87 U	0.87 U	0.87 U	0.87 U	0.87 U
LLPAHs (ug/L)					
1-Methylnaphthalene	NA	NA	0.36	0.047 U	0.047 U
2-Methylnaphthalene	NA	NA	0.41	0.022 U	0.022 U
Acenaphthene	NA	NA	0.11 J	0.019 U	0.019 U
Acenaphthylene	NA	NA	0.047 U	0.047 U	0.047 U
Anthracene	NA	NA	0.021 U	0.021 U	0.021 U
Benzo[a]anthracene	NA	NA	0.025 U	0.025 U	0.025 U
Benzo[a]pyrene	NA	NA	0.024 U	0.024 U	0.024 U
Benzo[b]fluoranthene	NA	NA	0.035 U	0.035 U	0.035 U
Benzo[g,h,i]perylene	NA	NA	0.023 U	0.023 U	0.023 U
Benzo[k]fluoranthene	NA	NA	0.019 U	0.019 U	0.019 U
Chrysene	NA	NA	0.026 U	0.026 U	0.026 U
Dibenz(a,h)anthracene	NA	NA	0.023 U	0.023 U	0.023 U
Fluoranthene	NA	NA	0.047 U	0.047 U	0.047 U
Fluorene	NA	NA	0.62	0.018 U	0.018 U
Indeno[1,2,3-cd]pyrene	NA	NA	0.022 U	0.022 U	0.022 U
Naphthalene	NA	NA	0.047 U	0.047 U	0.047 U
Phenanthrene	NA	NA	0.017 U	0.042 J	0.017 U
Pyrene	NA	NA	0.027 J	0.025 U	0.025 U
Total Metals (ug/L)					
Antimony	3.8	3.6 U	0.36 U	0.75 U	1.1 U
Arsenic	2.6	4.7 J	2.1 J	0.86 J	1.4 J
Barium	5.9 J	160 J	9.3	71	63
Beryllium	0.065 U	0.65 U	0.065 U	0.065 U	0.065 U
Cadmium	0.12 U	1.2 U	0.12 U	0.39 J	0.12 U
Chromium	0.6 U	6 U	0.8 U	0.6 U	0.6 U
Cobalt	1 R	21	6.6	8.9	4
Copper	5.6	300	17	1.2 U	1.2 U
Lead	0.15 U	1.5 U	8.2	0.89 U	0.97 U
Mercury	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
Nickel	2.6	13	0.99 J	10	4.1 J

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SWMU 9 AREA A/B - GROUNDWATER
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB74	74SB84	74VP2a/9	74VP3a/9	74VP3b/9
Sample ID	74GW74	74GW84	74GWVP2a/9	74GWVP3a/9	74GWVP3b/9
Date	5/15/2008	5/17/2008	5/19/2008	5/17/2008	5/17/2008
Selenium	1.2 J	6 U	0.6 U	0.76 J	1.6 J
Total Metals (ug/L)					
Silver	0.09 U	0.9 UJ	0.09 U	0.09 UJ	0.09 UJ
Thallium	0.55 U	5.5 U	0.55 U	0.55 U	0.55 U
Tin	0.9 U	9 U	0.9 U	0.9 U	0.9 U
Vanadium	100	8 U	13	5.3	14
Zinc	9.1 J	75 J	6.7 J	64	25
Dissolved Metals (ug/L)					
Antimony	2.4 U	1.2 U	0.59 U	0.36 U	1.8 U
Arsenic	2.7	1.5 U	2.2 U	1.5 U	1.6 U
Barium	5.8	200 J	8.7 R	100	58
Beryllium	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U
Cadmium	0.12 U	0.32 J	0.12 U	0.12 U	0.12 U
Chromium	0.6 U	1.6 J	1.2 U	1.5 J	0.6 U
Cobalt	1.9 R	25	3.6	91	4.1
Copper	5.4	3.3 U	1.8 U	1.2 U	1.2 U
Lead	0.15 UJ	0.24 UJ	3.9	0.31 U	1 UJ
Mercury	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
Nickel	2.3	15	0.87 J	15	5.5 J
Selenium	1.1 J	1.3 J	0.6 U	0.6 U	1.8 J
Silver	0.09 UJ	0.14 J	0.09 UJ	0.09 UJ	0.09 U
Thallium	0.55 U	0.55 U	0.55 U	0.55 U	0.55 U
Tin	0.9 U	1.1 J	1 U	1.5 J	0.91 J
Vanadium	120	7.2	3.4 U	1.1 U	15
Zinc	6.5 U	37	6.5 R	20	29
TPH DRO and GRO (mg/L)					
Diesel Range Organics	0.17	2.6	1	1.8	2.8
Gasoline Range Organics	0.012 U	0.012 U	1.6	0.22	0.12

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SWMU 9 AREA A/B - GROUNDWATER
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74VP2b/9	74VP1Ba/9	9MW02S	9MW02S
Sample ID	74GWVP2b/9	74GWVP1Ba/9	74GW9MW02S	74GW9MW02SD
Date	5/18/2008	5/19/2008	5/20/2008	5/20/2008
Volatile Organic Compounds (ug/L)				
1,1,1,2-Tetrachloroethane	0.29 U	0.29 U	0.29 U	0.29 U
1,1,1-Trichloroethane	0.39 U	0.39 U	0.39 U	0.39 U
1,1,2,2-Tetrachloroethane	0.26 U	0.26 U	0.26 U	0.26 U
1,1,2-Trichloroethane	0.51 U	0.51 U	0.51 U	0.51 U
1,1-Dichloroethane	0.32 U	0.32 U	0.32 U	0.32 U
1,1-Dichloroethene	0.36 U	0.36 U	0.36 U	0.36 U
1,2,3-Trichloropropane	0.42 U	0.42 U	0.42 U	0.42 U
1,2-Dibromo-3-Chloropropane	0.48 U	0.48 U	0.48 U	0.48 U
1,2-Dichloroethane	0.31 UJ	0.31 UJ	0.31 UJ	0.31 UJ
1,2-Dichloropropane	0.36 U	0.36 U	0.36 U	0.36 U
2-Butanone (MEK)	0.6 U	0.6 U	0.6 U	0.6 U
2-Chloro-1,3-butadiene	0.35 U	0.35 U	0.35 U	0.35 U
2-Hexanone	0.68 U	0.68 U	0.68 U	0.68 U
3-Chloro-1-propene	0.46 U	0.46 U	0.46 U	0.46 U
4-Methyl-2-pentanone (MIBK)	0.6 U	0.6 U	0.6 U	0.6 U
Acetone	17 J	17 J	5 U	5 U
Acetonitrile	15 U	15 U	15 U	15 U
Acrolein	18 U	18 U	18 U	18 U
Acrylonitrile	3.8 UJ	3.8 UJ	3.8 UJ	3.8 UJ
Benzene	0.32 U	0.32 U	0.32 U	0.32 U
Bromoform	0.41 U	0.41 U	0.41 U	0.41 U
Bromomethane	0.5 U	0.5 U	0.5 U	0.5 U
Carbon disulfide	0.17 U	0.63 J	0.17 U	0.17 U
Carbon tetrachloride	0.27 U	0.27 U	0.27 U	0.27 U
Chlorobenzene	0.34 U	0.34 U	0.34 U	0.34 U
Chlorodibromomethane	0.3 U	0.3 U	0.3 U	0.3 U
Chloroethane	1 U	1 U	1 U	1 U
Chloroform	0.29 U	0.29 U	0.29 U	0.29 U
Chloromethane	0.28 U	0.28 U	0.28 U	0.28 U
cis-1,3-Dichloropropene	0.37 U	0.37 U	0.37 U	0.37 U
Dibromomethane	0.29 U	0.29 U	0.29 U	0.29 U
Dichlorobromomethane	0.34 U	0.34 U	0.34 U	0.34 U
Dichlorodifluoromethane	0.33 U	0.33 U	0.33 U	0.33 U
Ethyl methacrylate	1 U	1 U	1 U	1 U
Ethylbenzene	0.93 J	0.3 U	0.3 U	0.3 U
Ethylene Dibromide	0.3 U	0.3 U	0.3 U	0.3 U
Iodomethane	1 U	1 UJ	1 UJ	1 UJ
Isobutyl alcohol	19 U	19 U	19 U	19 U
Methacrylonitrile	6.6 U	6.6 U	6.6 U	6.6 U
Methyl methacrylate	0.38 U	0.38 U	0.38 U	0.38 U
Methylene Chloride	1 U	1 U	1 U	1 U
Pentachloroethane	1.3 R	1.3 R	1.3 R	1.3 R

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SWMU 9 AREA A/B - GROUNDWATER
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74VP2b/9	74VP1Ba/9	9MW02S	9MW02S
Sample ID	74GWVP2b/9	74GWVP1Ba/9	74GW9MW02S	74GW9MW02SD
Date	5/18/2008	5/19/2008	5/20/2008	5/20/2008
Volatile Organic Compounds (ug/L)				
Propionitrile	9.2 U	9.2 U	9.2 U	9.2 U
Styrene	0.36 U	0.36 U	0.36 U	0.36 U
Tetrachloroethene	0.28 U	0.28 U	0.28 U	0.28 U
Toluene	0.31 U	0.31 U	0.31 U	0.31 U
trans-1,2-Dichloroethene	0.3 U	0.3 U	0.3 U	0.3 U
trans-1,3-Dichloropropene	0.27 U	0.27 U	0.27 U	0.27 U
trans-1,4-Dichloro-2-butene	0.83 U	0.83 U	0.83 U	0.83 U
Trichloroethene	0.4 U	0.4 U	0.4 U	0.4 U
Trichlorofluoromethane	0.29 U	0.29 U	0.29 U	0.29 U
Vinyl acetate	0.62 U	0.62 U	0.62 U	0.62 U
Vinyl chloride	0.2 U	0.2 U	0.2 U	0.2 U
Xylenes, Total	0.87 U	0.87 U	0.87 U	0.87 U
LLPAHs (ug/L)				
1-Methylnaphthalene	0.049 U	NA	0.049 U	0.049 U
2-Methylnaphthalene	0.022 U	NA	0.022 U	0.022 U
Acenaphthene	0.14 J	NA	0.019 U	0.019 U
Acenaphthylene	0.049 U	NA	0.049 U	0.049 U
Anthracene	0.021 U	NA	0.021 U	0.021 U
Benzo[a]anthracene	0.025 U	NA	0.025 U	0.025 U
Benzo[a]pyrene	0.024 U	NA	0.024 U	0.024 U
Benzo[b]fluoranthene	0.036 U	NA	0.036 U	0.036 U
Benzo[g,h,i]perylene	0.023 U	NA	0.023 U	0.023 U
Benzo[k]fluoranthene	0.019 U	NA	0.019 U	0.019 U
Chrysene	0.027 U	NA	0.027 U	0.027 U
Dibenz(a,h)anthracene	0.023 U	NA	0.023 U	0.023 U
Fluoranthene	0.049 U	NA	0.049 U	0.049 U
Fluorene	0.69	NA	0.018 U	0.018 U
Indeno[1,2,3-cd]pyrene	0.022 U	NA	0.022 U	0.022 U
Naphthalene	0.049 U	NA	0.049 U	0.049 U
Phenanthrene	0.054 J	NA	0.017 U	0.017 U
Pyrene	0.026 U	NA	0.026 U	0.026 U
Total Metals (ug/L)				
Antimony	0.36 U	2.7	3.6 U	3.6 U
Arsenic	130	5.3	57	59
Barium	12	31	160	160
Beryllium	0.065 U	0.065 U	0.65 U	0.65 U
Cadmium	0.18 J	0.23 J	23	23
Chromium	0.6 U	2.3 J	6 U	6 U
Cobalt	9.4	3.8 J	480	480
Copper	64	4.1 U	150	150
Lead	1.8	4.6	4.5 U	4.3 U
Mercury	0.08 U	0.08 U	0.08 U	0.08 U
Nickel	1.5	7.5	110	110

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SWMU 9 AREA A/B - GROUNDWATER
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74VP2b/9	74VP1Ba/9	9MW02S	9MW02S
Sample ID	74GWVP2b/9	74GWVP1Ba/9	74GW9MW02S	74GW9MW02SD
Date	5/18/2008	5/19/2008	5/20/2008	5/20/2008
Selenium	0.6 U	0.83 J	6 U	6 U
Total Metals (ug/L)				
Silver	0.09 UJ	0.09 U	2.3 J	2.4 J
Thallium	0.55 U	0.55 U	5.5 U	5.5 U
Tin	0.9 U	1.8 J	9 U	9 U
Vanadium	33	8.5	8 U	8 U
Zinc	12 J	48 J	380	380
Dissolved Metals (ug/L)				
Antimony	0.77 U	2.7	0.36 U	3.6 R
Arsenic	120	4.5	6 J	62 R
Barium	4.5 J	22	15 R	150 R
Beryllium	0.065 U	0.065 U	0.07 U	0.79 R
Cadmium	0.12 U	0.12 U	21	20 R
Chromium	0.6 U	1.2 J	0.83 U	9 R
Cobalt	3.7	4.8 J	410	440 R
Copper	3.2 U	1.2 U	13 J	140 R
Lead	0.67 UJ	2.8	0.45 U	4.9 R
Mercury	0.08 U	0.08 U	0.08 U	0.087 R
Nickel	0.68 J	8.4	9.1 J	93 R
Selenium	0.6 U	0.65 J	0.64 J	6.7 R
Silver	0.09 U	0.09 UJ	0.2 UJ	2.1 R
Thallium	0.55 U	0.55 U	0.55 U	5.5 R
Tin	0.9 U	0.9 U	0.9 U	9 R
Vanadium	6.2	2.7 U	0.8 U	8 R
Zinc	6.5 U	9.5 J	43 R	440 R
TPH DRO and GRO (mg/L)				
Diesel Range Organics	0.88	1.7	0.091 U	0.084 U
Gasoline Range Organics	0.4 J	0.16	0.0069 U	0.0069 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SWMU 9 AREA C - GROUNDWATER
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	18GW01	74VP6Ca	74VP6Cb	74VP6Ba	13GW11	74SB145
Sample ID	74GWVP06	74GWVP6Ca	74GWVP6Cb	74GWVP6Ba	74GWVP6Bb	74GW145
Date	5/18/2008	5/21/2008	5/21/2008	5/21/2008	5/30/2008	5/21/2008
Volatile Organic Compounds (ug/L)						
1,1,1,2-Tetrachloroethane	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U
1,1,1-Trichloroethane	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U
1,1,2,2-Tetrachloroethane	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U
1,1,2-Trichloroethane	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U
1,1-Dichloroethane	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U
1,1-Dichloroethene	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U
1,2,3-Trichloropropane	0.42 U	0.42 U	0.42 U	0.42 U	0.42 UJ	0.42 U
1,2-Dibromo-3-Chloropropane	0.48 U	0.48 UJ	0.48 UJ	0.48 U	0.48 UJ	0.48 U
1,2-Dichloroethane	0.31 U	0.31 U	0.31 U	0.31 U	0.31 U	0.31 UJ
1,2-Dichloropropane	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U
2-Butanone (MEK)	0.6 U	64	27	1.1 U	1.2 U	0.6 U
2-Chloro-1,3-butadiene	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U
2-Hexanone	0.68 U	0.68 U	0.68 U	0.68 U	0.68 U	0.68 U
3-Chloro-1-propene	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U
4-Methyl-2-pentanone (MIBK)	0.6 U	24	0.6 U	0.6 U	0.6 U	0.6 U
Acetone	5 U	250	61	16 J	5 U	11 J
Acetonitrile	15 U	15 U	15 U	15 U	15 U	15 U
Acrolein	18 U	18 UJ	18 UJ	18 R	18 UJ	18 U
Acrylonitrile	3.8 UJ	3.8 U	3.8 U	3.8 U	3.8 U	3.8 UJ
Benzene	0.32 U	1.1	0.32 U	0.32 U	0.32 U	0.32 U
Bromoform	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U
Bromomethane	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 UJ	0.5 U
Carbon disulfide	0.17 U	52	2.1	1.5 UJ	0.17 U	1.2 J
Carbon tetrachloride	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U
Chlorobenzene	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U
Chlorodibromomethane	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Chloroethane	1 U	1 U	1 U	1 UJ	1 U	1 U
Chloroform	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U
Chloromethane	0.28 U	0.28 U	0.28 U	0.28 UJ	0.28 UJ	0.49 J
cis-1,3-Dichloropropene	0.37 U	0.37 U	0.37 U	0.37 U	0.37 UJ	0.37 U
Dibromomethane	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U
Dichlorobromomethane	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U
Dichlorodifluoromethane	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U
Ethyl methacrylate	1 U	1 U	1 U	1 U	1 U	1 U
Ethylbenzene	0.3 U	0.5 J	0.3 U	0.3 U	0.3 U	0.3 U
Ethylene Dibromide	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Iodomethane	1 U	1 U	1 U	1 U	1 U	1 UJ
Isobutyl alcohol	19 U	19 U	19 U	19 U	19 R	19 U
Methacrylonitrile	6.6 U	6.6 U	6.6 U	6.6 U	6.6 U	6.6 U
Methyl methacrylate	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U
Methylene Chloride	1 U	1 U	1 U	1 U	1 U	1 U
Pentachloroethane	1.3 R	1.3 UJ	1.3 UJ	1.3 R	1.3 R	1.3 R

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SWMU 9 AREA C - GROUNDWATER
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	18GW01	74VP6Ca	74VP6Cb	74VP6Ba	13GW11	74SB145
Sample ID	74GWVP06	74GWVP6Ca	74GWVP6Cb	74GWVP6Ba	74GWVP6Bb	74GW145
Date	5/18/2008	5/21/2008	5/21/2008	5/21/2008	5/30/2008	5/21/2008
Volatile Organic Compounds (ug/L)						
Propionitrile	9.2 U	9.2 U	9.2 U	9.2 U	9.2 U	9.2 U
Styrene	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U
Tetrachloroethene	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U
Toluene	0.31 U	0.31 U	0.31 U	0.31 U	0.31 U	0.31 U
trans-1,2-Dichloroethene	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
trans-1,3-Dichloropropene	0.27 U	0.27 U	0.27 U	0.27 U	0.27 UJ	0.27 U
trans-1,4-Dichloro-2-butene	0.83 U	0.83 U	0.83 U	0.83 U	0.83 U	0.83 U
Trichloroethene	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
Trichlorofluoromethane	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U
Vinyl acetate	0.62 U	0.62 U	0.62 U	0.62 U	0.62 UJ	0.62 U
Vinyl chloride	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 J
Xylenes, Total	0.87 U	0.87 U	0.87 U	0.87 U	0.87 U	0.87 U
LLPAHs (ug/L)						
1-Methylnaphthalene	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA	NA	NA
Acenaphthene	NA	NA	NA	NA	NA	NA
Acenaphthylene	NA	NA	NA	NA	NA	NA
Anthracene	NA	NA	NA	NA	NA	NA
Benzo[a]anthracene	NA	NA	NA	NA	NA	NA
Benzo[a]pyrene	NA	NA	NA	NA	NA	NA
Benzo[b]fluoranthene	NA	NA	NA	NA	NA	NA
Benzo[g,h,i]perylene	NA	NA	NA	NA	NA	NA
Benzo[k]fluoranthene	NA	NA	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	NA	NA	NA	NA	NA	NA
Fluoranthene	NA	NA	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA	NA	NA
Indeno[1,2,3-cd]pyrene	NA	NA	NA	NA	NA	NA
Naphthalene	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	NA
Pyrene	NA	NA	NA	NA	NA	NA

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - SWMU 9 AREA C - GROUNDWATER
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	18GW01	74VP6Ca	74VP6Cb	74VP6Ba	13GW11	74SB145
Sample ID	74GWVP06	74GWVP6Ca	74GWVP6Cb	74GWVP6Ba	74GWVP6Bb	74GW145
Date	5/18/2008	5/21/2008	5/21/2008	5/21/2008	5/30/2008	5/21/2008
Total Metals (ug/L)						
Antimony	0.36 U	0.74 U	0.36 U	0.36 U	0.36 U	0.36 U
Arsenic	0.94 J	1.8 J	1 J	1.9 U	2 U	1.1 U
Barium	8.6	32	20	35	4.6 J	20
Beryllium	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U
Cadmium	0.12 U	0.12 U	0.12 U	0.12 U	6.8	0.16 J
Chromium	21	18	10	14 J	1 J	5.3
Cobalt	1.6	2.6	1 R	4.7	2.1	0.31 U
Copper	1.2 U	19	9	7.1	5 U	5.6
Lead	0.15 U	21	7.3	1.4 U	0.4 U	0.41 U
Mercury	0.27	0.08 U	0.08 U	0.08 U	0.97	0.08 U
Nickel	7.3	7.4	4.5	3.6	3.1	1.6
Selenium	0.6 U	0.77 J	0.6 U	0.6 U	0.6 U	1.3 J
Silver	0.09 UJ	0.09 U	0.09 U	0.09 U	9.7	0.09 UJ
Thallium	0.55 U	0.55 U	0.55 U	0.55 U	0.55 U	0.55 U
Tin	0.9 U	7.6	4.9 J	1.6 J	0.9 U	2 U
Vanadium	16	19	6.2	8.2	26	18
Zinc	19 J	54	33	140 J	9.2 J	26 J
Dissolved Metals (ug/L)						
Antimony	0.57 U	0.74 U	0.37 U	0.36 U	0.36 U	0.36 U
Arsenic	0.53 U	1.7 U	0.95 U	1.1 U	1.4 U	1 U
Barium	7.5	23 R	16 R	25	2.6 J	21
Beryllium	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U
Cadmium	0.12 U	0.19 J	0.12 U	0.16 J	6.8	0.12 U
Chromium	0.6 U	3.1 U	1.5 U	1.3 J	0.74 J	1.1 J
Cobalt	1.8	2.3	1.6 R	5	1.5	0.61
Copper	1.7 U	1.2 U	2.6 U	1.3 U	1.3 U	4.4 U
Lead	0.15 UJ	17	2.6	0.15 U	0.15 U	0.15 U
Mercury	0.087 J	0.08 U	0.08 U	0.08 U	0.65	0.08 U
Nickel	0.39 J	1.7 J	2.4 J	2.1	2.4	0.96 J
Selenium	0.6 U	0.77 J	0.6 U	0.6 U	0.6 U	1.1 J
Silver	0.09 U	0.09 UJ	0.09 UJ	0.09 UJ	8.8 J	0.09 UJ
Thallium	0.55 U	0.55 U	0.55 U	0.55 U	0.55 U	0.55 U
Tin	0.9 U	6.7	3 U	0.9 U	0.9 U	2.8 J
Vanadium	13	4.9 U	2.4 U	2.3 U	17	14
Zinc	8.3 J	15 R	14 R	33	7.6 J	23
TPH DRO and GRO (mg/L)						
Diesel Range Organics	0.25	1.5	0.84	0.4	0.086 J	1
Gasoline Range Organics	0.012 U	1.9	1.9	0.012 U	0.012 U	0.0069 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - JP-5 HILL AND DFM AREA - GROUNDWATER
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74VP10a/DFM	74VP10a/JP5	74VP1982	74VP08a
Sample ID	74GWVP10a/DFM	74GWVP10a/JP5	74GWVP1982	74GWVP08a
Date	5/18/2008	5/19/2008	5/28/2008	5/31/2008
Volatile Organic Compounds (ug/L)				
1,1,1,2-Tetrachloroethane	0.29 U	0.29 U	0.29 U	0.29 U
1,1,1-Trichloroethane	0.39 U	0.39 U	0.39 U	0.39 U
1,1,2,2-Tetrachloroethane	0.26 U	0.26 U	0.26 U	0.26 U
1,1,2-Trichloroethane	0.51 U	0.51 U	0.51 U	0.51 U
1,1-Dichloroethane	0.32 U	0.32 U	0.32 U	0.32 U
1,1-Dichloroethene	0.36 U	0.36 U	0.36 U	0.36 U
1,2,3-Trichloropropane	0.42 U	0.42 U	0.42 U	0.42 U
1,2-Dibromo-3-Chloropropane	0.48 U	0.48 U	0.48 UJ	0.48 UJ
1,2-Dichloroethane	0.31 U	0.31 UJ	0.31 U	0.31 U
1,2-Dichloropropane	0.36 U	0.36 U	0.36 U	0.36 U
2-Butanone (MEK)	0.6 U	0.6 U	3.4 U	0.6 U
2-Chloro-1,3-butadiene	0.35 U	0.35 U	0.35 U	0.35 U
2-Hexanone	0.68 U	0.68 U	0.68 U	22
3-Chloro-1-propene	0.46 U	0.46 U	0.46 U	0.46 U
4-Methyl-2-pentanone (MIBK)	0.6 U	0.6 U	0.6 U	0.6 U
Acetone	15 J	7.4 J	9.7 U	5 J
Acetonitrile	15 U	15 U	15 U	15 U
Acrolein	18 U	18 U	18 UJ	18 UJ
Acrylonitrile	3.8 UJ	3.8 UJ	3.8 U	3.8 U
Benzene	0.32 U	0.32 U	3.6	0.32 U
Bromoform	0.41 U	0.41 U	0.41 U	0.41 U
Bromomethane	0.5 UJ	0.5 U	0.5 UJ	0.5 UJ
Carbon disulfide	0.17 U	0.17 U	0.17 U	2 J
Carbon tetrachloride	0.27 U	0.27 U	0.27 U	0.27 U
Chlorobenzene	0.34 U	0.34 U	0.34 U	0.34 U
Chlorodibromomethane	0.3 U	0.3 U	0.3 U	0.3 U
Chloroethane	1 U	1 U	1 U	1 U
Chloroform	0.29 U	0.29 U	0.29 U	0.29 U
Chloromethane	0.28 U	0.28 U	0.28 U	0.28 UJ
cis-1,3-Dichloropropene	0.37 U	0.37 U	0.37 U	0.37 UJ
Dibromomethane	0.29 U	0.29 U	0.29 U	0.29 U
Dichlorobromomethane	0.34 U	0.34 U	0.34 U	0.34 U
Dichlorodifluoromethane	0.33 U	0.33 U	0.33 U	0.33 U
Ethyl methacrylate	1 U	1 U	1 U	1 U
Ethylbenzene	0.3 U	0.3 U	16	0.3 U
Ethylene Dibromide	0.3 U	0.3 U	0.3 U	0.3 U
Iodomethane	1 U	1 UJ	1 U	1 U
Isobutyl alcohol	19 U	19 U	19 R	19 R
Methacrylonitrile	6.6 U	6.6 U	6.6 U	6.6 U
Methyl methacrylate	0.38 U	0.38 U	0.38 U	0.38 U
Methylene Chloride	1 U	1 U	1 U	1 U
Pentachloroethane	1.3 R	1.3 R	1.3 R	1.3 R

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - JP-5 HILL AND DFM AREA - GROUNDWATER
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74VP10a/DFM	74VP10a/JP5	74VP1982	74VP08a
Sample ID	74GWVP10a/DFM	74GWVP10a/JP5	74GWVP1982	74GWVP08a
Date	5/18/2008	5/19/2008	5/28/2008	5/31/2008
Volatile Organic Compounds (ug/L)				
Propionitrile	9.2 U	9.2 U	9.2 U	9.2 U
Styrene	0.36 U	0.36 U	0.36 U	0.36 U
Tetrachloroethene	0.28 U	0.28 U	0.28 U	0.28 U
Toluene	0.31 U	0.31 U	0.31 U	0.31 U
trans-1,2-Dichloroethene	0.3 U	0.3 U	0.3 U	0.3 U
trans-1,3-Dichloropropene	0.27 U	0.27 U	0.27 U	0.27 UJ
trans-1,4-Dichloro-2-butene	0.83 U	0.83 U	0.83 U	0.83 U
Trichloroethene	0.4 U	0.4 U	0.4 U	0.4 U
Trichlorofluoromethane	0.29 U	0.29 U	0.29 U	0.29 U
Vinyl acetate	0.62 U	0.62 U	0.62 UJ	0.62 UJ
Vinyl chloride	0.2 U	0.2 U	0.2 U	0.2 U
Xylenes, Total	0.87 U	0.87 U	19	0.87 U
LLPAHs (ug/L)				
1-Methylnaphthalene	1.1	1.8	16 J	NA
2-Methylnaphthalene	1	1.3	11 J	NA
Acenaphthene	0.26	0.85	0.65 J	NA
Acenaphthylene	0.049 U	0.049 U	0.49 U	NA
Anthracene	0.021 U	0.12 J	0.22 U	NA
Benzo[a]anthracene	0.025 U	0.025 U	0.25 U	NA
Benzo[a]pyrene	0.024 U	0.024 U	0.25 U	NA
Benzo[b]fluoranthene	0.036 U	0.036 U	0.36 U	NA
Benzo[g,h,i]perylene	0.023 U	0.023 U	0.24 U	NA
Benzo[k]fluoranthene	0.019 U	0.019 U	0.2 U	NA
Chrysene	0.027 U	0.027 U	0.27 U	NA
Dibenz(a,h)anthracene	0.023 U	0.023 U	0.24 U	NA
Fluoranthene	0.049 U	0.45	0.49 U	NA
Fluorene	0.42	1.3	1.4 J	NA
Indeno[1,2,3-cd]pyrene	0.022 U	0.022 U	0.23 U	NA
Naphthalene	0.049 U	0.049 U	13 J	NA
Phenanthrene	0.24	0.22	0.88 J	NA
Pyrene	0.026 U	0.31	0.26 U	NA

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - JP-5 HILL AND DFM AREA - GROUNDWATER
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74VP10a/DFM	74VP10a/JP5	74VP1982	74VP08a
Sample ID	74GWVP10a/DFM	74GWVP10a/JP5	74GWVP1982	74GWVP08a
Date	5/18/2008	5/19/2008	5/28/2008	5/31/2008
Total Metals (ug/L)				
Antimony	0.55 U	0.4 U	0.74 U	0.36 U
Arsenic	1.1 J	1.8 J	4.2	1.6 U
Barium	14	56	1600	120
Beryllium	0.065 U	0.065 U	0.065 U	0.07 U
Cadmium	0.19 J	0.12 U	0.12 U	0.12 U
Chromium	0.88 J	1.4 U	2.9 J	3.6 U
Cobalt	0.88 R	1.1 R	11	2.3 J
Copper	4.1 U	2.6 U	3.9 U	7.4
Lead	0.77 U	0.88 U	0.5 U	0.63 U
Mercury	0.08 U	0.08 U	0.08 U	0.08 U
Nickel	1.4	1.3	11	2.5
Selenium	0.6 U	0.6 U	1.5 J	0.98 J
Silver	0.09 UJ	0.09 U	0.1 J	0.09 U
Thallium	0.55 U	0.55 U	0.55 U	0.55 U
Tin	2.1 J	0.9 U	3.1 J	1.9 U
Vanadium	140	5.9	12	14
Zinc	25	12 J	8.3 J	23 J

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - JP-5 HILL AND DFM AREA - GROUNDWATER
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74VP10a/DFM	74VP10a/JP5	74VP1982	74VP08a
Sample ID	74GWVP10a/DFM	74GWVP10a/JP5	74GWVP1982	74GWVP08a
Date	5/18/2008	5/19/2008	5/28/2008	5/31/2008
Dissolved Metals (ug/L)				
Antimony	0.99 U	3.5 U	0.84 U	0.48 U
Arsenic	0.96 U	11 U	3.9	1.5 U
Barium	11	380 R	1900	110
Beryllium	0.065 U	0.32 U	0.065 U	0.07 U
Cadmium	0.12 U	0.12 U	0.12 U	0.12 J
Chromium	0.6 U	7.6 U	3.2 J	0.78 U
Cobalt	2 R	4.2 R	12 B	3 J
Copper	1.8 U	6.9 U	2.3 U	3.4 U
Lead	0.48 UJ	1.4 U	0.33 U	0.34 U
Mercury	0.08 U	0.08 U	0.08 U	0.08 U
Nickel	1.2	15 J	12	1.9
Selenium	0.6 U	3 U	1.4 J	0.92 J
Silver	0.09 U	0.45 UJ	0.09 UJ	0.09 UJ
Thallium	0.55 U	2.8 U	0.55 U	0.55 U
Tin	1.1 J	4.5 U	3.3 J	1.4 U
Vanadium	130	41	11	15
Zinc	13 J	67 R	9.1 J	20 J
TPH DRO and GRO (mg/L)				
Diesel Range Organics [C10-C28]	1.5	1.5	8.7	0.73
Gasoline Range Organics (GRO)-C6-C10	0.21	0.031 J	0.43	0.05

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - JP-5 HILL AND DFM AREA - GROUNDWATER
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74VP08b	74SB273	74VP09b/JP5	74SB151
Sample ID	74GWVP08b	74GW273	74GWVP09b/JP5	74GW151
Date	5/31/2008	5/30/2008	7/23/2008	5/21/2008
Volatile Organic Compounds (ug/L)				
1,1,1,2-Tetrachloroethane	0.29 U	0.29 U	0.29 U	0.29 U
1,1,1-Trichloroethane	0.39 U	0.39 U	0.39 U	0.39 U
1,1,2,2-Tetrachloroethane	0.26 U	0.26 U	0.26 U	0.26 U
1,1,2-Trichloroethane	0.51 U	0.51 U	0.51 U	0.51 U
1,1-Dichloroethane	0.32 U	0.32 U	0.32 U	0.32 U
1,1-Dichloroethene	0.36 U	0.36 U	0.36 U	0.36 U
1,2,3-Trichloropropane	0.42 U	0.42 U	0.42 U	0.42 U
1,2-Dibromo-3-Chloropropane	0.48 UJ	0.48 UJ	0.48 U	0.48 U
1,2-Dichloroethane	0.31 U	0.31 U	0.31 U	0.31 UJ
1,2-Dichloropropane	0.36 U	0.36 U	0.36 U	0.36 U
2-Butanone (MEK)	2.2 U	3.5 U	0.66 U	0.6 U
2-Chloro-1,3-butadiene	0.35 U	0.35 U	0.35 U	0.35 U
2-Hexanone	0.68 U	0.68 U	0.68 U	0.68 U
3-Chloro-1-propene	0.46 U	0.46 U	0.46 U	0.46 U
4-Methyl-2-pentanone (MIBK)	0.87 J	0.6 U	0.6 U	0.6 U
Acetone	37	9 J	5 U	5 U
Acetonitrile	15 U	15 U	15 U	15 U
Acrolein	18 UJ	18 UJ	18 U	18 U
Acrylonitrile	3.8 U	3.8 U	3.8 U	3.8 UJ
Benzene	0.32 U	0.32 U	0.32 U	0.32 U
Bromoform	0.41 U	0.41 U	0.41 U	0.41 U
Bromomethane	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U
Carbon disulfide	4.7 J	0.17 U	0.6 U	0.17 U
Carbon tetrachloride	0.27 U	0.27 U	0.27 U	0.27 U
Chlorobenzene	0.34 U	0.34 U	0.34 U	0.34 U
Chlorodibromomethane	0.3 U	0.3 U	0.3 U	0.3 U
Chloroethane	1 U	1 U	1 UJ	1 U
Chloroform	0.29 U	1.3	0.29 U	0.29 U
Chloromethane	0.28 UJ	0.28 UJ	0.28 U	0.28 U
cis-1,3-Dichloropropene	0.37 UJ	0.37 UJ	0.37 U	0.37 U
Dibromomethane	0.29 U	0.29 U	0.29 U	0.29 U
Dichlorobromomethane	0.34 U	0.34 U	0.34 U	0.34 U
Dichlorodifluoromethane	0.33 U	0.33 U	0.33 U	0.33 U
Ethyl methacrylate	1 U	1 U	1 U	1 U
Ethylbenzene	0.3 U	0.3 U	0.3 U	0.3 U
Ethylene Dibromide	0.3 U	0.3 U	0.3 U	0.3 U
Iodomethane	1 U	1 U	1 UJ	1 UJ
Isobutyl alcohol	19 R	19 R	19 U	19 U
Methacrylonitrile	6.6 U	6.6 U	6.6 U	6.6 U
Methyl methacrylate	0.38 U	0.38 U	0.38 U	0.38 U
Methylene Chloride	1 U	1 U	1 U	1 U
Pentachloroethane	1.3 R	1.3 R	1.3 UJ	1.3 R

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - JP-5 HILL AND DFM AREA - GROUNDWATER
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74VP08b	74SB273	74VP09b/JP5	74SB151
Sample ID	74GWVP08b	74GW273	74GWVP09b/JP5	74GW151
Date	5/31/2008	5/30/2008	7/23/2008	5/21/2008
Volatile Organic Compounds (ug/L)				
Propionitrile	9.2 U	9.2 U	9.2 U	9.2 U
Styrene	0.36 U	0.36 U	0.36 U	0.36 U
Tetrachloroethene	0.28 U	0.28 U	0.28 U	0.28 U
Toluene	0.31 U	0.31 U	0.31 U	0.31 U
trans-1,2-Dichloroethene	0.3 U	0.3 U	0.3 U	0.3 U
trans-1,3-Dichloropropene	0.27 UJ	0.27 UJ	0.27 U	0.27 U
trans-1,4-Dichloro-2-butene	0.83 U	0.83 U	0.83 U	0.83 U
Trichloroethene	0.4 U	0.4 U	0.4 U	0.4 U
Trichlorofluoromethane	0.29 U	0.29 U	0.29 U	0.29 U
Vinyl acetate	0.62 UJ	0.62 UJ	0.62 UJ	0.62 U
Vinyl chloride	0.2 U	0.2 U	0.2 U	0.2 U
Xylenes, Total	0.87 U	0.87 U	0.87 U	0.87 U
LLPAHs (ug/L)				
1-Methylnaphthalene	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	NA	NA
Acenaphthene	NA	NA	NA	NA
Acenaphthylene	NA	NA	NA	NA
Anthracene	NA	NA	NA	NA
Benzo[a]anthracene	NA	NA	NA	NA
Benzo[a]pyrene	NA	NA	NA	NA
Benzo[b]fluoranthene	NA	NA	NA	NA
Benzo[g,h,i]perylene	NA	NA	NA	NA
Benzo[k]fluoranthene	NA	NA	NA	NA
Chrysene	NA	NA	NA	NA
Dibenz(a,h)anthracene	NA	NA	NA	NA
Fluoranthene	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA
Indeno[1,2,3-cd]pyrene	NA	NA	NA	NA
Naphthalene	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA
Pyrene	NA	NA	NA	NA

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - JP-5 HILL AND DFM AREA - GROUNDWATER
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74VP08b	74SB273	74VP09b/JP5	74SB151
Sample ID	74GWVP08b	74GW273	74GWVP09b/JP5	74GW151
Date	5/31/2008	5/30/2008	7/23/2008	5/21/2008
Total Metals (ug/L)				
Antimony	1.6 U	1.8 U	1.5 U	0.64 U
Arsenic	2.2 U	2.2 U	3.1	2.9
Barium	20	40	58 J	210
Beryllium	0.065 U	0.17 U	0.065 U	0.07 U
Cadmium	0.29 J	0.24 J	0.26 J	0.12 U
Chromium	9.6	54	28	5 U
Cobalt	4.4	23	4.2 J	2.8
Copper	12	73	17	8.9
Lead	0.78 U	1.4 U	3.3	1.6
Mercury	0.32	0.08 U	0.08 U	0.08 U
Nickel	8.2	37	17	3.2
Selenium	1 J	1.6 J	0.6 U	0.6 U
Silver	0.19 J	0.17 J	0.1 J	0.09 U
Thallium	0.55 U	0.55 U	0.55 U	0.55 U
Tin	2.6 U	3.4 U	4.7 J	1.2 J
Vanadium	34	140	24	12
Zinc	46 J	56 J	160	15 J

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - JP-5 HILL AND DFM AREA - GROUNDWATER
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74VP08b	74SB273	74VP09b/JP5	74SB151
Sample ID	74GWVP08b	74GW273	74GWVP09b/JP5	74GW151
Date	5/31/2008	5/30/2008	7/23/2008	5/21/2008
Dissolved Metals (ug/L)				
Antimony	1.6 U	2.1 U	NA	0.36 U
Arsenic	2.3 U	1.4 U	NA	1.9 U
Barium	16	2.7 J	NA	200 R
Beryllium	0.065 U	0.065 U	NA	0.07 U
Cadmium	0.2 J	0.12 U	NA	0.12 U
Chromium	1.2 U	0.6 U	NA	1.3 U
Cobalt	3.8	4.5	NA	2.2
Copper	3.6 U	2.9 U	NA	1.2 U
Lead	0.15 U	0.25 U	NA	0.15 U
Mercury	0.09 J	0.08 U	NA	0.08 U
Nickel	5.4	9	NA	1.3 J
Selenium	1 J	1.2 J	NA	0.6 U
Silver	0.11 J	0.09 UJ	NA	0.09 UJ
Thallium	0.55 U	0.55 U	NA	0.55 U
Tin	0.9 U	1 U	NA	0.9 U
Vanadium	28	55	NA	2.2 U
Zinc	19 J	6.5 U	NA	6.8 R
TPH DRO and GRO (mg/L)				
Diesel Range Organics [C10-C28]	0.85	0.92	0.012 U	3.6
Gasoline Range Organics (GRO)-C6-C10	0.036 J	0.012 U	0.012 U	0.15

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - JP-5 HILL AND DFM AREA - GROUNDWATER
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74VP07b	74VP05a	74VP05a	74VP19b	74VP19b	74VP20
Sample ID	74GWVP07	74GWVP05a	74GWVP05a	74GWVP19b	74GWVP19b	74GWVP20
Date	5/21/2008	5/30/08	7/23/08	5/28/2008	7/23/2008	5/28/08
Volatile Organic Compounds (ug/L)						
1,1,1,2-Tetrachloroethane	0.29 U	0.29 U	NA	0.29 U	NA	0.29 U
1,1,1-Trichloroethane	0.39 U	0.39 U	NA	0.39 U	NA	0.39 U
1,1,2,2-Tetrachloroethane	0.26 U	0.26 U	NA	0.26 U	NA	0.26 U
1,1,2-Trichloroethane	0.51 U	0.51 U	NA	0.51 U	NA	0.51 U
1,1-Dichloroethane	0.32 U	0.32 U	NA	0.32 U	NA	0.32 U
1,1-Dichloroethene	0.36 U	0.36 U	NA	0.36 U	NA	0.36 U
1,2,3-Trichloropropane	0.42 U	0.42 UJ	NA	0.42 U	NA	0.42 U
1,2-Dibromo-3-Chloropropane	0.48 U	0.48 UJ	NA	0.48 UJ	NA	0.48 U
1,2-Dichloroethane	0.31 UJ	0.31 U	NA	0.31 U	NA	0.31 U
1,2-Dichloropropane	0.36 U	0.36 U	NA	0.36 U	NA	0.36 U
2-Butanone (MEK)	0.6 U	1.9 U	NA	3.6 U	NA	3.7 U
2-Chloro-1,3-butadiene	0.35 U	0.35 U	NA	0.35 U	NA	0.35 U
2-Hexanone	0.68 U	0.68 U	NA	0.68 U	NA	0.68 U
3-Chloro-1-propene	0.46 U	0.46 U	NA	0.46 U	NA	0.46 U
4-Methyl-2-pentanone (MIBK)	0.6 U	0.6 U	NA	0.9 J	NA	0.6 U
Acetone	7.9 J	7.8 U	NA	8.6 U	NA	17 U
Acetonitrile	15 U	15 U	NA	15 U	NA	15 U
Acrolein	18 U	18 UJ	NA	18 UJ	NA	18 UJ
Acrylonitrile	3.8 UJ	3.8 U	NA	3.8 U	NA	3.8 U
Benzene	0.32 U	0.32 U	NA	0.32 U	NA	5.3
Bromoform	0.41 U	0.41 U	NA	0.41 U	NA	0.41 U
Bromomethane	0.5 U	0.5 UJ	NA	0.5 UJ	NA	0.5 U
Carbon disulfide	0.44 J	7.9 J	NA	0.57 J	NA	0.17 U
Carbon tetrachloride	0.27 U	0.27 U	NA	0.27 U	NA	0.27 U
Chlorobenzene	0.34 U	0.34 U	NA	0.34 U	NA	0.34 U
Chlorodibromomethane	0.3 U	0.3 U	NA	0.3 U	NA	0.3 U
Chloroethane	1 U	1 U	NA	1 U	NA	1 U
Chloroform	0.29 U	0.29 U	NA	0.29 U	NA	0.29 U
Chloromethane	0.28 U	0.28 UJ	NA	0.28 U	NA	0.28 U
cis-1,3-Dichloropropene	0.37 U	0.37 UJ	NA	0.37 U	NA	0.37 U
Dibromomethane	0.29 U	0.29 U	NA	0.29 U	NA	0.29 U
Dichlorobromomethane	0.34 U	0.34 U	NA	0.34 U	NA	0.34 U
Dichlorodifluoromethane	0.33 U	0.33 U	NA	0.33 U	NA	0.33 U
Ethyl methacrylate	1 U	1 U	NA	1 U	NA	1 U
Ethylbenzene	1.5	0.3 U	NA	0.3 U	NA	34
Ethylene Dibromide	0.3 U	0.3 U	NA	0.3 U	NA	0.3 U
Iodomethane	1 UJ	1 U	NA	1 U	NA	1 U
Isobutyl alcohol	19 U	19 R	NA	19 R	NA	19 UJ
Methacrylonitrile	6.6 U	6.6 U	NA	6.6 U	NA	6.6 U
Methyl methacrylate	0.38 U	0.38 U	NA	0.38 U	NA	0.38 U
Methylene Chloride	1 U	1 U	NA	1 U	NA	1 U
Pentachloroethane	1.3 R	1.3 R	NA	1.3 R	NA	1.3 R

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - JP-5 HILL AND DFM AREA - GROUNDWATER
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74VP07b	74VP05a	74VP05a	74VP19b	74VP19b	74VP20
Sample ID	74GWVP07	74GWVP05a	74GWVP05a	74GWVP19b	74GWVP19b	74GWVP20
Date	5/21/2008	5/30/08	7/23/08	5/28/2008	7/23/2008	5/28/08
Volatile Organic Compounds (ug/L)						
Propionitrile	9.2 U	9.2 U	NA	9.2 U	NA	9.2 UJ
Styrene	0.36 U	0.36 U	NA	0.36 U	NA	0.47 J
Tetrachloroethene	0.28 U	0.28 U	NA	0.28 U	NA	0.28 U
Toluene	0.31 U	0.31 U	NA	0.31 U	NA	0.32 J
trans-1,2-Dichloroethene	0.3 U	0.3 U	NA	0.3 U	NA	0.3 U
trans-1,3-Dichloropropene	0.27 U	0.27 UJ	NA	0.27 U	NA	0.27 U
trans-1,4-Dichloro-2-butene	0.83 U	0.83 U	NA	0.83 U	NA	0.83 U
Trichloroethene	0.4 U	0.4 U	NA	0.4 U	NA	0.4 U
Trichlorofluoromethane	0.29 U	0.29 U	NA	0.29 U	NA	0.29 U
Vinyl acetate	0.62 U	0.62 UJ	NA	0.62 UJ	NA	0.62 U
Vinyl chloride	0.2 U	0.2 U	NA	0.2 U	NA	0.2 U
Xylenes, Total	0.87 U	0.87 U	NA	0.87 U	NA	22
LLPAHs (ug/L)						
1-Methylnaphthalene	NA	NA	NA	NA	NA	56
2-Methylnaphthalene	NA	NA	NA	NA	NA	50
Acenaphthene	NA	NA	NA	NA	NA	0.71 J
Acenaphthylene	NA	NA	NA	NA	NA	0.49 U
Anthracene	NA	NA	NA	NA	NA	0.4 J
Benzo[a]anthracene	NA	NA	NA	NA	NA	0.49 J
Benzo[a]pyrene	NA	NA	NA	NA	NA	0.4 J
Benzo[b]fluoranthene	NA	NA	NA	NA	NA	0.38 J
Benzo[g,h,i]perylene	NA	NA	NA	NA	NA	0.37 J
Benzo[k]fluoranthene	NA	NA	NA	NA	NA	0.37 J
Chrysene	NA	NA	NA	NA	NA	0.27 U
Dibenz(a,h)anthracene	NA	NA	NA	NA	NA	0.35 J
Fluoranthene	NA	NA	NA	NA	NA	0.49 U
Fluorene	NA	NA	NA	NA	NA	0.73 J
Indeno[1,2,3-cd]pyrene	NA	NA	NA	NA	NA	0.34 J
Naphthalene	NA	NA	NA	NA	NA	67
Phenanthrene	NA	NA	NA	NA	NA	0.54 J
Pyrene	NA	NA	NA	NA	NA	0.43 J

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - JP-5 HILL AND DFM AREA - GROUNDWATER
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74VP07b	74VP05a	74VP05a	74VP19b	74VP19b	74VP20
Sample ID	74GWVP07	74GWVP05a	74GWVP05a	74GWVP19b	74GWVP19b	74GWVP20
Date	5/21/2008	5/30/08	7/23/08	5/28/2008	7/23/2008	5/28/08
Total Metals (ug/L)						
Antimony	2 U	NA	2 U	NA	2 U	2.5 U
Arsenic	5.4	NA	1.6 J	NA	4.9	2.8
Barium	130	NA	46 J	NA	300 J	3400
Beryllium	0.065 U	NA	0.067 J	NA	0.065 U	0.065 U
Cadmium	0.12 U	NA	0.18 J	NA	0.12 U	0.12 U
Chromium	2.5 U	NA	40	NA	3.9 J	14 J
Cobalt	6.6 J	NA	5.4 J	NA	8.6 J	55
Copper	3.4 U	NA	27	NA	6.3	1.8 U
Lead	0.43 U	NA	22	NA	0.68 U	0.15 U
Mercury	0.08 U	NA	0.08 U	NA	0.08 U	0.08 U
Nickel	11	NA	25	NA	4.9	57
Selenium	0.9 J	NA	0.6 U	NA	1.5 J	0.81 J
Silver	0.09 U	NA	0.2 J	NA	0.09 U	0.09 U
Thallium	0.55 U	NA	0.55 U	NA	0.55 U	0.55 U
Tin	1.9 J	NA	3 J	NA	1.9 J	1.5 J
Vanadium	7.3	NA	27	NA	12	5.8
Zinc	55	NA	240	NA	27	190 J

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - JP-5 HILL AND DFM AREA - GROUNDWATER
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74VP07b	74VP05a	74VP05a	74VP19b	74VP19b	74VP20
Sample ID	74GWVP07	74GWVP05a	74GWVP05a	74GWVP19b	74GWVP19b	74GWVP20
Date	5/21/2008	5/30/08	7/23/08	5/28/2008	7/23/2008	5/28/08
Dissolved Metals (ug/L)						
Antimony	2.1 U	NA	2.1 U	NA	2 U	2.5 U
Arsenic	5.2 J	NA	0.96 J	NA	5.7	2.2 U
Barium	130 R	NA	31 J	NA	200 J	3900
Beryllium	0.065 U	NA	0.12 U	NA	0.065 U	0.065 U
Cadmium	0.14 J	NA	0.12 U	NA	0.12 U	0.38 U
Chromium	1.9 U	NA	1.8 J	NA	2.8 J	20 J
Cobalt	8.8 J	NA	2.6 J	NA	12 J	55 B
Copper	1.3 U	NA	2.9 U	NA	1.3 U	4.3 U
Lead	0.16 U	NA	0.25 U	NA	0.16 U	0.22 U
Mercury	0.08 U	NA	0.08 U	NA	0.08 U	0.08 U
Nickel	10 J	NA	8.8	NA	6.5	57
Selenium	0.75 J	NA	0.6 U	NA	1.9 J	0.79 J
Silver	0.09 UJ	NA	0.09 U	NA	0.09 U	0.37 J
Thallium	0.55 U	NA	0.55 U	NA	0.55 U	0.55 U
Tin	1.4 U	NA	0.9 U	NA	1.1 J	3.1 J
Vanadium	5.2	NA	3.6 J	NA	16	4.7 U
Zinc	54 R	NA	11 J	NA	8.5 J	220
TPH DRO and GRO (mg/L)						
Diesel Range Organics [C10-C28]	5.4	NA	NA	NA	NA	4.7
Gasoline Range Organics (GRO)-C6-C10	0.076	0.012 U	NA	0.11	NA	0.42

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - FUELING PIERS AREA - GROUNDWATER
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB256	74SB236	74SB246	MW02
Sample ID	74GW256	74GW236	74GW246	74GWMW2-VP-56
Date	5/30/2008	5/31/2008	5/31/2008	5/29/2008
Volatile Organic Compounds (ug/L)				
1,1,1,2-Tetrachloroethane	0.29 U	0.29 U	0.29 U	0.29 U
1,1,1-Trichloroethane	0.39 U	0.39 U	0.39 U	0.39 U
1,1,2,2-Tetrachloroethane	0.26 U	0.26 U	0.26 U	0.26 U
1,1,2-Trichloroethane	0.51 U	0.51 U	0.51 U	0.51 U
1,1-Dichloroethane	0.32 U	0.32 U	0.32 U	0.32 U
1,1-Dichloroethene	0.36 U	0.36 U	0.36 U	0.36 U
1,2,3-Trichloropropane	0.42 UJ	0.42 U	0.42 U	0.42 U
1,2-Dibromo-3-Chloropropane	0.48 UJ	0.48 UJ	0.48 UJ	0.48 U
1,2-Dichloroethane	0.31 U	0.31 U	0.31 U	0.31 U
1,2-Dichloropropane	0.36 U	0.36 U	0.36 U	0.36 U
2-Butanone (MEK)	0.6 U	0.6 U	0.6 U	0.6 U
2-Chloro-1,3-butadiene	0.35 U	0.35 U	0.35 U	0.35 U
2-Hexanone	0.68 U	0.68 U	0.68 U	0.68 U
3-Chloro-1-propene	0.46 U	0.46 U	0.46 U	0.46 U
4-Methyl-2-pentanone (MIBK)	0.6 U	0.6 U	0.6 U	0.6 U
Acetone	6.3 U	5 U	5 U	5 U
Acetonitrile	15 U	15 U	15 U	15 U
Acrolein	18 UJ	18 UJ	18 UJ	18 UJ
Acrylonitrile	3.8 U	3.8 U	3.8 U	3.8 U
Benzene	0.32 U	0.32 U	0.32 U	0.32 U
Bromoform	0.41 U	0.41 U	0.41 U	0.41 U
Bromomethane	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U
Carbon disulfide	6.2 J	0.66 J	0.17 U	0.17 U
Carbon tetrachloride	0.27 U	0.27 U	0.27 U	0.27 U
Chlorobenzene	0.34 U	0.34 U	0.34 U	0.34 U
Chlorodibromomethane	0.3 U	0.3 U	0.3 U	0.3 U
Chloroethane	1 U	1 U	1 U	1 U
Chloroform	0.29 U	0.29 U	0.29 U	0.29 U
Chloromethane	0.28 UJ	0.28 UJ	0.28 UJ	0.28 U
cis-1,3-Dichloropropene	0.37 UJ	0.37 UJ	0.37 UJ	0.37 U
Dibromomethane	0.29 U	0.29 U	0.29 U	0.29 U
Dichlorobromomethane	0.34 U	0.34 U	0.34 U	0.34 U
Dichlorodifluoromethane	0.33 U	0.33 U	0.33 U	0.33 U
Ethyl methacrylate	1 U	1 U	1 U	1 U
Ethylbenzene	0.3 U	0.3 U	0.3 U	0.3 U
Ethylene Dibromide	0.3 U	0.3 U	0.3 U	0.3 U
Iodomethane	1 U	1 U	1 U	1 U
Isobutyl alcohol	19 R	19 R	19 R	19 UJ
Methacrylonitrile	6.6 U	6.6 U	6.6 U	6.6 U
Methyl methacrylate	0.38 U	0.38 U	0.38 U	0.38 U
Methylene Chloride	1 U	1 U	1 U	1 U
Pentachloroethane	1.3 R	1.3 R	1.3 R	1.3 R

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - FUELING PIERS AREA - GROUNDWATER
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB256	74SB236	74SB246	MW02
Sample ID	74GW256	74GW236	74GW246	74GWMW2-VP-56
Date	5/30/2008	5/31/2008	5/31/2008	5/29/2008
Volatile Organic Compounds (ug/L)				
Propionitrile	9.2 U	9.2 U	9.2 U	9.2 UJ
Styrene	0.36 U	0.36 U	0.36 U	0.36 U
Tetrachloroethene	0.28 U	0.28 U	0.28 U	0.28 U
Toluene	0.31 U	0.31 U	0.31 U	0.31 U
trans-1,2-Dichloroethene	0.3 U	0.3 U	0.3 U	0.3 U
trans-1,3-Dichloropropene	0.27 UJ	0.27 UJ	0.27 UJ	0.27 U
trans-1,4-Dichloro-2-butene	0.83 U	0.83 U	0.83 U	0.83 U
Trichloroethene	0.4 U	0.4 U	0.4 U	0.4 U
Trichlorofluoromethane	0.29 U	0.29 U	0.29 U	0.29 U
Vinyl acetate	0.62 UJ	0.62 UJ	0.62 UJ	0.62 U
Vinyl chloride	0.2 U	0.2 U	0.2 U	0.2 U
Xylenes, Total	0.87 U	0.87 U	0.87 U	0.87 U
LLPAHs (ug/L)				
1-Methylnaphthalene	0.49 U	0.049 U	0.049 U	57 J
2-Methylnaphthalene	0.23 U	0.022 U	0.022 U	69 J
Acenaphthene	0.2 U	0.019 U	0.019 U	0.02 U
Acenaphthylene	0.49 U	0.049 U	0.049 U	1.1
Anthracene	0.22 U	0.021 U	0.021 U	0.022 U
Benzo[a]anthracene	0.25 U	0.025 U	0.036 J	0.025 U
Benzo[a]pyrene	0.25 U	0.024 U	0.024 U	0.025 U
Benzo[b]fluoranthene	0.36 U	0.036 U	0.036 U	0.036 U
Benzo[g,h,i]perylene	0.24 U	0.023 U	0.023 U	0.024 U
Benzo[k]fluoranthene	0.2 U	0.019 U	0.019 U	0.02 U
Chrysene	0.27 U	0.027 U	0.086 J	0.027 U
Dibenz(a,h)anthracene	0.24 U	0.023 U	0.023 U	0.024 U
Fluoranthene	0.49 U	0.049 U	0.073 J	0.049 U
Fluorene	0.19 U	0.018 U	0.018 U	0.019 U
Indeno[1,2,3-cd]pyrene	0.23 U	0.022 U	0.022 U	0.023 U
Naphthalene	0.49 U	0.049 U	0.049 U	6.1
Phenanthrene	0.18 U	0.025 U	0.017 U	0.018 U
Pyrene	0.26 U	0.026 U	0.11 U	0.11 J

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - FUELING PIERS AREA - GROUNDWATER
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	74SB256	74SB236	74SB246	MW02
Sample ID	74GW256	74GW236	74GW246	74GWMW2-VP-56
Date	5/30/2008	5/31/2008	5/31/2008	5/29/2008
Total Metals (ug/L)				
Antimony	1.6 U	0.54 U	0.66 U	0.36 U
Arsenic	12	5.8	1.5 U	1.1 U
Barium	290	3.9 J	120	30
Beryllium	0.065 U	0.065 U	0.065 U	0.065 U
Cadmium	0.12 U	0.12 U	0.18 J	0.12 U
Chromium	9.6 J	2.2 U	3.6 U	0.6 U
Cobalt	7.6	0.45 U	5.6	0.76 R
Copper	9.3	1.2 U	13	2.3 U
Lead	0.78 U	0.16 U	0.39 U	0.16 U
Mercury	0.08 U	0.08 U	0.08 U	0.08 U
Nickel	8.2	1.8	2.8	0.67 J
Selenium	2.9	0.89 J	0.87 J	0.6 U
Silver	0.2 J	0.09 U	0.09 U	0.09 U
Thallium	0.55 U	0.55 U	0.55 U	0.55 U
Tin	2.1 J	0.9 U	0.9 U	0.9 U
Vanadium	31	5.8	29	2.2 U
Zinc	17 J	6.5 U	12 J	6.5 U
Dissolved Metals (ug/L)				
Antimony	1.6 U	0.77 U	0.82 U	0.36 U
Arsenic	9.7	6.3	1.7 U	0.83 U
Barium	300	3.3 J	110	31
Beryllium	0.065 U	0.065 U	0.065 U	0.065 U
Cadmium	0.12 U	0.12 U	0.22 J	0.12 U
Chromium	4.5 J	0.6 U	0.6 U	1.5 J
Cobalt	3.2	1	5.1	1.8 R
Copper	1.2 U	1.2 U	4.2 U	1.2 U
Lead	0.15 U	0.15 U	0.21 U	0.15 U
Mercury	0.08 U	0.08 U	0.08 U	0.08 U
Nickel	4.8	1.4	2	1.2
Selenium	2.1 J	1 J	1 J	0.6 U
Silver	0.09 UJ	0.09 UJ	0.09 UJ	0.09 UJ
Thallium	0.55 U	0.55 U	0.55 U	0.55 U
Tin	1.3 J	0.9 U	0.9 U	0.9 U
Vanadium	15	5.8	23	0.95 U
Zinc	12 J	6.5 U	8 J	6.5 U
TPH DRO and GRO (mg/L)				
Diesel Range Organics	1.8	0.1	0.32	7.7
Gasoline Range Organics	0.012 U	0.012 U	0.012 U	0.091

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - FUELING PIERS AREA - GROUNDWATER
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	UGW12	UGW12	GW04
Sample ID	74GW-12-VP-56	74GW-12-VP-56D	74GW04VP24
Date	5/29/2008	5/29/2008	5/29/2008
Volatile Organic Compounds (ug/L)			
1,1,1,2-Tetrachloroethane	0.29 U	0.29 U	0.29 U
1,1,1-Trichloroethane	0.39 U	0.39 U	0.39 U
1,1,2,2-Tetrachloroethane	0.26 U	0.26 U	0.26 U
1,1,2-Trichloroethane	0.51 U	0.51 U	0.51 U
1,1-Dichloroethane	0.32 U	0.32 U	0.32 U
1,1-Dichloroethene	0.36 U	0.36 U	0.36 U
1,2,3-Trichloropropane	0.42 U	0.42 UJ	0.42 U
1,2-Dibromo-3-Chloropropane	0.48 U	0.48 UJ	0.48 U
1,2-Dichloroethane	0.31 U	0.31 U	0.31 U
1,2-Dichloropropane	0.36 U	0.36 U	0.36 U
2-Butanone (MEK)	0.6 U	0.6 U	0.6 U
2-Chloro-1,3-butadiene	0.35 U	0.35 U	0.35 U
2-Hexanone	0.68 U	0.68 U	0.68 U
3-Chloro-1-propene	0.46 U	0.46 U	0.46 U
4-Methyl-2-pentanone (MIBK)	0.6 U	0.6 U	0.6 U
Acetone	5 U	5 U	5 U
Acetonitrile	15 U	15 U	15 U
Acrolein	18 UJ	18 UJ	18 UJ
Acrylonitrile	3.8 U	3.8 U	3.8 U
Benzene	0.32 U	0.32 U	0.32 U
Bromoform	0.41 U	0.41 U	0.41 U
Bromomethane	0.5 U	0.5 UJ	0.5 U
Carbon disulfide	0.17 U	0.17 U	0.28 J
Carbon tetrachloride	0.27 U	0.27 U	0.27 U
Chlorobenzene	0.34 U	0.34 U	0.34 U
Chlorodibromomethane	0.3 U	0.3 U	0.3 U
Chloroethane	1 U	1 U	1 U
Chloroform	0.29 U	0.29 U	0.29 U
Chloromethane	0.28 U	0.28 UJ	0.28 U
cis-1,3-Dichloropropene	0.37 U	0.37 UJ	0.37 U
Dibromomethane	0.29 U	0.29 U	0.29 U
Dichlorobromomethane	0.34 U	0.34 U	0.34 U
Dichlorodifluoromethane	0.33 U	0.33 U	0.33 U
Ethyl methacrylate	1 U	1 U	1 U
Ethylbenzene	0.47 J	0.42 J	0.3 U
Ethylene Dibromide	0.3 U	0.3 U	0.3 U
Iodomethane	1 U	1 U	1 U
Isobutyl alcohol	19 UJ	19 R	19 UJ
Methacrylonitrile	6.6 U	6.6 U	6.6 U
Methyl methacrylate	0.38 U	0.38 U	0.38 U
Methylene Chloride	1 U	1 U	1 U
Pentachloroethane	1.3 R	1.3 R	1.3 R

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - FUELING PIERS AREA - GROUNDWATER
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	UGW12	UGW12	GW04
Sample ID	74GW-12-VP-56	74GW-12-VP-56D	74GW04VP24
Date	5/29/2008	5/29/2008	5/29/2008
Volatile Organic Compounds (ug/L)			
Propionitrile	9.2 UJ	9.2 U	9.2 UJ
Styrene	0.36 U	0.36 U	0.36 U
Tetrachloroethene	0.28 U	0.28 U	0.28 U
Toluene	0.31 U	0.31 U	0.31 U
trans-1,2-Dichloroethene	0.3 U	0.3 U	0.3 U
trans-1,3-Dichloropropene	0.27 U	0.27 UJ	0.27 U
trans-1,4-Dichloro-2-butene	0.83 U	0.83 U	0.83 U
Trichloroethene	0.4 U	0.4 U	0.4 U
Trichlorofluoromethane	0.29 U	0.29 U	0.29 U
Vinyl acetate	0.62 U	0.62 UJ	0.62 U
Vinyl chloride	0.2 U	0.2 U	0.2 U
Xylenes, Total	0.87 U	0.87 U	0.87 U
LLPAHs (ug/L)			
1-Methylnaphthalene	100 J	100	0.49 U
2-Methylnaphthalene	110 J	110	0.23 U
Acenaphthene	0.57 J	0.55	0.2 U
Acenaphthylene	0.49 R	0.049 U	0.49 U
Anthracene	0.51 J	0.022 U	0.22 U
Benzo[a]anthracene	0.25 R	0.025 U	0.25 U
Benzo[a]pyrene	0.25 R	0.025 U	0.25 U
Benzo[b]fluoranthene	0.36 R	0.036 U	0.36 U
Benzo[g,h,i]perylene	0.24 R	0.024 U	0.24 U
Benzo[k]fluoranthene	0.2 R	0.02 U	0.2 U
Chrysene	0.27 R	0.027 U	0.27 U
Dibenz(a,h)anthracene	0.24 R	0.024 U	0.24 U
Fluoranthene	0.49 R	0.049 U	0.49 U
Fluorene	0.19 R	0.54	0.19 U
Indeno[1,2,3-cd]pyrene	0.23 R	0.023 U	0.23 U
Naphthalene	58 J	57	0.49 U
Phenanthrene	0.18 R	0.018 U	0.18 U
Pyrene	0.26 R	0.026 U	0.26 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - FUELING PIERS AREA - GROUNDWATER
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Site ID	UGW12	UGW12	GW04
Sample ID	74GW-12-VP-56	74GW-12-VP-56D	74GW04VP24
Date	5/29/2008	5/29/2008	5/29/2008
Total Metals (ug/L)			
Antimony	0.36 U	0.36 U	1.6 U
Arsenic	2.7	2.5 U	7.3
Barium	11	12	73
Beryllium	0.065 U	0.065 U	0.065 U
Cadmium	0.12 U	0.12 U	0.12 U
Chromium	0.6 U	0.6 U	0.6 U
Cobalt	0.65 J	0.71 J	1.2 R
Copper	2.3 U	1.8 U	4.4 U
Lead	0.15 U	0.15 U	0.44 U
Mercury	0.08 U	0.08 U	0.08 U
Nickel	0.48 J	0.47 J	1.7
Selenium	0.6 U	0.6 U	0.76 J
Silver	0.09 U	0.09 U	0.09 U
Thallium	0.55 U	0.55 U	0.55 U
Tin	0.9 U	0.9 U	0.9 U
Vanadium	2.1 U	2.1 U	34
Zinc	6.5 U	6.5 U	13 J
Dissolved Metals (ug/L)			
Antimony	0.36 U	0.36 U	1.7 U
Arsenic	2.2 U	2 U	5.6
Barium	12	13	85
Beryllium	0.065 U	0.065 U	0.065 U
Cadmium	0.12 U	0.12 U	0.12 U
Chromium	0.6 U	0.7 J	0.66 J
Cobalt	0.82 J	1.1 R	3 R
Copper	1.6 U	1.2 U	1.2 U
Lead	0.15 U	0.15 U	0.15 U
Mercury	0.08 U	0.08 U	0.08 U
Nickel	0.68 J	0.52 J	1.9
Selenium	0.6 U	0.6 U	0.62 J
Silver	0.09 UJ	0.09 UJ	0.09 UJ
Thallium	0.55 U	0.55 U	0.55 U
Tin	0.9 U	0.9 U	0.9 U
Vanadium	0.9 U	0.94 U	37
Zinc	8.1 J	6.5 U	6.5 U
TPH DRO and GRO (mg/L)			
Diesel Range Organics	5.2	4.6	8.1
Gasoline Range Organics	0.14	0.11	0.075

Quality Assurance/Quality Control Data

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - QA/QC SUMMARY - TRIP BLANKS
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Sample ID	74TB01	56TB01	74TB02	74TB03	QATB01	74TB04	74TB05	74TB06	74 TB07	74 TB08
Date	4/28/2008	4/29/2008	4/30/2008	5/2/2008	5/2/2008	5/4/2008	5/4/2008	5/4/2008	5/5/2008	5/5/2008
Volatile Organic Compounds (ug/kg)										
1,1,1,2-Tetrachloroethane	NA	0.29 R	0.29 U	0.29 UJ	0.29 U	0.29 R	0.29 U	0.29 R	0.29 U	0.29 U
1,1,1-Trichloroethane	NA	0.39 R	0.39 U	0.39 UJ	0.39 U	0.39 R	0.39 U	0.39 R	0.39 U	0.39 U
1,1,2,2-Tetrachloroethane	NA	0.26 R	0.26 U	0.26 UJ	0.26 U	0.26 R	0.26 U	0.26 R	0.26 U	0.26 U
1,1,2-Trichloroethane	NA	0.51 R	0.51 U	0.51 UJ	0.51 U	0.51 R	0.51 U	0.51 R	0.51 U	0.51 U
1,1-Dichloroethane	NA	0.32 R	0.32 U	0.32 UJ	0.32 U	0.32 R	0.32 U	0.32 R	0.32 U	0.32 U
1,1-Dichloroethene	NA	0.36 R	0.36 U	0.36 UJ	0.36 U	0.36 R	0.36 U	0.36 R	0.36 U	0.36 U
1,2,3-Trichloropropane	NA	0.42 R	0.42 U	0.42 UJ	0.42 U	0.42 R	0.42 U	0.42 R	0.42 U	0.42 U
1,2-Dibromo-3-Chloropropane	NA	0.48 R	0.48 U	0.48 UJ	0.48 U	0.48 R	0.48 U	0.48 R	0.48 U	0.48 U
1,2-Dichloroethane	NA	0.31 R	0.31 U	0.31 UJ	0.31 U	0.31 R	0.31 U	0.31 R	0.31 U	0.31 U
1,2-Dichloropropane	NA	0.36 R	0.36 U	0.36 UJ	0.36 U	0.36 R	0.36 U	0.36 R	0.36 U	0.36 U
2-Butanone (MEK)	NA	0.6 R	0.6 U	0.6 UJ	0.6 U	0.6 R	0.6 U	0.6 R	0.6 U	0.6 U
2-Chloro-1,3-butadiene	NA	0.35 R	0.35 UJ	0.35 UJ	0.35 U	0.35 R	0.35 U	0.35 R	0.35 U	0.35 U
2-Hexanone	NA	0.68 R	0.68 U	0.68 UJ	0.68 U	0.68 R	0.68 U	0.68 R	0.68 U	0.68 U
3-Chloro-1-propene	NA	0.46 R	0.46 U	0.46 UJ	0.46 U	0.46 R	0.46 U	0.46 R	0.46 U	0.46 U
4-Methyl-2-pentanone (MIBK)	NA	0.6 R	0.6 U	0.6 UJ	0.6 U	0.6 R	0.6 U	0.6 R	0.6 U	0.6 U
Acetone	NA	5 R	5 R	5 UJ	5 U	5 R	5 U	5 R	5 U	5 U
Acetonitrile	NA	15 R	15 UJ	15 UJ	15 U	15 R	15 U	15 R	15 U	15 U
Acrolein	NA	18 R	18 R	18 UJ	18 U	18 R	18 R	18 R	18 R	18 R
Acrylonitrile	NA	3.8 R	3.8 U	3.8 UJ	3.8 U	3.8 R	3.8 UJ	3.8 R	3.8 UJ	3.8 UJ
Benzene	NA	0.32 R	0.32 U	0.32 UJ	0.32 U	0.32 R	0.32 U	0.32 R	0.32 U	0.32 U
Bromoform	NA	0.41 R	0.41 U	0.41 UJ	0.41 U	0.41 R	0.41 U	0.41 R	0.41 U	0.41 U
Bromomethane	NA	0.5 R	0.5 U	0.5 UJ	0.5 U	0.5 R	0.5 UJ	0.5 R	0.5 UJ	0.5 UJ
Carbon disulfide	NA	0.17 R	0.17 UJ	0.17 UJ	0.17 U	0.17 R	0.17 U	0.17 R	0.17 U	0.17 U
Carbon tetrachloride	NA	0.27 R	0.27 U	0.27 UJ	0.27 U	0.27 R	0.27 U	0.27 R	0.27 U	0.27 U
Chlorobenzene	NA	0.34 R	0.34 U	0.34 UJ	0.34 U	0.34 R	0.34 U	0.34 R	0.34 U	0.34 U
Chlorodibromomethane	NA	0.3 R	0.3 U	0.3 UJ	0.3 U	0.3 R	0.3 U	0.3 R	0.3 U	0.3 U
Chloroethane	NA	1 R	1 U	1 UJ	1 U	1 R	1 U	1 R	1 UJ	1 UJ
Chloroform	NA	0.29 R	0.29 U	0.29 UJ	0.29 U	0.29 R	0.29 U	0.29 R	0.29 U	0.29 U
Chloromethane	NA	0.28 R	1.2 J	0.28 UJ	0.28 U	0.28 R	0.28 U	0.28 R	0.28 U	0.28 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - QA/QC SUMMARY - TRIP BLANKS
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Sample ID	74TB01	56TB01	74TB02	74TB03	QATB01	74TB04	74TB05	74TB06	74 TB07	74 TB08
Date	4/28/2008	4/29/2008	4/30/2008	5/2/2008	5/2/2008	5/4/2008	5/4/2008	5/4/2008	5/5/2008	5/5/2008
Volatile Organic Compounds (ug/kg)										
cis-1,3-Dichloropropene	NA	0.37 R	0.37 U	0.37 UJ	0.37 U	0.37 R	0.37 U	0.37 R	0.37 UJ	0.37 UJ
Dibromomethane	NA	0.29 R	0.29 U	0.29 UJ	0.29 U	0.29 R	0.29 U	0.29 R	0.29 U	0.29 U
Dichlorobromomethane	NA	0.34 R	0.34 U	0.34 UJ	0.34 U	0.34 R	0.34 U	0.34 R	0.34 U	0.34 U
Dichlorodifluoromethane	NA	0.33 R	0.33 U	0.33 UJ	0.33 U	0.33 R	0.33 UJ	0.33 R	0.33 U	0.33 U
Ethyl methacrylate	NA	1 R	1 U	1 UJ	1 U	1 R	1 U	1 R	1 U	1 U
Ethylbenzene	NA	0.3 R	0.3 U	0.3 UJ	0.3 U	0.3 R	0.3 U	0.3 R	0.3 U	0.3 U
Ethylene Dibromide	NA	0.3 R	0.3 U	0.3 UJ	0.3 U	0.3 R	0.3 U	0.3 R	0.3 U	0.3 U
Iodomethane	NA	1 R	1 U	1 UJ	1 U	1 R	1 U	1 R	1 UJ	1 UJ
Isobutyl alcohol	NA	19 R	19 R	19 R	19 U	19 R	19 U	19 R	19 U	19 U
Methacrylonitrile	NA	6.6 R	6.6 U	6.6 UJ	6.6 U	6.6 R	6.6 U	6.6 R	6.6 U	6.6 U
Methyl methacrylate	NA	0.38 R	0.38 UJ	0.38 UJ	0.38 U	0.38 R	0.38 U	0.38 R	0.38 U	0.38 U
Methylene Chloride	NA	1 R	1 U	1 UJ	1 U	1 R	1 U	1 R	1 U	1 U
Pentachloroethane	NA	1.3 R	1.3 UJ	1.3 UJ	1.3 UJ	1.3 R	1.3 UJ	1.3 R	1.3 UJ	1.3 UJ
Propionitrile	NA	9.2 R	9.2 U	9.2 UJ	9.2 U	9.2 R	9.2 U	9.2 R	9.2 U	9.2 U
Styrene	NA	0.36 R	0.36 U	0.36 UJ	0.36 U	0.36 R	0.36 U	0.36 R	0.36 U	0.36 U
Tetrachloroethene	NA	0.28 R	0.28 U	0.28 UJ	0.28 U	0.28 R	0.28 U	0.28 R	0.28 U	0.28 U
Toluene	NA	0.31 R	0.31 U	0.31 UJ	0.31 U	0.31 R	0.31 U	0.31 R	0.31 U	0.31 U
trans-1,2-Dichloroethene	NA	0.3 R	0.3 U	0.3 UJ	0.3 U	0.3 R	0.3 U	0.3 R	0.3 U	0.3 U
trans-1,3-Dichloropropene	NA	0.27 R	0.27 U	0.27 UJ	0.27 U	0.27 R	0.27 UJ	0.27 R	0.27 U	0.27 U
trans-1,4-Dichloro-2-butene	NA	0.83 R	0.83 UJ	0.83 UJ	0.83 U	0.83 R	0.83 U	0.83 R	0.83 U	0.83 U
Trichloroethene	NA	0.4 R	0.4 U	0.4 UJ	0.4 U	0.4 R	0.4 U	0.4 R	0.4 U	0.4 U
Trichlorofluoromethane	NA	0.29 R	0.29 UJ	0.29 UJ	0.29 U	0.29 R	0.29 U	0.29 R	0.29 UJ	0.29 UJ
Vinyl acetate	NA	0.62 R	0.62 U	0.62 UJ	0.62 UJ	0.62 R	0.62 UJ	0.62 R	0.62 U	0.62 U
Vinyl chloride	NA	0.2 R	0.2 U	0.2 UJ	0.2 U	0.2 R	0.2 U	0.2 R	0.2 U	0.2 U
Xylenes, Total	NA	0.87 R	0.87 U	0.87 UJ	0.87 U	0.87 R	0.87 U	0.87 R	0.87 U	0.87 U
TPH DRO and GRO (mg/kg)										
Diesel Range Organics [C10-C28]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Gasoline Range Organics (GRO)-C6-C10	0.012 U	NA	0.012 U	0.01 UJ	0.012 U	0.012 U	0.012 U	0.01 R	0.012 U	0.012 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - QA/QC SUMMARY - TRIP BLANKS
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Sample ID	74TB09	74TB10	74TB11	74TB12	74TB13	74TB14	74TB15	74TB16
Date	5/6/2008	5/6/2008	5/7/2008	5/7/2008	5/13/2008	5/14/2008	5/13/2008	5/15/2008
Volatile Organic Compounds (ug/kg)								
1,1,1,2-Tetrachloroethane	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U
1,1,1-Trichloroethane	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U
1,1,2,2-Tetrachloroethane	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U
1,1,2-Trichloroethane	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U
1,1-Dichloroethane	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U
1,1-Dichloroethene	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U
1,2,3-Trichloropropane	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 UJ	0.42 UJ	0.42 UJ
1,2-Dibromo-3-Chloropropane	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 UJ	0.48 UJ	0.48 UJ
1,2-Dichloroethane	0.31 U	0.31 U	0.31 U	0.31 U	0.31 U	0.31 U	0.31 U	0.31 U
1,2-Dichloropropane	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U
2-Butanone (MEK)	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U
2-Chloro-1,3-butadiene	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U
2-Hexanone	0.68 U	0.68 U	0.68 U	0.68 U	0.68 U	0.68 U	0.68 U	0.68 U
3-Chloro-1-propene	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U
4-Methyl-2-pentanone (MIBK)	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U
Acetone	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Acetonitrile	15 U	15 U	15 U	15 U	15 U	15 U	15 U	15 U
Acrolein	18 R	18 R	18 R	18 R	18 UJ	18 U	18 U	18 U
Acrylonitrile	3.8 UJ	3.8 UJ	3.8 UJ	3.8 UJ	3.8 UJ	3.8 UJ	3.8 UJ	3.8 UJ
Benzene	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U
Bromoform	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U
Bromomethane	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ
Carbon disulfide	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U
Carbon tetrachloride	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U
Chlorobenzene	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U
Chlorodibromomethane	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Chloroethane	1 UJ	1 UJ	1 U	1 UJ	1 UJ	1 U	1 U	1 U
Chloroform	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U
Chloromethane	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - QA/QC SUMMARY - TRIP BLANKS
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Sample ID	74TB09	74TB10	74TB11	74TB12	74TB13	74TB14	74TB15	74TB16
Date	5/6/2008	5/6/2008	5/7/2008	5/7/2008	5/13/2008	5/14/2008	5/13/2008	5/15/2008
Volatile Organic Compounds (ug/kg)								
cis-1,3-Dichloropropene	0.37 UJ	0.37 UJ	0.37 UJ	0.37 UJ	0.37 UJ	0.37 UJ	0.37 UJ	0.37 UJ
Dibromomethane	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U
Dichlorobromomethane	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U
Dichlorodifluoromethane	0.33 U	0.33 U	0.33 UJ	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U
Ethyl methacrylate	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Ethylbenzene	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Ethylene Dibromide	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Iodomethane	1 UJ	1 UJ	1 U	1 UJ	1 U	1 U	1 U	1 U
Isobutyl alcohol	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U
Methacrylonitrile	6.6 U	6.6 U	6.6 U	6.6 U	6.6 U	6.6 U	6.6 U	6.6 U
Methyl methacrylate	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U
Methylene Chloride	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Pentachloroethane	1.3 UJ	1.3 UJ	1.3 UJ	1.3 UJ	1.3 U	1.3 UJ	1.3 UJ	1.3 UJ
Propionitrile	9.2 U	9.2 U	9.2 U	9.2 U	9.2 U	9.2 U	9.2 U	9.2 U
Styrene	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U
Tetrachloroethene	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U
Toluene	0.31 U	0.31 U	0.31 U	0.31 U	0.31 U	0.31 U	0.31 U	0.31 U
trans-1,2-Dichloroethene	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
trans-1,3-Dichloropropene	0.27 U	0.27 U	0.27 UJ	0.27 U	0.27 UJ	0.27 UJ	0.27 UJ	0.27 UJ
trans-1,4-Dichloro-2-butene	0.83 U	0.83 U	0.83 U	0.83 U	0.83 U	0.83 U	0.83 U	0.83 U
Trichloroethene	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
Trichlorofluoromethane	0.29 UJ	0.29 UJ	0.29 U	0.29 UJ	0.29 U	0.29 U	0.29 U	0.29 U
Vinyl acetate	0.62 U	0.62 U	0.62 UJ	0.62 U	0.62 U	0.62 U	0.62 U	0.62 U
Vinyl chloride	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Xylenes, Total	0.87 U	0.87 U	0.87 U	0.87 U	0.87 U	0.87 U	0.87 U	0.87 U
TPH DRO and GRO (mg/kg)								
Diesel Range Organics [C10-C28]	NA	NA	NA	NA	NA	NA	NA	NA
Gasoline Range Organics (GRO)-C6-C10	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - QA/QC SUMMARY - TRIP BLANKS
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Sample ID	74TB17	74TB18	74TB19	74TB20	74TB21	74TB22	74TB23	74TB24	74TB25
Date	5/13/2008	5/15/2008	5/15/2008	5/15/2008	5/16/2008	5/17/2008	5/18/2008	5/17/2008	5/19/2008
Volatile Organic Compounds (ug/kg)									
1,1,1,2-Tetrachloroethane	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U
1,1,1-Trichloroethane	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U
1,1,2,2-Tetrachloroethane	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U
1,1,2-Trichloroethane	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U
1,1-Dichloroethane	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U
1,1-Dichloroethene	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U
1,2,3-Trichloropropane	0.42 UJ	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U
1,2-Dibromo-3-Chloropropane	0.48 UJ	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U
1,2-Dichloroethane	0.31 U	0.31 U	0.31 U	0.31 U	0.31 UJ	0.31 UJ	0.31 UJ	0.31 UJ	0.31 UJ
1,2-Dichloropropane	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U
2-Butanone (MEK)	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U
2-Chloro-1,3-butadiene	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U
2-Hexanone	0.68 U	0.68 U	0.68 U	0.68 U	0.68 U	0.68 U	0.68 U	0.68 U	0.68 U
3-Chloro-1-propene	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U
4-Methyl-2-pentanone (MIBK)	0.9 J	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U
Acetone	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Acetonitrile	15 U	15 U	15 U	15 U	15 U	15 U	15 U	15 U	15 U
Acrolein	18 U	18 U	18 U	18 U	18 U	18 U	18 U	18 U	18 U
Acrylonitrile	3.8 UJ	3.8 UJ	3.8 UJ	3.8 UJ	3.8 UJ	3.8 UJ	3.8 UJ	3.8 UJ	3.8 UJ
Benzene	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U
Bromoform	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U
Bromomethane	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Carbon disulfide	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U
Carbon tetrachloride	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U
Chlorobenzene	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U
Chlorodibromomethane	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Chloroethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloroform	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U
Chloromethane	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - QA/QC SUMMARY - TRIP BLANKS
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Sample ID	74TB17	74TB18	74TB19	74TB20	74TB21	74TB22	74TB23	74TB24	74TB25
Date	5/13/2008	5/15/2008	5/15/2008	5/15/2008	5/16/2008	5/17/2008	5/18/2008	5/17/2008	5/19/2008
Volatile Organic Compounds (ug/kg)									
cis-1,3-Dichloropropene	0.37 UJ	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U
Dibromomethane	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U
Dichlorobromomethane	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U
Dichlorodifluoromethane	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U
Ethyl methacrylate	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Ethylbenzene	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Ethylene Dibromide	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Iodomethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Isobutyl alcohol	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U
Methacrylonitrile	6.6 U	6.6 U	6.6 U	6.6 U	6.6 U	6.6 U	6.6 U	6.6 U	6.6 U
Methyl methacrylate	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U
Methylene Chloride	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Pentachloroethane	1.3 UJ	1.3 R	1.3 R	1.3 R	1.3 R	1.3 R	1.3 R	1.3 R	1.3 R
Propionitrile	9.2 U	9.2 U	9.2 U	9.2 U	9.2 U	9.2 U	9.2 U	9.2 U	9.2 U
Styrene	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U
Tetrachloroethene	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U
Toluene	0.31 U	0.31 U	0.31 U	0.31 U	0.31 U	0.31 U	0.31 U	0.31 U	0.31 U
trans-1,2-Dichloroethene	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
trans-1,3-Dichloropropene	0.27 UJ	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U
trans-1,4-Dichloro-2-butene	0.83 U	0.83 U	0.83 U	0.83 U	0.83 U	0.83 U	0.83 U	0.83 U	0.83 U
Trichloroethene	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
Trichlorofluoromethane	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U
Vinyl acetate	0.62 U	0.62 U	0.62 U	0.62 U	0.62 U	0.62 U	0.62 U	0.62 U	0.62 U
Vinyl chloride	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Xylenes, Total	0.87 U	0.87 U	0.87 U	0.87 U	0.87 U	0.87 U	0.87 U	0.87 U	0.87 U
TPH DRO and GRO (mg/kg)									
Diesel Range Organics [C10-C28]	NA	NA	NA	NA	NA	NA	NA	NA	NA
Gasoline Range Organics (GRO)-C6-C10	0.012 U	0.012 U	0.012 U	0.012 U	NA	NA	NA	NA	NA

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - QA/QC SUMMARY - TRIP BLANKS
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Sample ID	74TB26	74TB27	74TB28	74TB29	74TB30	74TB31	74TB32	74TB33	62TB01
Date	5/19/2008	5/21/2008	5/19/2008	5/19/2008	5/20/2008	5/21/2008	5/28/2008	5/28/2008	5/31/2008
Volatile Organic Compounds (ug/kg)									
1,1,1,2-Tetrachloroethane	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U
1,1,1-Trichloroethane	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U
1,1,2,2-Tetrachloroethane	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U
1,1,2-Trichloroethane	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U
1,1-Dichloroethane	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 UJ	0.32 U	0.32 U
1,1-Dichloroethene	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U
1,2,3-Trichloropropane	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U
1,2-Dibromo-3-Chloropropane	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 UJ	0.48 UJ
1,2-Dichloroethane	0.31 UJ	0.31 UJ	0.31 UJ	0.31 UJ	0.31 U	0.31 U	0.31 U	0.31 U	0.31 U
1,2-Dichloropropane	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U
2-Butanone (MEK)	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U
2-Chloro-1,3-butadiene	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U
2-Hexanone	0.68 U	0.68 U	0.68 U	0.68 U	0.68 U	0.68 U	0.68 U	0.68 U	0.68 U
3-Chloro-1-propene	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U
4-Methyl-2-pentanone (MIBK)	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U
Acetone	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Acetonitrile	15 U	15 U	15 U	15 U	15 U	15 U	15 U	15 U	15 U
Acrolein	18 U	18 U	18 U	18 U	18 R	18 R	18 UJ	18 UJ	18 UJ
Acrylonitrile	3.8 UJ	3.8 UJ	3.8 UJ	3.8 UJ	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U
Benzene	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U
Bromoform	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U
Bromomethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 UJ
Carbon disulfide	0.17 U	0.17 U	0.17 U	0.17 U	0.17 UJ	0.17 UJ	0.17 U	0.17 U	0.17 U
Carbon tetrachloride	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U
Chlorobenzene	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U
Chlorodibromomethane	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Chloroethane	1 U	1 U	1 U	1 U	1 UJ	1 UJ	1 U	1 U	1 UJ
Chloroform	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U
Chloromethane	0.28 U	0.28 U	0.28 U	0.28 U	0.28 UJ	0.28 UJ	0.28 U	0.28 U	0.28 UJ

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - QA/QC SUMMARY - TRIP BLANKS
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Sample ID	74TB26	74TB27	74TB28	74TB29	74TB30	74TB31	74TB32	74TB33	62TB01
Date	5/19/2008	5/21/2008	5/19/2008	5/19/2008	5/20/2008	5/21/2008	5/28/2008	5/28/2008	5/31/2008
Volatile Organic Compounds (ug/kg)									
cis-1,3-Dichloropropene	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 UJ
Dibromomethane	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U
Dichlorobromomethane	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U
Dichlorodifluoromethane	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U
Ethyl methacrylate	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Ethylbenzene	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Ethylene Dibromide	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Iodomethane	1 U	1 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U	1 U
Isobutyl alcohol	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 R	19 U
Methacrylonitrile	6.6 U	6.6 U	6.6 U	6.6 U	6.6 U	6.6 U	6.6 U	6.6 U	6.6 U
Methyl methacrylate	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U
Methylene Chloride	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Pentachloroethane	1.3 R	1.3 R	1.3 R	1.3 R	1.3 R	1.3 R	1.3 R	1.3 R	1.3 R
Propionitrile	9.2 U	9.2 U	9.2 U	9.2 U	9.2 U	9.2 U	9.2 U	9.2 U	9.2 U
Styrene	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U
Tetrachloroethene	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U
Toluene	0.31 U	0.31 U	0.31 U	0.31 U	0.31 U	0.31 U	0.31 U	0.31 U	0.31 U
trans-1,2-Dichloroethene	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
trans-1,3-Dichloropropene	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 UJ
trans-1,4-Dichloro-2-butene	0.83 U	0.83 U	0.83 U	0.83 U	0.83 U	0.83 U	0.83 U	0.83 U	0.83 U
Trichloroethene	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
Trichlorofluoromethane	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 UJ
Vinyl acetate	0.62 U	0.62 U	0.62 U	0.62 U	0.62 U	0.62 U	0.62 U	0.62 UJ	0.62 U
Vinyl chloride	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Xylenes, Total	0.87 U	0.87 U	0.87 U	0.87 U	0.87 U	0.87 U	0.87 U	0.87 U	0.87 U
TPH DRO and GRO (mg/kg)									
Diesel Range Organics [C10-C28]	NA	NA	NA	NA	NA	NA	NA	NA	NA
Gasoline Range Organics (GRO)-C6-C10	NA	0.007 U	0.0069 UJ	0.0069 UJ	0.012 U	0.012 U	0.012 U	0.012 U	NA

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - QA/QC- EQUIPMENT RINSATES AND FIELD BLANK
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Sample ID	ER01	ER02	ER03	ER04	ER05	ER06	ER07	ER08
Date	4/28/2008	4/29/2008	4/30/2008	5/1/2008	5/2/2008	5/3/2008	5/4/2008	5/5/2008
Volatile Organic Compounds (ug/kg)								
1,1,1,2-Tetrachloroethane	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U
1,1,1-Trichloroethane	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U
1,1,2,2-Tetrachloroethane	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U
1,1,2-Trichloroethane	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U
1,1-Dichloroethane	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U
1,1-Dichloroethene	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U
1,2,3-Trichloropropane	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U
1,2-Dibromo-3-Chloropropane	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U
1,2-Dichloroethane	0.31 U	0.31 U	0.31 U	0.31 U	0.31 U	0.31 U	0.31 U	0.31 U
1,2-Dichloropropane	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U
2-Butanone (MEK)	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U
2-Chloro-1,3-butadiene	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 UJ
2-Hexanone	0.68 U	0.68 U	0.68 U	0.68 U	0.68 U	0.68 U	0.68 U	0.68 U
3-Chloro-1-propene	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 UJ
4-Methyl-2-pentanone (MIBK)	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U
Acetone	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Acetonitrile	15 U	15 U	15 U	15 U	15 U	15 U	15 U	15 UJ
Acrolein	18 U	18 U	18 U	18 U	18 U	18 R	18 R	18 R
Acrylonitrile	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 UJ	3.8 UJ	3.8 UJ
Benzene	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U
Bromoform	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U
Bromomethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 UJ
Carbon disulfide	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U
Carbon tetrachloride	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U
Chlorobenzene	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U
Chlorodibromomethane	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Chloroethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 UJ
Chloroform	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U
Chloromethane	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 UJ	0.28 UJ	0.28 U
cis-1,3-Dichloropropene	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 UJ	0.37 UJ	0.37 UJ
Dibromomethane	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U

APPENDIX B

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SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
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NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Sample ID	ER01	ER02	ER03	ER04	ER05	ER06	ER07	ER08
Date	4/28/2008	4/29/2008	4/30/2008	5/1/2008	5/2/2008	5/3/2008	5/4/2008	5/5/2008
Volatile Organic Compounds (ug/kg)								
Dichlorobromomethane	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U
Dichlorodifluoromethane	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U
Ethyl methacrylate	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Ethylbenzene	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Ethylene Dibromide	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Iodomethane	1 U	1 U	1 U	1 U	1 U	1 UJ	1 UJ	1 UJ
Isobutyl alcohol	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U
Methacrylonitrile	6.6 U	6.6 U	6.6 U	6.6 U	6.6 U	6.6 U	6.6 U	6.6 U
Methyl methacrylate	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U
Methylene Chloride	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Pentachloroethane	1.3 UJ	1.3 UJ	1.3 UJ	1.3 UJ	1.3 UJ	1.3 UJ	1.3 UJ	1.3 UJ
Propionitrile	9.2 U	9.2 U	9.2 U	9.2 U	9.2 U	9.2 U	9.2 U	9.2 U
Styrene	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U
Tetrachloroethene	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U
Toluene	0.31 U	0.31 U	0.31 U	0.79 J	0.9 J	0.31 U	0.31 U	0.31 U
trans-1,2-Dichloroethene	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
trans-1,3-Dichloropropene	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 UJ
trans-1,4-Dichloro-2-butene	0.83 U	0.83 U	0.83 U	0.83 U	0.83 U	0.83 U	0.83 U	0.83 U
Trichloroethene	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
Trichlorofluoromethane	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 UJ	0.29 UJ	0.29 U
Vinyl acetate	0.62 UJ	0.62 UJ	0.62 UJ	0.62 UJ	0.62 UJ	0.62 U	0.62 U	0.62 U
Vinyl chloride	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Xylenes, Total	0.87 U	0.87 U	0.87 U	0.87 U	0.87 U	0.87 U	0.87 U	0.87 U
Semivolatile Organic Compounds (ug/kg)								
1-Methylnaphthalene	NA	NA	NA	NA	NA	NA	NA	NA
1,1'-Biphenyl	0.16 UJ	0.17 UJ	0.17 UJ	0.17 UJ	0.22 UJ	NA	NA	NA
1,2,4,5-Tetrachlorobenzene	0.23 UJ	0.23 UJ	0.23 UJ	0.23 UJ	0.31 UJ	NA	NA	NA
1,2,4-Trichlorobenzene	0.12 UJ	0.13 UJ	0.13 UJ	0.13 UJ	0.17 UJ	NA	NA	NA
1,2-Dichlorobenzene	0.12 UJ	0.13 UJ	0.13 UJ	0.13 UJ	0.17 UJ	NA	NA	NA
1,3,5-Trinitrobenzene	0.2 UJ	0.2 UJ	0.2 UJ	0.2 UJ	0.27 UJ	NA	NA	NA
1,3-Dichlorobenzene	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.15 UJ	NA	NA	NA
1,3-Dinitrobenzene	0.22 UJ	0.22 UJ	0.22 UJ	0.22 UJ	0.29 UJ	NA	NA	NA

APPENDIX B

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SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Sample ID	ER01	ER02	ER03	ER04	ER05	ER06	ER07	ER08
Date	4/28/2008	4/29/2008	4/30/2008	5/1/2008	5/2/2008	5/3/2008	5/4/2008	5/5/2008
Semivolatile Organic Compounds (ug/kg)								
1,4-Dichlorobenzene	0.21 J	0.17 J	0.17 J	0.12 UJ	0.15 UJ	NA	NA	NA
1,4-Dioxane	0.48 UJ	0.49 UJ	0.49 UJ	0.49 UJ	0.64 UJ	NA	NA	NA
1,4-Naphthoquinone	0.15 UJ	0.16 UJ	0.16 UJ	0.16 UJ	0.21 UJ	NA	NA	NA
2,2'-oxybis[1-chloropropane]	0.096 UJ	0.097 UJ	0.097 UJ	0.097 UJ	0.13 UJ	NA	NA	NA
2,3,4,6-Tetrachlorophenol	0.29 UJ	0.29 UJ	0.29 UJ	0.29 UJ	0.38 UJ	NA	NA	NA
2,4,5-Trichlorophenol	0.15 UJ	0.16 UJ	0.16 UJ	0.16 UJ	0.21 UJ	NA	NA	NA
2,4,6-Trichlorophenol	0.15 UJ	0.16 UJ	0.16 UJ	0.16 UJ	0.21 UJ	NA	NA	NA
2,4-Dichlorophenol	0.14 UJ	0.15 UJ	0.15 UJ	0.15 UJ	0.19 UJ	NA	NA	NA
2,4-Dimethylphenol	0.39 UJ	0.4 UJ	0.4 UJ	0.4 UJ	0.53 UJ	NA	NA	NA
2,4-Dinitrophenol	2.4 UJ	2.4 UJ	2.4 UJ	2.4 UJ	3.2 UJ	NA	NA	NA
2,4-Dinitrotoluene	0.17 UJ	0.17 UJ	0.17 UJ	0.17 UJ	0.23 UJ	NA	NA	NA
2,6-Dichlorophenol	0.21 UJ	0.21 UJ	0.21 UJ	0.21 UJ	0.28 UJ	NA	NA	NA
2,6-Dinitrotoluene	0.14 UJ	0.15 UJ	0.15 UJ	0.15 UJ	0.19 UJ	NA	NA	NA
2-Acetylaminofluorene	0.19 UJ	0.19 UJ	0.19 UJ	0.19 UJ	0.26 UJ	NA	NA	NA
2-Chloronaphthalene	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.15 UJ	NA	NA	NA
2-Chlorophenol	0.14 UJ	0.15 UJ	0.15 UJ	0.15 UJ	0.19 UJ	NA	NA	NA
2-Methylnaphthalene	0.022 UJ	0.022 UJ	0.022 UJ	0.022 UJ	0.029 UJ	NA	NA	NA
2-Methylphenol	0.14 UJ	0.15 UJ	0.15 UJ	0.15 UJ	0.19 UJ	NA	NA	NA
2-Naphthylamine	1.1 UJ	1.1 UJ	1.1 UJ	1.1 UJ	1.4 UJ	NA	NA	NA
2-Nitroaniline	0.13 UJ	0.14 UJ	0.14 UJ	0.14 UJ	0.18 UJ	NA	NA	NA
2-Nitrophenol	0.16 UJ	0.17 UJ	0.17 UJ	0.17 UJ	0.22 UJ	NA	NA	NA
2-Picoline	0.57 UJ	0.57 UJ	0.57 UJ	0.57 UJ	0.76 UJ	NA	NA	NA
2-Toluidine	0.32 UJ	0.32 UJ	0.32 UJ	0.32 UJ	0.42 UJ	NA	NA	NA
3 & 4 Methylphenol	0.14 UJ	0.15 UJ	0.15 UJ	0.15 UJ	0.19 UJ	NA	NA	NA
3,3'-Dichlorobenzidine	3.7 UJ	3.7 UJ	3.7 UJ	3.7 UJ	4.9 UJ	NA	NA	NA
3,3'-Dimethylbenzidine	3.7 UJ	3.7 UJ	3.7 UJ	3.7 UJ	4.9 UJ	NA	NA	NA
3-Methylcholanthrene	0.2 UJ	0.2 UJ	0.2 UJ	0.2 UJ	0.27 UJ	NA	NA	NA
3-Nitroaniline	0.28 UJ	0.28 UJ	0.28 UJ	0.28 UJ	0.37 UJ	NA	NA	NA
4,6-Dinitro-2-methylphenol	0.48 UJ	0.49 UJ	0.49 UJ	0.49 UJ	0.64 UJ	NA	NA	NA
4-Aminobiphenyl	0.67 UJ	0.68 UJ	0.68 UJ	0.68 UJ	0.9 UJ	NA	NA	NA
4-Bromophenyl phenyl ether	0.15 UJ	0.16 UJ	0.16 UJ	0.16 UJ	0.21 UJ	NA	NA	NA
4-Chloro-3-methylphenol	0.15 UJ	0.16 UJ	0.16 UJ	0.16 UJ	0.21 UJ	NA	NA	NA

APPENDIX B

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NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Sample ID	ER01	ER02	ER03	ER04	ER05	ER06	ER07	ER08
Date	4/28/2008	4/29/2008	4/30/2008	5/1/2008	5/2/2008	5/3/2008	5/4/2008	5/5/2008
Semivolatile Organic Compounds (ug/kg)								
4-Chloroaniline	0.39 UJ	0.4 UJ	0.4 UJ	0.4 UJ	0.53 UJ	NA	NA	NA
4-Chlorophenyl phenyl ether	0.14 UJ	0.15 UJ	0.15 UJ	0.15 UJ	0.19 UJ	NA	NA	NA
4-Nitroaniline	0.26 UJ	0.26 UJ	0.26 UJ	0.26 UJ	0.35 UJ	NA	NA	NA
4-Nitrophenol	0.18 UJ	0.18 UJ	0.18 UJ	0.18 UJ	0.24 UJ	NA	NA	NA
4-Nitroquinoline-1-oxide	0.26 R	0.26 R	0.26 R	0.26 R	0.35 R	NA	NA	NA
7,12-Dimethylbenz(a)anthracene	0.2 UJ	0.2 UJ	0.2 UJ	0.2 UJ	0.27 UJ	NA	NA	NA
Acenaphthene	0.019 UJ	0.019 UJ	0.019 UJ	0.019 UJ	0.026 UJ	NA	NA	NA
Acenaphthylene	0.048 UJ	0.049 UJ	0.049 UJ	0.049 UJ	0.064 UJ	NA	NA	NA
Acetophenone	0.47 J	0.42 J	0.39 J	0.35 J	0.35 J	NA	NA	NA
alpha,alpha-Dimethyl phenethylamine	1.2 UJ	1.3 UJ	1.3 UJ	1.3 UJ	1.7 UJ	NA	NA	NA
Aniline	0.39 UJ	0.4 UJ	0.4 UJ	0.4 UJ	0.53 UJ	NA	NA	NA
Anthracene	0.021 UJ	0.021 UJ	0.021 UJ	0.021 UJ	0.028 UJ	NA	NA	NA
Aramite, Total	0.48 UJ	0.49 UJ	0.49 UJ	0.49 UJ	0.64 UJ	NA	NA	NA
Benzo[a]anthracene	0.025 UJ	0.025 UJ	0.025 UJ	0.025 UJ	0.033 UJ	NA	NA	NA
Benzo[a]pyrene	0.024 UJ	0.024 UJ	0.024 UJ	0.024 R	0.032 UJ	NA	NA	NA
Benzo[b]fluoranthene	0.036 UJ	0.036 UJ	0.036 UJ	0.036 R	0.047 UJ	NA	NA	NA
Benzo[g,h,i]perylene	0.023 UJ	0.023 UJ	0.023 UJ	0.023 R	0.031 UJ	NA	NA	NA
Benzo[k]fluoranthene	0.019 UJ	0.019 UJ	0.019 UJ	0.019 R	0.026 UJ	NA	NA	NA
Benzyl alcohol	0.15 UJ	0.16 UJ	0.16 UJ	0.16 UJ	0.21 UJ	NA	NA	NA
Bis(2-chloroethoxy)methane	0.14 UJ	0.15 UJ	0.15 UJ	0.15 UJ	0.19 UJ	NA	NA	NA
Bis(2-chloroethyl)ether	0.13 UJ	0.14 UJ	0.14 UJ	0.14 UJ	0.18 UJ	NA	NA	NA
Bis(2-ethylhexyl) phthalate	0.39 J	12	0.34 UJ	0.34 UJ	0.45 UJ	NA	NA	NA
Butyl benzyl phthalate	0.16 UJ	0.17 UJ	0.17 UJ	0.17 UJ	0.22 UJ	NA	NA	NA
Chrysene	0.027 UJ	0.027 UJ	0.027 UJ	0.027 UJ	0.036 UJ	NA	NA	NA
Diallate	0.19 UJ	0.19 UJ	0.19 UJ	0.19 UJ	0.26 UJ	NA	NA	NA
Dibenz(a,h)anthracene	0.023 UJ	0.023 UJ	0.023 UJ	0.023 R	0.031 UJ	NA	NA	NA
Dibenzofuran	0.096 UJ	0.097 UJ	0.097 UJ	0.097 UJ	0.13 UJ	NA	NA	NA
Diethyl phthalate	0.42 J	0.3 J	0.27 J	0.18 UJ	0.24 UJ	NA	NA	NA
Dimethyl phthalate	0.17 UJ	0.17 UJ	0.17 UJ	0.17 UJ	0.23 UJ	NA	NA	NA
Di-n-butyl phthalate	1.6 J	1.3 J	1.2 J	0.32 J	0.42 J	NA	NA	NA
Di-n-octyl phthalate	0.096 UJ	0.097 UJ	0.097 UJ	0.097 R	0.13 UJ	NA	NA	NA
Dinoseb	0.48 UJ	0.49 UJ	0.49 UJ	0.49 UJ	0.64 UJ	NA	NA	NA

APPENDIX B

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NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Sample ID	ER01	ER02	ER03	ER04	ER05	ER06	ER07	ER08
Date	4/28/2008	4/29/2008	4/30/2008	5/1/2008	5/2/2008	5/3/2008	5/4/2008	5/5/2008
Semivolatile Organic Compounds (ug/kg)								
Ethyl methanesulfonate	0.23 UJ	0.23 UJ	0.23 UJ	0.23 UJ	0.31 UJ	NA	NA	NA
Fluoranthene	0.048 UJ	0.049 UJ	0.049 UJ	0.049 UJ	0.064 UJ	NA	NA	NA
Fluorene	0.018 UJ	0.018 UJ	0.018 UJ	0.018 UJ	0.024 UJ	NA	NA	NA
Hexachlorobenzene	0.15 UJ	0.16 UJ	0.16 UJ	0.16 UJ	0.21 UJ	NA	NA	NA
Hexachlorobutadiene	0.12 UJ	0.13 UJ	0.13 UJ	0.13 UJ	0.17 UJ	NA	NA	NA
Hexachlorocyclopentadiene	0.48 UJ	0.49 UJ	0.49 UJ	0.49 UJ	0.64 UJ	NA	NA	NA
Hexachloroethane	0.14 UJ	0.15 UJ	0.15 UJ	0.15 UJ	0.19 UJ	NA	NA	NA
Hexachlorophene	48 R	49 R	49 R	49 R	64 R	NA	NA	NA
Hexachloropropene	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.15 UJ	NA	NA	NA
Indeno[1,2,3-cd]pyrene	0.022 UJ	0.022 UJ	0.022 UJ	0.022 R	0.029 UJ	NA	NA	NA
Isophorone	0.14 UJ	0.15 UJ	0.15 UJ	0.15 UJ	0.19 UJ	NA	NA	NA
Isosafrole	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.4 UJ	NA	NA	NA
Methapyrilene	0.26 UJ	0.26 UJ	0.26 UJ	0.26 UJ	0.35 UJ	NA	NA	NA
Methyl methanesulfonate	0.45 UJ	0.46 UJ	0.46 UJ	0.46 UJ	0.6 UJ	NA	NA	NA
Naphthalene	0.048 UJ	0.049 UJ	0.049 UJ	0.049 UJ	0.064 UJ	NA	NA	NA
Nitrobenzene	0.13 UJ	0.14 UJ	0.14 UJ	0.14 UJ	0.18 UJ	NA	NA	NA
N-Nitro-o-toluidine	0.24 UJ	0.24 UJ	0.24 UJ	0.24 UJ	0.32 UJ	NA	NA	NA
N-Nitrosodiethylamine	0.32 UJ	0.32 UJ	0.32 UJ	0.32 UJ	0.42 UJ	NA	NA	NA
N-Nitrosodimethylamine	0.19 UJ	0.19 UJ	0.19 UJ	0.19 UJ	0.26 UJ	NA	NA	NA
N-Nitrosodi-n-butylamine	0.18 UJ	0.18 UJ	0.18 UJ	0.18 UJ	0.24 UJ	NA	NA	NA
N-Nitrosodi-n-propylamine	0.12 UJ	0.13 UJ	0.13 UJ	0.13 UJ	0.17 UJ	NA	NA	NA
N-Nitrosodiphenylamine	0.17 UJ	0.17 UJ	0.17 UJ	0.17 UJ	0.23 UJ	NA	NA	NA
N-Nitrosomethylethylamine	0.28 UJ	0.28 UJ	0.28 UJ	0.28 UJ	0.37 UJ	NA	NA	NA
N-Nitrosomorpholine	0.19 UJ	0.19 UJ	0.19 UJ	0.19 UJ	0.26 UJ	NA	NA	NA
N-Nitrosopiperidine	0.22 UJ	0.22 UJ	0.22 UJ	0.22 UJ	0.29 UJ	NA	NA	NA
N-Nitrosopyrrolidine	0.25 UJ	0.25 UJ	0.25 UJ	0.25 UJ	0.33 UJ	NA	NA	NA
p-Dimethylamino azobenzene	0.6 UJ	0.6 UJ	0.6 UJ	0.6 UJ	0.79 UJ	NA	NA	NA
Pentachlorobenzene	0.27 UJ	0.27 UJ	0.27 UJ	0.27 UJ	0.36 UJ	NA	NA	NA
Pentachloronitrobenzene	0.3 UJ	0.3 UJ	0.3 UJ	0.3 UJ	0.4 UJ	NA	NA	NA
Pentachlorophenol	0.18 UJ	0.18 UJ	0.18 UJ	0.18 UJ	0.24 UJ	NA	NA	NA
Phenacetin	0.2 UJ	0.2 UJ	0.2 UJ	0.2 UJ	0.27 UJ	NA	NA	NA
Phenanthrene	0.017 UJ	0.017 UJ	0.017 UJ	0.017 UJ	0.023 UJ	NA	NA	NA

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - QA/QC- EQUIPMENT RINSATES AND FIELD BLANK
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Sample ID	ER01	ER02	ER03	ER04	ER05	ER06	ER07	ER08
Date	4/28/2008	4/29/2008	4/30/2008	5/1/2008	5/2/2008	5/3/2008	5/4/2008	5/5/2008
Semivolatile Organic Compounds (ug/kg)								
Phenol	0.17 J	0.14 UJ	0.14 UJ	0.14 UJ	0.18 UJ	NA	NA	NA
p-Phenylene diamine	2.4 UJ	2.4 UJ	2.4 UJ	2.4 UJ	3.2 UJ	NA	NA	NA
Pronamide	0.25 UJ	0.25 UJ	0.25 UJ	0.25 UJ	0.33 UJ	NA	NA	NA
Pyrene	0.026 UJ	0.026 UJ	0.026 UJ	0.026 UJ	0.035 UJ	NA	NA	NA
Pyridine	0.22 UJ	0.22 UJ	0.22 UJ	0.22 UJ	0.29 UJ	NA	NA	NA
Safrole, Total	0.23 UJ	0.23 UJ	0.23 UJ	0.23 UJ	0.31 UJ	NA	NA	NA
Pesticides/PCBs (ug/kg)								
4,4'-DDD	NA	NA	NA	NA	NA	NA	NA	NA
4,4'-DDE	NA	NA	NA	NA	NA	NA	NA	NA
4,4'-DDT	NA	NA	NA	NA	NA	NA	NA	NA
Aldrin	NA	NA	NA	NA	NA	NA	NA	NA
alpha-BHC	NA	NA	NA	NA	NA	NA	NA	NA
beta-BHC	NA	NA	NA	NA	NA	NA	NA	NA
Chlordane (technical)	NA	NA	NA	NA	NA	NA	NA	NA
Chlorobenzilate	NA	NA	NA	NA	NA	NA	NA	NA
delta-BHC	NA	NA	NA	NA	NA	NA	NA	NA
Dieldrin	NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan I	NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan II	NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan sulfate	NA	NA	NA	NA	NA	NA	NA	NA
Endrin	NA	NA	NA	NA	NA	NA	NA	NA
Endrin aldehyde	NA	NA	NA	NA	NA	NA	NA	NA
Endrin ketone	NA	NA	NA	NA	NA	NA	NA	NA
gamma-BHC (Lindane)	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlor	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlor epoxide	NA	NA	NA	NA	NA	NA	NA	NA
Isodrin	NA	NA	NA	NA	NA	NA	NA	NA
Kepone	NA	NA	NA	NA	NA	NA	NA	NA
Methoxychlor	NA	NA	NA	NA	NA	NA	NA	NA
Toxaphene	NA	NA	NA	NA	NA	NA	NA	NA
PCB-1016	NA	NA	NA	NA	NA	NA	NA	NA
PCB-1221	NA	NA	NA	NA	NA	NA	NA	NA

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - QA/QC- EQUIPMENT RINSATES AND FIELD BLANK
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Sample ID	ER01	ER02	ER03	ER04	ER05	ER06	ER07	ER08
Date	4/28/2008	4/29/2008	4/30/2008	5/1/2008	5/2/2008	5/3/2008	5/4/2008	5/5/2008
Pesticides/PCBs (ug/kg)								
PCB-1232	NA	NA	NA	NA	NA	NA	NA	NA
PCB-1242	NA	NA	NA	NA	NA	NA	NA	NA
PCB-1248	NA	NA	NA	NA	NA	NA	NA	NA
PCB-1254	NA	NA	NA	NA	NA	NA	NA	NA
PCB-1260	NA	NA	NA	NA	NA	NA	NA	NA
Metals (mg/kg)								
Antimony	0.36 UJ	0.36 UJ	0.36 UJ	0.36 UJ	0.36 UJ	0.36 U	0.36 U	0.36 U
Arsenic	0.28 UJ	0.28 UJ	0.28 UJ	0.28 UJ	0.28 UJ	0.46 J	0.33 J	0.41 J
Barium	2 UJ	2 UJ	2 UJ	2 UJ	2 UJ	2 U	2 U	14
Beryllium	0.065 UJ	0.065 UJ	0.065 UJ	0.065 UJ	0.065 UJ	0.065 U	0.065 U	0.065 U
Cadmium	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 UJ	0.12 U	0.12 U	0.12 J
Chromium	0.6 UJ	0.6 UJ	0.6 UJ	0.6 UJ	0.6 UJ	0.6 U	0.6 U	0.7 J
Cobalt	0.029 UJ	0.029 UJ	0.029 UJ	0.029 UJ	0.029 UJ	0.029 U	0.029 U	0.087 J
Copper	2.1 J	1.9 J	2.1 J	1.2 UJ	1.2 UJ	3.6 J	5.2	15
Lead	0.48 J	0.15 UJ	0.15 UJ	0.15 UJ	0.15 UJ	0.15 U	0.15 U	0.83 J
Mercury	0.08 UJ	0.08 UJ	0.08 UJ	0.08 UJ	0.08 UJ	0.08 U	0.08 U	0.08 U
Nickel	0.32 UJ	0.32 UJ	0.32 UJ	0.32 UJ	0.32 UJ	0.32 U	0.32 U	0.95 J
Selenium	0.6 UJ	0.6 UJ	0.6 UJ	0.6 UJ	0.6 UJ	0.6 U	0.6 U	0.6 U
Silver	0.09 UJ	0.09 UJ	0.09 UJ	0.09 UJ	0.09 UJ	0.09 U	0.09 U	0.09 U
Thallium	0.55 UJ	0.55 UJ	0.55 UJ	0.55 UJ	0.55 UJ	0.55 U	0.55 U	0.55 U
Tin	1.1 J	0.9 UJ	0.9 UJ	0.9 UJ	0.9 UJ	0.9 U	0.9 U	0.9 U
Vanadium	0.8 UJ	0.8 UJ	0.8 UJ	0.8 UJ	0.8 UJ	1.2 J	1.1 J	1.5 J
Zinc	6.5 UJ	6.5 UJ	6.5 UJ	6.5 UJ	6.5 UJ	6.5 U	6.5 U	40 J
TPH DRO/GRO (mg/kg)								
Diesel Range Organics [C10-C28]	0.12	0.03 U	0.028 U	NA	NA	0.03 U	0.028 U	0.028 U
Gasoline Range Organics (GRO)-C6-C10	0.012 U	0.012 U	0.012 U	NA	NA	0.012 U	0.012 U	0.012 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - QA/QC- EQUIPMENT RINSATES AND FIELD BLANK
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Sample ID	ER09	ER10	74ER11	74ER12	74ER13	74ER14	74ER15	74ER16	74ER17
Date	5/6/2008	5/7/2008	5/13/2008	5/14/2008	5/15/2008	5/16/2008	5/17/2008	5/18/2008	5/19/2008
Volatile Organic Compounds (ug/kg)									
1,1,1,2-Tetrachloroethane	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U
1,1,1-Trichloroethane	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U
1,1,2,2-Tetrachloroethane	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U
1,1,2-Trichloroethane	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U
1,1-Dichloroethane	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U
1,1-Dichloroethene	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U
1,2,3-Trichloropropane	0.42 U	0.42 U	0.42 UJ	0.42 UJ	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U
1,2-Dibromo-3-Chloropropane	0.48 U	0.48 U	0.48 UJ	0.48 UJ	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U
1,2-Dichloroethane	0.31 U	0.31 U	0.31 U	0.31 U	0.31 U	0.31 U	0.31 UJ	0.31 UJ	0.31 UJ
1,2-Dichloropropane	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U
2-Butanone (MEK)	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U
2-Chloro-1,3-butadiene	0.35 UJ	0.35 UJ	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U
2-Hexanone	0.68 U	0.68 U	0.68 U	0.68 U	0.68 U	0.68 U	0.68 U	0.68 U	0.68 U
3-Chloro-1-propene	0.46 UJ	0.46 UJ	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U
4-Methyl-2-pentanone (MIBK)	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U
Acetone	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Acetonitrile	15 UJ	15 UJ	15 U	15 U	15 U	15 U	15 U	15 U	15 U
Acrolein	18 R	18 R	18 U	18 U	18 U	18 U	18 U	18 U	18 U
Acrylonitrile	3.8 UJ	3.8 UJ	3.8 UJ	3.8 UJ	3.8 UJ	3.8 UJ	3.8 UJ	3.8 UJ	3.8 UJ
Benzene	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U
Bromoform	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U
Bromomethane	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 U	0.5 U
Carbon disulfide	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U
Carbon tetrachloride	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U
Chlorobenzene	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U
Chlorodibromomethane	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Chloroethane	1 UJ	1 UJ	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloroform	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U
Chloromethane	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U
cis-1,3-Dichloropropene	0.37 UJ	0.37 UJ	0.37 UJ	0.37 UJ	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U
Dibromomethane	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - QA/QC- EQUIPMENT RINSATES AND FIELD BLANK
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Sample ID	ER09	ER10	74ER11	74ER12	74ER13	74ER14	74ER15	74ER16	74ER17
Date	5/6/2008	5/7/2008	5/13/2008	5/14/2008	5/15/2008	5/16/2008	5/17/2008	5/18/2008	5/19/2008
Volatile Organic Compounds (ug/kg)									
Dichlorobromomethane	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U
Dichlorodifluoromethane	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U
Ethyl methacrylate	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Ethylbenzene	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Ethylene Dibromide	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Iodomethane	1 UJ	1 UJ	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Isobutyl alcohol	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U
Methacrylonitrile	6.6 U	6.6 U	6.6 U	6.6 U	6.6 U	6.6 U	6.6 U	6.6 U	6.6 U
Methyl methacrylate	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U
Methylene Chloride	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Pentachloroethane	1.3 UJ	1.3 UJ	1.3 UJ	1.3 UJ	1.3 R	1.3 R	1.3 R	1.3 R	1.3 R
Propionitrile	9.2 U	9.2 U	9.2 U	9.2 U	9.2 U	9.2 U	9.2 U	9.2 U	9.2 U
Styrene	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U
Tetrachloroethene	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U
Toluene	0.31 U	0.31 U	0.31 U	0.52 J	3	3.6	2.3	1.9	1.2
trans-1,2-Dichloroethene	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
trans-1,3-Dichloropropene	0.27 UJ	0.27 UJ	0.27 UJ	0.27 UJ	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U
trans-1,4-Dichloro-2-butene	0.83 U	0.83 U	0.83 U	0.83 U	0.83 U	0.83 U	0.83 U	0.83 U	0.83 U
Trichloroethene	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
Trichlorofluoromethane	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U
Vinyl acetate	0.62 U	0.62 U	0.62 U	0.62 U	0.62 U	0.62 U	0.62 U	0.62 U	0.62 U
Vinyl chloride	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Xylenes, Total	0.87 U	0.87 U	0.87 U	0.87 U	0.87 U	0.87 U	0.87 U	0.87 U	0.87 U
Semivolatile Organic Compounds (ug/kg)									
1-Methylnaphthalene	NA	NA	0.047 U	0.049 U	NA	NA	NA	NA	NA
1,1'-Biphenyl	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4,5-Tetrachlorobenzene	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3,5-Trinitrobenzene	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3-Dinitrobenzene	NA	NA	NA	NA	NA	NA	NA	NA	NA

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - QA/QC- EQUIPMENT RINSATES AND FIELD BLANK
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Sample ID	ER09	ER10	74ER11	74ER12	74ER13	74ER14	74ER15	74ER16	74ER17
Date	5/6/2008	5/7/2008	5/13/2008	5/14/2008	5/15/2008	5/16/2008	5/17/2008	5/18/2008	5/19/2008
Semivolatile Organic Compounds (ug/kg)									
1,4-Dichlorobenzene	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,4-Dioxane	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,4-Naphthoquinone	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,2'-oxybis[1-chloropropane]	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,3,4,6-Tetrachlorophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4,5-Trichlorophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4,6-Trichlorophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dichlorophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dimethylphenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrotoluene	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,6-Dichlorophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,6-Dinitrotoluene	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Acetylaminofluorene	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	NA	NA	0.022 U	0.022 U	NA	NA	NA	NA	NA
2-Methylphenol	NA	NA	0.019 U	0.019 U	NA	NA	NA	NA	NA
2-Naphthylamine	NA	NA	0.047 U	0.049 U	NA	NA	NA	NA	NA
2-Nitroaniline	NA	NA	0.021 U	0.021 U	NA	NA	NA	NA	NA
2-Nitrophenol	NA	NA	0.025 U	0.025 U	NA	NA	NA	NA	NA
2-Picoline	NA	NA	0.024 U	0.024 U	NA	NA	NA	NA	NA
2-Toluidine	NA	NA	0.035 U	0.036 U	NA	NA	NA	NA	NA
3 & 4 Methylphenol	NA	NA	0.023 U	0.023 U	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	NA	NA	0.019 U	0.019 U	NA	NA	NA	NA	NA
3,3'-Dimethylbenzidine	NA	NA	0.026 U	0.027 U	NA	NA	NA	NA	NA
3-Methylcholanthrene	NA	NA	0.023 U	0.023 U	NA	NA	NA	NA	NA
3-Nitroaniline	NA	NA	0.047 U	0.049 U	NA	NA	NA	NA	NA
4,6-Dinitro-2-methylphenol	NA	NA	0.018 U	0.018 U	NA	NA	NA	NA	NA
4-Aminobiphenyl	NA	NA	0.022 U	0.022 U	NA	NA	NA	NA	NA
4-Bromophenyl phenyl ether	NA	NA	0.047 U	0.049 U	NA	NA	NA	NA	NA
4-Chloro-3-methylphenol	NA	NA	0.017 U	0.017 U	NA	NA	NA	NA	NA

APPENDIX B

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SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Sample ID	ER09	ER10	74ER11	74ER12	74ER13	74ER14	74ER15	74ER16	74ER17
Date	5/6/2008	5/7/2008	5/13/2008	5/14/2008	5/15/2008	5/16/2008	5/17/2008	5/18/2008	5/19/2008
Semivolatile Organic Compounds (ug/kg)									
4-Chloroaniline	NA	NA	0.025 U	0.026 U	NA	NA	NA	NA	NA
4-Chlorophenyl phenyl ether	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitroaniline	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitrophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitroquinoline-1-oxide	NA	NA	NA	NA	NA	NA	NA	NA	NA
7,12-Dimethylbenz(a)anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	NA	NA	0.019 U	0.019 U	NA	NA	NA	NA	NA
Acenaphthylene	NA	NA	0.047 U	0.049 U	NA	NA	NA	NA	NA
Acetophenone	NA	NA	NA	NA	NA	NA	NA	NA	NA
alpha,alpha-Dimethyl phenethylamine	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aniline	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	NA	NA	0.021 U	0.021 U	NA	NA	NA	NA	NA
Aramite, Total	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo[a]anthracene	NA	NA	0.025 U	0.025 U	NA	NA	NA	NA	NA
Benzo[a]pyrene	NA	NA	0.024 U	0.024 U	NA	NA	NA	NA	NA
Benzo[b]fluoranthene	NA	NA	0.035 U	0.036 U	NA	NA	NA	NA	NA
Benzo[g,h,i]perylene	NA	NA	0.023 U	0.023 U	NA	NA	NA	NA	NA
Benzo[k]fluoranthene	NA	NA	0.019 U	0.019 U	NA	NA	NA	NA	NA
Benzyl alcohol	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bis(2-chloroethoxy)methane	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bis(2-chloroethyl)ether	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bis(2-ethylhexyl) phthalate	NA	NA	NA	NA	NA	NA	NA	NA	NA
Butyl benzyl phthalate	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	NA	NA	0.026 U	0.027 U	NA	NA	NA	NA	NA
Diallate	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	NA	NA	0.023 U	0.023 U	NA	NA	NA	NA	NA
Dibenzofuran	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diethyl phthalate	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dimethyl phthalate	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-butyl phthalate	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-octyl phthalate	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dinoseb	NA	NA	NA	NA	NA	NA	NA	NA	NA

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - QA/QC- EQUIPMENT RINSATES AND FIELD BLANK
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Sample ID	ER09	ER10	74ER11	74ER12	74ER13	74ER14	74ER15	74ER16	74ER17
Date	5/6/2008	5/7/2008	5/13/2008	5/14/2008	5/15/2008	5/16/2008	5/17/2008	5/18/2008	5/19/2008
Semivolatile Organic Compounds (ug/kg)									
Ethyl methanesulfonate	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	NA	NA	0.047 U	0.049 U	NA	NA	NA	NA	NA
Fluorene	NA	NA	0.018 U	0.018 U	NA	NA	NA	NA	NA
Hexachlorobenzene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobutadiene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorocyclopentadiene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachloroethane	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorophene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachloropropene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indeno[1,2,3-cd]pyrene	NA	NA	0.022 U	0.022 U	NA	NA	NA	NA	NA
Isophorone	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isosafrole	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methapyrilene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl methanesulfonate	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	NA	NA	0.047 U	0.049 U	NA	NA	NA	NA	NA
Nitrobenzene	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitro-o-toluidine	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodiethylamine	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodimethylamine	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodi-n-butylamine	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodi-n-propylamine	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodiphenylamine	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosomethylethylamine	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosomorpholine	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosopiperidine	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosopyrrolidine	NA	NA	NA	NA	NA	NA	NA	NA	NA
p-Dimethylamino azobenzene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pentachlorobenzene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pentachloronitrobenzene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pentachlorophenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenacetin	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	0.017 U	0.017 U	NA	NA	NA	NA	NA

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - QA/QC- EQUIPMENT RINSATES AND FIELD BLANK
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Sample ID	ER09	ER10	74ER11	74ER12	74ER13	74ER14	74ER15	74ER16	74ER17
Date	5/6/2008	5/7/2008	5/13/2008	5/14/2008	5/15/2008	5/16/2008	5/17/2008	5/18/2008	5/19/2008
Semivolatile Organic Compounds (ug/kg)									
Phenol	NA	NA	NA	NA	NA	NA	NA	NA	NA
p-Phenylene diamine	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pronamide	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	NA	NA	0.025 U	0.026 U	NA	NA	NA	NA	NA
Pyridine	NA	NA	NA	NA	NA	NA	NA	NA	NA
Safrole, Total	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pesticides/PCBs (ug/kg)									
4,4'-DDD	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4'-DDE	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4'-DDT	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aldrin	NA	NA	NA	NA	NA	NA	NA	NA	NA
alpha-BHC	NA	NA	NA	NA	NA	NA	NA	NA	NA
beta-BHC	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlordane (technical)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorobenzilate	NA	NA	NA	NA	NA	NA	NA	NA	NA
delta-BHC	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dieldrin	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan I	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan II	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan sulfate	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin aldehyde	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin ketone	NA	NA	NA	NA	NA	NA	NA	NA	NA
gamma-BHC (Lindane)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlor	NA	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlor epoxide	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isodrin	NA	NA	NA	NA	NA	NA	NA	NA	NA
Kepone	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methoxychlor	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toxaphene	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCB-1016	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCB-1221	NA	NA	NA	NA	NA	NA	NA	NA	NA

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - QA/QC- EQUIPMENT RINSATES AND FIELD BLANK
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Sample ID	ER09	ER10	74ER11	74ER12	74ER13	74ER14	74ER15	74ER16	74ER17
Date	5/6/2008	5/7/2008	5/13/2008	5/14/2008	5/15/2008	5/16/2008	5/17/2008	5/18/2008	5/19/2008
Pesticides/PCBs (ug/kg)									
PCB-1232	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCB-1242	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCB-1248	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCB-1254	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCB-1260	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals (mg/kg)									
Antimony	0.36 U	0.36 U	0.54 J	0.67 J	0.55 J	0.66 J	0.36 U	0.36 U	0.36 U
Arsenic	0.52 J	0.35 J	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U
Barium	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Beryllium	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U
Cadmium	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Chromium	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.68 J	0.6 U
Cobalt	0.029 U	0.029 U	0.029 U	0.029 U	0.029 U	0.029 U	0.029 U	0.037 J	0.029 U
Copper	3.9 J	1.9 J	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	3.9 J	1.2 U
Lead	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U
Mercury	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
Nickel	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U
Selenium	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U
Silver	0.09 U	0.09 U	0.09 U	0.09 U	0.09 U	0.09 U	0.09 U	0.09 U	0.09 U
Thallium	0.55 U	0.55 U	0.55 U	0.55 U	0.55 U	0.55 U	0.55 U	0.55 U	0.55 U
Tin	0.98 J	0.9 U	1.2 J	0.9 U	0.9 U	0.9 U	0.9 U	0.9 U	0.9 U
Vanadium	1.7 J	0.8 U	1.1 J	0.99 J	1.1 J	1.1 J	0.8 U	0.94 J	0.8 U
Zinc	7.3 J	6.5 U	6.5 U	6.5 U	6.5 U	6.5 U	6.5 U	6.5 U	6.5 U
TPH DRO/GRO (mg/kg)									
Diesel Range Organics [C10-C28]	0.028 U	0.028 U	0.027 U	0.028 U	0.027 U	0.027 U	NA	NA	NA
Gasoline Range Organics (GRO)-C6-C10	0.012 U	0.012 U	0.012 U	0.012 U	0.014 J	0.014 J	NA	NA	NA

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - QA/QC- EQUIPMENT RINSATES AND FIELD BLANK
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Sample ID	74ER18	74ER19	74ER20	74ER21	ER22	ER24	FB01
Date	5/20/2008	5/21/2008	5/28/2008	5/29/2008	5/30/2008	5/31/2008	5/2/2008
Volatile Organic Compounds (ug/kg)							
1,1,1,2-Tetrachloroethane	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U
1,1,1-Trichloroethane	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U
1,1,2,2-Tetrachloroethane	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U
1,1,2-Trichloroethane	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U
1,1-Dichloroethane	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U
1,1-Dichloroethene	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U
1,2,3-Trichloropropane	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U	0.42 U
1,2-Dibromo-3-Chloropropane	0.48 U	0.48 U	0.48 UJ	0.48 UJ	0.48 UJ	0.48 U	0.48 U
1,2-Dichloroethane	0.31 UJ	0.31 UJ	0.31 U	0.31 U	0.31 U	0.31 U	0.31 U
1,2-Dichloropropane	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U
2-Butanone (MEK)	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	1.1 J	0.69 J
2-Chloro-1,3-butadiene	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U
2-Hexanone	0.68 U	0.68 U	0.68 U	0.68 U	0.68 U	0.68 U	0.68 U
3-Chloro-1-propene	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U
4-Methyl-2-pentanone (MIBK)	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U
Acetone	8.4 J	5 U	6.7 J	7 J	5 U	6.6 J	5 U
Acetonitrile	15 U	15 U	15 U	15 U	15 U	15 U	15 U
Acrolein	18 U	18 U	18 UJ	18 UJ	18 UJ	18 UJ	18 U
Acrylonitrile	3.8 UJ	3.8 UJ	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U
Benzene	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	1.2	0.32 U
Bromoform	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U
Bromomethane	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 UJ
Carbon disulfide	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U
Carbon tetrachloride	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U	0.27 U
Chlorobenzene	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U
Chlorodibromomethane	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Chloroethane	1 U	1 U	1 U	1 U	1 UJ	1 U	1 U
Chloroform	0.32 J	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U
Chloromethane	0.28 U	0.28 U	0.28 U	0.28 U	0.28 UJ	0.28 U	0.28 UJ
cis-1,3-Dichloropropene	0.37 U	0.37 U	0.37 U	0.37 U	0.37 UJ	0.37 U	0.37 U
Dibromomethane	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - QA/QC- EQUIPMENT RINSATES AND FIELD BLANK
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Sample ID	74ER18	74ER19	74ER20	74ER21	ER22	ER24	FB01
Date	5/20/2008	5/21/2008	5/28/2008	5/29/2008	5/30/2008	5/31/2008	5/2/2008
Volatile Organic Compounds (ug/kg)							
Dichlorobromomethane	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U
Dichlorodifluoromethane	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U
Ethyl methacrylate	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Ethylbenzene	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Ethylene Dibromide	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Iodomethane	1 UJ	1 UJ	1 U	1 U	1 U	1 U	1 U
Isobutyl alcohol	19 U	19 U	19 R	19 R	19 R	19 UJ	19 U
Methacrylonitrile	6.6 U	6.6 U	6.6 U	6.6 U	6.6 U	6.6 U	6.6 U
Methyl methacrylate	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U
Methylene Chloride	1.1 J	1 U	1 U	1 U	1 U	1 U	1 U
Pentachloroethane	1.3 R	1.3 R	1.3 R	1.3 R	1.3 R	1.3 R	1.3 UJ
Propionitrile	9.2 U	9.2 U	9.2 U	9.2 U	9.2 U	9.2 UJ	9.2 U
Styrene	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.38 J	0.36 U
Tetrachloroethene	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U
Toluene	0.31 U	0.49 J	0.31 U	0.31 U	0.31 U	0.5 J	0.31 U
trans-1,2-Dichloroethene	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
trans-1,3-Dichloropropene	0.27 U	0.27 U	0.27 U	0.27 U	0.27 UJ	0.27 U	0.27 U
trans-1,4-Dichloro-2-butene	0.83 U	0.83 U	0.83 U	0.83 U	0.83 U	0.83 U	0.83 U
Trichloroethene	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
Trichlorofluoromethane	0.29 U	0.29 U	0.29 U	0.29 U	0.29 UJ	0.29 U	0.29 U
Vinyl acetate	0.62 U	0.62 U	0.62 UJ	0.62 UJ	0.62 U	0.62 U	0.62 UJ
Vinyl chloride	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Xylenes, Total	0.87 U	0.87 U	0.87 U	0.87 U	0.87 U	0.87 U	0.87 U
Semivolatile Organic Compounds (ug/kg)							
1-Methylnaphthalene	0.049 U	NA	0.049 U	0.049 U	NA	NA	NA
1,1'-Biphenyl	NA	NA	NA	NA	0.17 U	0.49 UJ	0.17 UJ
1,2,4,5-Tetrachlorobenzene	NA	NA	NA	NA	0.23 U	0.5 UJ	0.23 UJ
1,2,4-Trichlorobenzene	NA	NA	NA	NA	0.13 U	0.69 UJ	0.13 UJ
1,2-Dichlorobenzene	NA	NA	NA	NA	0.13 U	0.49 UJ	0.13 UJ
1,3,5-Trinitrobenzene	NA	NA	NA	NA	0.2 U	4.9 UJ	0.2 UJ
1,3-Dichlorobenzene	NA	NA	NA	NA	0.12 U	0.49 UJ	0.12 UJ
1,3-Dinitrobenzene	NA	NA	NA	NA	0.22 U	0.55 UJ	0.22 UJ

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - QA/QC- EQUIPMENT RINSATES AND FIELD BLANK
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Sample ID	74ER18	74ER19	74ER20	74ER21	ER22	ER24	FB01
Date	5/20/2008	5/21/2008	5/28/2008	5/29/2008	5/30/2008	5/31/2008	5/2/2008
Semivolatile Organic Compounds (ug/kg)							
1,4-Dichlorobenzene	NA	NA	NA	NA	0.12 U	0.49 UJ	0.16 J
1,4-Dioxane	NA	NA	NA	NA	0.49 U	2.5 UJ	0.49 UJ
1,4-Naphthoquinone	NA	NA	NA	NA	0.16 U	0.97 UJ	0.16 UJ
2,2'-oxybis[1-chloropropane]	NA	NA	NA	NA	0.097 U	0.49 UJ	0.097 UJ
2,3,4,6-Tetrachlorophenol	NA	NA	NA	NA	0.29 U	0.49 UJ	0.29 UJ
2,4,5-Trichlorophenol	NA	NA	NA	NA	0.16 U	0.78 UJ	0.16 UJ
2,4,6-Trichlorophenol	NA	NA	NA	NA	0.16 U	0.49 UJ	0.16 UJ
2,4-Dichlorophenol	NA	NA	NA	NA	0.15 U	0.97 UJ	0.15 UJ
2,4-Dimethylphenol	NA	NA	NA	NA	0.4 U	1.1 UJ	0.4 UJ
2,4-Dinitrophenol	NA	NA	NA	NA	2.4 UJ	9.7 UJ	2.4 UJ
2,4-Dinitrotoluene	NA	NA	NA	NA	0.17 U	0.49 UJ	0.17 UJ
2,6-Dichlorophenol	NA	NA	NA	NA	0.21 U	0.49 UJ	0.21 UJ
2,6-Dinitrotoluene	NA	NA	NA	NA	0.15 U	0.49 UJ	0.15 UJ
2-Acetylaminofluorene	NA	NA	NA	NA	0.19 U	0.54 UJ	0.19 UJ
2-Chloronaphthalene	NA	NA	NA	NA	0.12 U	0.49 UJ	0.12 UJ
2-Chlorophenol	NA	NA	NA	NA	0.15 U	0.97 UJ	0.15 UJ
2-Methylnaphthalene	0.022 U	NA	0.022 U	0.023 U	0.022 U	0.49 UJ	0.022 UJ
2-Methylphenol	NA	NA	NA	NA	0.15 U	0.62 UJ	0.15 UJ
2-Naphthylamine	NA	NA	NA	NA	1.1 UJ	0.97 UJ	1.1 UJ
2-Nitroaniline	NA	NA	NA	NA	0.14 U	4.9 UJ	0.14 UJ
2-Nitrophenol	NA	NA	NA	NA	0.17 U	4.9 UJ	0.17 UJ
2-Picoline	NA	NA	NA	NA	0.57 U	0.65 UJ	0.57 UJ
2-Toluidine	NA	NA	NA	NA	0.32 U	0.49 UJ	0.32 UJ
3 & 4 Methylphenol	NA	NA	NA	NA	0.15 U	0.97 UJ	0.15 UJ
3,3'-Dichlorobenzidine	NA	NA	NA	NA	3.7 UJ	3.1 UJ	3.7 UJ
3,3'-Dimethylbenzidine	NA	NA	NA	NA	3.7 U	0.49 UJ	3.7 UJ
3-Methylcholanthrene	NA	NA	NA	NA	0.2 U	0.49 UJ	0.2 UJ
3-Nitroaniline	NA	NA	NA	NA	0.28 UJ	2.7 UJ	0.28 UJ
4,6-Dinitro-2-methylphenol	NA	NA	NA	NA	0.49 U	4.9 UJ	0.49 UJ
4-Aminobiphenyl	NA	NA	NA	NA	0.68 U	0.49 UJ	0.68 UJ
4-Bromophenyl phenyl ether	NA	NA	NA	NA	0.16 U	0.49 UJ	0.16 UJ
4-Chloro-3-methylphenol	NA	NA	NA	NA	0.16 U	0.5 UJ	0.16 UJ

APPENDIX B

SUMMARY OF ANALYTICAL RESULTS - QA/QC- EQUIPMENT RINSATES AND FIELD BLANK
SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Sample ID	74ER18	74ER19	74ER20	74ER21	ER22	ER24	FB01
Date	5/20/2008	5/21/2008	5/28/2008	5/29/2008	5/30/2008	5/31/2008	5/2/2008
Semivolatile Organic Compounds (ug/kg)							
4-Chloroaniline	NA	NA	NA	NA	0.4 U	4.7 UJ	0.4 UJ
4-Chlorophenyl phenyl ether	NA	NA	NA	NA	0.15 U	0.97 UJ	0.15 UJ
4-Nitroaniline	NA	NA	NA	NA	0.26 UJ	1.9 UJ	0.26 UJ
4-Nitrophenol	NA	NA	NA	NA	0.18 U	9.7 UJ	0.18 UJ
4-Nitroquinoline-1-oxide	NA	NA	NA	NA	0.26 R	4.9 R	0.26 R
7,12-Dimethylbenz(a)anthracene	NA	NA	NA	NA	0.2 U	0.97 UJ	0.2 UJ
Acenaphthene	0.019 U	NA	0.019 U	0.02 U	0.019 U	0.019 UJ	0.019 UJ
Acenaphthylene	0.049 U	NA	0.049 U	0.049 U	0.049 U	0.049 UJ	0.049 UJ
Acetophenone	NA	NA	NA	NA	0.31 J	0.49 UJ	0.38 J
alpha,alpha-Dimethyl phenethylamine	NA	NA	NA	NA	1.3 U	9.7 UJ	1.3 UJ
Aniline	NA	NA	NA	NA	0.4 UJ	8.3 UJ	0.4 UJ
Anthracene	0.021 U	NA	0.021 U	0.022 U	0.021 U	0.51 UJ	0.021 UJ
Aramite, Total	NA	NA	NA	NA	0.49 U	0.49 UJ	0.49 UJ
Benzo[a]anthracene	0.025 U	NA	0.025 U	0.025 U	0.025 U	0.025 UJ	0.025 UJ
Benzo[a]pyrene	0.024 U	NA	0.024 U	0.025 U	0.024 U	0.024 UJ	0.024 UJ
Benzo[b]fluoranthene	0.036 U	NA	0.036 U	0.036 U	0.036 U	0.036 UJ	0.036 UJ
Benzo[g,h,i]perylene	0.023 U	NA	0.023 U	0.024 U	0.023 UJ	0.023 UJ	0.023 UJ
Benzo[k]fluoranthene	0.019 U	NA	0.019 U	0.02 U	0.019 U	0.019 UJ	0.019 UJ
Benzyl alcohol	NA	NA	NA	NA	0.16 U	0.78 UJ	0.16 UJ
Bis(2-chloroethoxy)methane	NA	NA	NA	NA	0.15 U	0.49 UJ	0.15 UJ
Bis(2-chloroethyl)ether	NA	NA	NA	NA	0.14 U	0.57 UJ	0.14 UJ
Bis(2-ethylhexyl) phthalate	NA	NA	NA	NA	0.34 U	0.91 UJ	0.34 UJ
Butyl benzyl phthalate	NA	NA	NA	NA	0.42 J	0.72 UJ	0.17 UJ
Chrysene	0.027 U	NA	0.027 U	0.027 U	0.027 U	0.027 UJ	0.027 UJ
Diallate	NA	NA	NA	NA	0.19 U	0.34 UJ	0.19 UJ
Dibenz(a,h)anthracene	0.023 U	NA	0.023 U	0.024 U	0.023 U	0.023 UJ	0.023 UJ
Dibenzofuran	NA	NA	NA	NA	0.097 U	0.49 UJ	0.097 UJ
Diethyl phthalate	NA	NA	NA	NA	0.18 U	0.49 UJ	0.33 J
Dimethyl phthalate	NA	NA	NA	NA	0.17 U	4.9 UJ	0.17 UJ
Di-n-butyl phthalate	NA	NA	NA	NA	0.63 J	0.97 J	1.2 J
Di-n-octyl phthalate	NA	NA	NA	NA	0.097 U	0.74 UJ	0.097 UJ
Dinoseb	NA	NA	NA	NA	0.49 U	4.9 UJ	0.49 UJ

APPENDIX B

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SWMU 74 - FUEL PIPELINES AND HYDRANT PITS
PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Sample ID	74ER18	74ER19	74ER20	74ER21	ER22	ER24	FB01
Date	5/20/2008	5/21/2008	5/28/2008	5/29/2008	5/30/2008	5/31/2008	5/2/2008
Semivolatile Organic Compounds (ug/kg)							
Ethyl methanesulfonate	NA	NA	NA	NA	0.23 U	0.54 UJ	0.23 UJ
Fluoranthene	0.049 U	NA	0.049 U	0.049 U	0.049 U	0.049 UJ	0.049 UJ
Fluorene	0.018 U	NA	0.018 U	0.019 U	0.018 U	0.018 UJ	0.018 UJ
Hexachlorobenzene	NA	NA	NA	NA	0.16 U	0.49 UJ	0.16 UJ
Hexachlorobutadiene	NA	NA	NA	NA	0.13 U	4.9 UJ	0.13 UJ
Hexachlorocyclopentadiene	NA	NA	NA	NA	0.49 U	4.9 UJ	0.49 UJ
Hexachloroethane	NA	NA	NA	NA	0.15 U	0.49 UJ	0.15 UJ
Hexachlorophene	NA	NA	NA	NA	49 R	39 R	49 R
Hexachloropropene	NA	NA	NA	NA	0.12 U	0.49 UJ	0.12 UJ
Indeno[1,2,3-cd]pyrene	0.022 U	NA	0.022 U	0.023 U	0.022 U	0.022 UJ	0.022 UJ
Isophorone	NA	NA	NA	NA	0.15 U	0.49 UJ	0.15 UJ
Isosafrole	NA	NA	NA	NA	0.3 U	30 UJ	0.3 UJ
Methapyrilene	NA	NA	NA	NA	0.26 U	4.9 UJ	0.26 UJ
Methyl methanesulfonate	NA	NA	NA	NA	0.46 U	0.49 UJ	0.46 UJ
Naphthalene	0.049 U	NA	0.049 U	0.049 U	0.049 U	0.065 J	0.049 UJ
Nitrobenzene	NA	NA	NA	NA	0.14 U	0.49 UJ	0.14 UJ
N-Nitro-o-toluidine	NA	NA	NA	NA	0.24 U	0.97 UJ	0.24 UJ
N-Nitrosodiethylamine	NA	NA	NA	NA	0.32 U	0.49 UJ	0.32 UJ
N-Nitrosodimethylamine	NA	NA	NA	NA	0.19 U	1.2 UJ	0.19 UJ
N-Nitrosodi-n-butylamine	NA	NA	NA	NA	0.18 U	0.97 UJ	0.18 UJ
N-Nitrosodi-n-propylamine	NA	NA	NA	NA	0.13 U	0.49 UJ	0.13 UJ
N-Nitrosodiphenylamine	NA	NA	NA	NA	0.17 U	0.71 UJ	0.17 UJ
N-Nitrosomethylethylamine	NA	NA	NA	NA	0.28 U	4.9 UJ	0.28 UJ
N-Nitrosomorpholine	NA	NA	NA	NA	0.19 U	0.57 UJ	0.19 UJ
N-Nitrosopiperidine	NA	NA	NA	NA	0.22 U	0.97 UJ	0.22 UJ
N-Nitrosopyrrolidine	NA	NA	NA	NA	0.25 U	0.97 UJ	0.25 UJ
p-Dimethylamino azobenzene	NA	NA	NA	NA	0.6 U	0.58 UJ	0.6 UJ
Pentachlorobenzene	NA	NA	NA	NA	0.27 U	0.55 UJ	0.27 UJ
Pentachloronitrobenzene	NA	NA	NA	NA	0.3 U	0.97 UJ	0.3 UJ
Pentachlorophenol	NA	NA	NA	NA	0.18 U	4.9 UJ	0.18 UJ
Phenacetin	NA	NA	NA	NA	0.2 U	0.49 UJ	0.2 UJ
Phenanthrene	0.017 U	NA	0.017 U	0.018 U	0.017 U	0.49 UJ	0.017 UJ

APPENDIX B

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PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Sample ID	74ER18	74ER19	74ER20	74ER21	ER22	ER24	FB01
Date	5/20/2008	5/21/2008	5/28/2008	5/29/2008	5/30/2008	5/31/2008	5/2/2008
Semivolatile Organic Compounds (ug/kg)							
Phenol	NA	NA	NA	NA	0.14 U	0.14 UJ	0.14 UJ
p-Phenylene diamine	NA	NA	NA	NA	2.4 U	9.7 UJ	2.4 UJ
Pronamide	NA	NA	NA	NA	0.25 U	0.97 UJ	0.25 UJ
Pyrene	0.026 U	NA	0.026 U	0.026 U	0.026 U	0.026 UJ	0.026 UJ
Pyridine	NA	NA	NA	NA	0.22 UJ	9.7 UJ	0.22 UJ
Safrole, Total	NA	NA	NA	NA	0.23 U	0.49 UJ	0.23 UJ
Pesticides/PCBs (ug/kg)							
4,4'-DDD	NA	NA	NA	NA	0.0059 U	0.0057 UJ	NA
4,4'-DDE	NA	NA	NA	NA	0.0098 U	0.0095 UJ	NA
4,4'-DDT	NA	NA	NA	NA	0.015 U	0.015 UJ	NA
Aldrin	NA	NA	NA	NA	0.006 U	0.0058 UJ	NA
alpha-BHC	NA	NA	NA	NA	0.0081 U	0.0079 UJ	NA
beta-BHC	NA	NA	NA	NA	0.0082 U	0.008 UJ	NA
Chlordane (technical)	NA	NA	NA	NA	0.049 U	0.048 UJ	NA
Chlorobenzilate	NA	NA	NA	NA	0.14 U	0.14 UJ	NA
delta-BHC	NA	NA	NA	NA	0.0069 U	0.0067 UJ	NA
Dieldrin	NA	NA	NA	NA	0.0078 U	0.0076 UJ	NA
Endosulfan I	NA	NA	NA	NA	0.0055 U	0.0053 UJ	NA
Endosulfan II	NA	NA	NA	NA	0.005 U	0.0049 UJ	NA
Endosulfan sulfate	NA	NA	NA	NA	0.007 U	0.0068 UJ	NA
Endrin	NA	NA	NA	NA	0.0078 U	0.0076 UJ	NA
Endrin aldehyde	NA	NA	NA	NA	0.009 U	0.0087 UJ	NA
Endrin ketone	NA	NA	NA	NA	0.0091 U	0.0088 UJ	NA
gamma-BHC (Lindane)	NA	NA	NA	NA	0.0059 U	0.0057 UJ	NA
Heptachlor	NA	NA	NA	NA	0.0045 U	0.0044 UJ	NA
Heptachlor epoxide	NA	NA	NA	NA	0.007 U	0.0068 UJ	NA
Isodrin	NA	NA	NA	NA	0.0099 U	0.0096 UJ	NA
Kepone	NA	NA	NA	NA	0.05 U	0.049 UJ	NA
Methoxychlor	NA	NA	NA	NA	0.023 U	0.022 UJ	NA
Toxaphene	NA	NA	NA	NA	1.3 U	1.3 UJ	NA
PCB-1016	NA	NA	NA	NA	0.097 U	0.094 UJ	NA
PCB-1221	NA	NA	NA	NA	0.4 U	0.39 UJ	NA

APPENDIX B

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PHASE I OF THE CORRECTIVE MEASURES STUDY INVESTIGATION
NAVAL ACTIVITY PUERTO RICO, CEIBA, PUERTO RICO

Sample ID	74ER18	74ER19	74ER20	74ER21	ER22	ER24	FB01
Date	5/20/2008	5/21/2008	5/28/2008	5/29/2008	5/30/2008	5/31/2008	5/2/2008
Pesticides/PCBs (ug/kg)							
PCB-1232	NA	NA	NA	NA	0.083 U	0.081 UJ	NA
PCB-1242	NA	NA	NA	NA	0.096 U	0.093 UJ	NA
PCB-1248	NA	NA	NA	NA	0.083 U	0.081 UJ	NA
PCB-1254	NA	NA	NA	NA	0.091 U	0.088 UJ	NA
PCB-1260	NA	NA	NA	NA	0.1 U	0.097 UJ	NA
Metals (mg/kg)							
Antimony	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 UJ
Arsenic	0.28 U	0.28 U	0.44 U	0.48 U	0.48 J	0.52 J	0.28 UJ
Barium	2 U	2 U	2 U	2 U	2 U	2 U	2 UJ
Beryllium	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U	0.065 U	0.065 UJ
Cadmium	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 UJ
Chromium	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 UJ
Cobalt	0.029 U	0.077 J	0.029 U	0.029 U	0.029 U	0.029 U	0.029 UJ
Copper	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	1.2 U	2.1 J
Lead	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.38 J
Mercury	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 UJ
Nickel	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 UJ
Selenium	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 UJ
Silver	0.09 U	0.09 U	0.09 U	0.09 U	0.09 U	0.09 UJ	0.09 UJ
Thallium	0.55 U	0.55 U	0.55 U	0.55 U	0.55 U	0.55 U	0.55 UJ
Tin	0.9 U	0.9 U	0.9 U	0.9 U	0.9 U	1.6 J	0.9 UJ
Vanadium	0.8 U	0.86 J	1.3 J	1.1 J	1.3 J	0.8 U	0.8 UJ
Zinc	6.5 U	6.5 U	6.5 U	6.5 U	6.5 U	6.5 U	6.5 UJ
TPH DRO/GRO (mg/kg)							
Diesel Range Organics [C10-C28]	0.068 U	0.071 U	0.11	0.051 J	0.028 U	0.028 J	0.028 UJ
Gasoline Range Organics (GRO)-C6-C10	0.0069 U	0.0069 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U

APPENDIX C
DATA VALIDATION REPORT SUMMARIES

TEST AMERICA SAVANNAH SDG 36289-2

DataQual

Environmental Services, LLC

Michael Baker, Jr., Inc.
Airside Business Park
100 Airside Drive
Moon Township, PA 15108

July 15, 2008
SDG# SWMU36289-2, Test America-Savannah
NAPR SWMU 74, Puerto Rico

Dear Mr. Kimes,

The following Data Validation report is provided as requested for the parameters noted in the table below for SDG # SWMU36289-2. The data validation was performed in accordance with the SW-846 methods utilized by the laboratory, the Region II Standard Operating Procedures for the Validation of Organic Data Acquired Using SW-846 Methods (8260B-Rev 2, January 2006- SOP #HW-24 and 8270D-Rev 3, October 2006- SOP #HW-22), and professional judgment. Region II has not developed a validation checklist SOP for the methods used to assess the inorganic methods in this SDG (SW-846 methods 6020B, 7471A) or the organic methods for hydrocarbons (SW-846 methods 8015_DRO and 8015_GRO). Therefore, alternative worksheets were provided. Region II flagging conventions were used. All areas of concern are discussed in the body of the report and a summary of data qualifications is provided.

Sample ID	Lab ID	Matrix	VOA App IX	LL-PAH	DRO/GRO	GRO	Metals
74SB01-00	680-36289-20	soil	X	X	X		X
74SB01-02	680-36289-21	soil	X	X	X		X
74SB01-04	680-36289-22	soil	X	X	X		X
74SB02-03	680-36289-23	soil	X		X		X
74SB02-05	680-36289-24	soil	X		X		X
74SB04-01	680-36289-25	soil	X		X		X
74SB04-04	680-36289-26	soil	X		X		X
74TB01	680-36289-27	water				X	

The samples were evaluated based on the following criteria:

- Data Completeness *
- Sample Condition *
- Technical Holding Times *
- GC/MS Tuning *
- GC Performance *
- Initial/Continuing Calibrations
- ICSA/ICSAB Standards
- CRDL Standards
- Blanks
- Internal Standards *
- Surrogate Recoveries

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- Laboratory Control Samples *
- Matrix Spike Recoveries
- Matrix Duplicate RPDs
- Serial Dilutions *
- Field Duplicates NA
- Identification/Quantitation *
- Reporting Limits *
- Tentatively Identified Compounds NA

* - indicates that qualifications were not required based on this criteria

Overall Evaluation of Data/Potential Usability Issues

A summary of qualifications applied to the sample results are noted below for the fractions validated. Specific details regarding qualification of the data are addressed in the Specific Evaluation section of this narrative. If an issue is not addressed there were no actions required based on unmet quality criteria. Please note that the reviewer added an F to the sample ID to indicate dissolved metals analysis when necessary. When more than one qualifier is associated with a compound/analyte the validator has chosen the qualifier that best indicates possible bias in the results and flagged the data accordingly. However, information regarding all quality control issues is provided in the body of the report and on the qualification summary page.

VOA

The initial and continuing calibration exhibited some compounds with low RRF values, which resulted in qualifying non-detected values as rejected for these compounds. Due to high %D values, in the continuing calibrations, some compounds were qualified as estimated.

PAH

No qualifications to the data were required.

DRO/GRO

Blank contamination was noted and qualification was required in the samples in this SDG.

One sample analyzed for GRO required qualification due to high surrogate recoveries.

Metals

The CRDL standard analyzed for mercury was above the QC limit. All reported positive results for mercury up to 2X CRDL were qualified as estimated J.

The ICSAB standards exhibited non-compliant recoveries below the QC limit for the analyte cadmium. Based on Region II guidelines all positive and non-detect results for cadmium were qualified as estimated J/UJ.

Blank contamination was noted and qualification was required in the samples in this SDG.

The matrix spikes of sample 74SB02-03 analyzed for the metals fraction exhibited non-compliant recoveries below the QC limits for antimony and barium. All results for antimony and barium in the metals samples were qualified as estimated J/UJ. Chromium exhibited high recoveries in both spike aliquots so positive results for chromium were qualified as estimated J. One of the recoveries was above 200% but the other one was not so the results were not rejected.

Specific Evaluation of Data

Data Completeness

Resubmissions were required for the PAH fraction. All calibration forms were missing from the data package. The laboratory was contacted and all requested Form VI and VIIs were submitted. Clarification questions were asked of the laboratory regarding the metals fraction. A copy of the e-mail correspondence is included in the validation worksheets. Clarification questions were asked of the laboratory regarding the GRO/DRO fraction. A copy of these e-mail correspondences is included in the project file.

Technical Holding Times

According to chain of custody records, sampling was performed on 04/28/08 and samples were received at the laboratory 04/30/08. All sample preparation and analysis was performed within Region II and/or method holding time requirements.

Initial/Continuing Calibration

VOA

Calibration standards exhibited RRFs and %Ds that were non-compliant. A summary of these non-compliances and affected samples are noted in the following table. Sample results are qualified as indicated.

Standard ID	Compound(s)	RRF, %RSD, %D	Samples	Q Flag
IC 05/02/08	acrolein isobutyl alcohol	0.0298 0.0260	all samples	J/R
CC 05/08/08	acrolein isobutyl alcohol 3-chloro-1-propene acetone	0.01626 0.01517 110.6% 0.03509	all samples	J/R
	acetonitrile acrylonitrile 2-chloro-1,3-butadiene propionitrile bromomethane vinyl acetate	35.6% 32.0% 70.5% 25.3% 41.1% 22.2%		J/UJ

CRDL Standards

Metals

The CRDL standard associated with the metals analysis exhibited a non-compliant recovery above the upper QC limit for the analyte mercury (140.0%). Based on Region II guidelines, reported positive results for mercury up to 2X the reporting limit were qualified as estimated J in 74SB01-02, 74SB01-04 and 74SB02-05.

ICSA/ICSAB Standards

Metals

The ICSAB standards associated with the metals analysis exhibited non-compliant recoveries less than the lower QC limit for the analyte cadmium (80%/78%). Based on Region II guidelines, reported positive and non-detect results for cadmium were qualified as estimated J/UJ in all samples.

Blanks

DRO/GRO

The associated rinse blank exhibited contamination as noted in the following table. Compounds for which there was no action required, are not included in the following table. Please note that the laboratory reported non-detect results down to the MDL for

this project. Therefore, the blank flagging actions were modified as follows to take this into consideration. Positive results greater than the MDL but less than the CRQL are qualified as U at the reported concentration when affected by blank contamination.

Blank ID	Compound	Concentration	Action Level	Q Flag
ER02	DRO	0.12 mg/L or 4.0 mg/Kg	RL	U

Associated samples and required qualifications are noted in the following table.

Sample ID	Compound	Q Flag
74SB01-04, 74SB02-03, 74SB02-05, 74SB04-01, 74SB04-04	DRO	U

Metals

Associated blanks exhibited contamination as noted in the following table. The laboratory reported non-detect results to the MDL for this project. Therefore, the blank flagging actions were modified to take this into consideration. Please see the Glossary of Qualification Flags and Abbreviations for details.

Blank ID	Analyte	Concentration	Action Level	Q Flag
CCB	antimony	0.1212J ug/L	>MDL up to RL	U
	beryllium	0.032J ug/L	>MDL up to RL	U
	silver	0.031J ug/L	>MDL up to RL	U

Please note, when qualifying samples for CCB contamination, associated samples are those just prior to or just following a CCB. Therefore, not all analytes in all samples are flagged for CCB contamination.

Associated samples and required qualifications are noted in the following table.

Sample ID	Analyte	Q Flag
all samples >MDL up to RL	antimony	U
74SB01-04	beryllium	U
all samples >MDL up to RL	silver	U

Surrogate Recoveries

DRO/GRO

One sample analyzed for GRO exhibited a non-compliant surrogate recovery above the QC limits. The reported positive result for GRO in sample 74SB01-00 (190%) was qualified as estimated J.

Matrix Spikes

Metals

The matrix spikes of sample 74SB02-03 analyzed for the metals fraction exhibited non-compliant %R's for antimony, barium and chromium, requiring qualification in the field

samples. A summary of these non-compliances and affected samples are noted in the following table.

MS	Analytes	Samples	%R	Q Flag
74SB02-03	antimony	all samples	72/74	J/UJ
	barium		39/51	
	chromium	all samples	201/149	J

A summary of qualifications required is provided on the following page. Please do not hesitate to contact DataQual ES with any questions regarding this validation report.

Sincerely,

Laura Maschhoff
President

Jacqueline Cleveland
Vice President

Summary of Data Qualifications

VOA

Sample ID	Compound	Results	Q flag
all samples	acrolein isobutyl alcohol	+/-	J/R
all samples	acrolein isobutyl alcohol 3-chloro-1-propene acetone	+/-	J/R
all samples	acetonitrile acrylonitrile 2-chloro-1,3-butadiene propionitrile bromomethane vinyl acetate	+/-	J/UJ

SVOA

Sample ID	Compound	Results	Q flag
all samples	hexachlorophene	+/-	J/R
all samples	4-nitroquinoline-1-oxide hexachlorophene	+/-	J/R
all samples	4-nitrophenol 2,4-dinitrotoluene 2,4-dinitro-2-methylphenol dibenzo(a,h)anthracene benzo(g,h,i)perylene n-nitrosomorpholine n-nitrosopiperidine hexachloropropene n-nitroso-di-n-butylamine methapyrilene aramite, total	+/-	J/UJ
69GW26, 69GW27	di-n-butylphthalate	+	U at reported value
69GW26, 69GW27	bis(2-ethylhexyl)phthalate	+	U at reported value

Summary of Data Qualifications, continued

PAH

Sample ID	Compound	Results	Q flag
No qualifications were required			

DRO/GRO

Sample ID	Compound	Results	Q flag
74SB01-04, 74SB02-03, 74SB02-05, 74SB04-01, 74SB04-04	DRO	+J	U
74SB01-00	GRO	+	J

Metals

Sample ID	Analyte	Results	Q flag
74SB01-02, 74SB01-04, 74SB02-05	mercury	+	J
all samples	cadmium	+/-	J/UJ
all samples >MDL up to RL	antimony	>MDL up to RL	U
74SB01-04	beryllium	>MDL up to RL	U
all samples >MDL up to RL	silver	>MDL up to RL	U
all samples	antimony barium	+/-	J/UJ
all samples	chromium	+	J

Glossary of Qualification Flags and Abbreviations

Qualification Flags (Q-Flags)

U	not detected above the reported sample quantitation limit
J	estimated value
UJ	reported quantitation limit is qualified as estimated
N	analyte has been tentatively identified
JN	analyte has been tentatively identified, estimated value
R	result is rejected; the presence or absence of the analyte cannot be verified

Method/Preparation/Field QC Blank Qualification Flags (Q-Flags)

Organic Methods

NA	The sample result for the blank contaminant is greater than the RL (2X sample RL for common laboratory contaminants) when the blank value is less than the RL. The sample result for the blank contaminant is not qualified with any blank qualifiers.
U*	The sample result for the blank contaminant is less than the RL (2X sample RL for common laboratory contaminants) but greater than the MDL when the blank value is less than the RL. The sample result for the blank contaminant is qualified as non-detect U at the reported concentration.
RL**	The sample result for the blank contaminant is less than the RL (2X sample RL for common laboratory contaminants) but greater than the MDL when the blank value is less than the RL. The sample result for the blank contaminant is changed to the RL and qualified as non-detect U.

* This guideline is used when the laboratory is reporting non-detects to the MDL. ** This guideline is used when the laboratory is reporting non-detects to the RL.

Inorganic Methods

ICB/CCB/PB Action:

No Action -	The sample result is greater than the RL and greater than ten times (10X) the blank value.
U -	The sample result is greater than or equal to the MDL but less than or equal to the RL, result is reported as non-detect at the reported concentration, when the ICB/CCB/PB result is less or greater than the RL.

Glossary of Qualification Flags and Abbreviations, continued

R -	Sample result is greater than the RL and less than the ICB/CCB/PB value when the ICB/CCB/PB value is greater than the RL.
J -	Sample result is greater than the ICB/CCB/PB value but less than 10X the ICB/CCB/PB value when ICB/CCB/PB value is greater than the RL.
J/UJ -	Sample result is less than 10X RL when blank result is below the negative RL.

Field QC Blank action:

Note – Use field blanks to qualify data only if field blank results are greater than prep blank results.

Do not use rinsate blank associated with soils to qualify water samples and vice versa.

No Action -	The sample result is greater than the RL and greater than ten times (10X) the blank value.
U -	The sample result is greater than or equal to the MDL but less than or equal to the RL, result is reported as non-detect at the reported concentration, when the FB result is less or greater than the RL.
R -	Sample result is greater than the RL and less than the FB value when the FB value is greater than the RL.
J -	Sample result is greater than the FB value but less than 10X the FB value when FB value is greater than the RL.

General Abbreviations

RL	reporting limit
IDL	instrument detection limit
MDL	method detection limit
CRDL	contract required detection limit
CRQL	contract required quantitation limit
+	positive result
-	non-detect result

TEST AMERICA SAVANNAH SDG 36289-4

DataQual

Environmental Services, LLC

Michael Baker, Jr., Inc.
Airside Business Park
100 Airside Drive
Moon Township, PA 15108

June 19, 2008
SDG# SWMU36289-4, Test America-Savannah
NAPR SWMU 56, Puerto Rico

Dear Mr. Kimes,

The following Data Validation report is provided as requested for the parameters noted in the table below for SDG # SWMU36289-4. The data validation was performed in accordance with the SW-846 methods utilized by the laboratory, the Region II Standard Operating Procedures for the Validation of Organic Data Acquired Using SW-846 Methods (8260B-Rev 2, January 2006- SOP #HW-24 and 8270D-Rev 3, October 2006-SOP #HW-22), and professional judgment. Region II has not developed a validation checklist SOP for the methods used to assess the inorganic methods in this SDG (SW-846 methods 6020B and 7470A). Therefore, alternative worksheets were provided. Region II flagging conventions were used. All areas of concern are discussed in the body of the report and a summary of data qualifications is provided.

Sample ID	Lab ID	Matrix	VOA App IX	LL-PAH	TMetals	DMetals
56TB01	680-36289-19	water	X			
56SW02	680-36289-14	water		X	X	X
56SW03	680-36289-15	water		X	X	X
56SW04	680-36289-16	water		X	X	X
56SW04D	680-36289-17	water		X	X	X
56SW05	680-36289-18	water		X	X	X

The following quality control samples were provided with this SDG: sample 56TB01-trip blank; sample 56SW04D-field duplicate of sample 56SW04.

The samples were evaluated based on the following criteria:

- Data Completeness *
- Sample Condition *
- Technical Holding Times
- GC/MS Tuning *
- Initial/Continuing Calibrations
- ICSA/ICSAB Standards
- CRDL Standards *
- Blanks
- Internal Standards *
- Surrogate Recoveries *

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- Laboratory Control Samples *
- Matrix Spike Recoveries
- Matrix Duplicate RPDs *
- Serial Dilutions *
- Field Duplicates *
- Identification/Quantitation
- Reporting Limits *
- Tentatively Identified Compounds NA

* - indicates that qualifications were not required based on this criteria

Overall Evaluation of Data/Potential Usability Issues

A summary of qualifications applied to the sample results are noted below for the fractions validated. Specific details regarding qualification of the data are addressed in the Specific Evaluation section of this narrative. If an issue is not addressed there were no actions required based on unmet quality criteria. Please note that the reviewer added an F to the sample ID to indicate dissolved metals analysis when necessary.

VOA

All sample vials for sample 56TB01 were received at the laboratory with headspace. According to Region II guidelines when all the vials for a sample have air bubbles or the VOA vial analyzed had air bubbles, all positive results are qualified as estimated (J) and non-detected results are rejected (R).

The initial and continuing calibration exhibited some compounds with low RRF values, which resulted in qualifying non-detected values as rejected for these compounds. Due to high %D values in the continuing calibrations, some compounds were qualified as estimated.

PAH

All samples were re-extracted out of extraction holding time due to non-compliant LCS recoveries. The re-extracted LCS exhibited compliant recoveries; therefore the re-extracted sample batch was used.

Metals

The ICSAB standards exhibited non-compliant recoveries below the QC limit for the analytes cadmium and silver. Based on Region II guidelines all positive and non-detect results for cadmium and silver in the field samples were qualified as estimated J/UJ.

Blank contamination was noted and qualification was required in the samples in this SDG.

The MS/MSD pair (from SDG SWMU36360-5) of sample 69GW11 exhibited non-compliant recoveries for the analyte mercury that were below the QC limits. All results for mercury in the total metals samples were qualified as estimated J/UJ.

The analyte cobalt exhibited non-comparable results between the total metals and dissolved metals analysis in all of the samples. Based on Region II validation guidelines the reported results for cobalt were rejected in the samples.

Specific Evaluation of Data

Data Completeness

The SDG was received complete and intact. Resubmissions were not required. Clarification questions were asked of the laboratory regarding the metals fraction. A copy of the e-mail correspondence is included in the validation worksheets.

Sample Condition

VOA

All sample vials for sample 56TB01 were received at the laboratory with headspace. According to Region II guidelines when all the vials for a sample have air bubbles or the VOA vial analyzed had air bubbles, all positive results are qualified as estimated (J) and non-detected results are rejected (R).

Technical Holding Times

According to chain of custody records, sampling was performed on 04/29/08 and samples were received at the laboratory 04/30/08. All sample preparation and analysis was performed within Region II and/or method holding time requirements with the following exceptions.

PAH

All samples in the data package were re-extracted out of extraction holding time due to non-compliant LCS recoveries. The re-extracted LCS exhibited compliant recoveries; therefore the re-extracted sample batch was used. All re-extracted samples were qualified as estimated (J/UJ).

Initial/Continuing Calibration

VOA

Calibration standards exhibited RRFs and %Ds that were non-compliant. A summary of these non-compliances and affected samples are noted in the following table. Sample results are qualified as indicated.

Standard ID	Compound(s)	RRF, %RSD, %D	Samples	Q Flag
IC 04/29/08	isobutyl alcohol	0.0458	all samples	J/R
CC 05/02/08	2-chloro-1,3-butadiene methacrylonitrile isobutyl alcohol methyl methacrylate trans-1,4-dichloro-2-butene pentachloroethane dichlorodifluoromethane	27.7% 20.4% 32.5% 23.2% 33.9% 24.2% 26.3%	56TB01	J/UJ

ICSA/ICSAB Standards

Metals

The associated final ICSAB standard exhibited non-compliant recoveries less than the lower QC limit for the analyte cadmium (77%/72%) and silver (78%/78%). Based on Region II guidelines, reported positive and non-detect results for cadmium and silver were qualified as estimated J/UJ in all samples.

Blanks

Metals

Associated blanks exhibited contamination as noted in the following table. The laboratory reported non-detect results to the MDL for this project. Therefore, the blank flagging actions were modified to take this into consideration. Please see the Glossary of Qualification Flags and Abbreviations for details. (t & d in the following table refer to total and dissolved blank contamination concentrations)

Blank ID	Analyte	Concentration	Action Level	Q Flag
PBW	arsenic	0.8930J ug/L (d) 1.0655J ug/L (t)	>MDL up to RL	U
	chromium	0.9955J ug/L (d) 1.0350J ug/L (t)	>MDL up to RL	U
	cobalt	0.0663J ug/L	>MDL up to RL	U
	tin	2.8885J ug/L	>MDL up to RL	U
	vanadium	0.019J ug/L (d) 2.6115J ug/L (t)	>MDL up to RL	U
ICB/CCB	antimony	0.14370J ug/L (d)	>MDL up to RL	U
	cobalt	0.009J ug/L (t)	>MDL up to RL	U
	tin	0218J ug/L (t)	>MDL up to RL	U

* There were no field QC blanks assigned to these surface water samples. All associations were made based on provided QC blank tracking. Please note, when qualifying samples for CCB contamination, associated samples are those just prior to or just following a CCB. Therefore, not all analytes in all samples are flagged for CCB contamination.

Associated samples and required qualifications are noted in the following table.

Sample ID	Analyte	Q Flag
56SW02F, 56SW03F	antimony	U
all samples	arsenic	U
all samples	chromium	U
56SW02, 56SW03, 56SW04, 56SW04D	cobalt	U
56SW02F, 56SW03F, 56SW04F	tin	U
56SW02F, 56SW03F, 56SW04, 56SW04F, 56SW04D, 56SW04DF, 56SW05F	vanadium	U

Matrix Spike Recoveries

Metals

The matrix spikes (from SDG SWMU36360-5) of sample 69GW11 exhibited non-compliant %Rs for one analyte that required qualification in the field samples. A summary of these non-compliances and affected samples are noted in the following table.

MS	Analytes	Samples	%R	Q Flag
69GW11	mercury	all total samples	72.7%/ 74.4%	J/UJ

Identification/Quantitation

PAH

The LCS associated with samples, 56SW02, 56SW03, 56SW04, 56SW04D and 56SW05, exhibited non-compliant recoveries. These samples were re-extracted; the re-extracted batch exhibited compliant recoveries for the LCS. Therefore, the initial analysis of these samples was not used in favor of the re-extraction.

Metals

Region II requires a detailed comparison of the results between the total and dissolved sample analyses. This comparison between total and dissolved results is made only when both of the following conditions are met: first, the dissolved concentration is greater than the total concentration, and 2nd, that the dissolved concentration is greater than or equal to 5X the MDL. The analyte cobalt met both of these conditions in all samples. Based on the guidelines (>20%RPD results are qualified, >50%RPD results are rejected) the positive results reported for cadmium were rejected in all samples. Please note that cobalt in these samples was significantly higher in the dissolved analysis. The cobalt results in almost all of the total samples (except 56SW05) were negated due to blank contamination. However, the cobalt concentrations in the dissolved samples were above the RL in all cases so they were not flagged due to the low concentration blank contamination. The RPDs between total and dissolved results were greater than 50% in all cases (51% up to 164%).

A summary of qualifications required is provided on the following page. Please do not hesitate to contact DataQual ES with any questions regarding this validation report.

Sincerely,

Laura Maschhoff
President

Jacqueline Cleveland
Vice President

Summary of Data Qualifications

VOA

Sample ID	Compound	Results	Q flag
56TB01	all results	+/-	J/R
56TB01	isobutyl alcohol	+/-	J/R
56TB01	2-chloro-1,3-butadiene methacrylonitrile isobutyl alcohol methyl methacrylate trans-1,4-dichloro-2-butene pentachloroethane dichlorodifluoromethane	+/-	J/UJ

PAH

Sample ID	Compound	Results	Q flag
56SW0RE2, 56SW03RE, 56SW04RE, 56SW04DRE, 56SW05RE	all results	+/-	J/UJ
56SW02, 56SW03, 56SW04, 56SW04D, 56SW05	all results	+/-	R

Total & Dissolved Metals

Sample ID	Analyte	Results	Q flag
all samples	cadmium silver	+/-	J/UJ
56SW02F, 56SW03F	antimony	>MDL up to RL	U
all samples	arsenic	>MDL up to RL	U
all samples	chromium	>MDL up to RL	U
56SW02, 56SW03, 56SW04, 56SW04D	cobalt	>MDL up to RL	U
56SW02F, 56SW03F, 56SW04F	tin	>MDL up to RL	U
56SW02F, 56SW03F, 56SW04, 56SW04F, 56SW04D, 56SW04DF, 56SW05F	vanadium	>MDL up to RL	U
all total metals samples	mercury	+/-	J/UJ
all samples	cobalt	+ /-	R

Glossary of Qualification Flags and Abbreviations

Qualification Flags (Q-Flags)

U	not detected above the reported sample quantitation limit
J	estimated value
UJ	reported quantitation limit is qualified as estimated
N	analyte has been tentatively identified
JN	analyte has been tentatively identified, estimated value
R	result is rejected; the presence or absence of the analyte cannot be verified

Method/Preparation/Field QC Blank Qualification Flags (Q-Flags)

Organic Methods

NA	The sample result for the blank contaminant is greater than the RL (2X sample RL for common laboratory contaminants) when the blank value is less than the RL. The sample result for the blank contaminant is not qualified with any blank qualifiers.
U*	The sample result for the blank contaminant is less than the RL (2X sample RL for common laboratory contaminants) but greater than the MDL when the blank value is less than the RL. The sample result for the blank contaminant is qualified as non-detect U at the reported concentration.
RL**	The sample result for the blank contaminant is less than the RL (2X sample RL for common laboratory contaminants) but greater than the MDL when the blank value is less than the RL. The sample result for the blank contaminant is changed to the RL and qualified as non-detect U.

* This guideline is used when the laboratory is reporting non-detects to the MDL. ** This guideline is used when the laboratory is reporting non-detects to the RL.

Inorganic Methods

ICB/CCB/PB Action:

No Action -	The sample result is greater than the RL and greater than ten times (10X) the blank value.
U -	The sample result is greater than or equal to the MDL but less than or equal to the RL, result is reported as non-detect at the reported concentration, when the ICB/CCB/PB result is less or greater than the RL.

Glossary of Qualification Flags and Abbreviations, continued

R -	Sample result is greater than the RL and less than the ICB/CCB/PB value when the ICB/CCB/PB value is greater than the RL.
J -	Sample result is greater than the ICB/CCB/PB value but less than 10X the ICB/CCB/PB value when ICB/CCB/PB value is greater than the RL.
J/UJ -	Sample result is less than 10X RL when blank result is below the negative RL.

Field QC Blank action:

Note – Use field blanks to qualify data only if field blank results are greater than prep blank results.

Do not use rinsate blank associated with soils to qualify water samples and vice versa.

No Action -	The sample result is greater than the RL and greater than ten times (10X) the blank value.
U -	The sample result is greater than or equal to the MDL but less than or equal to the RL, result is reported as non-detect at the reported concentration, when the FB result is less or greater than the RL.
R -	Sample result is greater than the RL and less than the FB value when the FB value is greater than the RL.
J -	Sample result is greater than the FB value but less than 10X the FB value when FB value is greater than the RL.

General Abbreviations

RL	reporting limit
IDL	instrument detection limit
MDL	method detection limit
CRDL	contract required detection limit
CRQL	contract required quantitation limit
+	positive result
-	non-detect result

TEST AMERICA SAVANNAH SDG 36360-1

DataQual

Environmental Services, LLC

Michael Baker, Jr., Inc.
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July 14, 2008
SDG# SWMU36360-1, Test America-Savannah
NAPR SWMU 74, Puerto Rico

Dear Mr. Kimes,

The following Data Validation report is provided as requested for the parameters noted in the table below for SDG # SWMU36360-1. The data validation was performed in accordance with the SW-846 methods utilized by the laboratory, the Region II Standard Operating Procedures for the Validation of Organic Data Acquired Using SW-846 Methods (8260B-Rev 2, January 2006- SOP #HW-24 and 8270D-Rev 3, October 2006- SOP #HW-22), and professional judgment. Region II has not developed a validation checklist SOP for the methods used to assess the inorganic methods in this SDG (SW-846 methods 6020B, 7471A) or the organic methods for hydrocarbons (SW-846 methods 8015_DRO and 8015_GRO). Therefore, alternative worksheets were provided. Region II flagging conventions were used. All areas of concern are discussed in the body of the report and a summary of data qualifications is provided.

Sample ID	Lab ID	Matrix	VOA App IX	LL-PAH	DRO/GRO	Metals
74SB05-01	680-36360-1	soil	X		X	X
74SB05-01D	680-36360-2	soil	X		X	X
74SB05-02	680-36360-3	soil	X		X	X
74SB06-01	680-36360-4	soil	X		X	X
74SB06-02	680-36360-5	soil	X		X	X
74SB07-02	680-36360-6	soil	X		X	X
74SB07-04	680-36360-7	soil	X		X	X
74SB09-02	680-36360-8	soil	X		X	X
74SB09-05	680-36360-9	soil	X		X	X
74SB10-02	680-36360-10	soil	X		X	X
74SB10-04	680-36360-11	soil	X		X	X
74SB11-02	680-36360-12	soil	X		X	X
74SB11-04	680-36360-13	soil	X	X	X	X
74SB11-04D	680-36360-14	soil	X	X	X	X
74SB12-03	680-36360-15	soil	X		X	X
74SB12-05	680-36360-16	soil	X		X	X
74SB13-00	680-36360-17	soil	X		X	X
74SB13-00D	680-36360-18	soil	X		X	X
74SB13-02	680-36360-19	soil	X		X	X
74SB13-04	680-36360-20	soil	X		X	X
74SB06-01 MS	680-36360-4MS	soil	X		X	X
74SB06-01 MSD	680-36360-4MSD	soil	X		X	X
74SB13-00 MS	680-36360-17MS	soil	X			
74SB13-00 MSD	680-36360-17MSD	soil	X			
74SB11-04 MS	680-36360-13MS	soil		X	X	X
74SB11-04 MSD	680-36360-13MSD	soil		X	X	X

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The following quality control samples were provided with this SDG: sample 74SB05-01D-field duplicate of sample 74SB05-01; sample 74SB11-04D-field duplicate of sample 74SB11-04; and sample 74SB13-00D-field duplicate of sample 74SB13-00.

The samples were evaluated based on the following criteria:

• Data Completeness	*
• Sample Condition	*
• Technical Holding Times	*
• GC/MS Tuning	*
• GC Performance	*
• Initial/Continuing Calibrations	
• ICSA/ICSAB Standards	
• CRDL Standards	*
• Blanks	
• Internal Standards	*
• Surrogate Recoveries	
• Laboratory Control Samples	*
• Matrix Spike Recoveries	
• Matrix Duplicate RPDs	
• Serial Dilutions	*
• Field Duplicates	
• Identification/Quantitation	
• Reporting Limits	*
• Tentatively Identified Compounds	NA

* - indicates that qualifications were not required based on this criteria

Overall Evaluation of Data/Potential Usability Issues

A summary of qualifications applied to the sample results are noted below for the fractions validated. Specific details regarding qualification of the data are addressed in the Specific Evaluation section of this narrative. If an issue is not addressed there were no actions required based on unmet quality criteria. Please note that the reviewer added an F to the sample ID to indicate dissolved metals analysis when necessary. When more than one qualifier is associated with a compound/analyte the validator has chosen the qualifier that best indicates possible bias in the results and flagged the data accordingly. However, information regarding all quality control issues is provided in the body of the report and on the qualification summary page.

VOA

The initial and continuing calibration exhibited some compounds with low RRF values, which resulted in qualifying non-detected values as rejected for these compounds. Due to

high %D values, in the continuing calibrations, some compounds were qualified as estimated.

Blank contamination was noted in the method and QC blank associated with samples in this batch. Qualifications were added to the data.

PAH

No qualifications to the data were required.

DRO/GRO

Blank contamination was noted and qualification was required in the samples in this SDG.

Two samples analyzed for GRO required qualification due to high surrogate recoveries.

The field duplicate pair of samples 74SB05-01 and 74SB05-01D exhibited GRO results that did not compare. The field sample exhibited a non-detect result and the duplicate exhibited a result that was well above the reporting limit. The reported results for GRO in this field duplicate pair were qualified as estimated J/UJ.

Metals

The ICSAB standards exhibited non-compliant recoveries below the QC limit for the analyte cadmium. Based on Region II guidelines all positive and non-detect results for cadmium were qualified as estimated J/UJ.

Blank contamination was noted and qualification was required in the samples in this SDG.

One or more of the three matrix spikes pairs submitted in this SDG exhibited non-compliant recoveries in both the MS and the MSD for the analytes antimony, barium and lead. All results for antimony, barium and lead in the metals samples were qualified as estimated J/UJ.

The field duplicate pairs exhibited non-compliant RPDs or absolute differences for several analytes. These analytes were qualified as estimated or rejected in the field duplicate pairs.

Specific Evaluation of Data

Data Completeness

The SDG was received complete and intact. Resubmissions were not required. Clarification questions were asked of the laboratory regarding the metals fraction. A copy of the e-mail correspondence is included in the validation worksheets. Clarification questions were asked of the laboratory regarding the GRO/DRO fraction. A copy of these e-mail correspondences is included in the project file.

Technical Holding Times

According to chain of custody records, sampling was performed on 04/29-30/08 and samples were received at the laboratory 05/02/08. All sample preparation and analysis was performed within Region II and/or method holding time requirements.

Initial/Continuing Calibration

VOA

Calibration standards exhibited RRFs and %Ds that were non-compliant. A summary of these non-compliances and affected samples are noted in the following table. Sample results are qualified as indicated.

Standard ID	Compound(s)	RRF, %RSD, %D	Samples	Q Flag
IC 05/02/08	acrolein isobutyl alcohol	0.0298 0.0260	74SB05-01, 74SB05-02, 74SB06-01, 74SB07-02, 74SB09-02, 74SB07-04, 74SB09-05, 74SB10-02, 74SB10-04, 74SB11-04D, 74SB12-03, 74SB13-00, 74SB11-02, 74SB11-04, 74SB13-00D, 74SB13-02, 74SB13-04	J/R

Standard ID	Compound(s)	RRF, %RSD, %D	Samples	Q Flag
CC 05/06/08	acrolein isobutyl alcohol acetone	0.01580 0.01628 0.04793	74SB05-01, 74SB05-02, 74SB06-01, 74SB07-02, 74SB09-02, 74SB07-04, 74SB09-05, 74SB10-02, 74SB10-04, 74SB11-04D, 74SB12-03, 74SB13-00	J/R
	acetonitrile 3-chloro-1-propene methyl methacrylate vinyl acetate 2-butanone 4-methyl-2-pentanone 2-hexanone	22.6% 42.8% 22.4% 42.0% 34.9% 21.7% 25.7%		J/UJ
CC 05/08/08	isobutyl alcohol	0.01965	74SB11-02, 74SB11-04, 74SB13-00D, 74SB13-02, 74SB13-04	J/R
	acetone acetonitrile 3-chloro-1-propene pentachloroethane	21.6% 21.1% 42.5% 25.2%		J/UJ
CC 05/13/08	acrolein isobutyl alcohol acetone	0.03593 0.01701 0.04542	74SB06-02, 74SB05-01D	J/R
	acetonitrile 3-chloro-1-propene acrylonitrile 2-chloro-1,3-butadiene propionitrile pentachloroethane	24.0% 24.1% 30.6% 21.8% 22.9% 20.9%		J/UJ
IC 05/02/08	acrolein acetonitrile propionitrile isobutyl alcohol	0.0250 0.0406 0.0414 0.0126	74SB12-05	J/R
CC 05/08/08	acrolein acetonitrile isobutyl alcohol acetone	0.02689 0.03031 0.01971 0.03963	74SB12-05	J/R
	propionitrile methacrylonitrile methyl methacrylate ethyl methacrylate trans-1,4-dichloro-2-butene bromomethane	53.5% 36.6% 40.8% 28.1% 46.4% 24.9%		J/UJ

ICSA/ICSAB Standards

Metals

The ICSAB standards associated with the total metals analysis exhibited non-compliant recoveries less than the lower QC limit for the analyte cadmium (79%/79%). Based on Region II guidelines, reported positive and non-detect results for cadmium were qualified as estimated J/UJ in all samples.

Blanks

VOA

The associated method and/or QC blanks exhibited contamination as noted in the following table. Compounds for which there was no action required, are not included in the following table. Please note that the laboratory reported non-detect results down to the MDL for this project. Therefore, the blank flagging actions were modified as follows to take this into consideration. Positive results greater than the MDL but less than the CRQL are qualified as U at the reported concentration when affected by blank contamination.

Blank ID	Compound	Concentration	Reporting Limit	Action Level
Method Blk 5/6	acetone	18J ug/Kg	50 ug/Kg	2X RL
	2-butanone	2.9J	25	
Method Blk 5/13	acetone	580J ug/Kg	2000 ug/Kg	2X RL
FB01	2-butanone	0.69J ug/L	10 ug/L	2X RL

Associated samples and required qualifications are noted in the following table.

Sample ID	Compound	Q Flag
74SB05-01, 74SB05-02, 74SB06-01, 74SB07-02, 74SB07-04, 74SB09-02, 74SB09-05, 74SB10-02, 74SB10-04, 74SB11-04D, 74SB06-02	acetone	U at reported value
74SB05-02, 74SB06-01, 74SB07-02, 74SB07-04, 74SB09-02, 74SB10-02, 74SB11-04D, 74SB12-03, 74SB13-00, 74SB05-01D, 74SB06-02, 74SB11-02, 74SB11-04, 74SB13-02, 74SB13-04	2-butanone	U at reported value

Blanks

DRO/GRO

The associated rinse blank exhibited contamination as noted in the following table. Compounds for which there was no action required, are not included in the following table. Please note that the laboratory reported non-detect results down to the MDL for this project. Therefore, the blank flagging actions were modified as follows to take this into consideration. Positive results greater than the MDL but less than the CRQL are qualified as U at the reported concentration when affected by blank contamination.

Blank ID	Compound	Concentration	Action Level	Q Flag
ER02	DRO	0.12 mg/L or 4.0 mg/Kg	RL	U

Associated samples and required qualifications are noted in the following table.

Sample ID	Compound	Q Flag
74SB05-02, 74SB06-01, 74SB07-02, 74SB07-04, 74SB09-02, 74SB09-05, 74SB10-02, 74SB10-04, 74SB11-02, 74SB11-04, 74SB11-04D, 74SB12-03, 74SB12-05, 74SB13-02, 74SB13-04	DRO	U

Metals

Associated blanks exhibited contamination as noted in the following table. The laboratory reported non-detect results to the MDL for this project. Therefore, the blank flagging actions were modified to take this into consideration. Please see the Glossary of Qualification Flags and Abbreviations for details.

Blank ID	Analyte	Concentration	Action Level	Q Flag
CCB	antimony	0.10660J ug/L	>MDL up to RL	U
	silver	0.017J ug/L	> MDL up to RL	U

Please note, when qualifying samples for CCB contamination, associated samples are those just prior to or just following a CCB. Therefore, not all analytes in all samples are flagged for CCB contamination.

Associated samples and required qualifications are noted in the following table.

Sample ID	Analyte	Q Flag
all samples >MDL up to RL	antimony	U
74SB13-04	silver	U

Surrogate Recoveries

DRO/GRO

Two samples analyzed for GRO exhibited non-compliant surrogate recovery above the QC limits. The reported positive results for GRO in samples 74SB13-00 (129%) and 74SB13-00D (144%) were qualified as estimated J.

Matrix Spikes

Metals

The matrix spikes pairs submitted in this SDG exhibited non-compliant %R's for antimony, barium and lead, requiring qualification in the field samples. A summary of these non-compliances and affected samples are noted in the following table.

MS	Analytes	Samples	%R	Q Flag
74SB11-04	antimony	all samples	47/54	J/UJ
	barium		14/19	
74SB13-00	antimony	all samples	62/59	J/UJ
	lead		74/63	
74SB06-01	antimony	all samples	72/68	J/UJ

Field Duplicates

DRO/GRO

The field duplicate pair of samples 74SB05-01 and 74SB05-01D exhibited GRO results that did not compare. The field sample exhibited a non-detect result and the duplicate exhibited a result that was well above the reporting limit. The reported results for GRO in this field duplicate pair were qualified as estimated J/UJ.

Metals

The field duplicate pair of samples 74SB05-01 and 74SB05-01D exhibited metals results that did not compare. The analyte barium exhibited a RPD that was ≥35% but less than 120% and was qualified as estimated J in both samples.

The field duplicate pair of samples 74SB11-04 and 74SB11-04D exhibited metals results that did not compare. The analytes chromium, cobalt, copper, nickel and vanadium exhibited RPDs that were ≥35% but <120% and were qualified as estimated J in both samples. The analyte mercury exhibited an absolute difference that was greater than 2X RL and was rejected R in both samples.

The field duplicate pair of samples 74SB13-00 and 74SB13-00D exhibited metals results that did not compare. The analyte barium exhibited a RPD that was ≥35% but less than 120% and was qualified as estimated J in both samples.

A summary of qualifications required is provided on the following page. Please do not hesitate to contact DataQual ES with any questions regarding this validation report.

Sincerely,

Laura Maschhoff
President

Jacqueline Cleveland
Vice President

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Summary of Data Qualifications

VOA

Sample ID	Compound	Results	Q flag
74SB05-01, 74SB05-02, 74SB06-01, 74SB07-02, 74SB09-02, 74SB07-04, 74SB09-05, 74SB10-02, 74SB10-04, 74SB11-04D, 74SB12-03, 74SB13-00, 74SB11-02, 74SB11-04, 74SB13-00D, 74SB13-02, 74SB13-04	acrolein isobutyl alcohol	+/-	J/R
74SB05-01, 74SB05-02, 74SB06-01, 74SB07-02, 74SB09-02, 74SB07-04, 74SB09-05, 74SB10-02, 74SB10-04, 74SB11-04D, 74SB12-03, 74SB13-00	acrolein isobutyl alcohol acetone	+/-	J/R
74SB05-01, 74SB05-02, 74SB06-01, 74SB07-02, 74SB09-02, 74SB07-04, 74SB09-05, 74SB10-02, 74SB10-04, 74SB11-04D, 74SB12-03, 74SB13-00	acetonitrile 3-chloro-1-propene methyl methacrylate vinyl acetate 2-butanone 4-methyl-2-pentanone 2-hexanone	+/-	J/UJ
74SB11-02, 74SB11-04, 74SB13-00D, 74SB13-02, 74SB13-04	isobutyl alcohol	+/-	J/R
74SB11-02, 74SB11-04, 74SB13-00D, 74SB13-02, 74SB13-04	acetone acetonitrile 3-chloro-1-propene pentachloroethane	+/-	J/UJ
74SB06-02, 74SB05-01D	acrolein isobutyl alcohol acetone	+/-	J/R
74SB06-02, 74SB05-01D	acetonitrile 3-chloro-1-propene acrylonitrile 2-chloro-1,3-butadiene propionitrile pentachloroethane	+/-	J/UJ
74SB12-05	acrolein acetonitrile propionitrile isobutyl alcohol	+/-	J/R
74SB12-05	acrolein acetonitrile isobutyl alcohol acetone	+/-	J/R
74SB12-05	propionitrile methacrylonitrile methyl methacrylate ethyl methacrylate trans-1,4-dichloro-2-butene bromomethane	+/-	J/UJ

Summary of Data Qualifications, continued

VOA

Sample ID	Compound	Results	Q flag
74SB05-01, 74SB05-02, 74SB06-01, 74SB07-02, 74SB07-04, 74SB09-02, 74SB09-05, 74SB10-02, 74SB10-04, 74SB11-04D, 74SB06-02	acetone	+	U at reported value
74SB05-02, 74SB06-01, 74SB07-02, 74SB07-04, 74SB09-02, 74SB10-02, 74SB11-04D, 74SB12-03, 74SB13-00, 74SB05-01D, 74SB06-02, 74SB11-02, 74SB11-04, 74SB13-02, 74SB13-04, 74SB13-00D	2-butanone	+	U at reported value

PAH

Sample ID	Compound	Results	Q flag
No qualifications			

DRO/GRO

Sample ID	Compound	Results	Q flag
74SB05-02, 74SB06-01, 74SB07-02, 74SB07-04, 74SB09-02, 74SB09-05, 74SB10-02, 74SB10-04, 74SB11-02, 74SB11-04, 74SB11-04D, 74SB12-03, 74SB12-05, 74SB13-02, 74SB13-04	DRO	+J	U
74SB13-00, 74SB13-00D	GRO	+	J
74SB05-01, 74SB05-01D	GRO	+/-	J/UJ

Metals

Sample ID	Analyte	Results	Q flag
all samples	cadmium	+/-	J/UJ
all samples >MDL up to RL	antimony	>MDL up to RL	U
74SB13-04	silver	>MDL up to RL	U
all samples	antimony barium lead	+/-	J/UJ
74SB05-01, 74SB05-01D, 74SB13-00, 74SB13-00D	barium	+	J
74SB11-04, 74SB11-04D	chromium cobalt copper nickel vanadium	+	J
74SB11-04, 74SB11-04D	mercury	+	R

Glossary of Qualification Flags and Abbreviations

Qualification Flags (Q-Flags)

U	not detected above the reported sample quantitation limit
J	estimated value
UJ	reported quantitation limit is qualified as estimated
N	analyte has been tentatively identified
JN	analyte has been tentatively identified, estimated value
R	result is rejected; the presence or absence of the analyte cannot be verified

Method/Preparation/Field QC Blank Qualification Flags (Q-Flags)

Organic Methods

NA	The sample result for the blank contaminant is greater than the RL (2X sample RL for common laboratory contaminants) when the blank value is less than the RL. The sample result for the blank contaminant is not qualified with any blank qualifiers.
U*	The sample result for the blank contaminant is less than the RL (2X sample RL for common laboratory contaminants) but greater than the MDL when the blank value is less than the RL. The sample result for the blank contaminant is qualified as non-detect U at the reported concentration.
RL**	The sample result for the blank contaminant is less than the RL (2X sample RL for common laboratory contaminants) but greater than the MDL when the blank value is less than the RL. The sample result for the blank contaminant is changed to the RL and qualified as non-detect U.

* This guideline is used when the laboratory is reporting non-detects to the MDL. ** This guideline is used when the laboratory is reporting non-detects to the RL.

Inorganic Methods

ICB/CCB/PB Action:

No Action -	The sample result is greater than the RL and greater than ten times (10X) the blank value.
U -	The sample result is greater than or equal to the MDL but less than or equal to the RL, result is reported as non-detect at the reported concentration, when the ICB/CCB/PB result is less or greater than the RL.

Glossary of Qualification Flags and Abbreviations, continued

R -	Sample result is greater than the RL and less than the ICB/CCB/PB value when the ICB/CCB/PB value is greater than the RL.
J -	Sample result is greater than the ICB/CCB/PB value but less than 10X the ICB/CCB/PB value when ICB/CCB/PB value is greater than the RL.
J/UJ -	Sample result is less than 10X RL when blank result is below the negative RL.

Field QC Blank action:

Note – Use field blanks to qualify data only if field blank results are greater than prep blank results.

Do not use rinsate blank associated with soils to qualify water samples and vice versa.

No Action -	The sample result is greater than the RL and greater than ten times (10X) the blank value.
U -	The sample result is greater than or equal to the MDL but less than or equal to the RL, result is reported as non-detect at the reported concentration, when the FB result is less or greater than the RL.
R -	Sample result is greater than the RL and less than the FB value when the FB value is greater than the RL.
J -	Sample result is greater than the FB value but less than 10X the FB value when FB value is greater than the RL.

General Abbreviations

RL	reporting limit
IDL	instrument detection limit
MDL	method detection limit
CRDL	contract required detection limit
CRQL	contract required quantitation limit
+	positive result
-	non-detect result

TEST AMERICA SAVANNAH SDG 36360-2

DataQual

Environmental Services, LLC

Michael Baker, Jr., Inc.
Airside Business Park
100 Airside Drive
Moon Township, PA 15108

July 14, 2008
SDG# SWMU36360-2, Test America-Savannah
NAPR SWMU 74, Puerto Rico

Dear Mr. Kimes,

The following Data Validation report is provided as requested for the parameters noted in the table below for SDG # SWMU36360-2. The data validation was performed in accordance with the SW-846 methods utilized by the laboratory, the Region II Standard Operating Procedures for the Validation of Organic Data Acquired Using SW-846 Methods (8260B-Rev 2, January 2006- SOP #HW-24 and 8270D-Rev 3, October 2006-SOP #HW-22), and professional judgment. Region II has not developed a validation checklist SOP for the methods used to assess the inorganic methods in this SDG (SW-846 methods 6020B, 7471A) or the organic methods for hydrocarbons (SW-846 methods 8015_DRO and 8015_GRO). Therefore, alternative worksheets were provided. Region II flagging conventions were used. All areas of concern are discussed in the body of the report and a summary of data qualifications is provided.

Sample ID	Lab ID	Matrix	VOA App IX	LL-PAH	DRO/GRO	GRO	Metals
74SB14-02	680-36360-21	soil	X		X		X
74SB14-03	680-36360-22	soil	X		X		X
74SB15-02	680-36360-23	soil	X		X		X
74SB15-03	680-36360-24	soil	X		X		X
74SB16-02	680-36360-25	soil	X		X		X
74SB16-04	680-36360-26	soil	X	X	X		X
74SB16-04D	680-36360-27	soil	X	X	X		X
74TB02	680-36360-28	soil	X			X	
74SB14-03MS	680-36360-22MS	soil					X
74SB14-03MSD	680-36360-22MSD	soil					X

The following quality control samples were provided with this SDG: sample 74SB16-04D-field duplicate of sample 74SB16-04; and sample 74TB02-trip blank.

The samples were evaluated based on the following criteria:

- Data Completeness *
- Sample Condition *
- Technical Holding Times *
- GC/MS Tuning *
- GC Performance *
- Initial/Continuing Calibrations

5830 Amberway Drive • St. Louis, MO 63128 • 314-330-1327 • Fax 314-849-6264

- ICSA/ICSAB Standards
- CRDL Standards *
- Blanks
- Internal Standards *
- Surrogate Recoveries
- Laboratory Control Samples *
- Matrix Spike Recoveries
- Matrix Duplicate RPDs
- Serial Dilutions *
- Field Duplicates
- Identification/Quantitation
- Reporting Limits *
- Tentatively Identified Compounds NA

* - indicates that qualifications were not required based on this criteria

Overall Evaluation of Data/Potential Usability Issues

A summary of qualifications applied to the sample results are noted below for the fractions validated. Specific details regarding qualification of the data are addressed in the Specific Evaluation section of this narrative. If an issue is not addressed there were no actions required based on unmet quality criteria. When more than one qualifier is associated with a compound/analyte the validator has chosen the qualifier that best indicates possible bias in the results and flagged the data accordingly. However, information regarding all quality control issues is provided in the body of the report and on the qualification summary page.

VOA

The initial and continuing calibration exhibited some compounds with low RRF values, which resulted in qualifying non-detected values as rejected for these compounds. Due to high %D values, in the continuing calibrations, some compounds were qualified as estimated.

Blank contamination was noted in the method and QC blank associated with samples in this batch. Qualifications were added to the data.

One sample exhibited high surrogate recoveries that required qualification to positive results.

The field duplicate pair did not exhibit comparable results that resulted in qualifications to the data for three compounds.

PAH

One sample exhibited zero percent surrogate recovery that required qualifications to the data.

DRO/GRO

Blank contamination was noted and qualification was required in the samples in this SDG.

Two samples analyzed for GRO required qualification due to high surrogate recoveries.

The field duplicate pair of samples 74SB16-04 and 74SB16-04D exhibited a non-compliant RPD for the target compound DRO. The reported positive results in the field duplicate pair were qualified as estimated J.

Metals

The ICSAB standards exhibited non-compliant recoveries below the QC limit for the analyte cadmium. Based on Region II guidelines all positive and non-detect results for cadmium and silver in the metals samples were qualified as estimated J/UJ.

Blank contamination was noted and qualification was required in the samples in this SDG.

The matrix spikes of sample 74SB14-03 analyzed for the metals fraction exhibited non-compliant recoveries below the QC limits for antimony, cobalt and lead. All results for antimony and cobalt in the metals samples were qualified as estimated J/UJ. Lead exhibited negative recoveries so all reported positive and non-detect results for lead were rejected R based on Region II guidance.

The matrix duplicate of sample 7S4B14-03 analyzed for the metals fraction exhibited a non-compliant RPD for the analyte chromium. All results for chromium were qualified as estimated J/UJ.

Specific Evaluation of Data

Data Completeness

The SDG was received complete and intact. Resubmissions were not required. Clarification questions were asked of the laboratory regarding the metals fraction. A copy of the e-mail correspondence is included in the validation worksheets. Clarification questions were asked of the laboratory regarding the GRO/DRO fraction. A copy of these e-mail correspondences is included in the project file.

Technical Holding Times

According to chain of custody records, sampling was performed on 04/30/08 and samples were received at the laboratory 05/02/08. All sample preparation and analysis was performed within Region II and/or method holding time requirements.

Initial/Continuing Calibration

VOA

Calibration standards exhibited RRFs and %Ds that were non-compliant. A summary of these non-compliances and affected samples are noted in the following table. Sample results are qualified as indicated.

Standard ID	Compound(s)	RRF, %RSD, %D	Samples	Q Flag
IC 04/29/08	isobutyl alcohol	0.0443	74TB02	J/R
CC 05/06/08	acrolein isobutyl alcohol acetone	0.01580 0.01628 0.04793	74TB02	J/R
	acetonitrile 2-chloro-1,3-butadiene isobutyl alcohol methyl methacrylate trans-1,4-dichloro-2-butene pentachloroethane chloromethane trichlorofluoromethane acetone carbon disulfide	27.9% 51.6% 40.6% 23.7% 39.1% 32.4% 21.8% 32.5% 21.3% 22.9%		J/UJ
CC 05/08/08	isobutyl alcohol	0.01965	74SB14-02, 74SB14-03, 74SB15-02, 74SB15-03, 74SB16-04D	J/R
	acetone acetonitrile 3-chloro-1-propene pentachloroethane	21.6% 21.1% 42.5% 25.2%		J/UJ
CC 05/10/08	acrolein isobutyl alcohol acetone	0.03757 0.02072 0.04912	74SB16-02	J/R
	3-chloro-1-propene acrylonitrile pentachloroethane	53.5% 22.0% 42.5%		J/UJ
CC 05/14/08	acrolein isobutyl alcohol acetone	0.04041 0.02375 0.04700	74SB16-04	J/R
	iodomethane 3-chloro-1-propene pentachloroethane 4-methyl-2-pentanone 2-hexanone	36.5% 71.0% 43.3% 20.5% 20.5%		J/UJ

ICSA/ICSAB Standards

Metals

The ICSAB standards associated with the metals analysis exhibited non-compliant recoveries less than the lower QC limit for the analyte cadmium (79%/79%). Based on Region II guidelines, reported positive and non-detect results for cadmium were qualified as estimated J/UJ in all metals samples.

Blanks

VOA

The associated method and/or QC blanks exhibited contamination as noted in the following table. Compounds for which there was no action required, are not included in the following table. Please note that the laboratory reported non-detect results down to the MDL for this project. Therefore, the blank flagging actions were modified as follows to take this into consideration. Positive results greater than the MDL but less than the CRQL are qualified as U at the reported concentration when affected by blank contamination.

Blank ID	Compound	Concentration	Reporting Limit	Action Level
Method Blk 5/10	acetone	9.4J ug/Kg	50 ug/Kg	2X RL
Method Blk 5/14	acetone	960J ug/Kg	2000 ug/Kg	2X RL
FB01	2-butanone	0.69J ug/L	10 ug/L	2X RL

Associated samples and required qualifications are noted in the following table.

Sample ID	Compound	Q Flag
74SB16-02, 74SB16-04	acetone	U at reported value
74SB14-02, 74SB14-03, 74SB15-02, 74SB15-03, 74SB16-02, 74SB16-04D	2-butanone	U at reported value

DRO/GRO

The associated rinse blank exhibited contamination as noted in the following table. Compounds for which there was no action required, are not included in the following table. Please note that the laboratory reported non-detect results down to the MDL for this project. Therefore, the blank flagging actions were modified as follows to take this into consideration. Positive results greater than the MDL but less than the CRQL are qualified as U at the reported concentration when affected by blank contamination.

Blank ID	Compound	Concentration	Action Level	Q Flag
ER02	DRO	0.12 mg/L or 4.0 mg/Kg	RL	U

Associated samples and required qualifications are noted in the following table.

Sample ID	Compound	Q Flag
74SB14-02, 74SB14-03, 74SB15-02, 74SB15-03, 74SB16-02	DRO	U

Metals

Associated blanks exhibited contamination as noted in the following table. The laboratory reported non-detect results to the MDL for this project. Therefore, the blank flagging actions were modified to take this into consideration. Please see the Glossary of Qualification Flags and Abbreviations for details.

Blank ID	Analyte	Concentration	Action Level	Q Flag
CCB	antimony	0.11700J ug/L	>MDL up to RL	U
	silver	0.017J ug/L	> MDL up to RL	U

Please note, when qualifying samples for CCB contamination, associated samples are those just prior to or just following a CCB. Therefore, not all analytes in all samples are flagged for CCB contamination.

Associated samples and required qualifications are noted in the following table.

Sample ID	Analyte	Q Flag
all samples	antimony	U
all samples	silver	U

Surrogate Recoveries

VOA

Sample 74SB16-04D exhibited high recovery surrogate 4-bromofluorobenzene at 126% (QC limit 65-124%); therefore all positive results were qualified as estimated (J).

PAH

Duplicate sample 74SB16-04D exhibited 0% recovery for surrogate o-terphenyl. The sample was analyzed at a 1:10 dilution; however, the native sample 74SB16-04 was also analyzed at a 1:10 dilution and the surrogate result for this sample was within QC limits. Therefore all positive results were qualified as estimated (J) and non-detected results were qualified as rejected (R).

DRO/GRO

Two samples analyzed for GRO exhibited non-compliant surrogate recoveries above the QC limits. The reported positive results for GRO in samples 74SB16-04 (238%) and 74SB16-04D (265%) were qualified as estimated J.

Matrix Spikes

Metals

The matrix spikes of sample 74SB14-03 analyzed for the metals fraction exhibited non-compliant %R's for antimony, cobalt and lead requiring qualification in the field samples. A summary of these non-compliances and affected samples are noted in the following table.

MS	Analytes	Samples	%R	Q Flag
74SB14-03	antimony	all samples	65% / 60%	J/UJ
	cobalt		47% / 47%	
	lead	all samples	-7%/ -15%	R

Field Duplicate

VOA

The field duplicate pair of samples 74SB16-04 and 74SB16-04D exhibited non-comparable results for ethyl methacrylate with 200% RPD, isobutyl alcohol with 200% RPD and methyl methacrylate with 200 % RPD. The results for these compounds were qualified estimated (J/UJ).

DRO

The field duplicate pair of samples 74SB16-04 and 74SB16-04D exhibited non-compliant RPDs for the target compound DRO (137%). The results for DRO in the field duplicate pair were qualified as estimated J.

A summary of qualifications required is provided on the following page. Please do not hesitate to contact DataQual ES with any questions regarding this validation report.

Sincerely,

Laura Maschhoff
President

Jacqueline Cleveland
Vice President

Summary of Data Qualifications

VOA

Sample ID	Compound	Results	Q flag
74TB02	isobutyl alcohol	+/-	J/R
74TB02	acrolein isobutyl alcohol acetone	+/-	J/R
74TB02	acetonitrile 2-chloro-1,3-butadiene isobutyl alcohol methyl methacrylate trans-1,4-dichloro-2-butene pentachloroethane chloromethane trichlorofluoromethane acetone carbon disulfide	+/-	J/UJ
74SB14-02, 74SB14-03, 74SB15-02, 74SB15-03, 74SB16-04D	isobutyl alcohol	+/-	J/R
74SB14-02, 74SB14-03, 74SB15-02, 74SB15-03, 74SB16-04D	acetone acetonitrile 3-chloro-1-propene pentachloroethane	+/-	J/UJ
74SB16-02	acrolein isobutyl alcohol acetone	+/-	J/R
74SB16-02	3-chloro-1-propene acrylonitrile pentachloroethane	+/-	J/UJ
74SB16-04	acrolein isobutyl alcohol acetone	+/-	J/R
74SB16-04	iodomethane 3-chloro-1-propene pentachloroethane 4-methyl-2-pentanone 2-hexanone	+/-	J/UJ
74SB16-02, 74SB16-04	acetone	+	U at reported value
74SB14-02, 74SB14-03, 74SB15-02, 74SB15-03, 74SB16-02, 74SB16-04D	2-butanone	+	U at reported value
74SB16-04D	all results	+	J
74SB16-04, 74SB16-04D	ethyl methacrylate, isobutyl alcohol methyl methacrylate	+/-	J/UJ

Summary of Data Qualifications, continued

PAH

Sample ID	Compound	Results	Q flag
74SB16-04D	all results	+/-	J/R

DRO/GRO

Sample ID	Compound	Results	Q flag
74SB14-02, 74SB14-03, 74SB15-02, 74SB15-03, 74SB16-02	DRO	+J	U
74SB16-04, 74SB16-04D	GRO	+	J
74SB16-04, 74SB16-04D	DRO	+	J

Metals

Sample ID	Analyte	Results	Q flag
all samples	cadmium	+/-	J/UJ
all samples	antimony	+ >MDL up to RL	U
all samples	silver	+ >MDL up to RL	U
all samples	antimony cobalt	+/-	J/UJ
all samples	lead	+/-	R

Glossary of Qualification Flags and Abbreviations

Qualification Flags (Q-Flags)

U	not detected above the reported sample quantitation limit
J	estimated value
UJ	reported quantitation limit is qualified as estimated
N	analyte has been tentatively identified
JN	analyte has been tentatively identified, estimated value
R	result is rejected; the presence or absence of the analyte cannot be verified

Method/Preparation/Field QC Blank Qualification Flags (Q-Flags)

Organic Methods

NA	The sample result for the blank contaminant is greater than the RL (2X sample RL for common laboratory contaminants) when the blank value is less than the RL. The sample result for the blank contaminant is not qualified with any blank qualifiers.
U*	The sample result for the blank contaminant is less than the RL (2X sample RL for common laboratory contaminants) but greater than the MDL when the blank value is less than the RL. The sample result for the blank contaminant is qualified as non-detect U at the reported concentration.
RL**	The sample result for the blank contaminant is less than the RL (2X sample RL for common laboratory contaminants) but greater than the MDL when the blank value is less than the RL. The sample result for the blank contaminant is changed to the RL and qualified as non-detect U.

* This guideline is used when the laboratory is reporting non-detects to the MDL. ** This guideline is used when the laboratory is reporting non-detects to the RL.

Inorganic Methods

ICB/CCB/PB Action:

No Action -	The sample result is greater than the RL and greater than ten times (10X) the blank value.
U -	The sample result is greater than or equal to the MDL but less than or equal to the RL, result is reported as non-detect at the reported concentration, when the ICB/CCB/PB result is less or greater than the RL.

Glossary of Qualification Flags and Abbreviations, continued

R -	Sample result is greater than the RL and less than the ICB/CCB/PB value when the ICB/CCB/PB value is greater than the RL.
J -	Sample result is greater than the ICB/CCB/PB value but less than 10X the ICB/CCB/PB value when ICB/CCB/PB value is greater than the RL.
J/UJ -	Sample result is less than 10X RL when blank result is below the negative RL.

Field QC Blank action:

Note – Use field blanks to qualify data only if field blank results are greater than prep blank results.

Do not use rinsate blank associated with soils to qualify water samples and vice versa.

No Action -	The sample result is greater than the RL and greater than ten times (10X) the blank value.
U -	The sample result is greater than or equal to the MDL but less than or equal to the RL, result is reported as non-detect at the reported concentration, when the FB result is less or greater than the RL.
R -	Sample result is greater than the RL and less than the FB value when the FB value is greater than the RL.
J -	Sample result is greater than the FB value but less than 10X the FB value when FB value is greater than the RL.

General Abbreviations

RL	reporting limit
IDL	instrument detection limit
MDL	method detection limit
CRDL	contract required detection limit
CRQL	contract required quantitation limit
+	positive result
-	non-detect result

TEST AMERICA SAVANNAH SDG 36419-3

DataQual

Environmental Services, LLC

Michael Baker, Jr., Inc.
Airside Business Park
100 Airside Drive
Moon Township, PA 15108

July 14, 2008
SDG# SWMU36419-3, Test America-Savannah
NAPR SWMU 74, Puerto Rico

Dear Mr. Kimes,

The following Data Validation report is provided as requested for the parameters noted in the table below for SDG # SWMU36419-3. The data validation was performed in accordance with the SW-846 methods utilized by the laboratory, the Region II Standard Operating Procedures for the Validation of Organic Data Acquired Using SW-846 Methods (8260B-Rev 2, January 2006- SOP #HW-24 and 8270D-Rev 3, October 2006- SOP #HW-22), and professional judgment. Region II has not developed a validation checklist SOP for the methods used to assess the inorganic methods in this SDG (SW-846 methods 6020B, 7471A) or the organic methods for hydrocarbons (SW-846 methods 8015_DRO and 8015_GRO). Therefore, alternative worksheets were provided. Region II flagging conventions were used. All areas of concern are discussed in the body of the report and a summary of data qualifications is provided.

Sample ID	Lab ID	Matrix	VOA App IX	LL-PAH	DRO/GRO	GRO	Metals
74SB30-03	680-36419-7	soil	X		X		X
74SB30-04	680-36419-8	soil	X		X		X
74SB31-02	680-36419-9	soil	X	X	X		X
74SB31-03	680-36419-10	soil	X		X		X
74SB32-02	680-36419-11	soil	X		X		X
74SB32-03	680-36419-12	soil	X		X		X
74SB32-03D	680-36419-13	soil	X		X		X
74SB33-01	680-36419-14	soil	X		X		X
74SB33-02	680-36419-15	soil	X		X		X
74SB34-00	680-36419-16	soil	X		X		X
74SB34-01	680-36419-17	soil	X		X		X
74SB34-02	680-36419-18	soil	X	X	X		X
74SB28-02	680-36419-19	soil	X		X		X
74SB28-04	680-36419-20	soil	X		X		X
74SB29-03	680-36419-21	soil	X		X		X
74SB29-05	680-36419-22	soil	X		X		X
74SB35-01	680-36419-23	soil	X		X		X
74SB35-03	680-36419-24	soil	X		X		X
74SB36-02	680-36419-25	soil	X		X		X
74SB36-05	680-36419-26	soil	X		X		X
74TB03	680-36419-36	water				X	
74SB34-00 MS	680-36419-16MS	soil	X		X		X
74SB34-00 MSD	680-36419-16MSD	soil	X		X		X
74SB34-02 MS	680-36419-18MS	soil		X	X		X
74SB34-02 MSD	680-36419-18MSD	soil		X	X		X

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The following quality control samples were provided with this SDG: sample 74SB32-03D-field duplicate of sample 74SB32-03; and sample 74TB03-trip blank.

The samples were evaluated based on the following criteria:

- Data Completeness *
- Sample Condition
- Technical Holding Times
- GC/MS Tuning *
- GC Performance *
- Initial/Continuing Calibrations
- ICSA/ICSAB Standards
- CRDL Standards *
- Blanks
- Internal Standards *
- Surrogate Recoveries
- Laboratory Control Samples *
- Matrix Spike Recoveries
- Matrix Duplicate RPDs *
- Serial Dilutions
- Field Duplicates
- Identification/Quantitation
- Reporting Limits *
- Tentatively Identified Compounds NA

* - indicates that qualifications were not required based on this criteria

Overall Evaluation of Data/Potential Usability Issues

A summary of qualifications applied to the sample results are noted below for the fractions validated. Specific details regarding qualification of the data are addressed in the Specific Evaluation section of this narrative. If an issue is not addressed there were no actions required based on unmet quality criteria. When more than one qualifier is associated with a compound/analyte the validator has chosen the qualifier that best indicates possible bias in the results and flagged the data accordingly. However, information regarding all quality control issues is provided in the body of the report and on the qualification summary page.

All Organic Fractions

All organic fraction samples were received at the laboratory at an elevated temperature above 10°C. In accordance with Region II guidelines the sample results for the VOA, LLPAH, GRO and DRO fractions were qualified as estimated (J/UJ). Please note the metals samples were received in a cooler with a temperature of 8.8 °C.

VOA

The initial and continuing calibration exhibited some compounds with low RRF values, which resulted in qualifying non-detected values as rejected for these compounds. Due to high %D values, in the continuing calibrations, some compounds were qualified as estimated.

Blank contamination was noted in the method and QC blank associated with samples in this batch. Qualifications were added to the data.

PAH

See note under All Organic Fractions.

DRO/GRO

One sample was reanalyzed 15 days outside the holding time for GRO analysis. This RA sample was not used in favor of the results reported from the original analysis.

Blank contamination was noted in the method blank associated with the GRO samples in this SDG. Qualifications were added to the data.

Three samples analyzed for GRO required qualification due to high surrogate recoveries.

Metals

The ICSAB standards exhibited non-compliant recoveries below the QC limit for the analytes cadmium and silver on run #1 and out above the QC limit for zinc on run #2. Based on Region II guidelines all positive and non-detect results for cadmium and silver were qualified as estimated J/UJ in associated samples. All positive results for zinc were qualified as estimated J in associated samples.

Blank contamination was noted and qualification was required in the samples in this SDG.

The MS/MSD analysis of sample 74SB34-00 exhibited non-compliant recoveries requiring qualification for three analytes and the MS/MSD analysis of sample 74SB36-02 exhibited non-compliant recoveries requiring qualification for one analyte.

The serial dilution of sample 74SB34-00 exhibited a non-compliant %D for the vanadium. All results for vanadium in the samples were qualified as estimated J/UJ.

The field duplicate pair of samples 74SB32-03 and 74SB32-03D exhibited non-compliant RPDs for several analytes. Results were qualified as estimated in the field duplicate pair.

Specific Evaluation of Data

Data Completeness

The SDG was received complete and intact. Resubmissions were required. Clarification questions were asked of the laboratory regarding the metals fraction. A copy of the e-mail correspondence is included in the validation worksheets. General clarification questions were asked of the laboratory regarding the GRO and DRO fractions. A copy of these e-mail correspondences is included in the project file.

Technical Holding Times

According to chain of custody records, sampling was performed on 05/01-02/08 and samples were received at the laboratory 05/05/08. All sample preparation and analysis was performed within Region II and/or method holding time requirements.

Sample Condition

All Organic Fractions

All VOA samples were received at the laboratory at an elevated temperature of 17.6°C. All PAH and DRO samples were received at the laboratory at an elevated temperature of 12.8°C. All GRO samples were received at the laboratory at an elevated temperature of 15.8°C. In accordance with the Region II guidelines, all samples received above 10°C are qualified as estimated (J/UJ), qualifications were added to the data.

Initial/Continuing Calibration

VOA

Calibration standards exhibited RRFs and %Ds that were non-compliant. A summary of these non-compliances and affected samples are noted in the following table. Sample results are qualified as indicated.

Standard ID	Compound(s)	RRF, %RSD, %D	Samples	Q Flag
IC 05/02/08	acrolein acetonitrile propionitrile isobutyl alcohol	0.0250 0.0406 0.0414 0.0126	74SB31-02, 74SB31-03, 74SB32-02, 74SB32-03, 74SB32-03D, 74SB33-01, 74SB33-02, 74SB34-00, 74SB34-01, 74SB34-02, 74SB28-02, 74SB29-03, 74SB29-05, 74SB35-01, 74SB35-03, 74SB36-02, 74SB36-05	J/R
CC 05/07/08	acrolein acetonitrile isobutyl alcohol acetone	0.02369 0.02482 0.01590 0.03798	74SB31-02, 74SB31-03, 74SB32-02, 74SB32-03, 74SB32-03D, 74SB33-01, 74SB33-02, 74SB34-00, 74SB34-01, 74SB34-02, 74SB28-02, 74SB29-03, 74SB29-05, 74SB35-01	J/R
	iodomethane 3-chloro-1-propene 2-chloro-1,3-butadiene propionitrile methyl methacrylate bromomethane 4-methyl-2-pentanone 2-hexanone 1,2-dibromo-3-chloropropane	28.2% 29.3% 28.7% 24.0% 21.1% 23.9% 22.2% 21.6% 27.7%		J/UJ
CC 05/07/08	acrolein isobutyl alcohol acetone	0.01949 0.01853 0.04128	74SB35-03, 74SB36-02, 74SB36-05	J/R
	acetonitrile 3-chloro-1-propene propionitrile methacrylonitrile methyl methacrylate ethyl methacrylate trans-1,4-dichloro-2-butene bromomethane 2-butanone 4-methyl-2-pentanone 2-hexanone	33.5% 27.9% 42.5% 29.2% 39.3% 26.0% 39.7% 33.2% 23.9% 22.6% 26.2%		J/UJ

Standard ID	Compound(s)	RRF, %RSD, %D	Samples	Q Flag
CC 05/13/08	acrolein isobutyl alcohol acetone	0.03593 0.01701 0.04542	74SB30-03	J/R
	acetonitrile 3-chloro-1-propene acrylonitrile 2-chloro-1,3-butadiene propionitrile pentachloroethane	24.0% 24.1% 30.6% 21.8% 22.9% 20.9%		J/UJ
CC 05/14/08	acrolein isobutyl alcohol acetone	0.04041 0.02375 0.04700	74SB30-04, 74SB28-04	J/R
	iodomethane 3-chloro-1-propene pentachloroethane 4-methyl-2-pentanone 2-hexanone	36.5% 71.0% 43.3% 20.5% 20.5%		J/UJ

ICSA/ICSAB Standards

Metals

The ICSAB standards associated with the metals analysis exhibited non-compliant recoveries less than the lower QC limit for the analyte cadmium (78%) and silver (77%/74%). Based on Region II guidelines, reported positive and non-detect results for cadmium and silver were qualified as estimated J/UJ in all samples analyzed on Run #1 (lab IDs 36419-7 through 36419-24). The ICSAB standards associated with the metals analysis exhibited non-compliant recoveries above the upper QC limit for the analyte zinc (128%/127%). Based on Region II guidelines, reported positive results for zinc were qualified as estimated J in all samples analyzed on Run #2 (lab IDs 36419-25 and 36419-26).

Blanks

VOA

The associated method and/or QC blanks exhibited contamination as noted in the following table. Compounds for which there was no action required, are not included in the following table. Please note that the laboratory reported non-detect results down to the MDL for this project. Therefore, the blank flagging actions were modified as follows to take this into consideration. Positive results greater than the MDL but less than the CRQL are qualified as U at the reported concentration when affected by blank contamination.

Blank ID	Compound	Concentration	Reporting Limit	Action Level
Method Blk 5/13	acetone	580J ug/Kg	2000 ug/Kg	2X RL
Method Blk 5/14	acetone	960J ug/Kg	2000 ug/Kg	2X RL
	2-butanone	110J	1000	2X RL
FB01	2-butanone	0.69J ug/L	10 ug/L	2X RL

Associated samples and required qualifications are noted in the following table.

Sample ID	Compound	Q Flag
74SB30-03, 74SB28-04	acetone	U at reported value
74SB28-04, 74SB34-00	2-butanone	U at reported value

DRO/GRO

The associated method blanks exhibited contamination as noted in the following table. Please note that the laboratory reported non-detect results down to the MDL for this project. Therefore, the blank flagging actions were modified as follows to take this into consideration. Positive results greater than the MDL but less than the RL are qualified as U at the reported concentration when affected by blank contamination.

Blank ID	Compound	Concentration	Action Level	Q Flag
MB 680-105730/4	GRO	0.10J mg/Kg	RL	U
MB 680-105907/5	GRO	0.089J mg/Kg	RL	U

Associated samples and required qualifications are noted in the following table.

Sample ID	Compound	Q Flag
74SB33-02, 74SB34-01, 74SB34-02, 74SB28-02, 78SB29-03, 74SB36-02	GRO	U at reported value

Metals

Associated blanks exhibited contamination as noted in the following table. The laboratory reported non-detect results to the MDL for this project. Therefore, the blank flagging actions were modified to take this into consideration. Please see the Glossary of Qualification Flags and Abbreviations for details.

Blank ID	Analyte	Concentration	Action Level	Q Flag
CCB	antimony	0.10380J ug/L	>MDL up to RL	U

Please note, when qualifying samples for CCB contamination, associated samples are those just prior to or just following a CCB. Therefore, not all analytes in all samples are flagged for CCB contamination.

Associated samples and required qualifications are noted in the following table.

Sample ID	Analyte	Q Flag
74SB34-00, 74SB28-02, 74SB28-04	antimony	U

Surrogate Recoveries

DRO/GRO

For the GRO analysis, samples 74SB30-03, 74SB34-00 and 74SB28-04 exhibited high recoveries for the surrogate compound a,a,a-trifluorotoluene at 307%, 187% and 120% respectively (QC limit 53-121%); therefore positive results were qualified as estimated (J).

Matrix Spikes

Metals

The matrix spikes of sample 74SB34-00 analyzed for the metals exhibited non-compliant %R's for antimony, lead, mercury and chromium that required qualification in the field samples. The matrix spikes of sample 74SB36-02 exhibited non-compliant %R's for antimony. A summary of these non-compliances and affected samples are noted in the following table.

MS	Analytes	Samples	%R	Q Flag
74SB34-00	antimony	all samples	52% / 56%	J/UJ
	chromium		11% / 12%	
	lead		53% / 53%	
	mercury		165.8% / 160.8%	J
74SB36-02	antimony	all samples	53%/ 53%	J/UJ

Serial Dilutions

Metals

The serial dilution of sample 74SB34-00 analyzed for the metals exhibited a non-compliant %D for vanadium that required qualification in the field samples. A summary of this non-compliance and affected samples are noted in the following table.

SD	Analytes	Samples	%D	Q Flag
74SB34-00	vanadium	all samples	13.8%	J/UJ

Field Duplicate

Metals

The field duplicate pair of samples 74SB32-03 and 74SB32-03D exhibited non-compliant RPDs (≥35% but <120%) for barium (65%), chromium (37%), cobalt (43%) copper (45%) and nickel (65%). The results for these analytes were qualified estimated J.

A summary of qualifications required is provided on the following page. Please do not hesitate to contact DataQual ES with any questions regarding this validation report.

Sincerely,

Laura Maschhoff
President

Jacqueline Cleveland
Vice President

Summary of Data Qualifications

VOA

Sample ID	Compound	Results	Q flag
all samples	all results	+/-	J/UJ
74SB31-02, 74SB31-03, 74SB32-02, 74SB32-03, 74SB32-03D, 74SB33-01, 74SB33-02, 74SB34-00, 74SB34-01, 74SB34-02, 74SB28-02, 74SB29-03, 74SB29-05, 74SB35-01, 74SB35-03, 74SB36-02, 74SB36-05	acrolein acetonitrile propionitrile isobutyl alcohol	+/-	J/R
74SB31-02, 74SB31-03, 74SB32-02, 74SB32-03, 74SB32-03D, 74SB33-01, 74SB33-02, 74SB34-00, 74SB34-01, 74SB34-02, 74SB28-02, 74SB29-03, 74SB29-05, 74SB35-01	acrolein acetonitrile isobutyl alcohol acetone	+/-	J/R
74SB31-02, 74SB31-03, 74SB32-02, 74SB32-03, 74SB32-03D, 74SB33-01, 74SB33-02, 74SB34-00, 74SB34-01, 74SB34-02, 74SB28-02, 74SB29-03, 74SB29-05, 74SB35-01	iodomethane 3-chloro-1-propene 2-chloro-1,3-butadiene propionitrile methyl methacrylate bromomethane 4-methyl-2-pentanone 2-hexanone 1,2-dibromo-3-chloropropane	+/-	J/UJ
74SB35-03, 74SB36-02, 74SB36-05	acrolein isobutyl alcohol acetone	+/-	J/R
74SB35-03, 74SB36-02, 74SB36-05	acetonitrile 3-chloro-1-propene propionitrile methacrylonitrile methyl methacrylate ethyl methacrylate trans-1,4-dichloro-2-butene bromomethane 2-butanone 4-methyl-2-pentanone 2-hexanone	+/-	J/UJ
74SB30-03	acrolein isobutyl alcohol acetone	+/-	J/R
74SB30-03	acetonitrile 3-chloro-1-propene acrylonitrile 2-chloro-1,3-butadiene propionitrile pentachloroethane	+/-	J/UJ
74SB30-04, 74SB28-04	acrolein isobutyl alcohol acetone	+/-	J/R

Summary of Data Qualifications, continued

VOA

Sample ID	Compound	Results	Q flag
74SB30-04, 74SB28-04	iodomethane 3-chloro-1-propene pentachloroethane 4-methyl-2-pentanone 2-hexanone	+/-	J/UJ
74SB30-03, 74SB28-04	acetone	+	U at reported value
74SB28-04, 74SB34-00	2-butanone	+	U at reported value

PAH

Sample ID	Compound	Results	Q flag
all samples	all results	+/-	J/UJ

DRO/GRO

Sample ID	Compound	Results	Q flag
all samples	DRO GRO	+/-	J/UJ
74SB33-02, 74SB34-01, 74SB34-02, 74SB28-02, 78SB29-03, 74SB36-02	GRO	+J	U
74SB30-03, 74SB34-00, 74SB28-04	GRO	+	J

Metals

Sample ID	Analyte	Results	Q flag
all samples except 74SB36-02, 74SB36-05	cadmium silver	+/-	J/UJ
74SB36-02, 74SB36-05	zinc	+	J
74SB34-00, 74SB28-02, 74SB28-04	antimony	>MDL up to RL	U
all samples	antimony chromium lead	+/-	J/UJ
all samples	mercury	+	J
all samples	vanadium	+/-	J/UJ
74SB32-03, 74SB32-03D	barium chromium cobalt copper nickel	+	J

Glossary of Qualification Flags and Abbreviations

Qualification Flags (Q-Flags)

U	not detected above the reported sample quantitation limit
J	estimated value
UJ	reported quantitation limit is qualified as estimated
N	analyte has been tentatively identified
JN	analyte has been tentatively identified, estimated value
R	result is rejected; the presence or absence of the analyte cannot be verified

Method/Preparation/Field QC Blank Qualification Flags (Q-Flags)

Organic Methods

NA	The sample result for the blank contaminant is greater than the RL (2X sample RL for common laboratory contaminants) when the blank value is less than the RL. The sample result for the blank contaminant is not qualified with any blank qualifiers.
U*	The sample result for the blank contaminant is less than the RL (2X sample RL for common laboratory contaminants) but greater than the MDL when the blank value is less than the RL. The sample result for the blank contaminant is qualified as non-detect U at the reported concentration.
RL**	The sample result for the blank contaminant is less than the RL (2X sample RL for common laboratory contaminants) but greater than the MDL when the blank value is less than the RL. The sample result for the blank contaminant is changed to the RL and qualified as non-detect U.

* This guideline is used when the laboratory is reporting non-detects to the MDL. ** This guideline is used when the laboratory is reporting non-detects to the RL.

Inorganic Methods

ICB/CCB/PB Action:

No Action -	The sample result is greater than the RL and greater than ten times (10X) the blank value.
U -	The sample result is greater than or equal to the MDL but less than or equal to the RL, result is reported as non-detect at the reported concentration, when the ICB/CCB/PB result is less or greater than the RL.

Glossary of Qualification Flags and Abbreviations, continued

R -	Sample result is greater than the RL and less than the ICB/CCB/PB value when the ICB/CCB/PB value is greater than the RL.
J -	Sample result is greater than the ICB/CCB/PB value but less than 10X the ICB/CCB/PB value when ICB/CCB/PB value is greater than the RL.
J/UJ -	Sample result is less than 10X RL when blank result is below the negative RL.

Field QC Blank action:

Note – Use field blanks to qualify data only if field blank results are greater than prep blank results.

Do not use rinsate blank associated with soils to qualify water samples and vice versa.

No Action -	The sample result is greater than the RL and greater than ten times (10X) the blank value.
U -	The sample result is greater than or equal to the MDL but less than or equal to the RL, result is reported as non-detect at the reported concentration, when the FB result is less or greater than the RL.
R -	Sample result is greater than the RL and less than the FB value when the FB value is greater than the RL.
J -	Sample result is greater than the FB value but less than 10X the FB value when FB value is greater than the RL.

General Abbreviations

RL	reporting limit
IDL	instrument detection limit
MDL	method detection limit
CRDL	contract required detection limit
CRQL	contract required quantitation limit
+	positive result
-	non-detect result

TEST AMERICA SAVANNAH SDG 36419-4

DataQual

Environmental Services, LLC

Michael Baker, Jr., Inc.
Airside Business Park
100 Airside Drive
Moon Township, PA 15108

July 29, 2008
SDG# SWMU36419-4, Test America-Savannah
NAPR Puerto Rico

Dear Mr. Kimes,

The following Data Validation report is provided as requested for the parameters noted in the table below for SDG # SWMU36419-4. The data validation was performed in accordance with the SW-846 methods utilized by the laboratory, the Region II Standard Operating Procedures for the Validation of Organic Data Acquired Using SW-846 Methods (8260B-Rev 2, January 2006- SOP #HW-24 and 8270D-Rev 3, October 2006- SOP #HW-22), and professional judgment. Region II has not developed a validation checklist SOP for the methods used to assess the inorganic methods in this SDG (SW-846 methods 6020B, 7470A) or the organic methods for hydrocarbons (SW-846 methods 8015_DRO and 8015_GRO). Therefore, alternative worksheets were provided. Region II flagging conventions were used. All areas of concern are discussed in the body of the report and a summary of data qualifications is provided.

Sample ID	Lab ID	Matrix	VOA App IX	SVOA App IX	DRO/GRO	GRO	Metals
ER01	680-36419-37	water	X	X	X		X
ER02	680-36419-38	water	X	X	X		X
ER03	680-36419-39	water	X	X	X		X
ER04	680-36419-40	water	X	X			X
ER05	680-36419-41	water	X	X			X
FB01	680-36419-42	water	X	X	X		X
FB02	680-36419-43	water	X	X	X		X
QATB01	680-36419-44	water	X			X	

The samples were evaluated based on the following criteria:

- Data Completeness *
- Sample Condition
- Technical Holding Times
- GC/MS Tuning *
- GC Performance *
- Initial/Continuing Calibrations
- ICSA/ICSAB Standards
- CRDL Standards *
- Blanks *
- Internal Standards *
- Surrogate Recoveries *

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- Laboratory Control Samples *
- Matrix Spike Recoveries NA
- Matrix Duplicate RPDs NA
- Serial Dilutions *
- Field Duplicates NA
- Identification/Quantitation
- Reporting Limits *
- Tentatively Identified Compounds NA

* - indicates that qualifications were not required based on this criteria

Overall Evaluation of Data/Potential Usability Issues

A summary of qualifications applied to the sample results are noted below for the fractions validated. Specific details regarding qualification of the data are addressed in the Specific Evaluation section of this narrative. If an issue is not addressed there were no actions required based on unmet quality criteria. Please note that the reviewer added an F to the sample ID to indicate dissolved metals analysis when necessary. When more than one qualifier is associated with a compound/analyte the validator has chosen the qualifier that best indicates possible bias in the results and flagged the data accordingly. However, information regarding all quality control issues is provided in the body of the report and on the qualification summary page.

VOA

The continuing calibrations exhibited some compounds with low RRF values, which resulted in qualifying non-detected values as rejected for these compounds. Due to high %D values, in the continuing calibrations, some compounds were qualified as estimated.

SVOA

One sample was re-extracted out of holding time due to non-compliant surrogate recoveries; qualifications were added to the data.

All samples were received at the laboratory at an elevated temperature above 10°C. In accordance with Region II guidelines the samples were qualified as estimated (J/UJ).

The initial and continuing calibrations exhibited some compounds with low RRF values, which resulted in the qualification of non-detected values as rejected for those compounds. Due to high %D values, in the continuing calibrations, some compounds were qualified as estimated.

Two samples exhibited low internal standard area recoveries that resulted in qualifications to the associated compounds.

Two of the associated LCS exhibited non-compliant results that required one compound to be qualified as estimated.

DRO/GRO

Two DRO samples were received at the laboratory at an elevated temperature above 10°C. In accordance with Region II guidelines the samples FB01 and FB02 were qualified as estimated J/UJ.

Metals

All samples were received at the laboratory at an elevated temperature above 10°C. In accordance with Region II guidelines the samples were qualified as estimated J/UJ.

The associated ICSA/ICSAB standards exhibited non-compliant recoveries for the analytes silver and cadmium. These analytes were qualified as estimated in all samples.

Specific Evaluation of Data

Data Completeness

The SDG was received complete and intact. Resubmissions were not required. Clarification questions were asked of the laboratory regarding the metals fraction. A copy of the e-mail correspondence is included in the validation worksheets. Clarification questions were asked of the laboratory regarding the GRO/DRO fraction. A copy of these e-mail correspondences is included in the project file.

Technical Holding Times

According to chain of custody records, sampling was performed on 04/28-05/02/08 and samples were received at the laboratory 05/05/08. All sample preparation and analysis was performed within Region II and/or method holding time requirements with the following exceptions.

SVOA

The re-extraction of sample ER04RE exceeded the extraction holding time; therefore all results were qualified as estimated (J/UJ).

Sample Condition

SVOA

All samples were received at the laboratory at an elevated temperature of 11.8°C. In accordance with the Region II guidelines, therefore all samples received above 10°C are qualified as estimated (J/UJ).

DRO/GRO

Two DRO samples were received at the laboratory at an elevated temperature of 11.8°C. In accordance with the Region II guidelines, therefore the DRO results in samples FB01 and FB02 were qualified as estimated J/UJ.

Metals

The metals samples were received in a cooler with a temperature of 11.8°C. All reported results in the samples in this SDG were qualified as estimated J/UJ.

Initial/Continuing Calibration

VOA

Calibration standards exhibited RRFs and %Ds that were non-compliant. A summary of these non-compliances and affected samples are noted in the following table. Sample results are qualified as indicated.

Standard ID	Compound(s)	RRF, %RSD, %D	Samples	Q Flag
CC 05/08/08	pentachloroethane vinyl acetate	67.2% 30.1%	ER01, ER02, ER03, ER04, ER05	J/UJ
CC 05/09/08	pentachloroethane vinyl acetate	67.6% 28.9%	FB02, QATB01	J/UJ
CC 05/11/08	pentachloroethane chloromethane bromomethane vinyl acetate	80.9% 24.1% 24.3% 25.0%	FB01	J/UJ

SVOA

Calibration standards exhibited RRFs and %Ds that were non-compliant. A summary of these non-compliances and affected samples are noted in the following table. Sample results are qualified as indicated.

Standard ID	Compound(s)	RRF, %RSD, %D	Samples	Q Flag
IC 05/01/08	hexachlorophene	0.0466	ER01, ER02, ER03, ER05, FB01, FB02	J/R
CC 05/13/08	4-nitroquinoline-1-oxide hexachlorophene	0.03507 0.03126	ER01	J/R
	n-nitrosomorpholine hexachloropropene n-nitroso-di-n-butylamine methapyrilene 3,3-dimethylbenzidine aramite, total 4-nitrophenol 4,6-dinitro-2-methylphenol	23.2% 32.6% 28.6% 32.7% 45.6% 38.7% 23.5% 43.1%		J/UJ
CC 05/14/08	4-nitroquinoline-1-oxide hexachlorophene	0.03234 0.04782	ER02, ER03, ER05, FB01, FB02	J/R
	4-nitrophenol 2,4-dinitrotoluene 4,6-dinitro-2-methylphenol dibenz(a,h)anthracene benzo(g,h,i)perylene n-nitrosomorpholine hexachloropropene n-nitroso-di-n-butylamine methapyrilene aramite, total	23.4% 21.9% 42.7% 23.8% 23.3% 24.0% 32.5% 29.0% 29.1% 33.3%		J/UJ
IC 05/28/08	4-nitroquinoline-1-oxide	0.0276	ER04RE	J/R
CC 05/29/08	4-nitroquinoline-1-oxide hexachlorophene	0.02872 0.04644	ER04RE	J/R
	3-nitroaniline 4-nitrophenol 4-nitroaniline, 3,3-dimethylbenzidine	20.1% 20.5% 29.0% 46.5%		J/UJ

ICSA/ICSAB Standards

Metals

The ICSAB standards associated with the metals analysis exhibited non-compliant recoveries less than the lower QC limit for the analyte cadmium (78%) and silver (77%/74%). Based on Region II guidelines, reported positive and non-detect results for cadmium and silver were qualified as estimated J/UJ in all samples.

Internal Standards

SVOA

Sample ER05 exhibited a low recovery for internal standard perylene-d12; therefore all associated compounds were qualified as estimated (J/UJ).

Sample ER04RE exhibited an extremely low recovery for internal standard perylene-d12; therefore all associated compounds positive results were qualified as estimated (J) and non-detected compounds were qualified as rejected (R).

LCS

SVOA

The LCS associated for sample ER01 exhibited low recovery for hexachlorocyclo-pentadiene at 7%. The results for this compound were qualified as estimated (J/UJ) in sample ER01.

The LCS associated for samples ER02, ER03, ER05, FB01 and FB02 exhibited low recovery for hexachlorocyclopentadiene at 4%. The results for this compound were qualified as estimated (J/UJ) in these samples.

Identification/Quantitation

VOA

Sample FB02 was reanalyzed to confirm positive results in the initial analysis. The reanalysis exhibited concurring results. The reanalysis was not used in favor of the initial analysis.

SVOA

All samples were re-extracted out of holding time due to non-compliant LCS recoveries. The re-extracted samples were not used, except for sample ER04RE, due to exceeded holding times.

Sample ER04 was not used due to low surrogate recoveries. The sample was re-extracted and exhibited compliant surrogate recoveries; therefore the initial analysis was not used in favor of the re-extraction.

Sample ER04RERA was not used due to non-compliant internal standard recoveries.

A summary of qualifications required is provided on the following page. Please do not hesitate to contact DataQual ES with any questions regarding this validation report.

Sincerely,

Jacqueline Cleveland

Jacqueline Cleveland
Vice President

Summary of Data Qualifications

VOA

Sample ID	Compound	Results	Q flag
ER01, ER02, ER03, ER04, ER05	pentachloroethane vinyl acetate	+/-	J/UJ
FB02, QATB01	pentachloroethane vinyl acetate	+/-	J/UJ
FB01	pentachloroethane chloromethane bromomethane vinyl acetate	+/-	J/UJ
FB02RA	all results	+/-	R

SVOA

Sample ID	Compound	Results	Q flag
ER04RE	all results	+/-	J/UJ
all samples	all results	+/-	J/UJ
ER01, ER02, ER03, ER05, FB01, FB02	hexachlorophene	+/-	J/R
ER01	4-nitroquinoline-1-oxide hexachlorophene	+/-	J/R
ER01	n-nitrosomorpholine hexachloropropene n-nitroso-di-n-butylamine methapyrilene 3,3-dimethylbenzidine aramite, total 4-nitrophenol 4,6-dinitro-2-methylphenol	+/-	J/UJ
ER02, ER03, ER05, FB01, FB02	4-nitroquinoline-1-oxide hexachlorophene	+/-	J/R
ER02, ER03, ER05, FB01, FB02	4-nitrophenol 2,4-dinitrotoluene 4,6-dinitro-2-methylphenol dibenz(a,h)anthracene benzo(g,h,i)perylene n-nitrosomorpholine hexachloropropene n-nitroso-di-n-butylamine methapyrilene aramite, total	+/-	J/UJ
ER04RE	4-nitroquinoline-1-oxide	+/-	J/R
ER04RE	4-nitroquinoline-1-oxide hexachlorophene	+/-	J/R
ER04RE	3-nitroaniline 4-nitrophenol 4-nitroaniline, 3,3-dimethylbenzidine	+/-	J/UJ

Summary of Data Qualifications, continued

SVOA

ER05	all compounds associated with: perylene-d12	+/-	J/UJ
ER04RE	all compounds associated with: perylene-d12	+/-	J/R
ER01, ER02, ER03, ER05, FB01, FB02	hexachlorocyclopentadiene	+/-	J/UJ
ER01RE, ER02RE, ER03RE, ER05RE, FB01RE, FB02RE	all results	+/-	R
ER04, ER04RERA	all results	+/-	R

DRO/GRO

Sample ID	Compound	Results	Q flag
FB01, FB02	DRO	+/-	J/UJ

Metals

Sample ID	Analyte	Results	Q flag
all samples	all analytes	+/-	J/UJ
all samples	cadmium silver	+/-	J/UJ

Glossary of Qualification Flags and Abbreviations

Qualification Flags (Q-Flags)

U	not detected above the reported sample quantitation limit
J	estimated value
UJ	reported quantitation limit is qualified as estimated
N	analyte has been tentatively identified
JN	analyte has been tentatively identified, estimated value
R	result is rejected; the presence or absence of the analyte cannot be verified

Method/Preparation/Field QC Blank Qualification Flags (Q-Flags)

Organic Methods

NA	The sample result for the blank contaminant is greater than the RL (2X sample RL for common laboratory contaminants) when the blank value is less than the RL. The sample result for the blank contaminant is not qualified with any blank qualifiers.
U*	The sample result for the blank contaminant is less than the RL (2X sample RL for common laboratory contaminants) but greater than the MDL when the blank value is less than the RL. The sample result for the blank contaminant is qualified as non-detect U at the reported concentration.
RL**	The sample result for the blank contaminant is less than the RL (2X sample RL for common laboratory contaminants) but greater than the MDL when the blank value is less than the RL. The sample result for the blank contaminant is changed to the RL and qualified as non-detect U.

* This guideline is used when the laboratory is reporting non-detects to the MDL. ** This guideline is used when the laboratory is reporting non-detects to the RL.

Inorganic Methods

ICB/CCB/PB Action:

No Action -	The sample result is greater than the RL and greater than ten times (10X) the blank value.
U -	The sample result is greater than or equal to the MDL but less than or equal to the RL, result is reported as non-detect at the reported concentration, when the ICB/CCB/PB result is less or greater than the RL.

Glossary of Qualification Flags and Abbreviations, continued

R -	Sample result is greater than the RL and less than the ICB/CCB/PB value when the ICB/CCB/PB value is greater than the RL.
J -	Sample result is greater than the ICB/CCB/PB value but less than 10X the ICB/CCB/PB value when ICB/CCB/PB value is greater than the RL.
J/UJ -	Sample result is less than 10X RL when blank result is below the negative RL.

Field QC Blank action:

Note – Use field blanks to qualify data only if field blank results are greater than prep blank results.
Do not use rinsate blank associated with soils to qualify water samples and vice versa.

No Action -	The sample result is greater than the RL and greater than ten times (10X) the blank value.
U -	The sample result is greater than or equal to the MDL but less than or equal to the RL, result is reported as non-detect at the reported concentration, when the FB result is less or greater than the RL.
R -	Sample result is greater than the RL and less than the FB value when the FB value is greater than the RL.
J -	Sample result is greater than the FB value but less than 10X the FB value when FB value is greater than the RL.

General Abbreviations

RL	reporting limit
IDL	instrument detection limit
MDL	method detection limit
CRDL	contract required detection limit
CRQL	contract required quantitation limit
+	positive result
-	non-detect result

TEST AMERICA SAVANNAH SDG 36419-5

DataQual

Environmental Services, LLC

Michael Baker, Jr., Inc.
Airside Business Park
100 Airside Drive
Moon Township, PA 15108

July 14, 2008
SDG# SWMU36419-5, Test America-Savannah
NAPR SWMU 74, Puerto Rico

Dear Mr. Kimes,

The following Data Validation report is provided as requested for the parameters noted in the table below for SDG # SWMU36419-5. The data validation was performed in accordance with the SW-846 methods utilized by the laboratory, the Region II Standard Operating Procedures for the Validation of Organic Data Acquired Using SW-846 Methods (8260B-Rev 2, January 2006- SOP #HW-24), and professional judgment. Region II has not developed a validation checklist SOP for the methods used to assess the inorganic methods in this SDG (SW-846 methods 6020B, 7471A) or the organic methods for hydrocarbons (SW-846 methods 8015_DRO and 8015_GRO). Therefore, alternative worksheets were provided. Region II flagging conventions were used. All areas of concern are discussed in the body of the report and a summary of data qualifications is provided.

Sample ID	Lab ID	Matrix	VOA App IX	DRO/GRO	Metals
74SB37-01	680-36419-27	soil	X	X	X
74SB37-02	680-36419-28	soil	X	X	X
74SB37-02D	680-36419-29	soil	X	X	X
74SB38-01	680-36419-30	soil	X	X	X
74SB38-02	680-36419-31	soil	X	X	X
74SB39-02	680-36419-32	soil	X	X	X
74SB39-04	680-36419-33	soil	X	X	X
74SB40-02	680-36419-34	soil	X	X	X
74SB40-04	680-36419-35	soil	X	X	X
74TB03	680-36419-36	soil	X		
74SB40-04MS	680-36419-35MS	soil		X	
74SB40-04MSD	680-36419-35MSD	soil		X	

The following quality control samples were provided with this SDG: sample 74SB37-02D-field duplicate of sample 74SB37-02; and sample 74TB03-trip blank.

The samples were evaluated based on the following criteria:

- Data Completeness *
- Sample Condition
- Technical Holding Times *
- GC/MS Tuning *
- GC Performance *

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- Initial/Continuing Calibrations
- ICSA/ICSAB Standards
- CRDL Standards
- Blanks
- Internal Standards *
- Surrogate Recoveries
- Laboratory Control Samples *
- Matrix Spike Recoveries
- Matrix Duplicate RPDs
- Serial Dilutions *
- Field Duplicates
- Identification/Quantitation
- Reporting Limits *
- Tentatively Identified Compounds NA

* - indicates that qualifications were not required based on this criteria

Overall Evaluation of Data/Potential Usability Issues

A summary of qualifications applied to the sample results are noted below for the fractions validated. Specific details regarding qualification of the data are addressed in the Specific Evaluation section of this narrative. If an issue is not addressed there were no actions required based on unmet quality criteria. Please note that the reviewer added an F to the sample ID to indicate dissolved metals analysis when necessary. When more than one qualifier is associated with a compound/analyte the validator has chosen the qualifier that best indicates possible bias in the results and flagged the data accordingly. However, information regarding all quality control issues is provided in the body of the report and on the qualification summary page.

All Organic Fractions

All organic fraction samples were received at the laboratory at an elevated temperature above 10°C. In accordance with Region II guidelines the sample results for the VOA, GRO and DRO fractions were qualified as estimated (J/UJ). Please note the metals samples were received in a cooler with a temperature of 8.8 °C.

VOA

The initial and continuing calibration exhibited some compounds with low RRF values, which resulted in qualifying non-detected values as rejected for these compounds. Due to high %D values, in the continuing calibrations, some compounds were qualified as estimated.

DRO/GRO

Blank contamination was noted in the method blank associated with the GRO samples in this SDG. Qualifications were added to the data.

Metals

The CRDL standard analyzed for mercury was below the QC limit. All reported positive and non-detect results for mercury up to 2X CRDL were qualified as estimated J/UJ.

The ICSAB standards exhibited non-compliant recoveries above the QC limit for zinc. Based on Region II guidelines all positive results for zinc were qualified as estimated J in associated samples.

Blank contamination was noted and qualification was required in the samples in this SDG.

The MS/MSD analysis of sample 74SB36-02 (from SDG SWMU36419-3) exhibited non-compliant recoveries requiring qualification for one analyte.

The matrix duplicate analysis of sample 74SB40-04 exhibited a non-compliant RPD for mercury. The analyte was qualified as estimated in the samples.

The field duplicate pair of samples 74SB37-02 and 74SB37-02D exhibited non-compliant RPDs for several analytes. Results were qualified as estimated or rejected in the field duplicate pair based on Region II guidelines.

Specific Evaluation of Data

Data Completeness

The SDG was received complete and intact. Resubmissions were not required. Clarification questions were asked of the laboratory regarding the metals fraction. A copy of the e-mail correspondence is included in the validation worksheets. General clarification questions were asked of the laboratory regarding the GRO and DRO fractions. A copy of these e-mail correspondences is included in the project file.

Technical Holding Times

According to chain of custody records, sampling was performed on 05/02/08 and samples were received at the laboratory 05/05/08. All sample preparation and analysis was performed within Region II and/or method holding time requirements.

Sample Condition

All Organic Fractions

All VOA samples were received at the laboratory at an elevated temperature of 17.6°C. All DRO samples were received at the laboratory at an elevated temperature of 12.8°C. All GRO samples were received at the laboratory at an elevated temperature of 15.8°C. In accordance with the Region II guidelines, all samples received above 10°C are qualified as estimated (J/UJ), qualifications were added to the data.

Initial/Continuing Calibration

VOA

Calibration standards exhibited RRFs and %Ds that were non-compliant. A summary of these non-compliances and affected samples are noted in the following table. Sample results are qualified as indicated.

Standard ID	Compound(s)	RRF, %RSD, %D	Samples	Q Flag
IC 05/02/08	acrolein acetonitrile propionitrile isobutyl alcohol	0.0250 0.0406 0.0414 0.0126	74SB37-01, 74SB37-02, 74SB37-02D, 74SB38-01, 74SB38-02, 74SB39-02, 74SB39-04, 74SB40-02, 74SB40-04	J/R
CC 05/07/08	acrolein acetonitrile isobutyl alcohol acetone	0.01949 0.02697 0.01853 0.04128	74SB37-01, 74SB37-02, 74SB37-02D, 74SB38-01, 74SB38-02, 74SB39-02, 74SB39-04, 74SB40-02, 74SB40-04	J/R
	3-chloro-1-propene propionitrile methacrylonitrile methyl methacrylate ethyl methacrylate trans-1,4-dichloro-2-butene bromomethane 2-butanone 4-methyl-2-pentanone 2-hexanone	27.9% 42.5% 29.2% 39.3% 26.0% 39.7% 33.2% 23.9% 22.6% 26.2%		J/UJ
IC 05/07/08	isobutyl alcohol	0.0489	74TB03	J/R
CC 05/09/08	pentachloroethane vinyl acetate	67.6% 28.9%	74TB03	J/UJ

CRDL Standards

Metals

The CRDL standard associated with the metals analysis exhibited a non-compliant recovery below the lower QC limit for the analyte mercury (65.5%). Based on Region II guidelines, reported positive and non-detect results for mercury up to 2X the reporting limit were qualified as estimated J/UJ in the samples.

ICSA/ICSAB Standards

Metals

The ICSAB standards associated with the metals analysis exhibited non-compliant recoveries above the upper QC limit for the analyte zinc (128%/127%). Based on Region II guidelines, reported positive results for zinc were qualified as estimated J in all samples.

DRO/GRO

The associated method blanks exhibited contamination as noted in the following table. Please note that the laboratory reported non-detect results down to the MDL for this project. Therefore, the blank flagging actions were modified as follows to take this into consideration. Positive results greater than the MDL but less than the RL are qualified as U at the reported concentration when affected by blank contamination.

Blank ID	Compound	Concentration	Action Level	Q Flag
MB 680-105730/4	GRO	0.10J mg/Kg	RL	U
MB 680-105907/5	GRO	0.089J mg/Kg	RL	U

Associated samples and required qualifications are noted in the following table.

Sample ID	Compound	Q Flag
74SB33-02, 74SB34-01, 74SB34-02, 74SB28-02, 78SB29-03, 74SB36-02	GRO	U at reported value

Metals

Associated blanks exhibited contamination as noted in the following table. The laboratory reported non-detect results to the MDL for this project. Therefore, the blank flagging actions were modified to take this into consideration. Please see the Glossary of Qualification Flags and Abbreviations for details.

Blank ID	Analyte	Concentration	Action Level	Q Flag
ICB	antimony	0.08147J ug/L	>MDL up to RL	U
	beryllium	0.018J ug/L	> MDL up to RL	U
CCB	silver	0.027J ug/L	>MDL up to RL	U

Please note, when qualifying samples for CCB contamination, associated samples are those just prior to or just following a CCB. Therefore, not all analytes in all samples are flagged for CCB contamination.

Associated samples and required qualifications are noted in the following table.

Sample ID	Analyte	Q Flag
all samples >MDL but less than RL	antimony	U
74SB37-01, 74SB37-02, 74SB37-02D	beryllium	U
all samples >MDL but less than RL	silver	U

Matrix Spikes

Metals

The matrix spikes of sample 74SB36-02 (from SDG SWMU36419-3) exhibited non-compliant %R's for antimony. A summary of these non-compliances and affected samples are noted in the following table.

MS	Analytes	Samples	%R	Q Flag
74SB36-02	antimony	all samples	53%/ 53%	J/UJ

Matrix Duplicate

Metals

The matrix duplicate of sample 74SB40-04 exhibited a non-compliant %D for mercury that required qualification in the field samples. A summary of this non-compliance and affected samples are noted in the following table.

MD	Analytes	Samples	RPD	Q Flag
74SB40-04	mercury	all samples	35.7%	J/UJ

Field Duplicate

Metals

The field duplicate pair of samples 74SB37-02 and 74SB37-02D exhibited non-compliant RPDs (≥35% but <120%) for barium (83%), copper (55%), vanadium (113%) and nickel (54%) and a non-compliant absolute difference for lead (>+/- 2XRL). The results for these analytes were qualified estimated J. The field duplicate pair of samples 74SB37-02 and 74SB37-02D exhibited non-compliant RPDs (>120%) for chromium (129%) and a non-compliant absolute difference for cobalt (>+/- 4X RL). The results for these analytes were rejected R.

A summary of qualifications required is provided on the following page. Please do not hesitate to contact DataQual ES with any questions regarding this validation report.

Sincerely,

Laura Maschhoff
President

Jacqueline Cleveland
Vice President

Summary of Data Qualifications

VOA

Sample ID	Compound	Results	Q flag
all samples	all results	+/-	J/UJ
74SB37-01, 74SB37-02, 74SB37-02D, 74SB38-01, 74SB38-02, 74SB39-02, 74SB39-04, 74SB40-02, 74SB40-04	acrolein acetonitrile propionitrile isobutyl alcohol	+/-	J/R
74SB37-01, 74SB37-02, 74SB37-02D, 74SB38-01, 74SB38-02, 74SB39-02, 74SB39-04, 74SB40-02, 74SB40-04	acrolein acetonitrile isobutyl alcohol acetone	+/-	J/R
74SB37-01, 74SB37-02, 74SB37-02D, 74SB38-01, 74SB38-02, 74SB39-02, 74SB39-04, 74SB40-02, 74SB40-04	3-chloro-1-propene propionitrile methacrylonitrile methyl methacrylate ethyl methacrylate trans-1,4-dichloro-2-butene bromomethane 2-butanone 4-methyl-2-pentanone 2-hexanone	+/-	J/UJ
74TB03	isobutyl alcohol	+/-	J/R
74TB03	pentachloroethane vinyl acetate	+/-	J/UJ

DRO/GRO

Sample ID	Compound	Results	Q flag
all samples	DRO GRO	+/-	J/UJ
74SB37-01, 74SB39-02	GRO	+J	U

Summary of Data Qualifications, continued

Metals

Sample ID	Analyte	Results	Q flag
all samples	mercury	+/- up to 2X RL	J/UJ
all samples	zinc	+	J
all samples >MDL but less than RL	antimony	>MDL up to RL	U
74SB37-01, 74SB37-02, 74SB37-02D	beryllium	>MDL up to RL	U
all samples >MDL but less than RL	silver	>MDL up to RL	U
all samples	antimony	+/-	J/UJ
all samples	mercury	+/-	J/UJ
74SB37-02, 74SB37-02D	barium copper vanadium nickel lead	+	J
74SB37-02, 74SB37-02D	chromium cobalt	+/-	R

Glossary of Qualification Flags and Abbreviations

Qualification Flags (Q-Flags)

U	not detected above the reported sample quantitation limit
J	estimated value
UJ	reported quantitation limit is qualified as estimated
N	analyte has been tentatively identified
JN	analyte has been tentatively identified, estimated value
R	result is rejected; the presence or absence of the analyte cannot be verified

Method/Preparation/Field QC Blank Qualification Flags (Q-Flags)

Organic Methods

NA	The sample result for the blank contaminant is greater than the RL (2X sample RL for common laboratory contaminants) when the blank value is less than the RL. The sample result for the blank contaminant is not qualified with any blank qualifiers.
U*	The sample result for the blank contaminant is less than the RL (2X sample RL for common laboratory contaminants) but greater than the MDL when the blank value is less than the RL. The sample result for the blank contaminant is qualified as non-detect U at the reported concentration.
RL**	The sample result for the blank contaminant is less than the RL (2X sample RL for common laboratory contaminants) but greater than the MDL when the blank value is less than the RL. The sample result for the blank contaminant is changed to the RL and qualified as non-detect U.

* This guideline is used when the laboratory is reporting non-detects to the MDL. ** This guideline is used when the laboratory is reporting non-detects to the RL.

Inorganic Methods

ICB/CCB/PB Action:

No Action -	The sample result is greater than the RL and greater than ten times (10X) the blank value.
U -	The sample result is greater than or equal to the MDL but less than or equal to the RL, result is reported as non-detect at the reported concentration, when the ICB/CCB/PB result is less or greater than the RL.

Glossary of Qualification Flags and Abbreviations, continued

R -	Sample result is greater than the RL and less than the ICB/CCB/PB value when the ICB/CCB/PB value is greater than the RL.
J -	Sample result is greater than the ICB/CCB/PB value but less than 10X the ICB/CCB/PB value when ICB/CCB/PB value is greater than the RL.
J/UJ -	Sample result is less than 10X RL when blank result is below the negative RL.

Field QC Blank action:

Note – Use field blanks to qualify data only if field blank results are greater than prep blank results.

Do not use rinsate blank associated with soils to qualify water samples and vice versa.

No Action -	The sample result is greater than the RL and greater than ten times (10X) the blank value.
U -	The sample result is greater than or equal to the MDL but less than or equal to the RL, result is reported as non-detect at the reported concentration, when the FB result is less or greater than the RL.
R -	Sample result is greater than the RL and less than the FB value when the FB value is greater than the RL.
J -	Sample result is greater than the FB value but less than 10X the FB value when FB value is greater than the RL.

General Abbreviations

RL	reporting limit
IDL	instrument detection limit
MDL	method detection limit
CRDL	contract required detection limit
CRQL	contract required quantitation limit
+	positive result
-	non-detect result

TEST AMERICA SAVANNAH SDG 36426-1

DataQual

Environmental Services, LLC

Michael Baker, Jr., Inc.
Airside Business Park
100 Airside Drive
Moon Township, PA 15108

July 16, 2008
SDG# SWMU36426-1, Test America-Savannah
NAPR SWMU 74, Puerto Rico

Dear Mr. Kimes,

The following Data Validation report is provided as requested for the parameters noted in the table below for SDG # SWMU36426-1. The data validation was performed in accordance with the SW-846 methods utilized by the laboratory, the Region II Standard Operating Procedures for the Validation of Organic Data Acquired Using SW-846 Methods (8260B-Rev 2, January 2006- SOP #HW-24 and 8270D-Rev 3, October 2006- SOP #HW-22), and professional judgment. Region II has not developed a validation checklist SOP for the methods used to assess the inorganic methods in this SDG (SW-846 methods 6020B, 7471A) or the organic methods for hydrocarbons (SW-846 methods 8015_DRO and 8015_GRO). Therefore, alternative worksheets were provided. Region II flagging conventions were used. All areas of concern are discussed in the body of the report and a summary of data qualifications is provided.

Sample ID	Lab ID	Matrix	VOA App IX	LL-PAH	DRO/GRO	Metals
74VP2B-01	680-36426-1	soil	X		X	X
74VP2B-03	680-36426-2	soil	X		X	X
74VP1B-03	680-36426-3	soil	X		X	X
74VP1B-03D	680-36426-4	soil	X		X	X
74VP1B-04	680-36426-5	soil	X		X	X
74VP1B-04X	680-36426-6	soil	X		X	X
74SB41-02	680-36426-7	soil	X		X	X
74SB41-04	680-36426-8	soil	X		X	X
74SB22-00	680-36426-9	soil	X	X	X	X
74SB22-03	680-36426-10	soil	X	X	X	X
74SB22-03D	680-36426-11	soil	X	X	X	X
74SB22-04	680-36426-12	soil	X	X	X	X
74SB23-02	680-36426-13	soil	X	X	X	X
74SB23-03	680-36426-14	soil	X	X	X	X
74SB24-03	680-36426-15	soil	X	X	X	X
74SB24-05	680-36426-16	soil	X	X	X	X
74SB25-04	680-36426-17	soil	X	X	X	X
74SB25-05	680-36426-18	soil	X	X	X	X
74SB26-02	680-36426-19	soil	X		X	X
74SB26-02D	680-36426-20	soil	X		X	X
74SB22-03 MS	680-36426-10MS	soil	X	X	X	X
74SB22-03 MSD	680-36426-10MSD	soil	X	X	X	X

The following quality control samples were provided with this SDG: sample 74VP1B-03D-field duplicate of sample 74VP1B-03; sample 74SB22-03D-field duplicate of sample 74SB22-03; and sample 74SB26-02D-field duplicate of sample 74SB26-02.

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The samples were evaluated based on the following criteria:

- Data Completeness *
- Sample Condition *
- Technical Holding Times *
- GC/MS Tuning *
- Initial/Continuing Calibrations
- ICSA/ICSAB Standards
- CRDL Standards *
- Blanks
- Internal Standards
- Surrogate Recoveries
- Laboratory Control Samples *
- Matrix Spike Recoveries
- Matrix Duplicate RPDs
- Serial Dilutions
- Field Duplicates
- Identification/Quantitation
- Reporting Limits *
- Tentatively Identified Compounds NA

* - indicates that qualifications were not required based on this criteria

Overall Evaluation of Data/Potential Usability Issues

A summary of qualifications applied to the sample results are noted below for the fractions validated. Specific details regarding qualification of the data are addressed in the Specific Evaluation section of this narrative. If an issue is not addressed there were no actions required based on unmet quality criteria. Please note that the reviewer added an F to the sample ID to indicate dissolved metals analysis when necessary. When more than one qualifier is associated with a compound/analyte the validator has chosen the qualifier that best indicates possible bias in the results and flagged the data accordingly. However, information regarding all quality control issues is provided in the body of the report and on the qualification summary page.

VOA

The initial and continuing calibration exhibited some compounds with low RRF values, which resulted in qualifying non-detected values as rejected for these compounds. Due to high %D values, in the continuing calibrations, some compounds were qualified as estimated.

Blank contamination was noted in the method and QC blank associated with samples in this batch. Qualifications were added to the data.

Three samples exhibited high recovery for one surrogate; therefore positive results were qualified as estimated.

One of the field duplicate pairs did not exhibit comparable results for one compound that resulted in qualifying the compound as estimated.

PAH

One sample exhibited low results for an internal standard that resulted in qualifying the associated compounds as estimated.

One sample exhibited zero percent surrogate recovery; therefore positive results were qualified as estimated and non-detected results were rejected.

The associated MS/MSD exhibited non-compliant recoveries for several compounds that resulted in qualify these compound positive results.

The submitted field duplicate pair did not exhibit comparable results for several compounds; results were qualified as estimated.

DRO/GRO

One sample exhibited an internal standard recovery above the QC limits in the GRO fraction. The reported positive result for GRO in the sample was qualified as estimated J.

Four samples analyzed for GRO required qualification due to high surrogate recoveries.

The field duplicate pair of samples 74SB22-03 and 74SB22-03D exhibited GRO and DRO results that did not compare. The reported results for GRO and DRO in this field duplicate pair were qualified as estimated J.

One sample was reanalyzed outside holding time. This sample was not used in favor of the original analysis.

Metals

The CCV standard associated with one sample for barium was recovered above the QC limit. The reported positive result for barium in the sample was qualified as estimated J.

The ICSAB standards exhibited non-compliant recoveries above the QC limit for the analyte zinc. Based on Region II guidelines all positive results for zinc in the samples were qualified as estimated J.

Blank contamination was noted and qualification was required in the samples in this SDG.

The MS/MSD analysis of sample 74SB22-03 exhibited non-compliant recoveries requiring qualification for two analytes and the MS/MSD analysis of sample 56SB08-02 (from SDG SWMU36426-6) exhibited non-compliant recoveries requiring qualification for one analyte.

The matrix duplicate analysis of sample 74SB22-03 exhibited non-compliant RPDs for five analytes. The analytes were qualified as estimated in the samples.

The serial dilution of sample 74SB22-03 exhibited non-compliant %Ds for barium and vanadium. All results for barium and cobalt in the samples were qualified as estimated J/UJ.

The field duplicate pair of samples 74VP1B and 74VP1BD exhibited non-compliant RPDs for three analytes that required qualification as estimated. The field duplicate pair of samples 74SB22-03 and 74SB22-03D exhibited non-compliant RPDs for six analytes that required qualification as estimated and two analytes that required rejection.

Specific Evaluation of Data

Data Completeness

The SDG was received complete and intact. Resubmissions were not required. Clarification questions were asked of the laboratory regarding the metals fraction. A copy of the e-mail correspondence is included in the validation worksheets. Clarification questions were asked of the laboratory regarding the GRO/DRO fraction. A copy of these e-mail correspondences is included in the project file. Please note that the Form 6 tabulating calibration factors for the target compound for the DRO calibration curve was not present in the data package. This Form 6 was located in another SDG and was copied for this data package.

Technical Holding Times

According to chain of custody records, sampling was performed on 05/2-3/08 and samples were received at the laboratory 05/06/08. All sample preparation and analysis was performed within Region II and/or method holding time requirements.

Initial/Continuing Calibration

VOA

Calibration standards exhibited RRFs and %Ds that were non-compliant. A summary of these non-compliances and affected samples are noted in the following table. Sample results are qualified as indicated.

Standard ID	Compound(s)	RRF, %RSD, %D	Samples	Q Flag
IC 05/02/08	acrolein acetonitrile propionitrile isobutyl alcohol	0.0250 0.0406 0.0414 0.0126	74SB24-03, 74SB24-05, 74SB25-04, 74SB25-05, 74SB26-02, 74SB26-02D, 74SB23-02, 74VP2B-01, 74VP2B-03, 74VP1B-03, 74VP1B-03D, 74VP1B-04, 74VP1B-04X, 74SB41-04, 74SB22-00, 74SB22-03D	J/R
CC 05/09/08	acrolein acetonitrile isobutyl alcohol acetone	0.03639 0.03129 0.01939 0.04075	74VP2B-01, 74VP2B-03, 74VP1B-03, 74VP1B-03D, 74VP1B-04, 74VP1B-04X, 74SB41-04, 74SB22-00,	J/R
	propionitrile methacrylonitrile methyl methacrylate ethyl methacrylate trans-1,4-dichloro-2-butene pentachloroethane bromomethane 2-butanone 4-methyl-2-pentanone 2-hexanone	53.6% 38.4% 47.3% 28.8% 40.1% 20.2% 33.9% 20.9% 27.5% 22.0%		J/UJ
CC 05/10/08	acrolein acetonitrile isobutyl alcohol acetone	0.03587 0.03049 0.01877 0.04146	74SB22-03D	J/R
	3-chloro-1-propene propionitrile methacrylonitrile methyl methacrylate ethyl methacrylate trans-1,4-dichloro-2-butene bromomethane	21.8% 49.6% 36.5% 47.9% 20.7% 29.6% 25.9%		J/UJ

Standard ID	Compound(s)	RRF, %RSD, %D	Samples	Q Flag
CC 05/11/08	acrolein acetonitrile isobutyl alcohol acetone	0.04036 0.03368 0.02004 0.04291	74SB24-03, 74SB24-05, 74SB25-04, 74SB25-05, 74SB26-02, 74SB26-02D, 74SB23-02,	J/R
	propionitrile methacrylonitrile methyl methacrylate ethyl methacrylate trans-1,4-dichloro-2-butene vinyl acetate 2-butanone bromochloromethane 4-methyl-2-pentanone 2-hexanone	54.1% 43.2% 46.6% 28.4% 32.2% 30.7% 35.3% 24.0% 37.0% 31.8%		J/UJ
IC 05/12/08	acetonitrile isobutyl alcohol	0.0356 0.0211	74SB41-02	J/R
CC 05/15/08	isobutyl alcohol acetone	0.02161 0.04056	74SB41-02	J/R
	acetonitrile methacrylonitrile	89.8% 21.7%		J/UJ
CC 05/14/08	acrolein isobutyl alcohol acetone	0.04041 0.02375 0.04700	74SB22-03, 74SB23-03	J/R
	diethyl ether iodomethane 3-chloro-1-propene pentachloroethane chloroethane 4-methyl-2-pentanone 2-hexanone methyl acetate	23.4% 36.5% 71.0% 43.3% 20.1% 20.5% 20.5% 44.8%		J/UJ
CC 05/16/08	isobutyl alcohol acetone	0.02040 0.04588	74SB22-04	J/R
	diethyl ether acrolein iodomethane 3-chloro-1-propene pentachloroethane bromomethane chloroethane 4-methyl-2-pentanone 2-hexanone	39.9% 38.6% 21.1% 54.7% 30.5% 75.5% 25.8% 22.4% 23.6%		J/UJ

Metals

One CCV standard exhibited a recovery above the QC limits. A summary of this non-compliance and affected samples are noted in the following table. Sample results are qualified as indicated.

Standard ID	Analyte	%R	Samples	Q Flag
CCV7	baruim	111%	74SB22-03	J

ICSA/ICSAB Standards

Metals

The ICSAB standards associated with the total metals analysis exhibited non-compliant recoveries above than the upper QC limit for the analyte zinc (128%/127%). Based on Region II guidelines, reported positive results for zinc were qualified as estimated J in all samples.

Blanks

VOA

The associated method and/or QC blanks exhibited contamination as noted in the following table. Compounds for which there was no action required, are not included in the following table. Please note that the laboratory reported non-detect results down to the MDL for this project. Therefore, the blank flagging actions were modified as follows to take this into consideration. Positive results greater than the MDL but less than the CRQL are qualified as U at the reported concentration when affected by blank contamination.

Blank ID	Compound	Concentration	Reporting Limit	Action Level
Method Blk 5/14	acetone	960J ug/Kg	2000 ug/Kg	2X RL
	2-butanone	110J	1000	
Method Blk 5/16	acetone	570J ug/Kg	2000 ug/Kg	2X RL
	2-butanone	110J	1000	
FB01	2-butanone	0.69J ug/L	10 ug/L	2X RL

Associated samples and required qualifications are noted in the following table.

Sample ID	Compound	Q Flag
74SB22-03, 74SB22-04	acetone	U at reported value
74SB22-03, 74SB22-04, 74VP2B-01, 74VP1B-01, 74VP1B-03B, 74SB22-00, 74SB26-02D	2-butanone	U at reported value

Metals

Associated blanks exhibited contamination as noted in the following table. The laboratory reported non-detect results to the MDL for this project. Therefore, the blank flagging actions were modified to take this into consideration. Please see the Glossary of Qualification Flags and Abbreviations for details.

Blank ID	Analyte	Concentration	Action Level	Q Flag
ICB	antimony	0.08147J ug/L	>MDL up to RL	U
CCB	beryllium	0.018J ug/L	>MDL up to RL	U
	silver	0.093J ug/L	>MDL up to RL	U

Please note, when qualifying samples for CCB contamination, associated samples are those just prior to or just following a CCB. Therefore, not all analytes in all samples are flagged for CCB contamination.

Associated samples and required qualifications are noted in the following table.

Sample ID	Analyte	Q Flag
all samples >MDL up to RL	antimony	U
74SB41-02, 74SB41-04, 74SB25-04	beryllium	U
all samples >MDL up to RL	silver	U

Internal Standards

PAH

Sample 74SB25-05 exhibited low internal standard area results for standard perylene-d12. All associated compounds were qualified as estimated (J/UJ).

DRO/GRO

The GRO analysis of sample 74SB22-03 exhibited high internal standard area results. The reported positive result for GRO was qualified as estimated J in the sample.

Surrogates

VOA

The following samples exhibited high recoveries for the surrogates listed; required qualifications are noted in the following table.

Sample ID	Non-compliant Surrogate	% Rec	QC Limits	Qualifier
74SB22-03D	4-bromofluorobenzene	172	65-124	J
74-SB26-02	4-bromofluorobenzene	198	65-124	J
74-SB26-02D	4-bromofluorobenzene	199	65-124	J

PAH

Sample 74SB22-03D exhibited zero percent recovery for surrogate o-terphenyl. All positive results were qualified as estimated (J) and non-detected results were qualified as rejected (R). This sample was analyzed at a 1:10 dilution; however since the native sample and associated matrix spike and matrix spike duplicate were also ran at a 1:10 dilution and acceptable surrogate recoveries were exhibited the duplicate sample has been qualified.

DRO/GRO

Four samples analyzed for GRO exhibited non-compliant surrogate recovery above the QC limits. The reported positive results for GRO in samples 74SB22-03 (134%), 74SB22-03D (164%), 74SB23-03 (150%) and 74SB26-02D (140%) were qualified as estimated J.

Matrix Spike/Matrix Spike Duplicate

PAH

The matrix spike and matrix spike duplicate associated with sample 74SB22-03 and duplicate 74SB22-03D did not exhibited recoveries within criteria for several compounds that the native sample exhibited positive results. Due to non-compliant recoveries the following compound positive results were qualified as estimated: benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, chrysene, fluoranthene and pyrene.

Metals

The matrix spikes of sample 74SB22-03 exhibited non-compliant %Rs for two analytes that required qualification in the samples. The matrix spikes of sample 56SB08-02 exhibited non-compliant %Rs for one analyte that required qualification in the field samples. A summary of these non-compliances and affected samples is noted in the following table.

MS	Analytes	Samples	%R	Q Flag
74SB22-03	antimony	all samples	59/60	J/UJ
	lead		58/187	
56SB08-02	antimony	all samples	47/49	J/UJ

Matrix Duplicates

Metals

The matrix duplicate of sample 74SB22-03 exhibited non-compliant %Ds for five analytes that required qualification in the field samples. The matrix duplicate of sample 56SB08-02 exhibited a non-compliant %D for one analyte that required qualification in the field samples. A summary of this non-compliance and affected samples are noted in the following table.

MD	Analytes	Samples	RPD	Q Flag
74SB22-03	cobalt	all samples	102.8	J/UJ
	copper		94.5	
	lead		51.8	
	vanadium		65.2	
	zinc		40.9	
56SB08-02	cobalt	all samples	58.6	J/UJ

Serial Dilutions

Metals

The serial dilution of sample 74SB22-03 analyzed for the metals exhibited non-compliant %Ds for barium and vanadium that required qualification in the field samples. A summary of this non-compliance and affected samples are noted in the following table.

SD	Analytes	Samples	%D	Q Flag
74SB22-03	barium	all samples	19.4	J/UJ
	vanadium		10.6	

Field Duplicate

VOA

Sample 74SB22-03 and duplicate sample 74SB22-03D did not exhibit comparable result for acetone with 200% RPD; therefore results were qualified as estimated (J/UJ).

PAH

Sample 74SB22-03 and duplicate sample 74SB22-03D did not exhibit comparable results for fluorene with 117% RPD, phenanthrene with 200% RPD, anthracene with 200% RPD, fluoranthene with 98% RPD, benzo(b)fluoranthene with 99% RPD and benzo(k)fluoranthene with 200% RPD. These compounds were qualified as estimated (J/UJ).

DRO/GRO

Sample 74SB22-03 and duplicate sample 74SB22-03D did not exhibit comparable results for GRO (122% RPD) or DRO (84%). The reported results for GRO and DRO were qualified as estimated J in the field duplicate pair.

Metals

The field duplicate pair of samples 74VP1B-03 and 74VP1B-03D exhibited metals results that did not compare. The analytes barium, chromium and copper exhibited RPDs that were ≥35% but less than 120% and were qualified as estimated J in both samples.

The field duplicate pair of samples 74SB22-03 and 74SB22-03D exhibited metals results that did not compare. The analytes chromium, copper, nickel, vanadium and zinc exhibited RPDs that were ≥35% but <120% and were qualified as estimated J in both samples. The analytes cobalt exhibited a RPD that was greater than 120% and lead exhibited an absolute difference that was greater than +/- 4X RL and were rejected R in both samples.

Identification/Quantitation

VOA

Sample 74SB22-03DRA was not used in favor of the initial analysis due to non-compliant surrogate recoveries.

PAH

Sample 74SB25-05RA was not used in favor of the initial analysis due to non-compliant internal standard area recoveries.

DRO/GRO

The GRO analysis of sample 74VP1B-04XRA was not used in favor of the initial analysis.

A summary of qualifications required is provided on the following page. Please do not hesitate to contact DataQual ES with any questions regarding this validation report.

Sincerely,

Laura Maschhoff
President

Jacqueline Cleveland
Vice President

Summary of Data Qualifications

VOA

Sample ID	Compound	Results	Q flag
74SB24-03, 74SB24-05, 74SB25-04, 74SB25-05, 74SB26-02, 74SB26-02D, 74SB23-02, 74VP2B-01, 74VP2B-03, 74VP1B-03, 74VP1B-03D, 74VP1B-04, 74VP1B-04X, 74SB41-04, 74SB22-00, 74SB22-03D	acrolein acetonitrile propionitrile isobutyl alcohol	+/-	J/R
74VP2B-01, 74VP2B-03, 74VP1B-03, 74VP1B-03D, 74VP1B-04, 74VP1B-04X, 74SB41-04, 74SB22-00	acrolein acetonitrile isobutyl alcohol acetone	+/-	J/R
74VP2B-01, 74VP2B-03, 74VP1B-03, 74VP1B-03D, 74VP1B-04, 74VP1B-04X, 74SB41-04, 74SB22-00	propionitrile methacrylonitrile methyl methacrylate ethyl methacrylate trans-1,4-dichloro-2-butene pentachloroethane bromomethane 2-butanone 4-methyl-2-pentanone 2-hexanone	+/-	J/UJ
74SB22-03D	acrolein acetonitrile isobutyl alcohol acetone	+/-	J/R
74SB22-03D	3-chloro-1-propene propionitrile methacrylonitrile methyl methacrylate ethyl methacrylate trans-1,4-dichloro-2-butene bromomethane	+/-	J/UJ
74SB24-03, 74SB24-05, 74SB25-04, 74SB25-05, 74SB26-02, 74SB26-02D, 74SB23-02	acrolein acetonitrile isobutyl alcohol acetone	+/-	J/R
74SB24-03, 74SB24-05, 74SB25-04, 74SB25-05, 74SB26-02, 74SB26-02D, 74SB23-02	propionitrile methacrylonitrile methyl methacrylate ethyl methacrylate trans-1,4-dichloro-2-butene vinyl acetate 2-butanone bromochloromethane 4-methyl-2-pentanone 2-hexanone	+/-	J/UJ

Summary of Data Qualifications, continued

VOA

Sample ID	Compound	Results	Q flag
74SB41-02	acetonitrile isobutyl alcohol	+/-	J/R
74SB41-02	isobutyl alcohol acetone	+/-	J/R
74SB41-02	acetonitrile methacrylonitrile	+/-	J/UJ
74SB22-03, 74SB23-03	acrolein isobutyl alcohol acetone	+/-	J/R
74SB22-03, 74SB23-03	diethyl ether iodomethane 3-chloro-1-propene pentachloroethane chloroethane 4-methyl-2-pentanone 2-hexanone methyl acetate	+/-	J/UJ
74SB22-04	isobutyl alcohol acetone	+/-	J/R
74SB22-04	diethyl ether acrolein iodomethane 3-chloro-1-propene pentachloroethane bromomethane chloroethane 4-methyl-2-pentanone 2-hexanone	+/-	J/UJ
74SB22-03, 74SB22-04	acetone	+	U at reported value
74SB22-03, 74SB22-04, 74VP2B-01, 74VP1B-01, 74VP1B-03B, 74SB22-00, 74SB26-02D	2-butanone	+	U at reported value
74SB22-03D, 74-SB26-02, 74-SB26-02D	all results	+	J
74SB22-03, 74SB22-03D	acetone	+/-	J/UJ
74SB22-03DRA	all results	+/-	R

Summary of Data Qualifications, continued

PAH

Sample ID	Compound	Results	Q flag
74SB25-05	all compounds associated with: perylene-d12	+/-	J/UJ
74SB22-03D	all results	+/-	J/R
74SB22-03, 74SB22-03D	benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, chrysene, fluoranthene pyrene	+	J
74SB22-03, 74SB22-03D	fluorene, phenanthrene, anthracene, fluoranthene, benzo(b)fluoranthene, benzo(k)fluoranthene	+/-	J/UJ
74SB25-05RA	all results	+/-	R

DRO/GRO

Sample ID	Compound	Results	Q flag
74SB22-03	GRO	+	J
74SB22-03, 74SB22-03D, 74SB23-03, 74SB26-02D	GRO	+	J
74SB22-03, 74SB22-03D	GRO DRO	+	J
74VP1B-04XRA	GRO	+/-	R

Metals

Sample ID	Analyte	Results	Q flag
74SB22-03	barium	+	J
all samples	zinc	+	J
all samples >MDL up to RL	antimony	>MDL up to RL	U
74SB41-02, 74SB41-04, 74SB25-04	beryllium	>MDL up to RL	U
all samples >MDL up to RL	silver	>MDL up to RL	U
all samples	antimony zinc	+/-	J/UJ
all samples	cobalt copper lead vanadium zinc	+/-	J/UJ
all samples	barium vanadium	+/-	J/UJ

Summary of Data Qualifications, continued

Metals

Sample ID	Analyte	Results	Q flag
74VP1B-03 and 74VP1B-03D	barium chromium copper	+	J
74SB22-03 and 74SB22-03D	chromium copper nickel vanadium zinc	+	J
74SB22-03 and 74SB22-03D	cobalt lead	+	R

Glossary of Qualification Flags and Abbreviations

Qualification Flags (Q-Flags)

U	not detected above the reported sample quantitation limit
J	estimated value
UJ	reported quantitation limit is qualified as estimated
N	analyte has been tentatively identified
JN	analyte has been tentatively identified, estimated value
R	result is rejected; the presence or absence of the analyte cannot be verified

Method/Preparation/Field QC Blank Qualification Flags (Q-Flags)

Organic Methods

NA	The sample result for the blank contaminant is greater than the RL (2X sample RL for common laboratory contaminants) when the blank value is less than the RL. The sample result for the blank contaminant is not qualified with any blank qualifiers.
U*	The sample result for the blank contaminant is less than the RL (2X sample RL for common laboratory contaminants) but greater than the MDL when the blank value is less than the RL. The sample result for the blank contaminant is qualified as non-detect U at the reported concentration.
RL**	The sample result for the blank contaminant is less than the RL (2X sample RL for common laboratory contaminants) but greater than the MDL when the blank value is less than the RL. The sample result for the blank contaminant is changed to the RL and qualified as non-detect U.

* This guideline is used when the laboratory is reporting non-detects to the MDL. ** This guideline is used when the laboratory is reporting non-detects to the RL.

Inorganic Methods

ICB/CCB/PB Action:

No Action -	The sample result is greater than the RL and greater than ten times (10X) the blank value.
U -	The sample result is greater than or equal to the MDL but less than or equal to the RL, result is reported as non-detect at the reported concentration, when the ICB/CCB/PB result is less or greater than the RL.

Glossary of Qualification Flags and Abbreviations, continued

R -	Sample result is greater than the RL and less than the ICB/CCB/PB value when the ICB/CCB/PB value is greater than the RL.
J -	Sample result is greater than the ICB/CCB/PB value but less than 10X the ICB/CCB/PB value when ICB/CCB/PB value is greater than the RL.
J/UJ -	Sample result is less than 10X RL when blank result is below the negative RL.

Field QC Blank action:

Note – Use field blanks to qualify data only if field blank results are greater than prep blank results.
Do not use rinsate blank associated with soils to qualify water samples and vice versa.

No Action -	The sample result is greater than the RL and greater than ten times (10X) the blank value.
U -	The sample result is greater than or equal to the MDL but less than or equal to the RL, result is reported as non-detect at the reported concentration, when the FB result is less or greater than the RL.
R -	Sample result is greater than the RL and less than the FB value when the FB value is greater than the RL.
J -	Sample result is greater than the FB value but less than 10X the FB value when FB value is greater than the RL.

General Abbreviations

RL	reporting limit
IDL	instrument detection limit
MDL	method detection limit
CRDL	contract required detection limit
CRQL	contract required quantitation limit
+	positive result
-	non-detect result

TEST AMERICA SAVANNAH SDG 36426-2

DataQual

Environmental Services, LLC

Michael Baker, Jr., Inc.
Airside Business Park
100 Airside Drive
Moon Township, PA 15108

July 16, 2008
SDG# SWMU36426-2, Test America-Savannah
NAPR SWMU 74, Puerto Rico

Dear Mr. Kimes,

The following Data Validation report is provided as requested for the parameters noted in the table below for SDG # SWMU36426-2. The data validation was performed in accordance with the SW-846 methods utilized by the laboratory, the Region II Standard Operating Procedures for the Validation of Organic Data Acquired Using SW-846 Methods (8260B-Rev 2, January 2006- SOP #HW-24), and professional judgment. Region II has not developed a validation checklist SOP for the methods used to assess the inorganic methods in this SDG (SW-846 methods 6020B, 7471A) or the organic methods for hydrocarbons (SW-846 methods 8015_DRO and 8015_GRO). Therefore, alternative worksheets were provided. Region II flagging conventions were used. All areas of concern are discussed in the body of the report and a summary of data qualifications is provided.

Sample ID	Lab ID	Matrix	VOA App IX	DRO/GRO	Metals
74SB26-05	680-36426-21	soil	X	X	X
74SB27-03	680-36426-22	soil	X	X	X
74SB27-05	680-36426-23	soil	X	X	X
74SB42-03	680-36426-24	soil	X	X	X
74SB42-04	680-36426-25	soil	X	X	X
74SB43-03	680-36426-26	soil	X	X	X
74SB43-04	680-36426-27	soil	X	X	X
74SB44-04	680-36426-28	soil	X	X	X
74SB44-05	680-36426-29	soil	X	X	X
74SB48-01	680-36426-30	soil	X	X	X
74SB48-01D	680-36426-31	soil	X	X	X
74SB49-04	680-36426-32	soil	X	X	X
74SB49-05	680-36426-33	soil	X	X	X
74SB50-03	680-36426-34	soil	X	X	X
74SB50-04	680-36426-35	soil	X	X	X
74SB51-00	680-36426-36	soil	X	X	X
74SB51-03	680-36426-17	soil	X	X	X
74SB52-03	680-36426-38	soil	X	X	X
74SB52-04	680-36426-39	soil	X	X	X
74SB53-04	680-36426-40	soil	X	X	X
74SB51-00MS	680-36426-36MS	soil		X	X
74SB51-00MSD	680-36426-36MSD	soil		X	X

The following quality control samples were provided with this SDG: sample 74SB48-01D-field duplicate of sample 74SB48-01.

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The samples were evaluated based on the following criteria:

- Data Completeness *
- Sample Condition *
- Technical Holding Times *
- GC/MS Tuning *
- GC Performance *
- Initial/Continuing Calibrations
- ICSA/ICSAB Standards
- CRDL Standards *
- Blanks
- Internal Standards *
- Surrogate Recoveries
- Laboratory Control Samples *
- Matrix Spike Recoveries
- Matrix Duplicate RPDs *
- Serial Dilutions *
- Field Duplicates
- Identification/Quantitation *
- Reporting Limits *
- Tentatively Identified Compounds NA

* - indicates that qualifications were not required based on this criteria

Overall Evaluation of Data/Potential Usability Issues

A summary of qualifications applied to the sample results are noted below for the fractions validated. Specific details regarding qualification of the data are addressed in the Specific Evaluation section of this narrative. If an issue is not addressed there were no actions required based on unmet quality criteria. When more than one qualifier is associated with a compound/analyte the validator has chosen the qualifier that best indicates possible bias in the results and flagged the data accordingly. However, information regarding all quality control issues is provided in the body of the report and on the qualification summary page.

VOA

The initial and continuing calibration exhibited some compounds with low RRF values, which resulted in qualifying non-detected values as rejected for these compounds. Due to high %D values, in the continuing calibrations, some compounds were qualified as estimated.

Blank contamination was noted in the method and QC blank associated with samples in this batch. Qualifications were added to the data.

DRO/GRO

Three samples analyzed for GRO required qualification due to high surrogate recoveries.

Metals

The ICSAB standards exhibited non-compliant recoveries above the QC limit for the analyte zinc. Based on Region II guidelines all positive results for zinc in the metals samples were qualified as estimated J.

Blank contamination was noted and qualification was required in the samples in this SDG.

The matrix spikes of sample 74SB51-00 analyzed for the metals fraction exhibited non-compliant recoveries below the QC limits for antimony and chromium. All results for antimony in the metals samples were qualified as estimated J/UJ. Chromium was recovered less than 10% in both the MS & MSD. Therefore, positive and non-detect results for chromium were rejected R based on Region II guidance.

The submitted field duplicate pair exhibited non-compliant RPDs for two analytes, requiring qualification in the field duplicate pair.

Specific Evaluation of Data

Data Completeness

The SDG was received complete and intact. Resubmissions were not required. Clarification questions were asked of the laboratory regarding the metals fraction. A copy of the e-mail correspondence is included in the validation worksheets. Clarification questions were asked of the laboratory regarding the DRO and GRO fractions. A copy of the e-mail correspondence is included in the project file.

Technical Holding Times

According to chain of custody records, sampling was performed on 05/03/08 and samples were received at the laboratory 05/06/08. All sample preparation and analysis was performed within Region II and/or method holding time requirements.

Initial/Continuing Calibration

VOA

Calibration standards exhibited RRFs and %Ds that were non-compliant. A summary of these non-compliances and affected samples are noted in the following table. Sample results are qualified as indicated.

Standard ID	Compound(s)	RRF, %RSD, %D	Samples	Q Flag
IC 05/02/08	acrolein acetonitrile propionitrile isobutyl alcohol	0.0250 0.0405 0.0414 0.0126	74SB48-01, 74SB44-05, 74SB44-04, 74SB43-04, 74SB43-03, 74SB42-04, 74SB42-03, 74SB51-03, 74SB51-00, 74SB50-04, 74SB50-03, 74SB49-05, 74SB49-04, 74SB48-01D, 74SB52-04, 74SB53-04, 74SB52-03	J/R
CC 05/10/08	acrolein acetonitrile isobutyl alcohol acetone	0.03587 0.03049 0.01877 0.04146	74SB48-01, 74SB44-05, 74SB44-04, 74SB43-04, 74SB43-03, 74SB42-04, 74SB42-03, 74SB51-03, 74SB51-00, 74SB50-04, 74SB50-03, 74SB49-05, 74SB49-04, 74SB48-01D, 74SB52-04, 74SB53-04	J/R
	3-chloro-1-propene propionitrile methacrylonitrile methyl methacrylate ethyl methacrylate trans-1,4-dichloro-2-butene bromomethane	21.8% 49.6% 36.5% 47.9% 20.7% 29.6% 25.9%		J/UJ
CC 05/11/08	acrolein acetonitrile isobutyl alcohol acetone	0.04036 0.03368 0.02004 0.04291	74SB52-03	J/R
	propionitrile methacrylonitrile methyl methacrylate ethyl methacrylate trans-1,4-dichloro-2-butene vinyl acetate 2-butanone bromochloromethane 4-methyl-2-pentanone 2-hexanone	54.1% 43.2% 46.6% 28.4% 32.2% 30.7% 35.3% 24.0% 37.0% 31.8%		J/UJ

Standard ID	Compound(s)	RRF, %RSD, %D	Samples	Q Flag
CC 05/14/08	acrolein isobutyl alcohol acetone	0.04041 0.02375 0.04700	74SB27-05, 74SB26-05, 74SB27-03	J/R
	iodomethane 3-chloro-1-propene pentachloroethane chloroethane 4-methyl-2-pentanone 2-hexanone	36.5% 71.0% 43.3% 20.1% 20.5% 20.5%		J/UJ

ICSA/ICSAB Standards

Metals

The ICSAB standards associated with the metals analysis exhibited non-compliant recoveries above the upper QC limit for the analyte zinc (128%/127%). Based on Region II guidelines, reported positive results for zinc were qualified as estimated J in all samples.

Blanks

VOA

The associated method and/or QC blanks exhibited contamination as noted in the following table. Compounds for which there was no action required, are not included in the following table. Please note that the laboratory reported non-detect results down to the MDL for this project. Therefore, the blank flagging actions were modified as follows to take this into consideration. Positive results greater than the MDL but less than the CRQL are qualified as U at the reported concentration when affected by blank contamination.

Blank ID	Compound	Concentration	Reporting Limit	Action Level
Method Blk 5/14	acetone	960J ug/Kg	2000 ug/Kg	2X RL
FB01	2-butanone	0.69J ug/L	10 ug/L	2X RL

Associated samples and required qualifications are noted in the following table.

Sample ID	Compound	Q Flag
74SB27-05	acetone	U at reported value
74SB51-00	2-butanone	U at reported value

Metals

Associated blanks exhibited contamination as noted in the following table. The laboratory reported non-detect results to the MDL for this project. Therefore, the blank

flagging actions were modified to take this into consideration. Please see the Glossary of Qualification Flags and Abbreviations for details.

Blank ID	Analyte	Concentration	Action Level	Q Flag
ICB	antimony	0.08147J ug/L	>MDL up to RL	U
CCB	beryllium	0.018J ug/L	>MDL up to RL	U
	silver	0.019J ug/L	>MDL up to RL	U

The concentration noted for the CCBs is the highest concentration in all the associated CCBs. However, when qualifying samples for CCB contamination, associated samples are those just prior to or just following a CCB. Therefore, not all analytes in all samples are flagged for CCB contamination.

Associated samples and required qualifications are noted in the following table.

Sample ID	Analyte	Q Flag
all samples >MDL up to RL	antimony	U
74SB27-03, 74SB42-03, 74SB42-04	beryllium	U
74SB26-05, 74SB27-03, 74SB27-05, 74SB43-03, 74SB43-04, 74SB44-04	silver	U

Surrogate Recoveries

DRO/GRO

Three samples analyzed for GRO exhibited non-compliant surrogate recoveries above the QC limits. The reported positive results for GRO in samples 74SB26-05 (227%), 74SB27-03 (128%) and 74SB27-05 (141%) were qualified as estimated J.

Matrix Spikes

Metals

The matrix spikes of sample 74SB51-00 analyzed for the metals fraction exhibited non-compliant %R's for antimony and chromium, requiring qualification in the field samples. A summary of these non-compliances and affected samples are noted in the following table.

MS	Analytes	Samples	%R	Q Flag
74SB51-00	antimony	all samples	61% / 69%	J/UJ
	lead	all samples	-22%/ 8%	R

Field Duplicate

Metals

The field duplicate pair of samples 74SB48-01 and 74SB48-01D exhibited non-compliant RPDs for two analytes. The analyte nickel exhibited an RPD ≥35% but less than 120% and was qualified as estimated J in the field duplicate pair. The analyte chromium exhibited an RPD >120% and was rejected in the field duplicate pair.

A summary of qualifications required is provided on the following page. Please do not hesitate to contact DataQual ES with any questions regarding this validation report.

Sincerely,

Laura Maschhoff
President

Jacqueline Cleveland
Vice President

Summary of Data Qualifications

VOA

Sample ID	Compound	Results	Q flag
74SB48-01, 74SB44-05, 74SB44-04, 74SB43-04, 74SB43-03, 74SB42-04, 74SB42-03, 74SB51-03, 74SB51-00, 74SB50-04, 74SB50-03, 74SB49-05, 74SB49-04, 74SB48-01D, 74SB52-04, 74SB53-04, 74SB52-03	acrolein acetonitrile propionitrile isobutyl alcohol	+/-	J/R
74SB48-01, 74SB44-05, 74SB44-04, 74SB43-04, 74SB43-03, 74SB42-04, 74SB42-03, 74SB51-03, 74SB51-00, 74SB50-04, 74SB50-03, 74SB49-05, 74SB49-04, 74SB48-01D, 74SB52-04, 74SB53-04	acrolein acetonitrile isobutyl alcohol acetone	+/-	J/R
74SB48-01, 74SB44-05, 74SB44-04, 74SB43-04, 74SB43-03, 74SB42-04, 74SB42-03, 74SB51-03, 74SB51-00, 74SB50-04, 74SB50-03, 74SB49-05, 74SB49-04, 74SB48-01D, 74SB52-04, 74SB53-04	3-chloro-1-propene propionitrile methacrylonitrile methyl methacrylate ethyl methacrylate trans-1,4-dichloro-2-butene bromomethane	+/-	J/UJ
74SB52-03	acrolein acetonitrile isobutyl alcohol acetone	+/-	J/R
74SB52-03	propionitrile methacrylonitrile methyl methacrylate ethyl methacrylate trans-1,4-dichloro-2-butene vinyl acetate 2-butanone bromochloromethane 4-methyl-2-pentanone 2-hexanone	+/-	J/UJ
74SB27-05, 74SB26-05, 74SB27-03	acrolein isobutyl alcohol acetone	+/-	J/R
74SB27-05, 74SB26-05, 74SB27-03	iodomethane 3-chloro-1-propene pentachloroethane chloroethane 4-methyl-2-pentanone 2-hexanone	+/-	J/UJ
74SB27-05	acetone	+	U at reported value
74SB51-00	2-butanone	+	U at reported value

Summary of Data Qualifications, continued

DRO/GRO

Sample ID	Compound	Results	Q flag
74SB26-05, 74SB27-03, 74SB27-05	GRO	+	J

Metals

Sample ID	Analyte	Results	Q flag
all samples	zinc	+	J
all samples	antimony	+ >MDL up to RL	U
74SB27-03, 74SB42-03, 74SB42-04	beryllium	+ >MDL up to RL	U
74SB26-05, 74SB27-03, 74SB27-05, 74SB43-03, 74SB43-04, 74SB44-04	silver	+ >MDL up to RL	U
all samples	antimony	+/-	J/UJ
all samples	chromium	+/-	R
74SB48-01, 74SB48-01D	nickel	+	J
74SB48-01, 74SB48-01D	chromium	+/-	R

Glossary of Qualification Flags and Abbreviations

Qualification Flags (Q-Flags)

U	not detected above the reported sample quantitation limit
J	estimated value
UJ	reported quantitation limit is qualified as estimated
N	analyte has been tentatively identified
JN	analyte has been tentatively identified, estimated value
R	result is rejected; the presence or absence of the analyte cannot be verified

Method/Preparation/Field QC Blank Qualification Flags (Q-Flags)

Organic Methods

NA	The sample result for the blank contaminant is greater than the RL (2X sample RL for common laboratory contaminants) when the blank value is less than the RL. The sample result for the blank contaminant is not qualified with any blank qualifiers.
U*	The sample result for the blank contaminant is less than the RL (2X sample RL for common laboratory contaminants) but greater than the MDL when the blank value is less than the RL. The sample result for the blank contaminant is qualified as non-detect U at the reported concentration.
RL**	The sample result for the blank contaminant is less than the RL (2X sample RL for common laboratory contaminants) but greater than the MDL when the blank value is less than the RL. The sample result for the blank contaminant is changed to the RL and qualified as non-detect U.

* This guideline is used when the laboratory is reporting non-detects to the MDL. ** This guideline is used when the laboratory is reporting non-detects to the RL.

Inorganic Methods

ICB/CCB/PB Action:

No Action -	The sample result is greater than the RL and greater than ten times (10X) the blank value.
U -	The sample result is greater than or equal to the MDL but less than or equal to the RL, result is reported as non-detect at the reported concentration, when the ICB/CCB/PB result is less or greater than the RL.

Glossary of Qualification Flags and Abbreviations, continued

R -	Sample result is greater than the RL and less than the ICB/CCB/PB value when the ICB/CCB/PB value is greater than the RL.
J -	Sample result is greater than the ICB/CCB/PB value but less than 10X the ICB/CCB/PB value when ICB/CCB/PB value is greater than the RL.
J/UJ -	Sample result is less than 10X RL when blank result is below the negative RL.

Field QC Blank action:

Note – Use field blanks to qualify data only if field blank results are greater than prep blank results.

Do not use rinsate blank associated with soils to qualify water samples and vice versa.

No Action -	The sample result is greater than the RL and greater than ten times (10X) the blank value.
U -	The sample result is greater than or equal to the MDL but less than or equal to the RL, result is reported as non-detect at the reported concentration, when the FB result is less or greater than the RL.
R -	Sample result is greater than the RL and less than the FB value when the FB value is greater than the RL.
J -	Sample result is greater than the FB value but less than 10X the FB value when FB value is greater than the RL.

General Abbreviations

RL	reporting limit
IDL	instrument detection limit
MDL	method detection limit
CRDL	contract required detection limit
CRQL	contract required quantitation limit
+	positive result
-	non-detect result

TEST AMERICA SAVANNAH SDG 36426-3

DataQual

Environmental Services, LLC

Michael Baker, Jr., Inc.
Airside Business Park
100 Airside Drive
Moon Township, PA 15108

July 16, 2008
SDG# SWMU36426-3, Test America-Savannah
NAPR SWMU 74, Puerto Rico

Dear Mr. Kimes,

The following Data Validation report is provided as requested for the parameters noted in the table below for SDG # SWMU36426-3. The data validation was performed in accordance with the SW-846 methods utilized by the laboratory, the Region II Standard Operating Procedures for the Validation of Organic Data Acquired Using SW-846 Methods (8260B-Rev 2, January 2006- SOP #HW-24), and professional judgment. Region II has not developed a validation checklist SOP for the methods used to assess the inorganic methods in this SDG (SW-846 methods 6020B, 7471A) or the organic methods for hydrocarbons (SW-846 methods 8015_DRO and 8015_GRO). Therefore, alternative worksheets were provided. Region II flagging conventions were used. All areas of concern are discussed in the body of the report and a summary of data qualifications is provided.

Sample ID	Lab ID	Matrix	VOA App IX	DRO/GRO	Metals
74SB53-05	680-36426-41	soil	X	X	X
74SB54-03	680-36426-42	soil	X	X	X
74SB54-04	680-36426-43	soil	X	X	X
74SB55-02	680-36426-44	soil	X	X	X
74SB55-03	680-36426-45	soil	X	X	X
74SB56-03	680-36426-46	soil	X	X	X
74SB56-04	680-36426-47	soil	X	X	X
74SB57-03	680-36426-48	soil	X	X	X
74SB57-04	680-36426-49	soil	X	X	X
74SB58-03	680-36426-50	soil	X	X	X
74SB58-04	680-36426-51	soil	X	X	X
74SB59-04	680-36426-52	soil	X	X	X
74SB59-05	680-36426-53	soil	X	X	X
74SB60-04	680-36426-54	soil	X	X	X
74SB60-05	680-36426-55	soil	X	X	X
74SB61-00	680-36426-56	soil	X	X	X
74SB61-03	680-36426-57	soil	X	X	X
74SB61-04	680-36426-58	soil	X	X	X
74SB61-04D	680-36426-59	soil	X	X	X
74SB62-03	680-36426-60	soil	X	X	X
74SB53-05MS	680-36426-41MS	soil		X	X
74SB53-05MSD	680-36426-41MSD	soil		X	X

The following quality control samples were provided with this SDG: Sample 74SB61-04D was the field duplicate of sample 74SB61-04.

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The samples were evaluated based on the following criteria:

- Data Completeness *
- Sample Condition *
- Technical Holding Times *
- GC/MS Tuning *
- GC Performance *
- Initial/Continuing Calibrations
- ICSA/ICSAB Standards
- CRDL Standards *
- Blanks
- Internal Standards *
- Surrogate Recoveries *
- Laboratory Control Samples *
- Matrix Spike Recoveries
- Matrix Duplicate RPDs *
- Serial Dilutions *
- Field Duplicates *
- Identification/Quantitation *
- Reporting Limits *
- Tentatively Identified Compounds NA

* - indicates that qualifications were not required based on this criteria

Overall Evaluation of Data/Potential Usability Issues

A summary of qualifications applied to the sample results are noted below for the fractions validated. Specific details regarding qualification of the data are addressed in the Specific Evaluation section of this narrative. If an issue is not addressed there were no actions required based on unmet quality criteria. Please note that the reviewer added an F to the sample ID to indicate dissolved metals analysis when necessary. When more than one qualifier is associated with a compound/analyte the validator has chosen the qualifier that best indicates possible bias in the results and flagged the data accordingly. However, information regarding all quality control issues is provided in the body of the report and on the qualification summary page.

VOA

The initial and continuing calibration exhibited some compounds with low RRF values, which resulted in qualifying non-detected values as rejected for these compounds. Due to high %D values, in the continuing calibrations, some compounds were qualified as estimated.

Blank contamination was noted in the QC blanks associated with samples in this batch. Qualifications were added to the data.

DRO/GRO

Blank contamination was noted in the GRO fraction and qualification was required in the samples in this SDG.

Metals

The ICSAB standards exhibited non-compliant recoveries above the QC limit for the analyte zinc. Based on Region II guidelines all positive results for zinc in the metals samples were qualified as estimated J.

Blank contamination was noted and qualification was required in the samples in this SDG.

The matrix spikes of sample 74SB51-00 analyzed for the metals fraction exhibited non-compliant recoveries below the QC limits for antimony and chromium. All results for antimony in the metals samples were qualified as estimated J/UJ. Chromium was recovered less than 10% in both the MS & MSD. Therefore, positive and non-detect results for chromium were rejected R based on Region II guidance.

Specific Evaluation of Data

Data Completeness

The SDG was received complete and intact. Resubmissions were not required. Clarification questions were asked of the laboratory regarding the metals fraction. A copy of the e-mail correspondence is included in the validation worksheets. Clarification questions were asked of the laboratory regarding the GRO/DRO fraction. A copy of these e-mail correspondences is included in the project file.

Technical Holding Times

According to chain of custody records, sampling was performed on 05/03/08 and samples were received at the laboratory 05/06/08. All sample preparation and analysis was performed within Region II and/or method holding time requirements.

Initial/Continuing Calibration

VOA

Calibration standards exhibited RRFs and %Ds that were non-compliant. A summary of these non-compliances and affected samples are noted in the following table. Sample results are qualified as indicated.

Standard ID	Compound(s)	RRF, %RSD, %D	Samples	Q Flag
IC 05/02/08	acrolein acetonitrile propionitrile isobutyl alcohol	0.0250 0.0406 0.0414 0.0126	74SB53-05, 74SB54-03, 74SB54-04, 74SB55-02, 74SB55-03, 74SB56-03, 74SB56-04, 74SB57-03, 74SB57-04, 74SB58-03, 74SB58-04	J/R
CC 05/11/08	acrolein acetonitrile isobutyl alcohol acetone	0.04036 0.03368 0.02004 0.04291	74SB53-05, 74SB54-03, 74SB54-04, 74SB55-02, 74SB55-03, 74SB56-03, 74SB56-04, 74SB57-03, 74SB57-04, 74SB58-03, 74SB58-04	J/R
	propionitrile methacrylonitrile methyl methacrylate ethyl methacrylate trans-1,4-dichloro-2-butene vinyl acetate 2-butanone 4-methyl-2-pentanone	54.1% 43.2% 46.6% 28.4% 32.2% 30.7% 35.3% 37.0%		J/UJ
IC 05/12/08	acetonitrile isobutyl alcohol	0.0356 0.0211	74SB59-05, 74SB60-05, 74SB61-00, 74SB61-03, 74SB61-04D, 74SB62-03, 74SB59-04, 74SB60-04, 74SB61-04	J/R
CC 05/13/08	isobutyl alcohol acetone	0.02138 0.04359	74SB59-05, 74SB60-05, 74SB61-00, 74SB61-03, 74SB61-04D, 74SB62-03, 74SB59-04, 74SB60-04	J/R
	acetonitrile pentachloroethane	86.3% 30.9%		J/UJ
CC 05/14/08	acetonitrile isobutyl alcohol acetone	102.1% 0.02361 0.03496	74SB61-04	J/R
	methacrylonitrile pentachloroethane	32.0% 40.6%		J/UJ

ICSA/ICSAB Standards

Metals

The ICSAB standards associated with the metals analysis exhibited non-compliant recoveries above the upper QC limit for the analyte zinc (128%/127%/128%). Based on Region II guidelines, reported positive results for zinc were qualified as estimated J in all samples.

Blanks

VOA

The associated method and/or QC blanks exhibited contamination as noted in the following table. Compounds for which there was no action required, are not included in the following table. Please note that the laboratory reported non-detect results down to the MDL for this project. Therefore, the blank flagging actions were modified as follows to take this into consideration. Positive results greater than the MDL but less than the CRQL are qualified as U at the reported concentration when affected by blank contamination.

Blank ID	Compound	Concentration	Reporting Limit	Action Level
FB01	2-butanone	0.69J ug/L	10 ug/L	2X RL

Associated samples and required qualifications are noted in the following table.

Sample ID	Compound	Q Flag
74SB54-03, 74SB54-04, 74SB55-02, 74SB60-04, 74SB61-00, 74SB61-03, 74SB61-04, 74SB61-04D, 74SB62-03	2-butanone	U at reported value

DRO/GRO

The associated method blanks exhibited contamination as noted in the following table. Please note that the laboratory reported non-detect results down to the MDL for this project. Therefore, the blank flagging actions were modified as follows to take this into consideration. Positive results greater than the MDL but less than the RL are qualified as U at the reported concentration when affected by blank contamination.

Blank ID	Compound	Concentration	Action Level	Q Flag
MB 680-106032/5	GRO	0.084J mg/Kg	RL	U

Associated samples and required qualifications are noted in the following table.

Sample ID	Compound	Q Flag
74SB54-03, 74SB54-04, 74SB55-02, 74SB56-03, 74SB56-04	GRO	U at reported value

Metals

Associated blanks exhibited contamination as noted in the following table. The laboratory reported non-detect results to the MDL for this project. Therefore, the blank flagging actions were modified to take this into consideration. Please see the Glossary of Qualification Flags and Abbreviations for details.

Blank ID	Analyte	Concentration	Action Level	Q Flag
ICB	antimony	0.08147J ug/L	>MDL up to RL	U
	beryllium	0.018J ug/L	>MDL up to RL	U
CCB	silver	0.023J ug/L	>MDL up to RL	U

The concentration noted for the CCBs is the highest concentration in all the associated CCBs. However, when qualifying samples for CCB contamination, associated samples are those just prior to or just following a CCB. Therefore, not all analytes in all samples are flagged for CCB contamination.

Associated samples and required qualifications are noted in the following table.

Sample ID	Analyte	Q Flag
all samples >MDL up to RL	antimony	U
all samples >MDL up to RL	beryllium	U
all samples >MDL up to RL	silver	U

Matrix Spikes

Metals

The matrix spikes of sample 74SB53-05 analyzed for the metals fraction exhibited non-compliant %R's for antimony, arsenic, chromium, and selenium, requiring qualification in the field samples. A summary of these non-compliances and affected samples are noted in the following table.

MS	Analytes	Samples	%R	Q Flag
74SB53-05	antimony	all samples	49% / 54%	J/UJ
	arsenic	all samples	58% / 62%	J/UJ
	chromium	all samples	30% / 41%	J/UJ
	selenium	all samples	73% / 73%	J/UJ

A summary of qualifications required is provided on the following page. Please do not hesitate to contact DataQual ES with any questions regarding this validation report.

Sincerely,

Laura Maschhoff
President

Jacqueline Cleveland
Vice President

Summary of Data Qualifications

VOA

Sample ID	Compound	Results	Q flag
74SB53-05, 74SB54-03, 74SB54-04, 74SB55-02, 74SB55-03, 74SB56-03, 74SB56-04, 74SB57-03, 74SB57-04, 74SB58-03, 74SB58-04	acrolein acetonitrile propionitrile isobutyl alcohol	+/-	J/R
74SB53-05, 74SB54-03, 74SB54-04, 74SB55-02, 74SB55-03, 74SB56-03, 74SB56-04, 74SB57-03, 74SB57-04, 74SB58-03, 74SB58-04	acrolein acetonitrile isobutyl alcohol acetone	+/-	J/R
74SB53-05, 74SB54-03, 74SB54-04, 74SB55-02, 74SB55-03, 74SB56-03, 74SB56-04, 74SB57-03, 74SB57-04, 74SB58-03, 74SB58-04	propionitrile methacrylonitrile methyl methacrylate ethyl methacrylate trans-1,4-dichloro-2-butene vinyl acetate 2-butanone 4-methyl-2-pentanone	+/-	J/UJ
74SB59-05, 74SB60-05, 74SB61-00, 74SB61-03, 74SB61-04D, 74SB62-03, 74SB59-04, 74SB60-04, 74SB61-04	acetonitrile isobutyl alcohol	+/-	J/R
74SB59-05, 74SB60-05, 74SB61-00, 74SB61-03, 74SB61-04D, 74SB62-03, 74SB59-04, 74SB60-04	isobutyl alcohol acetone	+/-	J/R
74SB59-05, 74SB60-05, 74SB61-00, 74SB61-03, 74SB61-04D, 74SB62-03, 74SB59-04, 74SB60-04	acetonitrile pentachloroethane	+/-	J/UJ
74SB61-04	acetonitrile isobutyl alcohol acetone	+/-	J/R
74SB61-04	methacrylonitrile pentachloroethane	+/-	J/UJ
74SB54-03, 74SB54-04, 74SB55-02, 74SB60-04, 74SB61-00, 74SB61-03, 74SB61-04, 74SB61-04D, 74SB62-03	2-butanone	+	U at reported value

Summary of Data Qualifications, continued

DRO/GRO

Sample ID	Compound	Results	Q flag
74SB54-03, 74SB54-04, 74SB55-02, 74SB56-03, 74SB56-04	GRO	+J	U

Metals

Sample ID	Analyte	Results	Q flag
all samples	zinc	+	J
all samples	antimony	+ >MDL up to RL	U
all samples	beryllium	+ >MDL up to RL	U
all samples	silver	+ >MDL up to RL	U
all samples	antimony arsenic chromium selenium	+/-	J/UJ

Glossary of Qualification Flags and Abbreviations

Qualification Flags (Q-Flags)

U	not detected above the reported sample quantitation limit
J	estimated value
UJ	reported quantitation limit is qualified as estimated
N	analyte has been tentatively identified
JN	analyte has been tentatively identified, estimated value
R	result is rejected; the presence or absence of the analyte cannot be verified

Method/Preparation/Field QC Blank Qualification Flags (Q-Flags)

Organic Methods

NA	The sample result for the blank contaminant is greater than the RL (2X sample RL for common laboratory contaminants) when the blank value is less than the RL. The sample result for the blank contaminant is not qualified with any blank qualifiers.
U*	The sample result for the blank contaminant is less than the RL (2X sample RL for common laboratory contaminants) but greater than the MDL when the blank value is less than the RL. The sample result for the blank contaminant is qualified as non-detect U at the reported concentration.
RL**	The sample result for the blank contaminant is less than the RL (2X sample RL for common laboratory contaminants) but greater than the MDL when the blank value is less than the RL. The sample result for the blank contaminant is changed to the RL and qualified as non-detect U.

* This guideline is used when the laboratory is reporting non-detects to the MDL. ** This guideline is used when the laboratory is reporting non-detects to the RL.

Inorganic Methods

ICB/CCB/PB Action:

No Action -	The sample result is greater than the RL and greater than ten times (10X) the blank value.
U -	The sample result is greater than or equal to the MDL but less than or equal to the RL, result is reported as non-detect at the reported concentration, when the ICB/CCB/PB result is less or greater than the RL.

Glossary of Qualification Flags and Abbreviations, continued

R -	Sample result is greater than the RL and less than the ICB/CCB/PB value when the ICB/CCB/PB value is greater than the RL.
J -	Sample result is greater than the ICB/CCB/PB value but less than 10X the ICB/CCB/PB value when ICB/CCB/PB value is greater than the RL.
J/UJ -	Sample result is less than 10X RL when blank result is below the negative RL.

Field QC Blank action:

Note – Use field blanks to qualify data only if field blank results are greater than prep blank results.
Do not use rinsate blank associated with soils to qualify water samples and vice versa.

No Action -	The sample result is greater than the RL and greater than ten times (10X) the blank value.
U -	The sample result is greater than or equal to the MDL but less than or equal to the RL, result is reported as non-detect at the reported concentration, when the FB result is less or greater than the RL.
R -	Sample result is greater than the RL and less than the FB value when the FB value is greater than the RL.
J -	Sample result is greater than the FB value but less than 10X the FB value when FB value is greater than the RL.

General Abbreviations

RL	reporting limit
IDL	instrument detection limit
MDL	method detection limit
CRDL	contract required detection limit
CRQL	contract required quantitation limit
+	positive result
-	non-detect result

TEST AMERICA SAVANNAH SDG 36426-4

DataQual

Environmental Services, LLC

Michael Baker, Jr., Inc.
Airside Business Park
100 Airside Drive
Moon Township, PA 15108

August 4, 2008
SDG# SWMU36426-4, Test America-Savannah
NAPR SWMU 74, Puerto Rico

Dear Mr. Kimes,

The following Data Validation report is provided as requested for the parameters noted in the table below for SDG # SWMU36426-4. The data validation was performed in accordance with the SW-846 methods utilized by the laboratory, the Region II Standard Operating Procedures for the Validation of Organic Data Acquired Using SW-846 Methods (8260B-Rev 2, January 2006- SOP #HW-24), and professional judgment. Region II has not developed a validation checklist SOP for the methods used to assess the inorganic methods in this SDG (SW-846 methods 6020B, 7471A) or the organic methods for hydrocarbons (SW-846 methods 8015_DRO and 8015_GRO). Therefore, alternative worksheets were provided. Region II flagging conventions were used. All areas of concern are discussed in the body of the report and a summary of data qualifications is provided.

Sample ID	Lab ID	Matrix	VOA App IX	DRO/GRO	GRO	Metals
74SB63-03	680-36426-61	soil	X	X		X
74SB63-04	680-36426-62	soil	X	X		X
74SB64-03	680-36426-63	soil	X	X		X
74SB64-04	680-36426-64	soil	X	X		X
74SB65-03	680-36426-65	soil	X	X		X
74SB65-04	680-36426-66	soil	X	X		X
74SB66-03	680-36426-67	soil	X	X		X
74SB66-04	680-36426-68	soil	X	X		X
74SB66-04D	680-36426-69	soil	X	X		X
74SB67-03	680-36426-70	soil	X	X		X
74SB67-04	680-36426-71	soil	X	X		X
74SB68-03	680-36426-72	soil	X	X		X
74SB68-04	680-36426-73	soil	X	X		X
74SB69-03	680-36426-74	soil	X	X		X
74SB69-04	680-36426-75	soil	X	X		X
74SB70-03	680-36426-76	soil	X	X		X
74SB70-04	680-36426-77	soil	X	X		X
74TB04	680-36426-78	water	X		X	
74TB05	680-36426-79	water	X		X	
74TB06	680-36426-80	water	X		X	
74SB65-03MS	680-36426-65MS	soil				X
74SB65-03MSD	680-36426-65MSD	soil				X

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The following quality control samples were provided with this SDG: sample 74SB66-04D-field duplicate of sample 74SB66-04; and samples 74TB04, 74TB05 and 74TB06–trip blanks.

The samples were evaluated based on the following criteria:

- Data Completeness *
- Sample Condition
- Technical Holding Times *
- GC/MS Tuning *
- GC Performance *
- Initial/Continuing Calibrations
- ICSA/ICSAB Standards *
- CRDL Standards *
- Blanks
- Internal Standards *
- Surrogate Recoveries *
- Laboratory Control Samples *
- Matrix Spike Recoveries
- Matrix Duplicate RPDs
- Serial Dilutions *
- Field Duplicates
- Identification/Quantitation *
- Reporting Limits *
- Tentatively Identified Compounds NA

* - indicates that qualifications were not required based on this criteria

Overall Evaluation of Data/Potential Usability Issues

A summary of qualifications applied to the sample results are noted below for the fractions validated. Specific details regarding qualification of the data are addressed in the Specific Evaluation section of this narrative. If an issue is not addressed there were no actions required based on unmet quality criteria. When more than one qualifier is associated with a compound/analyte the validator has chosen the qualifier that best indicates possible bias in the results and flagged the data accordingly. However, information regarding all quality control issues is provided in the body of the report and on the qualification summary page.

VOA

The sample vials for sample 74TB04 and 74TB06 were received at the laboratory with headspace. According to Region II guidelines when all the vials for a sample have air

bubbles or the VOA vial analyzed had air bubbles, all positive results were qualified as estimated (J) and non-detected results were rejected (R).

The initial and continuing calibration exhibited some compounds with low RRF values, which resulted in qualifying non-detected values as rejected for these compounds. Due to high %D values in the continuing calibrations, some compounds were qualified as estimated.

Blank contamination was noted in the QC blank associated with samples in this batch. Qualifications were added to the data.

DRO/GRO

The vial used for the analysis of one sample for GRO had headspace, therefore the reported result required rejection.

Metals

Blank contamination was noted and qualification was required in the samples in this SDG.

The associated matrix spikes exhibited non-compliant %Rs for three analytes for which qualifications were required. Positive and non-detect results for antimony were flagged as estimated J/UJ in the samples. Positive results for barium were flagged as estimated J in the samples. Positive and non-detect results for mercury were rejected R in the samples.

The associated matrix duplicate exhibited a non-compliant RPD for one analyte for which qualifications were required. Positive and non-detect results for copper were qualified as estimated in the samples.

The submitted field duplicate pair exhibited non-compliant RPDs for two analytes. Those analytes required qualification in the field duplicate pair.

Specific Evaluation of Data

Data Completeness

The SDG was received complete and intact. Resubmissions were not required. Clarification questions were asked of the laboratory regarding the metals fraction. A copy of the e-mail correspondence is included in the validation worksheets. Clarification questions were asked of the laboratory regarding the DRO and GRO fractions. A copy of the e-mail correspondence is included in the project file.

Sample Condition

VOA

The sample vials for samples 74TB04 and 74TB06 were received at the laboratory with headspace. According to Region II guidelines when all the vials for a sample have air bubbles or the VOA vial analyzed had air bubbles, all positive results were qualified as estimated (J) and non-detected results were rejected (R).

GRO

The sample vial used for the GRO analysis of sample 74TB06 contained headspace. Based on Region II guidelines the reported non-detect result was rejected R.

Technical Holding Times

According to chain of custody records, sampling was performed on 05/04/08 and samples were received at the laboratory 05/06/08. All sample preparation and analysis was performed within Region II and/or method holding time requirements.

Initial/Continuing Calibration

VOA

Calibration standards exhibited RRFs and %Ds that were non-compliant. A summary of these non-compliances and affected samples are noted in the following table. Sample results are qualified as indicated.

Standard ID	Compound(s)	RRF, %RSD, %D	Samples	Q Flag
CC 05/13/08	acrolein	0.02624	74TB04, 74TB05, 74TB06	J/R
	acrylonitrile	53.5%		J/UJ
	pentachloroethane	76.0%		
	dichlorodifluoromethane	20.3%		
	bromomethane	39.5%		
	vinyl acetate	28.0%		
	trans-1,3-dichloropropene	20.9%		

Standard ID	Compound(s)	RRF, %RSD, %D	Samples	Q Flag
IC 05/10/08	acetonitrile isobutyl alcohol	0.0356 0.0211	74SB63-03, 74SB63-04, 74SB64-03, 74SB64-04, 74SB65-03, 74SB65-04, 74SB66-03, 74SB66-04, 74SB66-04D, 74SB67-03, 74SB67-04, 74SB68-03, 74SB68-04, 74SB69-04, 74SB70-04, 74SB69-03, 74SB70-03	J/R
CC 05/13/08	isobutyl alcohol acetone	0.02138 0.04359	74SB63-03, 74SB63-04, 74SB64-03	J/R
	acetonitrile pentachloroethane	86.3% 30.9%		J/UJ
CC 05/14/08	acetonitrile isobutyl alcohol acetone	102.1% 0.02361 0.03496	74SB64-04, 74SB65-03, 74SB65-04, 74SB66-03, 74SB66-04, 74SB66-04D, 74SB67-03, 74SB67-04, 74SB68-03, 74SB68-04, 74SB69-04, 74SB70-04	J/R
	methacrylonitrile pentachloroethane	32.0% 40.6%		J/UJ
CC 05/14/08	acrolein isobutyl alcohol acetone	0.04653 0.02484 0.04937	74SB69-03, 74SB70-03	J/R
	acetonitrile 2-chloro-1,3-butadiene methacrylonitrile pentachloroethane	88.7% 24.0% 26.6% 31.8%		J/UJ

Blanks

<u>VOA</u>

The associated method and/or QC blanks exhibited contamination as noted in the following table. Compounds for which there was no action required, are not included in the following table. Please note that the laboratory reported non-detect results down to the MDL for this project. Therefore, the blank flagging actions were modified as follows

to take this into consideration. Positive results greater than the MDL but less than the CRQL are qualified as U at the reported concentration when affected by blank contamination.

Blank ID	Compound	Concentration	Reporting Limit	Action Level
FB01	2-butanone	0.69J ug/L	10 ug/L	2X RL

Associated samples and required qualifications are noted in the following table.

Sample ID	Compound	Q Flag
74SB70-04	2-butanone	U at reported value

Metals

Associated blanks exhibited contamination as noted in the following table. The laboratory reported non-detect results to the MDL for this project. Therefore, the blank flagging actions were modified to take this into consideration. Please see the Glossary of Qualification Flags and Abbreviations for details.

Blank ID	Analyte	Concentration	Action Level	Q Flag
FB01	lead	0.38J ug/L	>MDL up to RL	U

Associated samples and required qualifications are noted in the following table.

Sample ID	Analyte	Q Flag
74SB67-04	lead	U

Matrix Spike Recoveries

Metals

The matrix spikes of sample 74SB65-03 analyzed for the metals fraction exhibited non-compliant %R's for antimony, barium and mercury that required qualification in the field samples. A summary of these non-compliances and affected samples are noted in the following table.

MS	Analytes	Samples	%R	Q Flag
74SB65-03	antimony	all samples	70% /72%	J/UJ
	barium	all samples	148%/289%	J
	mercury	all samples	-4.2/-8.4%	R

Matrix Duplicates

Metals

The matrix duplicate of sample 74SB65-03 exhibited a non-compliant %D for one analyte that required qualification in the field samples. A summary of these non-compliances and affected samples are noted in the following table.

MD	Analytes	Samples	RPD	Q Flag
74SB65-03	copper	all samples	32.5%	J/UJ

Field Duplicates

Metals

The field duplicate pair of samples 74SB66-04 and 74SB66-04D exhibited non-compliant RPD >35% but less than 120% for the analytes cobalt (63%) and copper (86%). These analytes were flagged as estimated J in the field duplicate pair. The analyte mercury (0.152) exhibited an absolute difference > 4X CRDL. This analytes was rejected R in the field duplicate pair. All qualifications were made based on the Region II guidance.

A summary of qualifications required is provided on the following page. Please do not hesitate to contact DataQual ES with any questions regarding this validation report.

Sincerely,

Laura Maschhoff
President

Jacqueline Cleveland
Vice President

Summary of Data Qualifications

VOA

Sample ID	Compound	Results	Q flag
74TB04, 74TB06	all results	+/-	J/R
74TB04, 74TB05, 74TB06	acrolein	+/-	J/R
74TB04, 74TB05, 74TB06	acrylonitrile pentachloroethane dichlorodifluoromethane bromomethane vinyl acetate trans-1,3-dichloropropene	+/-	J/UJ
74SB63-03, 74SB63-04, 74SB64-03, 74SB64-04, 74SB65-03, 74SB65-04, 74SB66-03, 74SB66-04, 74SB66-04D, 74SB67-03, 74SB67-04, 74SB68-03, 74SB68-04, 74SB69-04, 74SB70-04, 74SB69-03, 74SB70-03	acetonitrile isobutyl alcohol	+/-	J/R
74SB63-03, 74SB63-04, 74SB64-03	isobutyl alcohol acetone	+/-	J/R
74SB63-03, 74SB63-04, 74SB64-03	acetonitrile pentachloroethane	+/-	J/UJ
74SB64-04, 74SB65-03, 74SB65-04, 74SB66-03, 74SB66-04, 74SB66-04D, 74SB67-03, 74SB67-04, 74SB68-03, 74SB68-04, 74SB69-04, 74SB70-04	acetonitrile isobutyl alcohol acetone	+/-	J/R
74SB64-04, 74SB65-03, 74SB65-04, 74SB66-03, 74SB66-04, 74SB66-04D, 74SB67-03, 74SB67-04, 74SB68-03, 74SB68-04, 74SB69-04, 74SB70-04	methacrylonitrile pentachloroethane	+/-	J/UJ
74SB69-03, 74SB70-03	acrolein isobutyl alcohol acetone	+/-	J/R
74SB69-03, 74SB70-03	acetonitrile 2-chloro-1,3-butadiene methacrylonitrile pentachloroethane	+/-	J/UJ
74SB70-04	2-butanone	+	U at reported value

Summary of Data Qualifications, continued

DRO/GRO

Sample ID	Compound	Results	Q flag
74TB06	GRO	-	R

Metals

Sample ID	Analyte	Results	Q flag
74SB67-04	lead	+ >MDL up to RL	U
all samples	antimony	+/-	J/UJ
all samples	barium	+	J
all samples	mercury	+/-	R
all samples	copper	+/-	J/UJ
74SB66-04, 74SB66-04D	cobalt copper	+	J

Glossary of Qualification Flags and Abbreviations

Qualification Flags (Q-Flags)

U	not detected above the reported sample quantitation limit
J	estimated value
UJ	reported quantitation limit is qualified as estimated
N	analyte has been tentatively identified
JN	analyte has been tentatively identified, estimated value
R	result is rejected; the presence or absence of the analyte cannot be verified

Method/Preparation/Field QC Blank Qualification Flags (Q-Flags)

Organic Methods

NA	The sample result for the blank contaminant is greater than the RL (2X sample RL for common laboratory contaminants) when the blank value is less than the RL. The sample result for the blank contaminant is not qualified with any blank qualifiers.
U*	The sample result for the blank contaminant is less than the RL (2X sample RL for common laboratory contaminants) but greater than the MDL when the blank value is less than the RL. The sample result for the blank contaminant is qualified as non-detect U at the reported concentration.
RL**	The sample result for the blank contaminant is less than the RL (2X sample RL for common laboratory contaminants) but greater than the MDL when the blank value is less than the RL. The sample result for the blank contaminant is changed to the RL and qualified as non-detect U.

* This guideline is used when the laboratory is reporting non-detects to the MDL. ** This guideline is used when the laboratory is reporting non-detects to the RL.

Inorganic Methods

ICB/CCB/PB Action:

No Action -	The sample result is greater than the RL and greater than ten times (10X) the blank value.
U -	The sample result is greater than or equal to the MDL but less than or equal to the RL, result is reported as non-detect at the reported concentration, when the ICB/CCB/PB result is less or greater than the RL.

Glossary of Qualification Flags and Abbreviations, continued

R -	Sample result is greater than the RL and less than the ICB/CCB/PB value when the ICB/CCB/PB value is greater than the RL.
J -	Sample result is greater than the ICB/CCB/PB value but less than 10X the ICB/CCB/PB value when ICB/CCB/PB value is greater than the RL.
J/UJ -	Sample result is less than 10X RL when blank result is below the negative RL.

Field QC Blank action:

Note – Use field blanks to qualify data only if field blank results are greater than prep blank results.
Do not use rinsate blank associated with soils to qualify water samples and vice versa.

No Action -	The sample result is greater than the RL and greater than ten times (10X) the blank value.
U -	The sample result is greater than or equal to the MDL but less than or equal to the RL, result is reported as non-detect at the reported concentration, when the FB result is less or greater than the RL.
R -	Sample result is greater than the RL and less than the FB value when the FB value is greater than the RL.
J -	Sample result is greater than the FB value but less than 10X the FB value when FB value is greater than the RL.

General Abbreviations

RL	reporting limit
IDL	instrument detection limit
MDL	method detection limit
CRDL	contract required detection limit
CRQL	contract required quantitation limit
+	positive result
-	non-detect result

TEST AMERICA SAVANNAH SDG 36489-1

DataQual

Environmental Services, LLC

Michael Baker, Jr., Inc.
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100 Airside Drive
Moon Township, PA 15108

August 4, 2008
SDG# SWMU36489-1, Test America-Savannah
NAPR SWMU 74, Puerto Rico

Dear Mr. Kimes,

The following Data Validation report is provided as requested for the parameters noted in the table below for SDG # SWMU36489-1. The data validation was performed in accordance with the SW-846 methods utilized by the laboratory, the Region II Standard Operating Procedures for the Validation of Organic Data Acquired Using SW-846 Methods (8260B-Rev 2, January 2006- SOP #HW-24), and professional judgment. Region II has not developed a validation checklist SOP for the methods used to assess the inorganic methods in this SDG (SW-846 methods 6020B, 7471A) or the organic methods for hydrocarbons (SW-846 methods 8015_DRO and 8015_GRO). Therefore, alternative worksheets were provided. Region II flagging conventions were used. All areas of concern are discussed in the body of the report and a summary of data qualifications is provided.

Sample ID	Lab ID	Matrix	VOA App IX	DRO/GRO	Metals
74SB71-00	680-36489-1	soil	X	X	X
74SB71-03	680-36489-2	soil	X	X	X
74SB71-04	680-36489-3	soil	X	X	X
74SB71-04D	680-36489-4	soil	X	X	X
74SB72-03	680-36489-5	soil	X	X	X
74SB72-04	680-36489-6	soil	X	X	X
74SB73-03	680-36489-7	soil	X	X	X
74SB73-04	680-36489-8	soil	X	X	X
74SB74-03	680-36489-9	soil	X	X	X
74SB74-04	680-36489-10	soil	X	X	X
74SB75-03	680-36489-11	soil	X	X	X
74SB75-04	680-36489-12	soil	X	X	X
74SB76-03	680-36489-13	soil	X	X	X
74SB76-03D	680-36489-14	soil	X	X	X
74SB76-04	680-36489-15	soil	X	X	X
74SB77-03	680-36489-16	soil	X	X	X
74SB77-04	680-36489-17	soil	X	X	X
74SB79-03	680-36489-1	soil	X	X	X
74SB79-04	680-36489-19	soil	X	X	X
74SB80-03	680-36489-20	soil	X	X	X
74SB71-03 MS	680-36489-2MS	soil	X	X	X
74SB71-03 MSD	680-36489-2MSD	soil	X	X	X

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The following quality control samples were provided with this SDG: sample 74SB71-04D-field duplicate of sample 74SB71-04; and sample 74SB76-03D-field duplicate of sample 74SB76-03.

The samples were evaluated based on the following criteria:

• Data Completeness	*
• Sample Condition	*
• Technical Holding Times	*
• GC/MS Tuning	*
• GC Performance	*
• Initial/Continuing Calibrations	
• ICSA/ICSAB Standards	
• CRDL Standards	*
• Blanks	
• Internal Standards	*
• Surrogate Recoveries	*
• Laboratory Control Samples	*
• Matrix Spike Recoveries	
• Matrix Duplicate RPDs	
• Serial Dilutions	
• Field Duplicates	
• Identification/Quantitation	*
• Reporting Limits	*
• Tentatively Identified Compounds	NA

* - indicates that qualifications were not required based on this criteria

Overall Evaluation of Data/Potential Usability Issues

A summary of qualifications applied to the sample results are noted below for the fractions validated. Specific details regarding qualification of the data are addressed in the Specific Evaluation section of this narrative. If an issue is not addressed there were no actions required based on unmet quality criteria. When more than one qualifier is associated with a compound/analyte the validator has chosen the qualifier that best indicates possible bias in the results and flagged the data accordingly. However, information regarding all quality control issues is provided in the body of the report and on the qualification summary page.

VOA

The continuing calibration exhibited some compounds with low RRF values, which resulted in qualifying non-detected values as rejected for these compounds. Due to high %D values in the continuing calibrations, some compounds were qualified as estimated.

Blank contamination was noted in the method and QC blanks associated with samples in this batch. Qualifications were added to the data.

DRO/GRO

One sample analyzed for GRO exhibited a high surrogate recovery. The GRO result in that sample was qualified as estimated J.

Metals

The ICSAB standards analyzed for the metals fraction exhibited non-compliant recoveries for the analyte silver. All results for silver in the samples were qualified as estimated J/UJ.

Blank contamination was noted and qualification was required in the samples in this SDG.

The associated matrix spikes exhibited non-compliant %Rs for one analyte for which qualifications were required. Positive and non-detect results for antimony were flagged as estimated J/UJ in the samples.

The associated matrix duplicate exhibited a non-compliant RPD for one analyte for which qualifications were required. Positive and non-detect results for barium were qualified as estimated in the samples.

The associated serial dilution analysis exhibited a non-compliant %Ds for two analytes for which qualifications were required. Positive and non-detect results for copper and zinc were qualified as estimated in the samples.

The submitted field duplicate pair exhibited non-compliant RPDs for four analytes. Those analytes required qualification in the field duplicate pair.

Specific Evaluation of Data

Data Completeness

The SDG was received complete and intact. Resubmissions were not required. Clarification questions were asked of the laboratory regarding the metals fraction. A copy of the e-mail correspondence is included in the validation worksheets. Clarification questions were asked of the laboratory regarding the DRO and GRO fractions. A copy of the e-mail correspondence is included in the project file.

Technical Holding Times

According to chain of custody records, sampling was performed on 05/05/08 and samples were received at the laboratory 05/07/08. All sample preparation and analysis was performed within Region II and/or method holding time requirements.

Initial/Continuing Calibration

VOA

Calibration standards exhibited RRFs and %Ds that were non-compliant. A summary of these non-compliances and affected samples are noted in the following table. Sample results are qualified as indicated.

Standard ID	Compound(s)	RRF, %RSD, %D	Samples	Q Flag
CC 05/12/08	acrolein isobutyl alcohol acetone	0.03328 0.01477 0.04651	74SB71-00, 74SB71-03, 74SB71-04, 74SB71-04D, 74SB72-03, 74SB72-04, 74SB73-03, 74SB73-04, 74SB74-03, 74SB74-04, 74SB75-03, 74SB75-04, 74SB76-03, 74SB76-03D, 74SB76-04	J/R
	acetonitrile 3-chloro-1-propene acrylonitrile pentachloroethane	26.7% 54.7% 24.3% 38.9%		J/UJ
CC 05/12/08	acrolein isobutyl alcohol acetone	0.03763 0.01708 0.03883	74SB77-03, 74SB77-04, 74SB79-03, 74SB79-04, 74SB80-03	J/R
	acetonitrile 3-chloro-1-propene acrylonitrile propionitrile pentachloroethane	26.1% 36.9% 29.3% 22.7% 22.0%		J/UJ

ICSA/ICSAB Standards

Metals

The associated ICSAB standards exhibited non-compliant recoveries less than the lower QC limit for the analytes silver (77%/77%/76%/76%). Based on Region II guidelines, reported positive and non-detect results for silver were qualified as estimated J/UJ in all samples.

Blanks

VOA

The associated method and/or QC blanks exhibited contamination as noted in the following table. Compounds for which there was no action required, are not included in the following table. Please note that the laboratory reported non-detect results down to the MDL for this project. Therefore, the blank flagging actions were modified as follows to take this into consideration. Positive results greater than the MDL but less than the CRQL are qualified as U at the reported concentration when affected by blank contamination.

Blank ID	Compound	Concentration	Reporting Limit	Action Level
Method Blank 05/12/08	acetone	18J ug/Kg	50	2X RL
FB01	2-butanone	0.69J ug/L	10 ug/L	2X RL

Associated samples and required qualifications are noted in the following table.

Sample ID	Compound	Q Flag
74SB72-03, 74SB72-04, 74SB73-03, 74SB74-03, 74SB74-04, 74SB76-04	acetone	U at reported value
74SB71-04, 74SB71-04D	acetone	U
74SB71-03, 74SB71-04, 74SB71-04D, 74SB72-03, 74SB76-04, 74SB80-03	2-butanone	U at reported value
74SB71-00	2-butanone	U

Metals

Associated blanks exhibited contamination as noted in the following table. The laboratory reported non-detect results to the MDL for this project. Therefore, the blank flagging actions were modified to take this into consideration. Please see the Glossary of Qualification Flags and Abbreviations for details.

Blank ID	Analyte	Concentration	Action Level	Q Flag
ICB	antimony	0.15950J ug/L	>MDL up to RL	U
CCB	cadmium	0.074J ug/L	>MDL up to RL	U
FB01	lead	0.38J ug/L	>MDL up to RL	U

Associated samples and required qualifications are noted in the following table.

Sample ID	Analyte	Q Flag
74SB71-00, 74SB71-03	antimony	U
74SB71-03, 74SB71-04, 74SB71-04D	cadmium	U
74SB76-03, 74SB76-04, 74SB77-04	lead	U

Surrogates

DRO/GRO

Sample 74SB71-00 analyzed for the GRO fraction exhibited a non-compliant surrogate recovery (205%) above the upper QC limit. The reported positive result for GRO in the sample was qualified as estimated J.

Matrix Spike Recoveries

Metals

The matrix spikes of sample 74SB71-03 analyzed for the metals fraction exhibited non-compliant %R's for antimony that required qualification in the field samples. A summary of these non-compliances and affected samples are noted in the following table.

MS	Analytes	Samples	%R	Q Flag
74SB71-03	antimony	all samples	34% /34%	J/UJ

Matrix Duplicates

Metals

The matrix duplicate of sample 74SB71-03 exhibited a non-compliant %D for one analyte that required qualification in the field samples. A summary of these non-compliances and affected samples are noted in the following table.

MD	Analytes	Samples	RPD	Q Flag
74SB71-03	barium	all samples	65.5%	J/UJ

Serial Dilutions

Metals

The serial dilution of sample 74SB71-03 exhibited non-compliant %Ds for two analytes that required qualification in the field samples. A summary of these non-compliances and affected samples are noted in the following table.

SD	Analytes	Samples	RPD	Q Flag
74SB71-03	copper	all samples	11.5%	J/UJ
	zinc		12.4%	

Metals

The field duplicate pair of samples 74SB76-03 and 74SB76-03D exhibited non-compliant RPD >35% but <120% for the analytes barium (58%,) cobalt (76%), lead (51%) and zinc

(77%). These analytes were flagged as estimated J in the field duplicate pair. Please note that the reported result for lead in sample 74SB76-03 was flagged U due to field blank contamination so this result was flagged as UJ. All qualifications were made based on the Region II guidance.

A summary of qualifications required is provided on the following page. Please do not hesitate to contact DataQual ES with any questions regarding this validation report.

Sincerely,

Laura Maschhoff
President

Jacqueline Cleveland
Vice President

Summary of Data Qualifications

VOA

Sample ID	Compound	Results	Q flag
74SB71-00, 74SB71-03, 74SB71-04, 74SB71-04D, 74SB72-03, 74SB72-04, 74SB73-03, 74SB73-04, 74SB74-03, 74SB74-04, 74SB75-03, 74SB75-04, 74SB76-03, 74SB76-03D, 74SB76-04	acrolein isobutyl alcohol acetone	+/-	J/R
74SB71-00, 74SB71-03, 74SB71-04, 74SB71-04D, 74SB72-03, 74SB72-04, 74SB73-03, 74SB73-04, 74SB74-03, 74SB74-04, 74SB75-03, 74SB75-04, 74SB76-03, 74SB76-03D, 74SB76-04	acetonitrile 3-chloro-1-propene acrylonitrile pentachloroethane	+/-	J/UJ
74SB77-03, 74SB77-04, 74SB79-03, 74SB79-04, 74SB80-03	acrolein isobutyl alcohol acetone	+/-	J/R
74SB77-03, 74SB77-04, 74SB79-03, 74SB79-04, 74SB80-03	acetonitrile 3-chloro-1-propene acrylonitrile propionitrile pentachloroethane	+/-	J/UJ
74SB72-03, 74SB72-04, 74SB73-03, 74SB74-03, 74SB74-04, 74SB76-04	acetone	+	U at reported value
74SB71-04, 74SB71-04D	acetone	+	U
74SB71-03, 74SB71-04, 74SB71-04D, 74SB72-03, 74SB76-04, 74SB80-03	2-butanone	+	U at reported value
74SB71-00	2-butanone	+	U

DRO/GRO

Sample ID	Compound	Results	Q flag
74SB71-00	GRO	+	J

Summary of Data Qualifications, continued

Metals

Sample ID	Analyte	Results	Q flag
all samples	silver	+/-	J/UJ
74SB71-00, 74SB71-03	antimony	+ >MDL up to RL	U
74SB71-03, 74SB71-04, 74SB71-04D	cadmium	+ >MDL up to RL	U
74SB76-03, 74SB76-04, 74SB77-04	lead	+ >MDL up to RL	U
all samples	antimony	+/-	J/UJ
all samples	barium	+/-	J/UJ
all samples	copper zinc	+/-	J/UJ
74SB76-03, 74SB76-03D	barium cobalt lead zinc	+/-	J/UJ

Glossary of Qualification Flags and Abbreviations

Qualification Flags (Q-Flags)

U	not detected above the reported sample quantitation limit
J	estimated value
UJ	reported quantitation limit is qualified as estimated
N	analyte has been tentatively identified
JN	analyte has been tentatively identified, estimated value
R	result is rejected; the presence or absence of the analyte cannot be verified

Method/Preparation/Field QC Blank Qualification Flags (Q-Flags)

Organic Methods

NA	The sample result for the blank contaminant is greater than the RL (2X sample RL for common laboratory contaminants) when the blank value is less than the RL. The sample result for the blank contaminant is not qualified with any blank qualifiers.
U*	The sample result for the blank contaminant is less than the RL (2X sample RL for common laboratory contaminants) but greater than the MDL when the blank value is less than the RL. The sample result for the blank contaminant is qualified as non-detect U at the reported concentration.
RL**	The sample result for the blank contaminant is less than the RL (2X sample RL for common laboratory contaminants) but greater than the MDL when the blank value is less than the RL. The sample result for the blank contaminant is changed to the RL and qualified as non-detect U.

* This guideline is used when the laboratory is reporting non-detects to the MDL. ** This guideline is used when the laboratory is reporting non-detects to the RL.

Inorganic Methods

ICB/CCB/PB Action:

No Action -	The sample result is greater than the RL and greater than ten times (10X) the blank value.
U -	The sample result is greater than or equal to the MDL but less than or equal to the RL, result is reported as non-detect at the reported concentration, when the ICB/CCB/PB result is less or greater than the RL.

Glossary of Qualification Flags and Abbreviations, continued

R -	Sample result is greater than the RL and less than the ICB/CCB/PB value when the ICB/CCB/PB value is greater than the RL.
J -	Sample result is greater than the ICB/CCB/PB value but less than 10X the ICB/CCB/PB value when ICB/CCB/PB value is greater than the RL.
J/UJ -	Sample result is less than 10X RL when blank result is below the negative RL.

Field QC Blank action:

Note – Use field blanks to qualify data only if field blank results are greater than prep blank results.

Do not use rinsate blank associated with soils to qualify water samples and vice versa.

No Action -	The sample result is greater than the RL and greater than ten times (10X) the blank value.
U -	The sample result is greater than or equal to the MDL but less than or equal to the RL, result is reported as non-detect at the reported concentration, when the FB result is less or greater than the RL.
R -	Sample result is greater than the RL and less than the FB value when the FB value is greater than the RL.
J -	Sample result is greater than the FB value but less than 10X the FB value when FB value is greater than the RL.

General Abbreviations

RL	reporting limit
IDL	instrument detection limit
MDL	method detection limit
CRDL	contract required detection limit
CRQL	contract required quantitation limit
+	positive result
-	non-detect result

TEST AMERICA SAVANNAH SDG 36489-2

DataQual

Environmental Services, LLC

Michael Baker, Jr., Inc.
Airside Business Park
100 Airside Drive
Moon Township, PA 15108

August 6, 2008
SDG# SWMU36489-2, Test America-Savannah
NAPR SWMU 74, Puerto Rico

Dear Mr. Kimes,

The following Data Validation report is provided as requested for the parameters noted in the table below for SDG # SWMU36489-2. The data validation was performed in accordance with the SW-846 methods utilized by the laboratory, the Region II Standard Operating Procedures for the Validation of Organic Data Acquired Using SW-846 Methods (8260B-Rev 2, January 2006- SOP #HW-24), and professional judgment. Region II has not developed a validation checklist SOP for the methods used to assess the inorganic methods in this SDG (SW-846 methods 6020B, 7471A) or the organic methods for hydrocarbons (SW-846 methods 8015_DRO and 8015_GRO). Therefore, alternative worksheets were provided. Region II flagging conventions were used. All areas of concern are discussed in the body of the report and a summary of data qualifications is provided.

Sample ID	Lab ID	Matrix	VOA App IX	DRO/GRO	Metals
74SB80-04	680-36489-21	soil	X	X	X
74SB81-00	680-36489-22	soil	X	X	X
74SB81-03	680-36489-23	soil	X	X	X
74SB81-04	680-36489-24	soil	X	X	X
74SB81-04D	680-36489-25	soil	X	X	X
74SB97-03	680-36489-26	soil	X	X	X
74SB97-04	680-36489-27	soil	X	X	X
74SB98-03	680-36489-28	soil	X	X	X
74SB98-04	680-36489-29	soil	X	X	X
74SB99-03	680-36489-30	soil	X	X	X
74SB99-04	680-36489-31	soil	X	X	X
74SB100-03	680-36489-32	soil	X	X	X
74SB100-04	680-36489-33	soil	X	X	X
74SB101-00	680-36489-34	soil	X	X	X
74SB101-03	680-36489-35	soil	X	X	X
74SB101-03D	680-36489-36	soil	X	X	X
74SB101-04	680-36489-37	soil	X	X	X
74SB102-04	680-36489-38	soil	X	X	X
74SB102-05	680-36489-39	soil	X	X	X
74SB103-03	680-36489-40	soil	X	X	X
74SB81-03 MS	680-36489-23MS	soil	X	X	X
74SB81-03 MSD	680-36489-23MSD	soil	X	X	X
74SB101-03MS	680-36489-35MS	soil	X	X	X
74SB101-03MSD	680-36489-35MSD	soil	X	X	X

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The following quality control samples were provided with this SDG: sample 74SB81-04D-field duplicate of sample 74SB81-04; and sample 74SB101-03D-field duplicate of sample 74SB101-03.

The samples were evaluated based on the following criteria:

• Data Completeness	*
• Sample Condition	*
• Technical Holding Times	*
• GC/MS Tuning	*
• GC Performance	*
• Initial/Continuing Calibrations	
• ICSA/ICSAB Standards	
• CRDL Standards	*
• Blanks	
• Internal Standards	
• Surrogate Recoveries	
• Laboratory Control Samples	*
• Matrix Spike Recoveries	
• Matrix Duplicate RPDs	
• Serial Dilutions	
• Field Duplicates	
• Identification/Quantitation	*
• Reporting Limits	*
• Tentatively Identified Compounds	NA

* - indicates that qualifications were not required based on this criteria

Overall Evaluation of Data/Potential Usability Issues

A summary of qualifications applied to the sample results are noted below for the fractions validated. Specific details regarding qualification of the data are addressed in the Specific Evaluation section of this narrative. If an issue is not addressed there were no actions required based on unmet quality criteria. When more than one qualifier is associated with a compound/analyte the validator has chosen the qualifier that best indicates possible bias in the results and flagged the data accordingly. However, information regarding all quality control issues is provided in the body of the report and on the qualification summary page.

VOA

The continuing calibration exhibited some compounds with low RRF values, which resulted in qualifying non-detected values as rejected for these compounds. Due to high %D values, in the continuing calibrations, some compounds were qualified as estimated.

Blank contamination was noted in the method and QC blanks associated with samples in this batch. Qualifications were added to the data.

DRO/GRO

One sample analyzed for GRO exhibited a non-compliant internal standard recovery below the QC limit. The GRO result in the sample was qualified as estimated J/UJ.

One sample analyzed for GRO exhibited a high surrogate recovery. The GRO result in that sample was qualified as estimated J.

The field duplicate pair of samples 74SB81-04 and 74SB81-04D exhibited a non-compliant RPD for the target compound DRO. The DRO results in the field duplicate pair were qualified as estimated J. Please note that it appears that the field duplicate contains a high concentration of higher molecular weight hydrocarbons. This is likely to affect the quantitation of DRO in the field duplicate.

Metals

The ICSAB standards analyzed for the metals fraction exhibited non-compliant recoveries for the analytes silver and zinc. All results for silver in the samples were qualified as estimated J/UJ and all positive results for zinc were qualified as estimated J.

Blank contamination was noted and qualification was required in the samples in this SDG.

The associated matrix spikes exhibited non-compliant %Rs for three analytes for which qualifications were required. Positive and non-detect results for antimony were flagged as estimated J/UJ in the samples. Positive results for lead were qualified as estimated J. Positive and non-detect results for chromium were rejected.

The associated matrix duplicate exhibited a non-compliant RPD for one analyte for which qualifications were required. Positive and non-detect results for barium were qualified as estimated in the samples.

The associated serial dilution analysis exhibited a non-compliant %D for one analyte for which qualifications were required. Positive and non-detect results for zinc were qualified as estimated in the samples.

The submitted field duplicate pair exhibited non-compliant RPDs for three analytes. Those analytes required qualification in the field duplicate pair.

Specific Evaluation of Data

Data Completeness

The SDG was received complete and intact. Resubmissions were required for two metals samples because results were calculated incorrectly. Clarification questions were asked of the laboratory regarding the metals fraction. A copy of the e-mail correspondence is included in the validation worksheets. Clarification questions were asked of the laboratory regarding the DRO and GRO fractions. A copy of the e-mail correspondence is included in the project file.

Technical Holding Times

According to chain of custody records, sampling was performed on 05/05-06/08 and samples were received at the laboratory 05/07/08. All sample preparation and analysis was performed within Region II and/or method holding time requirements.

Initial/Continuing Calibration

VOA

Calibration standards exhibited RRFs and %Ds that were non-compliant. A summary of these non-compliances and affected samples are noted in the following table. Sample results are qualified as indicated.

Standard ID	Compound(s)	RRF, %RSD, %D	Samples	Q Flag
CC 05/12/08	acrolein isobutyl alcohol acetone	0.03763 0.01708 0.03883	74SB80-04, 74SB81-00, 74SB81-03, 74SB81-04, 74SB81-04D, 74SB97-03	J/R
	acetonitrile 3-chloro-1-propene acrylonitrile propionitrile pentachloroethane	26.1% 36.9% 29.3% 22.7% 22.0%		J/UJ
CC 05/13/08	acrolein isobutyl alcohol	0.04468 0.01811	74SB97-04, 74SB98-03, 74SB98-04, 74SB99-03, 74SB99-04, 74SB100-03, 74SB100-04, 74SB101-00, 74SB101-03, 74SB101-03D, 74SB101-04	J/R
	iodomethane acetonitrile 3-chloro-1-propene pentachloroethane chloroethane acetone 1,2,3-trichloropropane 1,2-dibromo3-chloropropane	49.2% 22.2% 38.4% 48.1% 53.1% 29.8% 30.2% 41.1%		J/UJ
CC 05/14/08	isobutyl alcohol	0.01511	74SB102-05, 74SB103-03	J/R
	iodomethane acetonitrile pentachloroethane chloroethane acetone 1,2-dibromo3-chloropropane	22.6% 27.9% 23.0% 58.4% 33.9% 29.2%		J/UJ

Standard ID	Compound(s)	RRF, %RSD, %D	Samples	Q Flag
IC 05/19/08	acrolein isobutyl alcohol	0.0496 0.0369	74SB102-04	J/R
CC 05/19/08	isobutyl alcohol	0.03699	74SB102-04	J/R
	acrolein pentachloroethane	26.5% 30.6%		J/UJ

ICSA/ICSAB Standards

Metals

The associated ICSAB standards exhibited non-compliant recoveries less than the lower QC limit for the analyte silver (78%/79%). Based on Region II guidelines, reported positive and non-detect results for silver were qualified as estimated J/UJ in all samples. The associated ICSAB standards exhibited non-compliant recoveries above the upper QC limit for the analyte zinc (132%/132%). Based on Region II guidelines, reported positive results for zinc were qualified as estimated J in all samples.

Blanks

VOA

The associated method and/or QC blanks exhibited contamination as noted in the following table. Compounds for which there was no action required, are not included in the following table. Please note that the laboratory reported non-detect results down to the MDL for this project. Therefore, the blank flagging actions were modified as follows to take this into consideration. Positive results greater than the MDL but less than the CRQL are qualified as U at the reported concentration when affected by blank contamination.

Blank ID	Compound	Concentration	Reporting Limit	Action Level
Method Blank 05/15/08	acetone	11J ug/Kg	50	2X RL
FB01	2-butanone	0.69J ug/L	10 ug/L	2X RL

Associated samples and required qualifications are noted in the following table.

Sample ID	Compound	Q Flag
74SB102-05, 74SB103-03	acetone	U at reported value
74SB80-04, 74SB81-00, 74SB97-04, 74SB98-03, 74SB100-04, 74SB101-00, 74SB101-03	2-butanone	U at reported value
74SB100-03	2-butanone	U

Metals

Associated blanks exhibited contamination as noted in the following table. The

laboratory reported non-detect results to the MDL for this project. Therefore, the blank flagging actions were modified to take this into consideration. Please see the Glossary of Qualification Flags and Abbreviations for details.

Blank ID	Analyte	Concentration	Action Level	Q Flag
ICB	antimony	0.08635J ug/L	>MDL up to RL	U
CCB	beryllium	0.024J ug/L	>MDL up to RL	U
	silver	0.018J ug/L	>MDL up to RL	U

Please note, when qualifying samples for CCB contamination, associated samples are those just prior to or just following a CCB. Therefore, not all analytes in all samples are flagged for CCB contamination.

Associated samples and required qualifications are noted in the following table.

Sample ID	Analyte	Q Flag
all samples >MDL but < RL	antimony	U
74SB101-04, 74SB102-05	beryllium	U
all samples > MDL but < RL	silver	U

Internal Standards

DRO/GRO

Sample 74SB101-00 analyzed for the GRO fraction exhibited a non-compliant internal standard recovery below the lower QC limit. The reported positive or non-detect result for GRO in the sample was qualified as estimated J/UJ.

Surrogates

DRO/GRO

Sample 74SB81-00 analyzed for the GRO fraction exhibited a non-compliant surrogate recovery (164%) above the upper QC limit. The reported positive result for GRO in the sample was qualified as estimated J.

Matrix Spike Recoveries

Metals

The matrix spikes of samples 74SB81-03 and 74SB101-03 analyzed for the metals fraction exhibited non-compliant %R's for analytes that required qualification in the field samples. A summary of these non-compliances and affected samples are noted in the following table.

MS	Analytes	Samples	%R	Q Flag
74SB81-03	antimony	all samples	63% /51%	J/UJ
	chromium		253%/279%	R
	lead		155%/152%	J
74SB101-03	antimony		40%/55%	J/UJ
	chromium		140%/159%	J

Matrix Duplicates

Metals

The matrix duplicate of sample 74SB81-03 exhibited a non-compliant %D for one analyte that required qualification in the field samples. A summary of these non-compliances and affected samples are noted in the following table.

MD	Analytes	Samples	RPD	Q Flag
74SB81-03	barium	all samples	38.2%	J/UJ

Serial Dilutions

Metals

The serial dilution of sample 74SB81-03 exhibited a non-compliant %D for one analyte that required qualification in the field samples. A summary of these non-compliances and affected samples are noted in the following table.

SD	Analytes	Samples	RPD	Q Flag
74SB81-03	zinc	all samples	14.5%	J/UJ

Field Duplicates

DRO/GRO

The field duplicate pair of samples 74SB81-04 and 74SB81-04D exhibited a non-compliant RPD >100% for the target compound DRO. The DRO results in the field duplicate pair were qualified as estimated J. Please note that it appears that the field duplicate contains a high concentration of higher molecular weight hydrocarbons. This is likely to affect the quantitation of DRO in the field duplicate.

Metals

The field duplicate pair of samples 74SB101-03 and 74SB101-03D exhibited non-compliant RPD >35% but <120% for the analytes barium (49%,), lead (62%) and selenium (60%). These analytes were flagged as estimated J in the field duplicate pair.

A summary of qualifications required is provided on the following page. Please do not hesitate to contact DataQual ES with any questions regarding this validation report.

Sincerely,

Laura Maschhoff
President

Jacqueline Cleveland
Vice President

Summary of Data Qualifications

VOA

Sample ID	Compound	Results	Q flag
74SB80-04, 74SB81-00, 74SB81-03, 74SB81-04, 74SB81-04D, 74SB97-03	acrolein isobutyl alcohol acetone	+/-	J/R
74SB80-04, 74SB81-00, 74SB81-03, 74SB81-04, 74SB81-04D, 74SB97-03	acetonitrile 3-chloro-1-propene acrylonitrile propionitrile pentachloroethane	+/-	J/UJ
74SB97-04, 74SB98-03, 74SB98-04, 74SB99-03, 74SB99-04, 74SB100-03, 74SB100-04, 74SB101-00, 74SB101-03, 74SB101-03D, 74SB101-04	acrolein isobutyl alcohol	+/-	J/R
74SB97-04, 74SB98-03, 74SB98-04, 74SB99-03, 74SB99-04, 74SB100-03, 74SB100-04, 74SB101-00, 74SB101-03, 74SB101-03D, 74SB101-04	iodomethane acetonitrile 3-chloro-1-propene pentachloroethane chloroethane acetone 1,2,3-trichloropropane 1,2-dibromo3-chloropropane	+/-	J/UJ
74SB102-05, 74SB103-03	isobutyl alcohol	+/-	J/R
74SB102-05, 74SB103-03	iodomethane acetonitrile pentachloroethane chloroethane acetone 1,2-dibromo3-chloropropane	+/-	J/UJ
74SB102-04	acrolein isobutyl alcohol	+/-	J/R
74SB102-04	isobutyl alcohol	+/-	J/R
74SB102-04	acrolein pentachloroethane	+/-	J/UJ
74SB102-05, 74SB103-03	acetone	+	U at reported value
74SB80-04, 74SB81-00, 74SB97-04, 74SB98-03, 74SB100-04, 74SB101-00, 74SB101-03	2-butanone	+	U at reported value
74SB100-03	2-butanone	+	U

DRO/GRO

Sample ID	Compound	Results	Q flag
74SB101-00	GRO	+/-	J/UJ
74SB81-00	GRO	+	J
74SB81-04, 74SB81-04D	DRO	+	J

Summary of Data Qualifications, continued

Metals

Sample ID	Analyte	Results	Q flag
all samples	silver	+/-	J/UJ
all samples	zinc	+	J
all samples	antimony	+ >MDL up to RL	U
74SB101-04, 74SB102-05	beryllium	+ >MDL up to RL	U
all samples	lead	+ >MDL up to RL	U
all samples	antimony	+/-	J/UJ
all samples	chromium	+/-	R
all samples	lead	+	J
all samples	barium	+/-	J/UJ
all samples	zinc	+/-	J/UJ
74SB101-03, 74SB101-03D	barium lead selenium	+	J

Glossary of Qualification Flags and Abbreviations

Qualification Flags (Q-Flags)

U	not detected above the reported sample quantitation limit
J	estimated value
UJ	reported quantitation limit is qualified as estimated
N	analyte has been tentatively identified
JN	analyte has been tentatively identified, estimated value
R	result is rejected; the presence or absence of the analyte cannot be verified

Method/Preparation/Field QC Blank Qualification Flags (Q-Flags)

Organic Methods

NA	The sample result for the blank contaminant is greater than the RL (2X sample RL for common laboratory contaminants) when the blank value is less than the RL. The sample result for the blank contaminant is not qualified with any blank qualifiers.
U*	The sample result for the blank contaminant is less than the RL (2X sample RL for common laboratory contaminants) but greater than the MDL when the blank value is less than the RL. The sample result for the blank contaminant is qualified as non-detect U at the reported concentration.
RL**	The sample result for the blank contaminant is less than the RL (2X sample RL for common laboratory contaminants) but greater than the MDL when the blank value is less than the RL. The sample result for the blank contaminant is changed to the RL and qualified as non-detect U.

* This guideline is used when the laboratory is reporting non-detects to the MDL. ** This guideline is used when the laboratory is reporting non-detects to the RL.

Inorganic Methods

ICB/CCB/PB Action:

No Action -	The sample result is greater than the RL and greater than ten times (10X) the blank value.
U -	The sample result is greater than or equal to the MDL but less than or equal to the RL, result is reported as non-detect at the reported concentration, when the ICB/CCB/PB result is less or greater than the RL.

Glossary of Qualification Flags and Abbreviations, continued

R -	Sample result is greater than the RL and less than the ICB/CCB/PB value when the ICB/CCB/PB value is greater than the RL.
J -	Sample result is greater than the ICB/CCB/PB value but less than 10X the ICB/CCB/PB value when ICB/CCB/PB value is greater than the RL.
J/UJ -	Sample result is less than 10X RL when blank result is below the negative RL.

Field QC Blank action:

Note – Use field blanks to qualify data only if field blank results are greater than prep blank results.

Do not use rinsate blank associated with soils to qualify water samples and vice versa.

No Action -	The sample result is greater than the RL and greater than ten times (10X) the blank value.
U -	The sample result is greater than or equal to the MDL but less than or equal to the RL, result is reported as non-detect at the reported concentration, when the FB result is less or greater than the RL.
R -	Sample result is greater than the RL and less than the FB value when the FB value is greater than the RL.
J -	Sample result is greater than the FB value but less than 10X the FB value when FB value is greater than the RL.

General Abbreviations

RL	reporting limit
IDL	instrument detection limit
MDL	method detection limit
CRDL	contract required detection limit
CRQL	contract required quantitation limit
+	positive result
-	non-detect result

TEST AMERICA SAVANNAH SDG 36489-3

DataQual

Environmental Services, LLC

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August 6, 2008
SDG# SWMU36489-3, Test America-Savannah
NAPR SWMU 74, Puerto Rico

Dear Mr. Kimes,

The following Data Validation report is provided as requested for the parameters noted in the table below for SDG # SWMU36489-3. The data validation was performed in accordance with the SW-846 methods utilized by the laboratory, the Region II Standard Operating Procedures for the Validation of Organic Data Acquired Using SW-846 Methods (8260B-Rev 2, January 2006- SOP #HW-24 and 8270D-Rev 3, October 2006- SOP #HW-22), and professional judgment. Region II has not developed a validation checklist SOP for the methods used to assess the inorganic methods in this SDG (SW-846 methods 6020B, 7471A) or the organic methods for hydrocarbons (SW-846 methods 8015_DRO and 8015_GRO). Therefore, alternative worksheets were provided. Region II flagging conventions were used. All areas of concern are discussed in the body of the report and a summary of data qualifications is provided.

Sample ID	Lab ID	Matrix	VOA App IX	LL PAH	DRO/GRO	Metals
74SB103-04	680-36489-41	soil	X		X	X
74SB104-03	680-36489-42	soil	X		X	X
74SB104-04	680-36489-43	soil	X		X	X
74SB105-03	680-36489-44	soil	X		X	X
74SB105-04	680-36489-45	soil	X		X	X
74SB106-01	680-36489-46	soil	X		X	X
74SB106-04	680-36489-47	soil	X		X	X
74VP3B-03	680-36489-48	soil	X	X	X	X
74VP3B-04	680-36489-49	soil	X	X	X	X
74VP11A-03	680-36489-50	soil	X		X	X
74VP11A-04	680-36489-51	soil	X		X	X
74SB82-03	680-36489-52	soil	X		X	X
74SB82-04	680-36489-53	soil	X		X	X
74SB82-04D	680-36489-54	soil	X		X	X
74SB83-02	680-36489-55	soil	X		X	X
74SB107-03	680-36489-56	soil	X		X	X
74SB107-03D	680-36489-57	soil	X		X	X
74SB107-05	680-36489-58	soil	X		X	X
74SB108-03	680-36489-59	soil	X		X	X
74SB108-04	680-36489-60	soil	X		X	X
74SB82-03 MS	680-36489-52MS	soil	X		X	X
74SB82-03 MSD	680-36489-52MSD	soil	X		X	X
74SB83-02 MS	680-36489-55MS	soil	X		X	X
74SB83-02 MSD	680-36489-55MSD	soil	X		X	X

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The following quality control samples were provided with this SDG: sample 74SB82-04D-field duplicate of sample 74SB82-04; and sample 74SB107-03D-field duplicate of sample 74SB107-03.

The samples were evaluated based on the following criteria:

- Data Completeness *
- Sample Condition *
- Technical Holding Times
- GC/MS Tuning *
- GC Performance *
- Initial/Continuing Calibrations
- ICSA/ICSAB Standards
- CRDL Standards *
- Blanks
- Internal Standards *
- Surrogate Recoveries
- Laboratory Control Samples
- Matrix Spike Recoveries
- Matrix Duplicate RPDs
- Serial Dilutions *
- Field Duplicates
- Identification/Quantitation *
- Reporting Limits *
- Tentatively Identified Compounds NA

* - indicates that qualifications were not required based on this criteria

Overall Evaluation of Data/Potential Usability Issues

A summary of qualifications applied to the sample results are noted below for the fractions validated. Specific details regarding qualification of the data are addressed in the Specific Evaluation section of this narrative. If an issue is not addressed there were no actions required based on unmet quality criteria. When more than one qualifier is associated with a compound/analyte the validator has chosen the qualifier that best indicates possible bias in the results and flagged the data accordingly. However, information regarding all quality control issues is provided in the body of the report and on the qualification summary page.

VOA

The initial and continuing calibration exhibited some compounds with low RRF values, which resulted in qualifying non-detected values as rejected for these compounds. Due to

high %D values in the continuing calibrations, some compounds were qualified as estimated.

Blank contamination was noted in the method and QC blank associated with samples in this batch. Qualifications were added to the data.

One sample exhibited non-compliant surrogate recoveries that resulted in qualifying results as estimated.

One of the laboratory control samples exhibited non-compliant recoveries that resulted in qualifying results as estimated.

LL PAH

No qualifications to the data were required.

DRO/GRO

Two samples for GRO were reanalyzed fourteen days outside the holding time. Results in samples 74VP3B-03RA and 74VP3B-04RA are rejected, R.

Three samples analyzed for GRO exhibited high surrogate recoveries. The GRO results in these samples were qualified as estimated J.

Metals

The ICSAB standards analyzed for the metals fraction exhibited non-compliant recoveries for the analyte silver. All results for silver in the samples were qualified as estimated J/UJ.

Blank contamination was noted and qualification was required in the samples in this SDG.

The associated matrix spikes exhibited non-compliant %Rs for three analytes for which qualifications were required. Positive and non-detect results for antimony, copper and zinc were flagged as estimated J/UJ in the samples.

The submitted field duplicate pairs exhibited non-compliant RPDs for some analytes. Those analytes required qualification in the field duplicate pairs.

Specific Evaluation of Data

Data Completeness

The SDG was received complete and intact. Resubmissions were required for one metals sample because results were calculated incorrectly. Clarification questions were asked of the laboratory regarding the metals fraction. A copy of the e-mail correspondence is included in the validation worksheets. Clarification questions were asked of the laboratory regarding the DRO and GRO fractions. A copy of the e-mail correspondence is included in the project file.

Technical Holding Times

According to chain of custody records, sampling was performed on 05/5-6/08 and samples were received at the laboratory 05/7/08. All sample preparation and analysis was performed within Region II and/or method holding time requirements with the following exception.

DRO/GRO

Two samples for GRO were reanalyzed fourteen days outside the holding time. Results in samples 74VP3B-03RA and 74VP3B-04RA are rejected, R.

Initial/Continuing Calibration

VOA

Calibration standards exhibited RRFs and %Ds that were non-compliant. A summary of these non-compliances and affected samples are noted in the following table. Sample results are qualified as indicated.

Standard ID	Compound(s)	RRF, %RSD, %D	Samples	Q Flag
CC 05/14/08	isobutyl alcohol	0.01511	74SB103-04, 74SB104-03, 74SB104-04, 74SB105-03, 74SB105-04, 74SB106-01, 74SB106-04, 74VP11A-04	J/R
	iodomethane	22.6%		J/UJ
	acetonitrile	27.9%		
	pentachloroethane	23.0%		
	chloroethane	58.4%		
	acetone	33.9%		
	1,2-dibromo-3-chloropropane	29.2%		
CC 05/10/08	acrolein	0.0427	74SB82-03, 74SB82-04, 74SB82-04D, 74SB83-02, 74SB107-03, 74SB107-03D, 74SB107-05, 74SB108-03, 74SB108-04	J/R
	isobutyl alcohol	0.01636		
	iodomethane	47.7%		J/UJ
	acetonitrile	23.7%		
	3-chloro-1-propene	79.8%		
	pentachloroethane	52.2%		
	bromomethane	35.5%		
	chloroethane	29.8%		
	acetone	40.7%		
	carbon disulfide	21.2%		
	1,2,3-trichloropropane	22.0%		
	1,2-dibromo-3-chloropropane	28.3%		

Standard ID	Compound(s)	RRF, %RSD, %D	Samples	Q Flag
IC 05/12/08	acetonitrile isobutyl alcohol	0.0356 0.0211	74VP3B-03	J/R
CC 05-16/08	acetonitrile isobutyl alcohol acetone	98.3% 0.02718 0.03952	74VP3B-03	J/R
	propionitrile methacrylonitrile pentachloroethane	21.0% 39.6% 20.5%		J/UJ
IC 05/19/08	acrolein isobutyl alcohol	0.0496 0.0369	74VP11A-03, 74VP3B-04	J/R
CC 05/19/08	isobutyl alcohol acetone	0.03699 0.04399	74VP11A-03, 74VP3B-04	J/R
	acrolein pentachloroethane	26.5% 30.6%		J/UJ

ICSA/ICSAB Standards

Metals

The associated ICSAB standards exhibited non-compliant recoveries less than the lower QC limit for the analytes silver (77%/77%/76%/76%). Based on Region II guidelines, reported positive and non-detect results for silver were qualified as estimated J/UJ in all samples.

Blanks

VOA

The associated method and/or QC blanks exhibited contamination as noted in the following table. Compounds for which there was no action required, are not included in the following table. Please note that the laboratory reported non-detect results down to the MDL for this project. Therefore, the blank flagging actions were modified as follows to take this into consideration. Positive results greater than the MDL but less than the CRQL are qualified as U at the reported concentration when affected by blank contamination.

Blank ID	Compound	Concentration	Reporting Limit	Action Level
Method Blank	acetone	11J ug/Kg	50 ug/Kg	2X RL
FB01	2-butanone	0.69J ug/L	10 ug/L	2X RL

Associated samples and required qualifications are noted in the following table.

Sample ID	Compound	Q Flag
74SB103-04, 74SB104-03, 74SB104-04, 74SB105-04, 74SB106-04, 74VP11A-04	acetone	U at reported value
74SB106-01	acetone	U
74SB105-03, 74SB106-01, 74SB107-03D, 74SB108-04	2-butanone	U at reported value

Metals

Associated blanks exhibited contamination as noted in the following table. The laboratory reported non-detect results to the MDL for this project. Therefore, the blank flagging actions were modified to take this into consideration. Please see the Glossary of Qualification Flags and Abbreviations for details.

Blank ID	Analyte	Concentration	Action Level	Q Flag
ICB	antimony	0.15950J ug/L	>MDL up to RL	U

Associated samples and required qualifications are noted in the following table.

Sample ID	Analyte	Q Flag
all samples >MDL but < RL	antimony	U

Surrogate Recoveries

VOA

Sample 74SB108-04 exhibited low recovery for dibromofluoromethane at 48% (QC limit 65-124%); the sample was re-analyzed with similar results. Due to low recoveries, all results for this sample were qualified as estimated (J/UJ).

DRO/GRO

Three samples analyzed for the GRO fraction exhibited high surrogate recoveries. The reported positive results for GRO in samples 74VP3B-03 (229%), 74VP3B-04 (220%), and 74SB108-04 (346%) were qualified as estimated J.

Matrix Spike Recoveries

Metals

The matrix spikes of samples 74SB82-03 and 74SB83-02 analyzed for the metals fraction exhibited non-compliant %R's for analytes that required qualification in the field samples. A summary of these non-compliances and affected samples are noted in the following table.

MS	Analytes	Samples	%R	Q Flag
74SB82-03	copper	all samples	52%/42%	J/UJ
	zinc		66%/68%	J/UJ
74SB83-02	antimony		52%/64%	J/UJ

Field Duplicates

Metals

The field duplicate pair of samples 74SB82-04 and 74SB82-04D exhibited non-compliant RPD >35% but <120% for the analytes chromium (83%), cobalt (47%), nickel (76%) and zinc (63%) and field duplicate pair of samples 74SB82-04 and 74SB82-04D exhibited non-compliant RPD >35% but <120% for the analytes chromium (83%,). These analytes were flagged as estimated J in the field duplicate pair.

Identification/Quantitation

VOA

Sample 74SB108-04 was re-analyzed due to non-compliant surrogate recoveries. Due to similar results the re-analysis was not used in favor of the initial analysis.

A summary of qualifications required is provided on the following page. Please do not hesitate to contact DataQual ES with any questions regarding this validation report.

Sincerely,

Laura Maschhoff
President

Jacqueline Cleveland
Vice President

Summary of Data Qualifications

VOA

Sample ID	Compound	Results	Q flag
74SB103-04, 74SB104-03, 74SB104-04, 74SB105-03, 74SB105-04, 74SB106-01, 74SB106-04, 74VP11A-04	isobutyl alcohol	+/-	J/R
74SB103-04, 74SB104-03, 74SB104-04, 74SB105-03, 74SB105-04, 74SB106-01, 74SB106-04, 74VP11A-04	iodomethane acetonitrile pentachloroethane chloroethane acetone 1,2-dibromo-3-chloropropane	+/-	J/UJ
74SB82-03, 74SB82-04, 74SB82-04D, 74SB83-02, 74SB107-03, 74SB107-03D, 74SB107-05, 74SB108-03, 74SB108-04	acrolein isobutyl alcohol	+/-	J/R
74SB82-03, 74SB82-04, 74SB82-04D, 74SB83-02, 74SB107-03, 74SB107-03D, 74SB107-05, 74SB108-03, 74SB108-04	iodomethane acetonitrile 3-chloro-1-propene pentachloroethane bromomethane chloroethane acetone carbon disulfide 1,2,3-trichloropropane 1,2-dibromo-3-chloropropane	+/-	J/UJ
74VP3B-03	acetonitrile isobutyl alcohol	+/-	J/R
74VP3B-03	acetonitrile isobutyl alcohol acetone	+/-	J/R
74VP3B-03	propionitrile methacrylonitrile pentachloroethane	+/-	J/UJ
74VP11A-03, 74VP3B-04	acrolein isobutyl alcohol	+/-	J/R
74VP11A-03, 74VP3B-04	isobutyl alcohol acetone	+/-	J/R
74VP11A-03, 74VP3B-04	acrolein pentachloroethane	+/-	J/UJ
74SB108-04	all results	+/-	J/UJ
74SB104-03, 74SB106-01	carbon disulfide	+	J
74SB108-04RA	all results	+/-	R

LL PAH

Sample ID	Compound	Results	Q flag
No qualifications			

Summary of Data Qualifications, continued

DRO/GRO

Sample ID	Compound	Results	Q flag
74VP3B-03RA, 74VP3B-04RA	GRO	+/-	R
74VP3B-03, 74VP3B-04, 74SB108-04	GRO	+	J

Metals

Sample ID	Analyte	Results	Q flag
all samples	silver	+/-	J/UJ
all samples	antimony	+ >MDL up to RL	U
all samples	antimony copper zinc	+/-	J/UJ
74SB82-04, 74SB82-04D	chromium cobalt nickel zinc	+	J
74SB107-03, 74SB107-03D	cobalt	+	J

Glossary of Qualification Flags and Abbreviations

Qualification Flags (Q-Flags)

U	not detected above the reported sample quantitation limit
J	estimated value
UJ	reported quantitation limit is qualified as estimated
N	analyte has been tentatively identified
JN	analyte has been tentatively identified, estimated value
R	result is rejected; the presence or absence of the analyte cannot be verified

Method/Preparation/Field QC Blank Qualification Flags (Q-Flags)

Organic Methods

NA	The sample result for the blank contaminant is greater than the RL (2X sample RL for common laboratory contaminants) when the blank value is less than the RL. The sample result for the blank contaminant is not qualified with any blank qualifiers.
U*	The sample result for the blank contaminant is less than the RL (2X sample RL for common laboratory contaminants) but greater than the MDL when the blank value is less than the RL. The sample result for the blank contaminant is qualified as non-detect U at the reported concentration.
RL**	The sample result for the blank contaminant is less than the RL (2X sample RL for common laboratory contaminants) but greater than the MDL when the blank value is less than the RL. The sample result for the blank contaminant is changed to the RL and qualified as non-detect U.

* This guideline is used when the laboratory is reporting non-detects to the MDL. ** This guideline is used when the laboratory is reporting non-detects to the RL.

Inorganic Methods

ICB/CCB/PB Action:

No Action -	The sample result is greater than the RL and greater than ten times (10X) the blank value.
U -	The sample result is greater than or equal to the MDL but less than or equal to the RL, result is reported as non-detect at the reported concentration, when the ICB/CCB/PB result is less or greater than the RL.

Glossary of Qualification Flags and Abbreviations, continued

R -	Sample result is greater than the RL and less than the ICB/CCB/PB value when the ICB/CCB/PB value is greater than the RL.
J -	Sample result is greater than the ICB/CCB/PB value but less than 10X the ICB/CCB/PB value when ICB/CCB/PB value is greater than the RL.
J/UJ -	Sample result is less than 10X RL when blank result is below the negative RL.

Field QC Blank action:

Note – Use field blanks to qualify data only if field blank results are greater than prep blank results.
Do not use rinsate blank associated with soils to qualify water samples and vice versa.

No Action -	The sample result is greater than the RL and greater than ten times (10X) the blank value.
U -	The sample result is greater than or equal to the MDL but less than or equal to the RL, result is reported as non-detect at the reported concentration, when the FB result is less or greater than the RL.
R -	Sample result is greater than the RL and less than the FB value when the FB value is greater than the RL.
J -	Sample result is greater than the FB value but less than 10X the FB value when FB value is greater than the RL.

General Abbreviations

RL	reporting limit
IDL	instrument detection limit
MDL	method detection limit
CRDL	contract required detection limit
CRQL	contract required quantitation limit
+	positive result
-	non-detect result

TEST AMERICA SAVANNAH SDG 36489-4

DataQual

Environmental Services, LLC

Michael Baker, Jr., Inc.
Airside Business Park
100 Airside Drive
Moon Township, PA 15108

July 16, 2008
SDG# SWMU36489-4, Test America-Savannah
NAPR SWMU74, Puerto Rico

Dear Mr. Kimes,

The following Data Validation report is provided as requested for the parameters noted in the table below for SDG # SWMU36489-4. The data validation was performed in accordance with the SW-846 methods utilized by the laboratory, the Region II Standard Operating Procedures for the Validation of Organic Data Acquired Using SW-846 Methods (8260B-Rev 2, January 2006- SOP #HW-24 and 8270D-Rev 3, October 2006- SOP #HW-22), and professional judgment. Region II has not developed a validation checklist SOP for the methods used to assess the inorganic methods in this SDG (SW-846 methods 6020B, 7470A) or the organic methods for hydrocarbons (SW-846 methods 8015_DRO and 8015_GRO). Therefore, alternative worksheets were provided. Region II flagging conventions were used. All areas of concern are discussed in the body of the report and a summary of data qualifications is provided.

Sample ID	Lab ID	Matrix	VOA App IX	LL PAH	DRO/GRO	GRO	TMetals	DMetals
74TB07	680-36489-61	water	X			X		
74TB08	680-36489-62	water	X			X		
74TB09	680-36489-63	water	X			X		
74TB10	680-36489-64	water	X			X		
74GW22	680-36489-65	water	X	X	X		X	X
74GW05	680-36489-66	water	X	X	X		X	X
74GWHYD3D	680-36489-67	water	X	X	X		X	X
74GWHYD3	680-36489-68	water	X	X	X		X	X
74GWVP1A	680-36489-69	water	X		X		X	X
74GWVP2B	680-36489-70	water	X		X		X	X
74GW34	680-36489-71	water	X		X		X	X
74GW09	680-36489-72	water	X	X	X		X	X
74GWVP1B	680-36489-73	water	X		X		X	X
74GW26	680-36489-74	water	X		X		X	X
74GWVP2A	680-36489-75	water	X		X		X	X
74GWHYD3 MS	680-36489-68MS	water	X	X	X		X	X
74GWHYD3 MSD	680-36489-68MSD	water	X	X	X		X	X

The following quality control samples were provided with this SDG: sample 74GWHYD3D-field duplicate of sample 74GWHYD3; and samples 74TB07, 74TB08, 74TB09 and 74TB10- trip blanks.

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The samples were evaluated based on the following criteria:

- Data Completeness *
- Sample Condition *
- Technical Holding Times *
- GC/MS Tuning *
- GC Performance *
- Initial/Continuing Calibrations
- ICSA/ICSAB Standards
- CRDL Standards *
- Blanks
- Internal Standards *
- Surrogate Recoveries *
- Laboratory Control Samples *
- Matrix Spike Recoveries *
- Matrix Duplicate RPDs *
- Serial Dilutions *
- Field Duplicates *
- Identification/Quantitation
- Reporting Limits *
- Tentatively Identified Compounds NA

* - indicates that qualifications were not required based on this criteria

Overall Evaluation of Data/Potential Usability Issues

A summary of qualifications applied to the sample results are noted below for the fractions validated. Specific details regarding qualification of the data are addressed in the Specific Evaluation section of this narrative. If an issue is not addressed there were no actions required based on unmet quality criteria. When more than one qualifier is associated with a compound/analyte the validator has chosen the qualifier that best indicates possible bias in the results and flagged the data accordingly. However, information regarding all quality control issues is provided in the body of the report and on the qualification summary page. Please note that the reviewer added an F to the sample ID to indicate dissolved metals analysis when necessary.

VOA

The initial and continuing calibration exhibited some compounds with low RRF values, which resulted in qualifying non-detected values as rejected for these compounds. Due to high %D values, in the continuing calibrations, some compounds were qualified as estimated.

Blank contamination was noted in the QC blank associated with samples in this batch. Qualifications were added to the data.

PAH

No qualifications to the data were required.

DRO/GRO

No qualifications to the data were required.

Metals

The ICSAB standards exhibited non-compliant recoveries above the QC limit for the analyte zinc. Based on Region II guidelines all positive results for zinc in the samples were qualified as estimated J.

Blank contamination was noted and qualification was required in the samples in this SDG.

The analyte cobalt was qualified as estimated in samples 74GWVP2B and 74GWVP2BF due to an RPD >20% between the total and dissolved results.

Specific Evaluation of Data

Data Completeness

The SDG was received complete and intact. Resubmissions were not required. Clarification questions were asked of the laboratory regarding the metals fraction. A copy of the e-mail correspondence is included in the validation worksheets. Clarification questions were asked of the laboratory regarding the DRO and GRO fractions. A copy of the e-mail correspondence is included in the project file.

Technical Holding Times

According to chain of custody records, sampling was performed on 05/05-08/08 and samples were received at the laboratory 05/07/08. All sample preparation and analysis was performed within Region II and/or method holding time requirements.

Initial/Continuing Calibration

VOA

Calibration standards exhibited RRFs and %Ds that were non-compliant. A summary of these non-compliances and affected samples are noted in the following table. Sample results are qualified as indicated.

Standard ID	Compound(s)	RRF, %RSD, %D	Samples	Q Flag
CC 05/14/08	acrolein	0.02622	74TB07, 74TB08, 74TB09, 74TB10, 74GW22, 74GW05, 74GWHYD3D, 74GWHYD3, 74GWVP1A, 74GWVP2B	J/R
	iodomethane acrylonitrile pentachloroethane bromomethane chloroethane trichlorofluoromethane cis-1,3-dichloropropene	30.8% 56.3% 87.6% 20.4% 31.5% 22.3% 20.8%		J/UJ
CC 05/15/08	acrolein isobutyl alcohol	0.02246 0.04918	74GW34, 74GW09, 74GWVP1B, 74GW26, 74GWVP2A	J/R
	acrylonitrile pentachloroethane dichlorodifluoromethane cis-1,3-dichloropropene	56.3% 78.6% 28.7% 22.9%		J/UJ

ICSA/ICSAB Standards

Metals

The ICSAB standards associated with the metals analysis exhibited non-compliant recoveries above the upper QC limit for the analyte zinc (132%/129%). Based on Region II guidelines, reported positive results for zinc were qualified as estimated J in all samples.

Blanks

VOA

The associated method and/or QC blanks exhibited contamination as noted in the following table. Compounds for which there was no action required, are not included in the following table. Please note that the laboratory reported non-detect results down to the MDL for this project. Therefore, the blank flagging actions were modified as follows to take this into consideration. Positive results greater than the MDL but less than the CRQL are qualified as U at the reported concentration when affected by blank contamination.

Blank ID	Compound	Concentration	Reporting Limit	Action Level
FB01	2-butanone	0.69J ug/L	10 ug/L	2X RL

Associated samples and required qualifications are noted in the following table.

Sample ID	Compound	Q Flag
74GW22, 74GW34, 74GW09, 74GW26	2-butanone	U at reported value

Metals

Associated blanks exhibited contamination as noted in the following table. The laboratory reported non-detect results to the MDL for this project. Therefore, the blank flagging actions were modified to take this into consideration. Please see the Glossary of Qualification Flags and Abbreviations for details.

Blank ID	Analyte	Concentration	Action Level	Q Flag
PBW1 – total	arsenic	0.3886J ug/L	>MDL up to RL	U
	copper	3.8175J ug/L	>MDL up to RL	U
	tin	1.0950J ug/L	>MDL up to RL	U
	vanadium	0.8615J ug/L	>MDL up to RL	U
PBW1 – dissolved	copper	1.3010J ug/L	>MDL up to RL	U
ICB	antimony	0.07684J ug/L	>MDL up to RL	U
CCB (total)	beryllium	0.023J ug/L	>MDL up to RL	U
CCB (dissolved)	arsenic	0.081J ug/L	>MDL up to RL	U
	tin	0.242J ug/L	>MDL up to RL	U
FB01	lead	0.38J ug/L	>MDL up to RL	U

Associated samples and required qualifications are noted in the following table.

Sample ID	Analyte	Q Flag
all samples >MDL up to RL	antimony	U
all total samples >MDL up to RL, 74GWVP1AF, 74GWVP2BF, 74GWVP1BF, 74GWVP2AF	arsenic	U
all samples >MDL up to RL	copper	U
all total samples >MDL up to RL & 74GW22F	tin	U
all total samples >MDL up to RL	vanadium	U
all total samples >MDL up to RL	beryllium	U
all samples > MDL up to RL	lead	U

Identification/Quantitation

Total & Dissolved Metals

The analyte cobalt was qualified as estimated J in samples 74GWVP2B and 74GWVP2BF due to a %D > 20% between total and dissolved results.

A summary of qualifications required is provided on the following page. Please do not hesitate to contact DataQual ES with any questions regarding this validation report.

Sincerely,

Laura Maschhoff
President

Jacqueline Cleveland
Vice President

Summary of Data Qualifications

VOA

Sample ID	Compound	Results	Q flag
74TB07, 74TB08, 74TB09, 74TB10, 74GW22, 74GW05, 74GWHYD3D, 74GWHYD3, 74GWVP1A, 74GWVP2B	acrolein	+/-	J/R
74TB07, 74TB08, 74TB09, 74TB10, 74GW22, 74GW05, 74GWHYD3D, 74GWHYD3, 74GWVP1A, 74GWVP2B	iodomethane acrylonitrile pentachloroethane bromomethane chloroethane trichlorofluoromethane cis-1,3-dichloropropene	+/-	J/UJ
74GW34, 74GW09, 74GWVP1B, 74GW26, 74GWVP2A	acrolein isobutyl alcohol	+/-	J/R
74GW34, 74GW09, 74GWVP1B, 74GW26, 74GWVP2A	acrylonitrile pentachloroethane dichlorodifluoromethane cis-1,3-dichloropropene	+/-	J/UJ
74GW22, 74GW34, 74GW09, 74GW26	2-butanone	+	U at reported value

PAH

Sample ID	Compound	Results	Q flag
No qualifications required.			

DRO/GRO

Sample ID	Compound	Results	Q flag
No qualifications required			

Metals

Sample ID	Analyte	Results	Q flag
all samples	zinc	+	J
all samples >MDL up to RL	antimony	+ >MDL up to RL	U
all total samples >MDL up to RL, 74GWVP1AF, 74GWVP2BF, 74GWVP1BF, 74GWVP2AF	arsenic	+ >MDL up to RL	U
all samples >MDL up to RL	copper	+ >MDL up to RL	U
all total samples >MDL up to RL & 74GW22F	tin	+ >MDL up to RL	U
all total samples >MDL up to RL	vanadium	+ >MDL up to RL	U
all total samples >MDL up to RL	beryllium	+ >MDL up to RL	U
all samples > MDL up to RL	lead	+ >MDL up to RL	U
74GWVP2B, 74GWVP2BF	cobalt	+	J

Glossary of Qualification Flags and Abbreviations

Qualification Flags (Q-Flags)

U	not detected above the reported sample quantitation limit
J	estimated value
UJ	reported quantitation limit is qualified as estimated
N	analyte has been tentatively identified
JN	analyte has been tentatively identified, estimated value
R	result is rejected; the presence or absence of the analyte cannot be verified

Method/Preparation/Field QC Blank Qualification Flags (Q-Flags)

Organic Methods

NA	The sample result for the blank contaminant is greater than the RL (2X sample RL for common laboratory contaminants) when the blank value is less than the RL. The sample result for the blank contaminant is not qualified with any blank qualifiers.
U*	The sample result for the blank contaminant is less than the RL (2X sample RL for common laboratory contaminants) but greater than the MDL when the blank value is less than the RL. The sample result for the blank contaminant is qualified as non-detect U at the reported concentration.
RL**	The sample result for the blank contaminant is less than the RL (2X sample RL for common laboratory contaminants) but greater than the MDL when the blank value is less than the RL. The sample result for the blank contaminant is changed to the RL and qualified as non-detect U.

* This guideline is used when the laboratory is reporting non-detects to the MDL. ** This guideline is used when the laboratory is reporting non-detects to the RL.

Inorganic Methods

ICB/CCB/PB Action:

No Action -	The sample result is greater than the RL and greater than ten times (10X) the blank value.
U -	The sample result is greater than or equal to the MDL but less than or equal to the RL, result is reported as non-detect at the reported concentration, when the ICB/CCB/PB result is less or greater than the RL.

Glossary of Qualification Flags and Abbreviations, continued

R -	Sample result is greater than the RL and less than the ICB/CCB/PB value when the ICB/CCB/PB value is greater than the RL.
J -	Sample result is greater than the ICB/CCB/PB value but less than 10X the ICB/CCB/PB value when ICB/CCB/PB value is greater than the RL.
J/UJ -	Sample result is less than 10X RL when blank result is below the negative RL.

Field QC Blank action:

Note – Use field blanks to qualify data only if field blank results are greater than prep blank results.
Do not use rinsate blank associated with soils to qualify water samples and vice versa.

No Action -	The sample result is greater than the RL and greater than ten times (10X) the blank value.
U -	The sample result is greater than or equal to the MDL but less than or equal to the RL, result is reported as non-detect at the reported concentration, when the FB result is less or greater than the RL.
R -	Sample result is greater than the RL and less than the FB value when the FB value is greater than the RL.
J -	Sample result is greater than the FB value but less than 10X the FB value when FB value is greater than the RL.

General Abbreviations

RL	reporting limit
IDL	instrument detection limit
MDL	method detection limit
CRDL	contract required detection limit
CRQL	contract required quantitation limit
+	positive result
-	non-detect result

TEST AMERICA SAVANNAH SDG 36517-1

DataQual

Environmental Services, LLC

Michael Baker, Jr., Inc.
Airside Business Park
100 Airside Drive
Moon Township, PA 15108

August 5, 2008
SDG# SWMU36517-1, Test America-Savannah
NAPR SWMU 74, Puerto Rico

Dear Mr. Kimes,

The following Data Validation report is provided as requested for the parameters noted in the table below for SDG # SWMU36517-1. The data validation was performed in accordance with the SW-846 methods utilized by the laboratory, the Region II Standard Operating Procedures for the Validation of Organic Data Acquired Using SW-846 Methods (8260B-Rev 2, January 2006- SOP #HW-24 and 8270D-Rev 3, October 2006- SOP #HW-22), and professional judgment. Region II has not developed a validation checklist SOP for the methods used to assess the inorganic methods in this SDG (SW-846 methods 6020B and 7471A). Therefore, alternative worksheets were provided. Region II flagging conventions were used. All areas of concern are discussed in the body of the report and a summary of data qualifications is provided.

Sample ID	Lab ID	Matrix	VOA App IX	LL PAH	DRO/GRO	Metals
74SB84-03	680-36517-1	soil	X		X	X
74SB85-03	680-36517-2	soil	X		X	X
74SB85-04	680-36517-3	soil	X		X	X
74SB86-03	680-36517-4	soil	X		X	X
74SB86-03D	680-36517-5	soil	X		X	X
74SB86-04	680-36517-6	soil	X	X	X	X
74SB109-04	680-36517-7	soil	X		X	X
74SB109-05	680-36517-8	soil	X		X	X
74SB110-04	680-36517-9	soil	X		X	X
74SB110-05	680-36517-10	soil	X		X	X
74SB87-03	680-36517-15	soil	X		X	X
74SB88-03	680-36517-16	soil	X		X	X
74SB89-03	680-36517-17	soil	X		X	X
74SB90-02	680-36517-18	soil	X		X	X
74SB91-00	680-36517-19	soil	X		X	X
74SB91-03	680-36517-20	soil	X		X	X
74SB91-03D	680-36517-21	soil	X		X	X
74SB92-03	680-36517-22	soil	X		X	X
74SB92-04	680-36517-23	soil	X		X	X
74SB93-03	680-36517-24	soil	X		X	X
74SB91-03 MS	680-36517-20MS	soil	X		X	X
74SB91-03 MSD	680-36517-20MSD	soil	X		X	X
74SB84-03 MS	680-36517-1MS	soil	X		X	X
74SB84-03 MSD	680-36517-1MSD	soil	X		X	X

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The following quality control samples were provided with this SDG: sample 74SB86-03D-field duplicate of sample 74SB86-03; and sample 74SB91-03D-field duplicate of sample 74SB91-03.

The samples were evaluated based on the following criteria:

- Data Completeness *
- Sample Condition *
- Technical Holding Times *
- GC/MS Tuning *
- Initial/Continuing Calibrations
- ICSA/ICSAB Standards *
- CRDL Standards *
- Blanks
- Internal Standards *
- Surrogate Recoveries
- Laboratory Control Samples *
- Matrix Spike Recoveries
- Matrix Duplicate RPDs
- Serial Dilutions *
- Field Duplicates
- Identification/Quantitation *
- Reporting Limits *
- Tentatively Identified Compounds NA

* - indicates that qualifications were not required based on this criteria

Overall Evaluation of Data/Potential Usability Issues

A summary of qualifications applied to the sample results are noted below for the fractions validated. Specific details regarding qualification of the data are addressed in the Specific Evaluation section of this narrative. If an issue is not addressed there were no actions required based on unmet quality criteria. When more than one qualifier is associated with a compound/analyte the validator has chosen the qualifier that best indicates possible bias in the results and flagged the data accordingly. However, information regarding all quality control issues is provided in the body of the report and on the qualification summary page.

VOA

The initial and continuing calibration exhibited some compounds with low RRF values, which resulted in qualifying non-detected values as rejected for these compounds. Due to high %D values in the continuing calibrations, some compounds were qualified as estimated.

Blank contamination was noted in the method and QC blank associated with samples in this batch. Qualifications were added to the data.

One sample exhibited non-compliant surrogate recoveries that resulted in qualifying results as estimated.

LL PAH

No qualifications to the data were required.

DRO/GRO

One sample analyzed for GRO exhibited a non-compliant surrogate recovery that resulted in the qualification of results as estimated.

Metals

Blank contamination was noted and qualification was required in the samples in this SDG.

The associated matrix spikes exhibited non-compliant %Rs for several analytes for which qualifications were required. Positive and non-detect results for antimony and chromium were flagged as estimated J/UJ in the samples. Positive results for cobalt were qualified as estimated and positive results for barium were rejected R.

The associated matrix duplicate exhibited a non-compliant RPD for one analyte for which qualifications were required. Positive and non-detect results for barium required qualification as estimated J/UJ in the samples. However, please note that barium was rejected in all samples due to spike recoveries greater than 200%.

The field duplicate pairs exhibited non-compliant RPDs for several analytes. These analytes were qualified in the field duplicate pairs based on Region II guidelines.

Specific Evaluation of Data

Data Completeness

The SDG was received complete and intact. Resubmissions were required. One sample in the metals fraction was improperly reported due to an error in the final volume. Corrections were requested and received from the laboratory. A copy of the e-mail correspondence is included in the validation worksheets. Clarification questions were asked of the laboratory regarding the metals fraction. A copy of the e-mail correspondence is included in the validation worksheets. Clarification questions were asked of the laboratory regarding the DRO and GRO fractions. A copy of the e-mail correspondence is included in the project file.

Technical Holding Times

According to chain of custody records, sampling was performed on 05/5-6/08 and samples were received at the laboratory 05/8/08. All sample preparation and analysis was performed within Region II and/or method holding time requirements.

Initial/Continuing Calibration

VOA

Calibration standards exhibited RRFs and %Ds that were non-compliant. A summary of these non-compliances and affected samples are noted in the following table. Sample results are qualified as indicated.

Standard ID	Compound(s)	RRF, %RSD, %D	Samples	Q Flag
IC 05/12/08	acetonitrile isobutyl alcohol	0.0356 0.0211	74SB84-03, 74SB85-03, 74SB85-04, 74SB86-03, 74SB86-03D, 74SB86-04, 74SB109-04, 74SB110-05, 74SB87-03, 74SB88-03, 74SB110-04, 74SB89-03, 74SB91-00, 74SB91-03, 74SB91-03D, 74SB92-03, 74SB92-04, 74SB93-03, 74SB90-02	J/R
CC 05/14/08	acrolein isobutyl alcohol acetone	0.04653 0.02484 0.04937	74SB84-03, 74SB85-03, 74SB85-04, 74SB86-03, 74SB86-03D, 74SB86-04, 74SB109-04, 74SB110-05, 74SB87-03, 74SB88-03	J/R
	acetonitrile 2-chloro-1,3-butadiene methacrylonitrile pentachloroethane	88.7% 24.0% 26.6% 31.8%		J/UJ

Standard ID	Compound(s)	RRF, %RSD, %D	Samples	Q Flag
CC 05/15/08	isobutyl alcohol acetone	0.02161 0.04056	74SB110-04, 74SB89-03, 74SB91-00, 74SB91-03, 74SB91-03D, 74SB92-03, 74SB92-04, 74SB93-03	J/R
	acetonitrile methacrylonitrile	89.8% 21.7%		J/UJ
CC 05/15/08	acrolein isobutyl alcohol acetone acetonitrile	0.04881 0.02425 0.04211 92.5%	74SB90-02	J/R
	2-chloro-1,3-butadiene methacrylonitrile pentachloroethane	21.5% 25.9% 38.9%		J/UJ
IC 05/18/08	acrolein isobutyl alcohol	0.0496 0.0369	74SB109-05	J/R
CC 05/19/08	isobutyl alcohol acetone	0.03699 0.04399	74SB109-05	J/R
	acrolein pentachloroethane	26.5% 30.6%		J/UJ

Blanks

VOA

The associated method and/or QC blanks exhibited contamination as noted in the following table. Compounds for which there was no action required, are not included in the following table. Please note that the laboratory reported non-detect results down to the MDL for this project. Therefore, the blank flagging actions were modified as follows to take this into consideration. Positive results greater than the MDL but less than the CRQL are qualified as U at the reported concentration when affected by blank contamination.

Blank ID	Compound	Concentration	Reporting Limit	Action Level
FB01	2-butanone	0.69J ug/L	10 ug/L	2X RL

Associated samples and required qualifications are noted in the following table.

Sample ID	Compound	Q Flag
74SB90-02, 74SB91-00	2-butanone	U at reported value

Metals

Associated blanks exhibited contamination as noted in the following table. The laboratory reported non-detect results to the MDL for this project. Therefore, the blank

flagging actions were modified to take this into consideration. Please see the Glossary of Qualification Flags and Abbreviations for details.

Blank ID	Analyte	Concentration	Action Level	Q Flag
ER07	arsenic	0.33J ug/L	>MDL up to RL	U
	copper	5.2 ug/L	J+ > blank level up to 10X blank level	J

* Field QC blank qualifications were made using QC blank tracking.

Associated samples and required qualifications are noted in the following table.

Sample ID	Analyte	Q Flag
74SB85-04, 74SB88-03, 74SB93-03	arsenic	U
74SB84-03, 74SB110-05, 74SB93-03	copper	J

Surrogate Recoveries

VOA

Sample 74SB86-04 exhibited high recovery for 4-bromofluorobenzene at 136% (QC limit 65-124%); the sample was re-analyzed with similar results. Due to high recoveries, all positive results for this sample were qualified as estimated (J).

DRO/GRO

The GRO analysis of sample 74SB91-00 exhibited a high surrogate recovery (142%). The reported positive result for GRO in the sample was qualified as estimated J.

Matrix Spike Recoveries

Metals

The matrix spikes of samples 74SB84-03 & 74SB91-03 exhibited non-compliant %Rs for analytes that required qualification in the field samples. A summary of these non-compliances and affected samples are noted in the following table. Please note that cobalt was not rejected in the samples because the MS recovery in 74SB84-03 was <200%.

MS	Analytes	Samples	%R	Q Flag
74SB84-03	antimony	all samples	61%/61%	J/UJ
	cobalt		197%/241%	J+
74SB91-03	antimony	all samples	70%/70%	J/UJ
	chromium		73%/130%	
	barium		330%/261%	R

Matrix Duplicates

Metals

The matrix duplicate of sample 74SB84-03 exhibited a non-compliant RPD for one analyte that required qualification in the field samples. A summary of this non-compliance and affected samples is noted in the following table.

MD	Analytes	Samples	RPD	Q Flag
74SB84-03	barium	all samples	37.3%	J/UJ

Metals

The field duplicate pair of samples 74SB86-03 and 74SB86-03D exhibited non-compliant RPD >35% but <120% for the analytes cobalt, nickel and zinc. These analytes were flagged as estimated in the field duplicate pair. The analytes barium and chromium exhibited RPDs >120% and the analyte lead exhibited an absolute difference > 4X CRDL. These analytes were rejected in the field duplicate pair. The field duplicate pair of samples 74SB91-03 and 74SB91-03D exhibited non-compliant RPD >35% but <120% for the analytes chromium and nickel. These analytes were flagged as estimated in the field duplicate pair. The analyte lead exhibited an absolute difference > 4X CRDL. This analyte was rejected in the field duplicate pair. All qualifications were made based on the Region II guidance.

Identification/Quantitation

VOA

Sample 74SB86-04 was re-analyzed due to non-compliant surrogate recoveries. Due to similar results the re-analysis was not used in favor of the initial analysis.

A summary of qualifications required is provided on the following page. Please do not hesitate to contact DataQual ES with any questions regarding this validation report.

Sincerely,

Laura Maschhoff
President

Jacqueline Cleveland
Vice-President

Summary of Data Qualifications

VOA

Sample ID	Compound	Results	Q flag
74SB84-03, 74SB85-03, 74SB85-04, 74SB86-03, 74SB86-03D, 74SB86-04, 74SB109-04, 74SB110-05, 74SB87-03, 74SB88-03, 74SB110-04, 74SB89-03, 74SB91-00, 74SB91-03, 74SB91-03D, 74SB92-03, 74SB92-04, 74SB93-03, 74SB90-02	acetonitrile isobutyl alcohol	+/-	J/R
74SB84-03, 74SB85-03, 74SB85-04, 74SB86-03, 74SB86-03D, 74SB86-04, 74SB109-04, 74SB110-05, 74SB87-03, 74SB88-03	acrolein isobutyl alcohol acetone	+/-	J/R
74SB84-03, 74SB85-03, 74SB85-04, 74SB86-03, 74SB86-03D, 74SB86-04, 74SB109-04, 74SB110-05, 74SB87-03, 74SB88-03	acetonitrile 2-chloro-1,3-butadiene methacrylonitrile pentachloroethane	+/-	J/UJ
74SB110-04, 74SB89-03, 74SB91-00, 74SB91-03, 74SB91-03D, 74SB92-03, 74SB92-04, 74SB93-03	isobutyl alcohol acetone	+/-	J/R
74SB110-04, 74SB89-03, 74SB91-00, 74SB91-03, 74SB91-03D, 74SB92-03, 74SB92-04, 74SB93-03	acetonitrile methacrylonitrile	+/-	J/UJ
74SB90-02	acrolein isobutyl alcohol acetone acetonitrile	+/-	J/R
74SB90-02	2-chloro-1,3-butadiene methacrylonitrile pentachloroethane	+/-	J/UJ
74SB109-05	acrolein isobutyl alcohol	+/-	J/R
74SB109-05	isobutyl alcohol acetone	+/-	J/R
74SB109-05	acrolein pentachloroethane	+/-	J/UJ
74SB90-02, 74SB91-00	2-butanone	+	U at reported value
74SB86-04	all results	+	J
74SB86-04RA	all results	+/-	R

LL PAH

Sample ID	Compound	Results	Q flag
No qualifications			

Summary of Data Qualifications, continued

DRO/GRO

Sample ID	Compound	Results	Q flag
74SB91-00	GRO	+	J

Metals

Sample ID	Analyte	Results	Q flag
74SB85-04, 74SB88-03, 74SB93-03	arsenic	>MDL up to RL	U
74SB84-03, 74SB110-05, 74SB93-03	copper	> blank level & up to 10X blank level	J
all samples	antimony chromium	+/-	J/UJ
all samples	barium	+	R
all samples	cobalt	+	J
all samples	barium	+/-	J/UJ
74SB86-03, 74SB86-03D	cobalt nickel zinc	+	J
74SB86-03, 74SB86-03D	barium chromium lead	+	R
74SB91-03, 74SB91-03D	chromium nickel	+	J
74SB91-03, 74SB91-03D	lead	+	R

Glossary of Qualification Flags and Abbreviations

Qualification Flags (Q-Flags)

U	not detected above the reported sample quantitation limit
J	estimated value
UJ	reported quantitation limit is qualified as estimated
N	analyte has been tentatively identified
JN	analyte has been tentatively identified, estimated value
R	result is rejected; the presence or absence of the analyte cannot be verified

Method/Preparation/Field QC Blank Qualification Flags (Q-Flags)

Organic Methods

NA	The sample result for the blank contaminant is greater than the RL (2X sample RL for common laboratory contaminants) when the blank value is less than the RL. The sample result for the blank contaminant is not qualified with any blank qualifiers.
U*	The sample result for the blank contaminant is less than the RL (2X sample RL for common laboratory contaminants) but greater than the MDL when the blank value is less than the RL. The sample result for the blank contaminant is qualified as non-detect U at the reported concentration.
RL**	The sample result for the blank contaminant is less than the RL (2X sample RL for common laboratory contaminants) but greater than the MDL when the blank value is less than the RL. The sample result for the blank contaminant is changed to the RL and qualified as non-detect U.

* This guideline is used when the laboratory is reporting non-detects to the MDL. ** This guideline is used when the laboratory is reporting non-detects to the RL.

Inorganic Methods

ICB/CCB/PB Action:

No Action -	The sample result is greater than the RL and greater than ten times (10X) the blank value.
U -	The sample result is greater than or equal to the MDL but less than or equal to the RL, result is reported as non-detect at the reported concentration, when the ICB/CCB/PB result is less or greater than the RL.

Glossary of Qualification Flags and Abbreviations, continued

R -	Sample result is greater than the RL and less than the ICB/CCB/PB value when the ICB/CCB/PB value is greater than the RL.
J -	Sample result is greater than the ICB/CCB/PB value but less than 10X the ICB/CCB/PB value when ICB/CCB/PB value is greater than the RL.
J/UJ -	Sample result is less than 10X RL when blank result is below the negative RL.

Field QC Blank action:

Note – Use field blanks to qualify data only if field blank results are greater than prep blank results.

Do not use rinsate blank associated with soils to qualify water samples and vice versa.

No Action -	The sample result is greater than the RL and greater than ten times (10X) the blank value.
U -	The sample result is greater than or equal to the MDL but less than or equal to the RL, result is reported as non-detect at the reported concentration, when the FB result is less or greater than the RL.
R -	Sample result is greater than the RL and less than the FB value when the FB value is greater than the RL.
J -	Sample result is greater than the FB value but less than 10X the FB value when FB value is greater than the RL.

General Abbreviations

RL	reporting limit
IDL	instrument detection limit
MDL	method detection limit
CRDL	contract required detection limit
CRQL	contract required quantitation limit
+	positive result
-	non-detect result

01

TEST AMERICA SAVANNAH SDG 36517-2

DataQual

Environmental Services, LLC

Michael Baker, Jr., Inc.
Airside Business Park
100 Airside Drive
Moon Township, PA 15108

August 5, 2008
SDG# SWMU36517-2, Test America-Savannah
NAPR SWMU 74, Puerto Rico

Dear Mr. Kimes,

The following Data Validation report is provided as requested for the parameters noted in the table below for SDG # SWMU36517-2. The data validation was performed in accordance with the SW-846 methods utilized by the laboratory, the Region II Standard Operating Procedures for the Validation of Organic Data Acquired Using SW-846 Methods (8260B-Rev 2, January 2006- SOP #HW-24 and 8270D-Rev 3, October 2006- SOP #HW-22), and professional judgment. Region II has not developed a validation checklist SOP for the methods used to assess the inorganic methods in this SDG (SW-846 methods 6020B, 7470A and 7471A) or the organic methods for hydrocarbons (SW-846 methods 8015_DRO and 8015_GRO). Therefore, alternative worksheets were provided. Region II flagging conventions were used. All areas of concern are discussed in the body of the report and a summary of data qualifications is provided.

Sample ID	Lab ID	Matrix	VOA App IX	LL PAH	DRO/GRO	Metals
74SB93-04	680-36517-25	soil	X		X	X
74SB94-03	680-36517-26	soil	X		X	X
74SB94-04	680-36517-27	soil	X		X	X
74SB111-00	680-36517-28	soil	X		X	X
74SB111-03	680-36517-29	soil	X		X	X
74SB111-03D	680-36517-30	soil	X		X	X
74SB111-05	680-36517-31	soil	X	X	X	X
74SB112-04	680-36517-32	soil	X		X	X
74SB112-05	680-36517-33	soil	X		X	X
74SB113-04	680-36517-34	soil	X	X	X	X
74SB113-05	680-36517-35	soil	X	X	X	X
74VP1Cb/9-02	680-36517-36	soil	X		X	X
74VP1Cb/9-04	680-36517-37	soil	X		X	X
74VP1Aa/9-03	680-36517-38	soil	X		X	X
74VP1Aa/9-04	680-36517-39	soil	X		X	X
74SB87-04	680-36517-48	soil	X		X	X
74SB111-03 MS	680-36517-29MS	soil	X		X	X
74SB111-03 MSD	680-36517-29MSD	soil	X		X	X

The following quality control samples were provided with this SDG: sample 74SB111-03D-field duplicate of sample 74SB111-03.

The samples were evaluated based on the following criteria:

- Data Completeness *
- Sample Condition *
- Technical Holding Times *
- GC/MS Tuning *
- GC Performance *
- Initial/Continuing Calibrations
- ICSA/ICSAB Standards *
- CRDL Standards *
- Blanks
- Internal Standards *
- Surrogate Recoveries
- Laboratory Control Samples *
- Matrix Spike Recoveries *
- Matrix Duplicate RPDs *
- Serial Dilutions *
- Field Duplicates
- Identification/Quantitation
- Reporting Limits *
- Tentatively Identified Compounds NA

* - indicates that qualifications were not required based on this criteria

Overall Evaluation of Data/Potential Usability Issues

A summary of qualifications applied to the sample results are noted below for the fractions validated. Specific details regarding qualification of the data are addressed in the Specific Evaluation section of this narrative. If an issue is not addressed there were no actions required based on unmet quality criteria. When more than one qualifier is associated with a compound/analyte the validator has chosen the qualifier that best indicates possible bias in the results and flagged the data accordingly. However, information regarding all quality control issues is provided in the body of the report and on the qualification summary page.

VOA

The initial and continuing calibration exhibited some compounds with low RRF values, which resulted in qualifying non-detected values as rejected for these compounds. Due to high %D values in the continuing calibrations, some compounds were qualified as estimated.

Blank contamination was noted in the method and QC blank associated with samples in this batch. Qualifications were added to the data.

One sample exhibited non-compliant surrogate recoveries that resulted in the qualification of results as estimated. This sample was re-analyzed due to non-compliant surrogate recoveries. The re-analysis was not used in favor of the initial analysis.

The field duplicate pair did not exhibit comparable results for one compound that resulted in the qualification of results as estimated.

LL PAH

No qualifications to the data were required.

DRO/GRO

One sample analyzed for GRO exhibited a non-compliant surrogate recovery that resulted in the qualification of results as estimated.

Metals

Blank contamination was noted and qualification was required in the samples in this SDG.

Specific Evaluation of Data

Data Completeness

The SDG was received complete and intact. Resubmissions were not required. Clarification questions were asked of the laboratory regarding the metals fraction. Copies of the e-mail correspondence are included in the validation worksheets. Clarification questions were asked of the laboratory regarding the DRO and GRO fractions. A copy of the e-mail correspondence is included in the project file.

Technical Holding Times

According to chain of custody records, sampling was performed on 05/7/08 and samples were received at the laboratory 05/8/08. All sample preparation and analysis was performed within Region II and/or method holding time requirements.

Initial/Continuing Calibration

VOA

Calibration standards exhibited RRFs and %Ds that were non-compliant. A summary of these non-compliances and affected samples are noted in the following table. Sample results are qualified as indicated.

Standard ID	Compound(s)	RRF, %RSD, %D	Samples	Q Flag
IC 05/12/08	acetonitrile isobutyl alcohol	0.0356 0.0211	74SB93-04, 74SB94-03, 74SB94-04, 74SB111-00, 74SB111-03, 74SB111-03D, 74SB111-05	J/R
CC 05/15/08	isobutyl alcohol acetone	0.02161 0.04056	74SB93-04, 74SB94-03, 74SB94-04, 74SB111-00, 74SB111-03, 74SB111-03D, 74SB111-05	J/R
	acetonitrile methacrylonitrile	89.8% 21.7%		J/UJ
IC 05/18/08	acrolein isobutyl alcohol	0.0496 0.0369	74SB112-05, 74SB113-05, 74VP1Cb/9-02, 74VP1Cb/9-04, 74VP1Aa/9-03, 74VP1Aa/9-04, 74SB87-04, 74SB112-04, 74SB113-04	J/R
CC 05/19/08	isobutyl alcohol acetone	0.03699 0.04399	74SB112-05, 74SB113-05, 74VP1Cb/9-02, 74VP1Cb/9-04, 74VP1Aa/9-03, 74VP1Aa/9-04, 74SB87-04	J/R
	acrolein pentachloroethane	26.5% 30.6%		J/UJ
CC 05/19/08	isobutyl alcohol	0.03525	74SB112-04, 74SB113-04	J/R
	pentachloroethane	23.5%		J/UJ

Blanks

VOA

The associated method and/or QC blanks exhibited contamination as noted in the following table. Compounds for which there was no action required, are not included in the following table. Please note that the laboratory reported non-detect results down to the MDL for this project. Therefore, the blank flagging actions were modified as follows to take this into consideration. Positive results greater than the MDL but less than the CRQL are qualified as U at the reported concentration when affected by blank contamination.

Blank ID	Compound	Concentration	Reporting Limit	Action Level
Method Blank	acetone	5.2J ug/Kg	50 ug/Kg	2X RL
FB01	2-butanone	0.69J ug/L	10 ug/L	2X RL

Associated samples and required qualifications are noted in the following table.

Sample ID	Compound	Q Flag
74SB112-04, 74SB113-04	acetone	U at reported value
74SB111-00, 74SB111-03, 74SB111-05, 74VP1Cb/9-04	2-butanone	U at reported value

Metals

Associated blanks exhibited contamination as noted in the following table. The laboratory reported non-detect results to the MDL for this project. Therefore, the blank flagging actions were modified to take this into consideration. Please see the Glossary of Qualification Flags and Abbreviations for details.

Blank ID	Analyte	Concentration	Action Level	Q Flag
ER07	arsenic	0.33J ug/L	>MDL up to RL	U

* Field QC blank qualifications were made using QC blank tracking.

Associated samples and required qualifications are noted in the following table.

Sample ID	Analyte	Q Flag
74SB93-04, 74SB94-03, 74SB94-04	arsenic	U

Surrogate Recoveries

VOA

Sample 74SB113-05 exhibited low recovery for dibromofluoromethane at 30% (QC limit 65-124%); the sample was re-analyzed with similar results. Due to low recoveries, all results for this sample were qualified as estimated (J/UJ).

DRO/GRO

The GRO analysis of sample 74SB113-05 exhibited a high surrogate recovery (140%). The reported positive result for GRO in the sample was qualified as estimated J.

Field Duplicate

VOA

Sample 74SB111-03 and duplicate sample 74SB111-03D did not exhibit comparable results for acetone with 111% RPD; therefore the results for this compound were qualified as estimated (J).

Identification/Quantitation

VOA

Sample 74SB113-05 was re-analyzed due to non-compliant surrogate recoveries. Due to similar results the re-analysis was not used in favor of the initial analysis.

A summary of qualifications required is provided on the following page. Please do not hesitate to contact DataQual ES with any questions regarding this validation report.

Sincerely,

Laura Maschhoff
President

Jacqueline Cleveland
Vice-President

Summary of Data Qualifications

VOA

Sample ID	Compound	Results	Q flag
74SB93-04, 74SB94-03, 74SB94-04, 74SB111-00, 74SB111-03, 74SB111-03D, 74SB111-05	acetonitrile isobutyl alcohol	+/-	J/R
74SB93-04, 74SB94-03, 74SB94-04, 74SB111-00, 74SB111-03, 74SB111-03D, 74SB111-05	isobutyl alcohol acetone	+/-	J/R
74SB93-04, 74SB94-03, 74SB94-04, 74SB111-00, 74SB111-03, 74SB111-03D, 74SB111-05	acetonitrile methacrylonitrile	+/-	J/UJ
74SB112-05, 74SB113-05, 74VP1Cb/9-02, 74VP1Cb/9-04, 74VP1Aa/9-03, 74VP1Aa/9-04, 74SB87-04, 74SB112-04, 74SB113-04	acrolein isobutyl alcohol	+/-	J/R
74SB112-05, 74SB113-05, 74VP1Cb/9-02, 74VP1Cb/9-04, 74VP1Aa/9-03, 74VP1Aa/9-04, 74SB87-04	isobutyl alcohol acetone	+/-	J/R
74SB112-05, 74SB113-05, 74VP1Cb/9-02, 74VP1Cb/9-04, 74VP1Aa/9-03, 74VP1Aa/9-04, 74SB87-04	acrolein pentachloroethane	+/-	J/UJ
74SB112-04, 74SB113-04	isobutyl alcohol	+/-	J/R
74SB112-04, 74SB113-04	pentachloroethane	+/-	J/UJ
74SB112-04, 74SB113-04	acetone	+	U at reported value
74SB111-00, 74SB111-03, 74SB111-05, 74VP1Cb/9-04	2-butanone	+	U at reported value
74SB111-03, 74SB111-03D	acetone	+	J
74SB113-05	all results	+	J/UJ
74SB113-05RA	all results	+/-	R

LL PAH

Sample ID	Compound	Results	Q flag
No qualifications			

Summary of Data Qualifications, continued

DRO/GRO

Sample ID	Compound	Results	Q flag
74SB113-05	GRO	+	J

Metals

Sample ID	Analyte	Results	Q flag
74SB93-04, 74SB94-03, 74SB94-04	arsenic	>MDL up to RL	U

Glossary of Qualification Flags and Abbreviations

Qualification Flags (Q-Flags)

U	not detected above the reported sample quantitation limit
J	estimated value
UJ	reported quantitation limit is qualified as estimated
N	analyte has been tentatively identified
JN	analyte has been tentatively identified, estimated value
R	result is rejected; the presence or absence of the analyte cannot be verified

Method/Preparation/Field QC Blank Qualification Flags (Q-Flags)

Organic Methods

NA	The sample result for the blank contaminant is greater than the RL (2X sample RL for common laboratory contaminants) when the blank value is less than the RL. The sample result for the blank contaminant is not qualified with any blank qualifiers.
U*	The sample result for the blank contaminant is less than the RL (2X sample RL for common laboratory contaminants) but greater than the MDL when the blank value is less than the RL. The sample result for the blank contaminant is qualified as non-detect U at the reported concentration.
RL**	The sample result for the blank contaminant is less than the RL (2X sample RL for common laboratory contaminants) but greater than the MDL when the blank value is less than the RL. The sample result for the blank contaminant is changed to the RL and qualified as non-detect U.

* This guideline is used when the laboratory is reporting non-detects to the MDL. ** This guideline is used when the laboratory is reporting non-detects to the RL.

Inorganic Methods

ICB/CCB/PB Action:

No Action -	The sample result is greater than the RL and greater than ten times (10X) the blank value.
U -	The sample result is greater than or equal to the MDL but less than or equal to the RL, result is reported as non-detect at the reported concentration, when the ICB/CCB/PB result is less or greater than the RL.

Glossary of Qualification Flags and Abbreviations, continued

R -	Sample result is greater than the RL and less than the ICB/CCB/PB value when the ICB/CCB/PB value is greater than the RL.
J -	Sample result is greater than the ICB/CCB/PB value but less than 10X the ICB/CCB/PB value when ICB/CCB/PB value is greater than the RL.
J/UJ -	Sample result is less than 10X RL when blank result is below the negative RL.

Field QC Blank action:

Note – Use field blanks to qualify data only if field blank results are greater than prep blank results.
Do not use rinsate blank associated with soils to qualify water samples and vice versa.

No Action -	The sample result is greater than the RL and greater than ten times (10X) the blank value.
U -	The sample result is greater than or equal to the MDL but less than or equal to the RL, result is reported as non-detect at the reported concentration, when the FB result is less or greater than the RL.
R -	Sample result is greater than the RL and less than the FB value when the FB value is greater than the RL.
J -	Sample result is greater than the FB value but less than 10X the FB value when FB value is greater than the RL.

General Abbreviations

RL	reporting limit
IDL	instrument detection limit
MDL	method detection limit
CRDL	contract required detection limit
CRQL	contract required quantitation limit
+	positive result
-	non-detect result

TEST AMERICA SAVANNAH SDG 36517-3

DataQual

Environmental Services, LLC

Michael Baker, Jr., Inc.
Airside Business Park
100 Airside Drive
Moon Township, PA 15108

July 16, 2008
SDG# SWMU36517-3, Test America-Savannah
NAPR SWMU74, Puerto Rico

Dear Mr. Kimes,

The following Data Validation report is provided as requested for the parameters noted in the table below for SDG # SWMU36517-3. The data validation was performed in accordance with the SW-846 methods utilized by the laboratory, the Region II Standard Operating Procedures for the Validation of Organic Data Acquired Using SW-846 Methods (8260B-Rev 2, January 2006- SOP #HW-24 and 8270D-Rev 3, October 2006- SOP #HW-22), and professional judgment. Region II has not developed a validation checklist SOP for the methods used to assess the inorganic methods in this SDG (SW-846 methods 6020B, 7470A) or the organic methods for hydrocarbons (SW-846 methods 8015_DRO and 8015_GRO). Therefore, alternative worksheets were provided. Region II flagging conventions were used. All areas of concern are discussed in the body of the report and a summary of data qualifications is provided.

Sample ID	Lab ID	Matrix	VOA App IX	LL PAH	DRO/GRO	GRO	TMetals	DMetals
74GW57	680-36517-11	water	X		X		X	X
74GW09	680-36517-12	water		X	X		X	X
74GW26	680-36517-14	water			X		X	
74TB11	680-36517-40	water	X			X		
74TB12	680-36517-41	water	X			X		

The following quality control samples were provided with this SDG: samples 74TB11, and 74TB12-trip blanks.

The samples were evaluated based on the following criteria:

- Data Completeness *
- Sample Condition *
- Technical Holding Times *
- GC/MS Tuning *
- GC Performance *
- Initial/Continuing Calibrations
- ICSA/ICSAB Standards
- CRDL Standards *
- Blanks

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- Internal Standards *
- Surrogate Recoveries *
- Laboratory Control Samples *
- Matrix Spike Recoveries NA
- Matrix Duplicate RPDs NA
- Serial Dilutions *
- Field Duplicates NA
- Identification/Quantitation *
- Reporting Limits *
- Tentatively Identified Compounds NA

* - indicates that qualifications were not required based on this criteria

Overall Evaluation of Data/Potential Usability Issues

A summary of qualifications applied to the sample results are noted below for the fractions validated. Specific details regarding qualification of the data are addressed in the Specific Evaluation section of this narrative. If an issue is not addressed there were no actions required based on unmet quality criteria. When more than one qualifier is associated with a compound/analyte the validator has chosen the qualifier that best indicates possible bias in the results and flagged the data accordingly. However, information regarding all quality control issues is provided in the body of the report and on the qualification summary page. Please note that the reviewer added an F to the sample ID to indicate dissolved metals analysis when necessary.

VOA

The continuing calibration exhibited some compounds with low RRF values, which resulted in qualifying non-detected values as rejected for these compounds. Due to high %D values some compounds were qualified as estimated.

PAH

No qualifications to the data were required.

DRO/GRO

No qualifications to the data were required.

Metals

The ICSAB standards exhibited non-compliant recoveries above the QC limit for the analyte zinc. Based on Region II guidelines all positive results for zinc in the samples were qualified as estimated J.

Blank contamination was noted and qualification was required in the samples in this SDG.

Specific Evaluation of Data

Data Completeness

The SDG was received complete and intact. Resubmissions were not required. Clarification questions were asked of the laboratory regarding the metals fraction. A copy of the e-mail correspondence is included in the validation worksheets. Clarification questions were asked of the laboratory regarding the DRO and GRO fractions. A copy of the e-mail correspondence is included in the project file.

Technical Holding Times

According to chain of custody records, sampling was performed on 05/06-07/08 and samples were received at the laboratory 05/08/08. All sample preparation and analysis was performed within Region II and/or method holding time requirements.

Initial/Continuing Calibration

VOA

Calibration standards exhibited RRFs and %Ds that were non-compliant. A summary of these non-compliances and affected samples are noted in the following table. Sample results are qualified as indicated.

Standard ID	Compound(s)	RRF, %RSD, %D	Samples	Q Flag
CC 05/14/08	acrolein	0.02622	74TB12	J/R
	iodomethane	30.8%		J/UJ
	acrylonitrile	56.3%		
	pentachloroethane	87.6%		
	bromomethane	20.4%		
	chloroethane	31.5%		
	trichlorofluoromethane	22.3%		
	cis-1,3-dichloropropene	20.8%		
CC 05/13/08	acrolein	0.02624	74GW57, 74TB11	J/R
	acrylonitrile	53.5%		J/UJ
	pentachloroethane	76.0%		
	dichlorodifluoromethane	20.3%		
	bromomethane	39.5%		
	vinyl acetate	28.0%		
	cis-1,3-dichloropropene	23.7%		
	trans-1,3-dichloropropene	20.9%		

ICSA/ICSAB Standards

Metals

The ICSAB standards associated with the metals analysis exhibited non-compliant recoveries above the upper QC limit for the analyte zinc (132%/129%). Based on Region II guidelines, reported positive results for zinc were qualified as estimated J in all samples.

Blanks

Metals

Associated blanks exhibited contamination as noted in the following table. The laboratory reported non-detect results to the MDL for this project. Therefore, the blank flagging actions were modified to take this into consideration. Please see the Glossary of Qualification Flags and Abbreviations for details.

Blank ID	Analyte	Concentration	Action Level	Q Flag
PBW1 – total	arsenic	0.3886J ug/L	>MDL up to RL	U
	copper	3.8175J ug/L	>MDL up to RL	U
	tin	1.0950J ug/L	>MDL up to RL	U
	vanadium	0.8615J ug/L	>MDL up to RL	U
PBW1 – dissolved	copper	1.3010J ug/L	>MDL up to RL	U
ICB	antimony	0.07684J ug/L	>MDL up to RL	U
CCB (total)	beryllium	0.024J ug/L	>MDL up to RL	U
	silver	0.021J ug/L	>MDL up to RL	U
FB01	lead	0.38J ug/L	>MDL up to RL	U

Associated samples and required qualifications are noted in the following table.

Sample ID	Analyte	Q Flag
all samples >MDL up to RL	antimony	U
all total samples >MDL up to RL	arsenic	U
74GW26, 74GW09F	copper	U
all total samples >MDL up to RL & 74GW34F	tin	U
74GW34, 74GW26	vanadium	U
74GW57	beryllium	U
74GW57	silver	U
74GW09, 74GW34	lead	U

A summary of qualifications required is provided on the following page. Please do not hesitate to contact DataQual ES with any questions regarding this validation report.

Sincerely,

Laura Maschhoff
President

Jacqueline Cleveland
Vice President

Summary of Data Qualifications

VOA

Sample ID	Compound	Results	Q flag
74TB12	acrolein	+/-	J/R
74TB12	iodomethane acrylonitrile pentachloroethane bromomethane chloroethane trichlorofluoromethane cis-1,3-dichloropropene	+/-	J/UJ
74GW57, 74TB11	acrolein	+/-	J/R
74GW57, 74TB11	acrylonitrile pentachloroethane dichlorodifluoromethane bromomethane vinyl acetate cis-1,3-dichloropropene trans-1,3-dichloropropene	+/-	J/UJ

PAH

Sample ID	Compound	Results	Q flag
No qualifications required.			

DRO/GRO

Sample ID	Compound	Results	Q flag
No qualifications required			

Metals

Sample ID	Analyte	Results	Q flag
all samples	zinc	+	J
all samples >MDL up to RL	antimony	+ >MDL up to RL	U
all total samples >MDL up to RL	arsenic	+ >MDL up to RL	U
74GW26, 74GW09F	copper	+ >MDL up to RL	U
all total samples >MDL up to RL & 74GW34F	tin	+ >MDL up to RL	U
74GW34, 74GW26	vanadium	+ >MDL up to RL	U
74GW57	beryllium	+ >MDL up to RL	U
74GW57	silver	+ >MDL up to RL	U
74GW09, 74GW34	lead	+ >MDL up to RL	U

Glossary of Qualification Flags and Abbreviations

Qualification Flags (Q-Flags)

U	not detected above the reported sample quantitation limit
J	estimated value
UJ	reported quantitation limit is qualified as estimated
N	analyte has been tentatively identified
JN	analyte has been tentatively identified, estimated value
R	result is rejected; the presence or absence of the analyte cannot be verified

Method/Preparation/Field QC Blank Qualification Flags (Q-Flags)

Organic Methods

NA	The sample result for the blank contaminant is greater than the RL (2X sample RL for common laboratory contaminants) when the blank value is less than the RL. The sample result for the blank contaminant is not qualified with any blank qualifiers.
U*	The sample result for the blank contaminant is less than the RL (2X sample RL for common laboratory contaminants) but greater than the MDL when the blank value is less than the RL. The sample result for the blank contaminant is qualified as non-detect U at the reported concentration.
RL**	The sample result for the blank contaminant is less than the RL (2X sample RL for common laboratory contaminants) but greater than the MDL when the blank value is less than the RL. The sample result for the blank contaminant is changed to the RL and qualified as non-detect U.

* This guideline is used when the laboratory is reporting non-detects to the MDL. ** This guideline is used when the laboratory is reporting non-detects to the RL.

Inorganic Methods

ICB/CCB/PB Action:

No Action -	The sample result is greater than the RL and greater than ten times (10X) the blank value.
U -	The sample result is greater than or equal to the MDL but less than or equal to the RL, result is reported as non-detect at the reported concentration, when the ICB/CCB/PB result is less or greater than the RL.

Glossary of Qualification Flags and Abbreviations, continued

R -	Sample result is greater than the RL and less than the ICB/CCB/PB value when the ICB/CCB/PB value is greater than the RL.
J -	Sample result is greater than the ICB/CCB/PB value but less than 10X the ICB/CCB/PB value when ICB/CCB/PB value is greater than the RL.
J/UJ -	Sample result is less than 10X RL when blank result is below the negative RL.

Field QC Blank action:

Note – Use field blanks to qualify data only if field blank results are greater than prep blank results.
Do not use rinsate blank associated with soils to qualify water samples and vice versa.

No Action -	The sample result is greater than the RL and greater than ten times (10X) the blank value.
U -	The sample result is greater than or equal to the MDL but less than or equal to the RL, result is reported as non-detect at the reported concentration, when the FB result is less or greater than the RL.
R -	Sample result is greater than the RL and less than the FB value when the FB value is greater than the RL.
J -	Sample result is greater than the FB value but less than 10X the FB value when FB value is greater than the RL.

General Abbreviations

RL	reporting limit
IDL	instrument detection limit
MDL	method detection limit
CRDL	contract required detection limit
CRQL	contract required quantitation limit
+	positive result
-	non-detect result

TEST AMERICA SAVANNAH SDG 36517-5

DataQual

Environmental Services, LLC

Michael Baker, Jr., Inc.
Airside Business Park
100 Airside Drive
Moon Township, PA 15108

July 30, 2008
SDG# SWMU36517-5, Test America-Savannah
NAPR Puerto Rico

Dear Mr. Kimes,

The following Data Validation report is provided as requested for the parameters noted in the table below for SDG # SWMU36517-5. The data validation was performed in accordance with the SW-846 methods utilized by the laboratory, the Region II Standard Operating Procedures for the Validation of Organic Data Acquired Using SW-846 Methods (8260B-Rev 2, January 2006- SOP #HW-24), and professional judgment. Region II has not developed a validation checklist SOP for the methods used to assess the inorganic methods in this SDG (SW-846 methods 6020B, 7470A) or the organic methods for hydrocarbons (SW-846 methods 8015_DRO and 8015_GRO). Therefore, alternative worksheets were provided. Region II flagging conventions were used. All areas of concern are discussed in the body of the report and a summary of data qualifications is provided.

Sample ID	Lab ID	Matrix	VOA App IX	DRO/GRO	Metals
ER06	680-36517-43	water	X	X	X
ER07	680-36517-44	water	X	X	X
ER08	680-36517-45	water	X	X	X
ER09	680-36517-46	water	X	X	X
ER10	680-36517-47	water	X	X	X

The samples were evaluated based on the following criteria:

- Data Completeness *
- Sample Condition *
- Technical Holding Times *
- GC/MS Tuning *
- GC Performance *
- Initial/Continuing Calibrations
- ICSA/ICSAB Standards
- CRDL Standards *
- Blanks *
- Internal Standards *
- Surrogate Recoveries *
- Laboratory Control Samples *
- Matrix Spike Recoveries NA

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- Matrix Duplicate RPDs NA
- Serial Dilutions *
- Field Duplicates NA
- Identification/Quantitation *
- Reporting Limits *
- Tentatively Identified Compounds NA

* - indicates that qualifications were not required based on this criteria

Overall Evaluation of Data/Potential Usability Issues

A summary of qualifications applied to the sample results are noted below for the fractions validated. Specific details regarding qualification of the data are addressed in the Specific Evaluation section of this narrative. If an issue is not addressed there were no actions required based on unmet quality criteria. Please note that the reviewer added an F to the sample ID to indicate dissolved metals analysis when necessary. When more than one qualifier is associated with a compound/analyte the validator has chosen the qualifier that best indicates possible bias in the results and flagged the data accordingly. However, information regarding all quality control issues is provided in the body of the report and on the qualification summary page.

VOA

The continuing calibrations exhibited some compounds with low RRF values, which resulted in qualifying non-detected values as rejected for these compounds. Due to high %D values, in the continuing calibrations, some compounds were qualified as estimated.

DRO/GRO

No qualification of the data was required.

Metals

The associated ICSA/ICSAB standards exhibited non-compliant recoveries for the analyte zinc. Positive results for this analyte were qualified as estimated in all samples.

Specific Evaluation of Data

Data Completeness

The SDG was received complete and intact. Resubmissions were not required. Clarification questions were asked of the laboratory regarding the metals fraction. A copy of the e-mail correspondence is included in the validation worksheets. Clarification

questions were asked of the laboratory regarding the GRO/DRO fraction. A copy of these e-mail correspondences is included in the project file.

Technical Holding Times

According to chain of custody records, sampling was performed on 05/03-07/08 and samples were received at the laboratory 05/08/08. All sample preparation and analysis was performed within Region II and/or method holding time requirements.

Initial/Continuing Calibration

VOA

Calibration standards exhibited RRFs and %Ds that were non-compliant. A summary of these non-compliances and affected samples are noted in the following table. Sample results are qualified as indicated.

Standard ID	Compound(s)	RRF, %RSD, %D	Samples	Q Flag
CC 05/14/08	acrolein	0.02622	ER06, ER07	J/R
	iodomethane	30.8%		J/UJ
	acrylonitrile	56.3%		
	pentachloroethane	87.6%		
	bromomethane	20.4%		
	chloromethane	31.5%		
	trichlorofluoromethane	22.3%		
	cis-1,3-dichloropropene	20.8%		
CC 05/16/08	acrolein	128.9%	ER08, ER09, ER10	J/R
	iodomethane	59.2%		J/UJ
	acetonitrile	33.6%		
	3-chloro-1-propene	23.7%		
	acrylonitrile	30.0%		
	2-chloro-1,3-butadiene	22.5%		
	pentachloroethane	79.8%		
	bromomethane	23.3%		
	chloroethane	37.1%		
	cis-1,3-dichloropropene	22.0%		
	trans-1,3-dichloropropene	20.4%		

ICSA/ICSAB Standards

Metals

The ICSAB standards associated with the metals analysis exhibited non-compliant recoveries above the upper QC limit for the analyte zinc (132%/129%). Based on Region II guidelines, reported positive results for zinc were qualified as estimated J in all samples.

A summary of qualifications required is provided on the following page. Please do not hesitate to contact DataQual ES with any questions regarding this validation report.

Sincerely,

Jacqueline Cleveland

Jacqueline Cleveland
Vice President

Summary of Data Qualifications

VOA

Sample ID	Compound	Results	Q flag
ER06, ER07	acrolein	+/-	J/R
ER06, ER07	iodomethane acrylonitrile pentachloroethane bromomethane chloromethane trichlorofluoromethane cis-1,3-dichloropropene	+/-	J/UJ
ER08, ER09, ER10	acrolein	+/-	J/R
ER08, ER09, ER10	iodomethane acetonitrile 3-chloro-1-propene acrylonitrile 2-chloro-1,3-butadiene pentachloroethane bromomethane chloroethane cis-1,3-dichloropropene trans-1,3-dichloropropene	+/-	J/UJ

DRO/GRO

Sample ID	Compound	Results	Q flag
No qualifications were required			

Metals

Sample ID	Analyte	Results	Q flag
all samples	zinc	+	J

Glossary of Qualification Flags and Abbreviations

Qualification Flags (Q-Flags)

U	not detected above the reported sample quantitation limit
J	estimated value
UJ	reported quantitation limit is qualified as estimated
N	analyte has been tentatively identified
JN	analyte has been tentatively identified, estimated value
R	result is rejected; the presence or absence of the analyte cannot be verified

Method/Preparation/Field QC Blank Qualification Flags (Q-Flags)

Organic Methods

NA	The sample result for the blank contaminant is greater than the RL (2X sample RL for common laboratory contaminants) when the blank value is less than the RL. The sample result for the blank contaminant is not qualified with any blank qualifiers.
U*	The sample result for the blank contaminant is less than the RL (2X sample RL for common laboratory contaminants) but greater than the MDL when the blank value is less than the RL. The sample result for the blank contaminant is qualified as non-detect U at the reported concentration.
RL**	The sample result for the blank contaminant is less than the RL (2X sample RL for common laboratory contaminants) but greater than the MDL when the blank value is less than the RL. The sample result for the blank contaminant is changed to the RL and qualified as non-detect U.

* This guideline is used when the laboratory is reporting non-detects to the MDL. ** This guideline is used when the laboratory is reporting non-detects to the RL.

Inorganic Methods

ICB/CCB/PB Action:

No Action -	The sample result is greater than the RL and greater than ten times (10X) the blank value.
U -	The sample result is greater than or equal to the MDL but less than or equal to the RL, result is reported as non-detect at the reported concentration, when the ICB/CCB/PB result is less or greater than the RL.

Glossary of Qualification Flags and Abbreviations, continued

R -	Sample result is greater than the RL and less than the ICB/CCB/PB value when the ICB/CCB/PB value is greater than the RL.
J -	Sample result is greater than the ICB/CCB/PB value but less than 10X the ICB/CCB/PB value when ICB/CCB/PB value is greater than the RL.
J/UJ -	Sample result is less than 10X RL when blank result is below the negative RL.

Field QC Blank action:

Note – Use field blanks to qualify data only if field blank results are greater than prep blank results.

Do not use rinsate blank associated with soils to qualify water samples and vice versa.

No Action -	The sample result is greater than the RL and greater than ten times (10X) the blank value.
U -	The sample result is greater than or equal to the MDL but less than or equal to the RL, result is reported as non-detect at the reported concentration, when the FB result is less or greater than the RL.
R -	Sample result is greater than the RL and less than the FB value when the FB value is greater than the RL.
J -	Sample result is greater than the FB value but less than 10X the FB value when FB value is greater than the RL.

General Abbreviations

RL	reporting limit
IDL	instrument detection limit
MDL	method detection limit
CRDL	contract required detection limit
CRQL	contract required quantitation limit
+	positive result
-	non-detect result

TEST AMERICA SAVANNAH SDG 36711-1

DataQual

Environmental Services, LLC

Michael Baker, Jr., Inc.
Airside Business Park
100 Airside Drive
Moon Township, PA 15108

August 4, 2008
SDG# SWMU36711-1, Test America-Savannah
NAPR SWMU 74, Puerto Rico

Dear Mr. Kimes,

The following Data Validation report is provided as requested for the parameters noted in the table below for SDG # SWMU36711-1. The data validation was performed in accordance with the SW-846 methods utilized by the laboratory, the Region II Standard Operating Procedures for the Validation of Organic Data Acquired Using SW-846 Methods (8260B-Rev 2, January 2006- SOP #HW-24 and 8270D-Rev 3, October 2006- SOP #HW-22), and professional judgment. Region II has not developed a validation checklist SOP for the methods used to assess the inorganic methods in this SDG (SW-846 methods 6020B, 7470A and 7471A) or the organic methods for hydrocarbons (SW-846 methods 8015_DRO and 8015_GRO). Therefore, alternative worksheets were provided. Region II flagging conventions were used. All areas of concern are discussed in the body of the report and a summary of data qualifications is provided.

Sample ID	Lab ID	Matrix	VOA App IX	LL PAH	DRO/GRO	GRO	Metals
74-SB95-03	680-36711-1	soil	X		X		X
74-SB95-04	680-36711-2	soil	X		X		X
74-SB96-03	680-36711-3	soil	X		X		X
74-SB96-03D	680-36711-4	soil	X		X		X
74-SB96-05	680-36711-5	soil	X		X		X
74-SB121-00	680-36711-6	soil	X		X		X
74-SB121-05	680-36711-7	soil	X		X		X
74-SB121-05D	680-36711-8	soil	X		X		X
74-VP1Ba/9-05	680-36711-9	soil	X	X	X		X
74-VP1Ba/9-05D	680-36711-10	soil	X	X	X		X
74-VP1Ba/9-09	680-36711-11	soil	X	X	X		X
74-VP3b/9-05	680-36711-12	soil	X	X	X		X
74-VP3b/9-07	680-36711-13	soil	X	X	X		X
74TB13	680-36711-14	water	X			X	
74-SB121-05 MS	680-36711-7MS	soil	X		X		X
74-SB121-05 MSD	680-36711-7MSD	soil	X		X		X

The following quality control samples were provided with this SDG: sample 74-SB96-03D-field duplicate of sample 74-SB96-03; sample 74-SB121-05D-field duplicate of sample 74-SB121-05; sample 74-VP1Ba/9-05D-field duplicate of sample 74-VP1Ba/9-05; and sample 74TB13-trip blank.

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The samples were evaluated based on the following criteria:

- Data Completeness *
- Sample Condition *
- Technical Holding Times *
- GC/MS Tuning *
- GC Performance *
- Initial/Continuing Calibrations
- ICSA/ICSAB Standards
- CRDL Standards *
- Blanks
- Internal Standards *
- Surrogate Recoveries
- Laboratory Control Samples *
- Matrix Spike Recoveries
- Matrix Duplicate RPDs
- Serial Dilutions *
- Field Duplicates
- Identification/Quantitation
- Reporting Limits *
- Tentatively Identified Compounds NA

* - indicates that qualifications were not required based on this criteria

Overall Evaluation of Data/Potential Usability Issues

A summary of qualifications applied to the sample results are noted below for the fractions validated. Specific details regarding qualification of the data are addressed in the Specific Evaluation section of this narrative. If an issue is not addressed there were no actions required based on unmet quality criteria. When more than one qualifier is associated with a compound/analyte the validator has chosen the qualifier that best indicates possible bias in the results and flagged the data accordingly. However, information regarding all quality control issues is provided in the body of the report and on the qualification summary page.

VOA

The initial and continuing calibration exhibited some compounds with low RRF values, which resulted in qualifying non-detected values as rejected for these compounds. Due to high %D values in the continuing calibrations, some compounds were qualified as estimated.

Blank contamination was noted in the method and QC blank associated with samples in this batch. Qualifications were added to the data.

LL PAH

No qualifications to the data were required.

DRO/GRO

One sample analyzed for GRO exhibited a high surrogate recovery. The GRO result in this sample was qualified as estimated J.

Metals

The ICSAB standards analyzed for the metals fraction exhibited non-compliant recoveries for the analyte zinc. All positive results for zinc in the samples were qualified as estimated J.

Blank contamination was noted and qualification was required in the samples in this SDG.

The associated matrix spikes exhibited non-compliant %Rs for two analytes for which qualifications were required. Positive and non-detect results for antimony and chromium were flagged as estimated J/UJ in the samples.

The submitted field duplicate pairs exhibited non-compliant RPDs for some analytes. Those analytes required qualification in the field duplicate pairs.

Specific Evaluation of Data

Data Completeness

The SDG was received complete and intact. Resubmissions were not required. Clarification questions were asked of the laboratory regarding the metals fraction. A copy of the e-mail correspondence is included in the validation worksheets. Clarification questions were asked of the laboratory regarding the DRO and GRO fractions. A copy of the e-mail correspondence is included in the project file.

Technical Holding Times

According to chain of custody records, sampling was performed on 05/13/08 and samples were received at the laboratory 05/14/08. All sample preparation and analysis was performed within Region II and/or method holding time requirements.

Initial/Continuing Calibration

VOA

Calibration standards exhibited RRFs and %Ds that were non-compliant. A summary of these non-compliances and affected samples are noted in the following table. Sample results are qualified as indicated.

Standard ID	Compound(s)	RRF, %RSD, %D	Samples	Q Flag
IC 05/12/08	acetonitrile isobutyl alcohol	0.0356 0.0211	74SB95-03, 74SB95-04, 74SB96-03, 74SB96-03D, 74SB96-05, 74SB121-00, 74-SB121-05, 74SB121-05D, 74-VP1Ba/9-05, 74-VP1Ba/9-05D	J/R
CC 05/15/08	acrolein isobutyl alcohol acetone acetonitrile	0.04881 0.02425 0.04211 92.5%	74SB95-03, 74SB95-04, 74SB96-03, 74SB96-03D, 74SB96-05, 74SB121-00, 74-SB121-05, 74SB121-05D, 74-VP1Ba/9-05, 74-VP1Ba/9-05D	J/R
	2-chloro-1,3-butadiene methacrylonitrile pentachloroethane	21.5% 25.9% 38.9%		J/UJ
IC 05/18/08	acrolein isobutyl alcohol	0.0496 0.0369	74-VP1Ba/9-09DL, 74VP3b/9-05	J/R
CC 05/20/08	isobutyl alcohol	0.03902	74-VP1Ba/9-09DL, 74VP3b/9-05	J/R
	iodomethane 3-chloro-1-propene pentachloroethane	37.6% 30.3% 38.4%		J/UJ
CC 05/22/08	acrolein acrylonitrile bromomethane chloroethane cis-1,3-dichloropropene trans-1,3-dichloropropene	24.3% 21.1% 24.1% 39.2% 22.1% 23.2%	74TB13	J/UJ
CC 05/27/08	isobutyl alcohol	0.02524	74-VP3b/9-07DL	J/R
	acetonitrile acetone	32.9% 55.9%		J/UJ

ICSA/ICSAB Standards

Metals

The associated ICSAB standards exhibited non-compliant recoveries above the upper QC limit for the analyte zinc (130%/128%). Based on Region II guidelines, reported positive results for zinc were qualified as estimated J in all samples.

Blanks

VOA

The associated method and/or QC blanks exhibited contamination as noted in the following table. Compounds for which there was no action required, are not included in the following table. Please note that the laboratory reported non-detect results down to the MDL for this project. Therefore, the blank flagging actions were modified as follows to take this into consideration. Positive results greater than the MDL but less than the CRQL are qualified as U at the reported concentration when affected by blank contamination.

Blank ID	Compound	Concentration	Reporting Limit	Action Level
Method Blank	acetone	610J ug/Kg	2000 ug/Kg	2X RL
FB01	2-butanone	0.69J ug/L	10 ug/L	2X RL

Associated samples and required qualifications are noted in the following table.

Sample ID	Compound	Q Flag
74-VP3b/9-05	acetone	U at reported value
74-VP1Ba/9-05, 74-VP1Ba/9-05D	2-butanone	U at reported value

Metals

Associated blanks exhibited contamination as noted in the following table. The laboratory reported non-detect results to the MDL for this project. Therefore, the blank flagging actions were modified to take this into consideration. Please see the Glossary of Qualification Flags and Abbreviations for details.

Blank ID	Analyte	Concentration	Action Level	Q Flag
CCB	antimony	0.09545J ug/L	>MDL up to RL	U
ER09	arsenic	0.52J ug/L	>MDL up to RL	U

* Field QC blank qualifications were made using QC blank tracking. Please note, when qualifying samples for CCB contamination, associated samples are those just prior to or just following a CCB. Therefore, not all analytes in all samples are flagged for CCB contamination.

Associated samples and required qualifications are noted in the following table.

Sample ID	Analyte	Q Flag
74SB121-00, , 74VP1Ba/9-05, 74VP1Ba/9-05D	antimony	U
74SB95-03, 74SB95-04, 74VP1Ba/9-09, 74VP3b/9-07	arsenic	U

Matrix Spike Recoveries

Metals

The matrix spikes of sample 74SB121-05 analyzed for the metals fraction exhibited non-compliant %R's for analytes that required qualification in the field samples. A summary of these non-compliances and affected samples are noted in the following table.

MS	Analytes	Samples	%R	Q Flag
74SB121-05	antimony	all samples	69%/63%	J/UJ
	chromium		123%/73%	J/UJ

Field Duplicates

Metals

The field duplicate pair of samples 74SB96-03 and 74SB96-03D exhibited a non-compliant RPD >120% for the analyte barium (137%) and the field duplicate pair of samples 74SB121-05 and 74SB121-05D exhibited non-compliant RPD >120% for the analyte barium (141%,). Therefore, barium in both field duplicate pairs was rejected R. The field duplicate pair of samples 74SB121-05 and 74SB121-05D exhibited a non-compliant RPD >35% but <120% for the analyte lead (54%) and the field duplicate pair of samples 74VP1Ba/9-05 and 74VP1Ba/9-05D exhibited a non-compliant RPD >35% but <120% for the analyte lead (37%). Therefore, lead in both field duplicate pairs was qualified as estimated J.

Identification/Quantitation

VOA

Samples 74-VP1Ba/9-09 and 74-VP3b/9-07 were re-analyzed due to non-compliant surrogate and internal standard area recoveries. The re-analysis of these samples was performed at a dilution due to evidence of matrix effect; compliant results were exhibited. Therefore, the initial analysis was not used in favor of the re-analysis.

A summary of qualifications required is provided on the following page. Please do not hesitate to contact DataQual ES with any questions regarding this validation report.

Sincerely,

Laura Maschhoff
President

Jacqueline Cleveland
Vice-President

Summary of Data Qualifications

VOA

Sample ID	Compound	Results	Q flag
74SB95-03, 74SB95-04, 74SB96-03, 74SB96-03D, 74SB96-05, 74SB121-00, 74-SB121-05, 74SB121-05D, 74-VP1Ba/9-05, 74-VP1Ba/9-05D	acetonitrile isobutyl alcohol	+/-	J/R
74SB95-03, 74SB95-04, 74SB96-03, 74SB96-03D, 74SB96-05, 74SB121-00, 74-SB121-05, 74SB121-05D, 74-VP1Ba/9-05, 74-VP1Ba/9-05D	acrolein isobutyl alcohol acetone acetonitrile	+/-	J/R
74SB95-03, 74SB95-04, 74SB96-03, 74SB96-03D, 74SB96-05, 74SB121-00, 74-SB121-05, 74SB121-05D, 74-VP1Ba/9-05, 74-VP1Ba/9-05D	2-chloro-1,3-butadiene methacrylonitrile pentachloroethane	+/-	J/UJ
74-VP1Ba/9-09DL, 74VP3b/9-05	acrolein isobutyl alcohol	+/-	J/R
74-VP1Ba/9-09DL, 74VP3b/9-05	isobutyl alcohol	+/-	J/R
74-VP1Ba/9-09DL, 74VP3b/9-05	iodomethane 3-chloro-1-propene pentachloroethane	+/-	J/UJ
74TB13	acrolein acrylonitrile bromomethane chloroethane cis-1,3-dichloropropene trans-1,3-dichloropropene	+/-	J/UJ
74-VP3b/9-07DL	isobutyl alcohol	+/-	J/R
74-VP3b/9-07DL	acetonitrile acetone	+/-	J/UJ
74-VP3b/9-05	acetone	+	U at reported value
74-VP1Ba/9-05, 74-VP1Ba/9-05D	2-butanone	+	U at reported value
74-VP1Ba/9-09, 74-VP3b/9-07	all results	+/-	R

LL PAH

Sample ID	Compound	Results	Q flag
No qualifications			

Summary of Data Qualifications, continued

DRO/GRO

Sample ID	Compound	Results	Q flag
74VP3B/9-07	GRO	+	J

Metals

Sample ID	Analyte	Results	Q flag
all samples	zinc	+	J
74SB121-00, , 74VP1Ba/9-05, 74VP1Ba/9-05D	antimony	+ >MDL up to RL	U
74SB95-03, 74SB95-04, 74VP1Ba/9-09, 74VP3b/9-07	arsenic	+ >MDL up to RL	U
all samples	antimony chromium	+/-	J/UJ
74SB96-03, 74SB96-03D, 74SB121-05, 74SB121-05D	barium	+	R
74SB121-05, 74SB121-05D, 74VP1Ba/9-05, 74VP1Ba/9-05D	lead	+	J

Glossary of Qualification Flags and Abbreviations

Qualification Flags (Q-Flags)

U	not detected above the reported sample quantitation limit
J	estimated value
UJ	reported quantitation limit is qualified as estimated
N	analyte has been tentatively identified
JN	analyte has been tentatively identified, estimated value
R	result is rejected; the presence or absence of the analyte cannot be verified

Method/Preparation/Field QC Blank Qualification Flags (Q-Flags)

Organic Methods

NA	The sample result for the blank contaminant is greater than the RL (2X sample RL for common laboratory contaminants) when the blank value is less than the RL. The sample result for the blank contaminant is not qualified with any blank qualifiers.
U*	The sample result for the blank contaminant is less than the RL (2X sample RL for common laboratory contaminants) but greater than the MDL when the blank value is less than the RL. The sample result for the blank contaminant is qualified as non-detect U at the reported concentration.
RL**	The sample result for the blank contaminant is less than the RL (2X sample RL for common laboratory contaminants) but greater than the MDL when the blank value is less than the RL. The sample result for the blank contaminant is changed to the RL and qualified as non-detect U.

* This guideline is used when the laboratory is reporting non-detects to the MDL. ** This guideline is used when the laboratory is reporting non-detects to the RL.

Inorganic Methods

ICB/CCB/PB Action:

No Action -	The sample result is greater than the RL and greater than ten times (10X) the blank value.
U -	The sample result is greater than or equal to the MDL but less than or equal to the RL, result is reported as non-detect at the reported concentration, when the ICB/CCB/PB result is less or greater than the RL.

Glossary of Qualification Flags and Abbreviations, continued

R -	Sample result is greater than the RL and less than the ICB/CCB/PB value when the ICB/CCB/PB value is greater than the RL.
J -	Sample result is greater than the ICB/CCB/PB value but less than 10X the ICB/CCB/PB value when ICB/CCB/PB value is greater than the RL.
J/UJ -	Sample result is less than 10X RL when blank result is below the negative RL.

Field QC Blank action:

Note – Use field blanks to qualify data only if field blank results are greater than prep blank results.
Do not use rinsate blank associated with soils to qualify water samples and vice versa.

No Action -	The sample result is greater than the RL and greater than ten times (10X) the blank value.
U -	The sample result is greater than or equal to the MDL but less than or equal to the RL, result is reported as non-detect at the reported concentration, when the FB result is less or greater than the RL.
R -	Sample result is greater than the RL and less than the FB value when the FB value is greater than the RL.
J -	Sample result is greater than the FB value but less than 10X the FB value when FB value is greater than the RL.

General Abbreviations

RL	reporting limit
IDL	instrument detection limit
MDL	method detection limit
CRDL	contract required detection limit
CRQL	contract required quantitation limit
+	positive result
-	non-detect result

TEST AMERICA SAVANNAH SDG 36766-1

DataQual

Environmental Services, LLC

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100 Airside Drive
Moon Township, PA 15108

August 6, 2008
SDG# SWMU36766-1, Test America-Savannah
NAPR SWMU 74, Puerto Rico

Dear Mr. Kimes,

The following Data Validation report is provided as requested for the parameters noted in the table below for SDG # SWMU36766-1. The data validation was performed in accordance with the SW-846 methods utilized by the laboratory, the Region II Standard Operating Procedures for the Validation of Organic Data Acquired Using SW-846 Methods (8260B-Rev 2, January 2006- SOP #HW-24 and 8270D-Rev 3, October 2006- SOP #HW-22), and professional judgment. Region II has not developed a validation checklist SOP for the methods used to assess the inorganic methods in this SDG (SW-846 methods 6020B and 7471A). Therefore, alternative worksheets were provided. Region II flagging conventions were used. All areas of concern are discussed in the body of the report and a summary of data qualifications is provided.

Sample ID	Lab ID	Matrix	VOA App IX	LL PAH	DRO/GRO	DRO	GRO	Metals
74SB114-04	680-36766-1	soil	X		X			X
74SB114-05	680-36766-2	soil	X	X	X			X
74SB115-03	680-36766-3	soil	X		X			X
74SB115-05	680-36766-4	soil	X		X			X
74SB116-04	680-36766-5	soil	X		X			X
74SB116-05	680-36766-6	soil	X		X			X
74SB116-05D	680-36766-7	soil	X		X			X
74SB117-03	680-36766-8	soil	X		X			X
74SB117-04	680-36766-9	soil	X		X			X
74SB118-03	680-36766-10	soil	X		X			X
74SB118-05	680-36766-11	soil	X		X			X
74SB119-04	680-36766-12	soil	X		X			X
74SB119-05	680-36766-13	soil	X		X			X
74SB120-04	680-36766-14	soil	X		X			X
74SB120-05	680-36766-15	soil	X		X			XX
74SB126-02	680-36766-16	soil	X		X			X
74SB126-05	680-36766-17	soil	X		X			X
74SB126-05D	680-36766-18	soil	X		X			X
74SB127-03	680-36766-19	soil	X		X			X
74SB127-04	680-36766-20	soil	X		X			X
74SB127-04MS	680-36766-20MS	soil				X		
74SB127-04MSD	680-36766-20MSD	soil				X		
74SB118-03MS	680-36766-10MS	soil						X
74SB118-03MSD	680-36766-10MSD	soil						X
74TB14	680-36766-29	water	X				X	

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The following quality control samples were provided with this SDG: sample 74SB116-05D-field duplicate of sample 74SB116-05; sample 74SB126-05D-field duplicate of sample 74SB126-05; and sample 74TB14-trip blank.

The samples were evaluated based on the following criteria:

• Data Completeness	*
• Sample Condition	*
• Technical Holding Times	*
• GC/MS Tuning	*
• GC Performance	*
• Initial/Continuing Calibrations	
• ICSA/ICSAB Standards	
• CRDL Standards	*
• Blanks	
• Internal Standards	*
• Surrogate Recoveries	*
• Laboratory Control Samples	*
• Matrix Spike Recoveries	
• Matrix Duplicate RPDs	*
• Serial Dilutions	
• Field Duplicates	
• Identification/Quantitation	*
• Reporting Limits	*
• Tentatively Identified Compounds	NA

* - indicates that qualifications were not required based on this criteria

Overall Evaluation of Data/Potential Usability Issues

A summary of qualifications applied to the sample results are noted below for the fractions validated. Specific details regarding qualification of the data are addressed in the Specific Evaluation section of this narrative. If an issue is not addressed there were no actions required based on unmet quality criteria. When more than one qualifier is associated with a compound/analyte the validator has chosen the qualifier that best indicates possible bias in the results and flagged the data accordingly. However, information regarding all quality control issues is provided in the body of the report and on the qualification summary page.

VOA

The initial and continuing calibration exhibited some compounds with low RRF values, which resulted in qualifying non-detected values as rejected for these compounds. Due to

high %D values in the continuing calibrations, some compounds were qualified as estimated.

Blank contamination was noted in the method and QC blank associated with samples in this batch. Qualifications were added to the data.

LL PAH

No qualifications to the data were required.

DRO/GRO

No qualifications to the data were required.

Metals

The ICSAB standard exhibited non-compliant recoveries above the QC limits for the analyte zinc. all reported positive results for zinc were qualified as estimated J.

Blank contamination was noted and qualification was required in the samples in this SDG.

The associated matrix spikes exhibited a non-compliant %R for one analyte for which qualifications were required. Positive and non-detect results for antimony were flagged as estimated J/UJ in the samples.

The associated serial dilution exhibited a non-compliant RPD for one analyte for which qualifications were required. Positive and non-detect results for zinc required qualification as estimated J/UJ in the samples.

The field duplicate pairs exhibited non-compliant RPDs for several analytes. These analytes were qualified in the field duplicate pairs based on Region II guidelines.

Specific Evaluation of Data

Data Completeness

The SDG was received complete and intact. Resubmissions were not required. Clarification questions were asked of the laboratory regarding the metals fraction. A copy of the e-mail correspondence is included in the validation worksheets. Clarification questions were asked of the laboratory regarding the DRO and GRO fractions. A copy of the e-mail correspondence is included in the project file.

Technical Holding Times

According to chain of custody records, sampling was performed on 05/13-14/08 and samples were received at the laboratory 05/15/08. All sample preparation and analysis was performed within Region II and/or method holding time requirements.

Initial/Continuing Calibration

VOA

Calibration standards exhibited RRFs and %Ds that were non-compliant. A summary of these non-compliances and affected samples are noted in the following table. Sample results are qualified as indicated.

Standard ID	Compound(s)	RRF, %RSD, %D	Samples	Q Flag
CC 05/16/08	isobutyl alcohol acetone	0.02477 0.03866	74SB114-04, 74SB114-05, 74SB115-03, 74SB115-05, 74SB116-04, 74SB116-05, 74SB116-05D, 74SB117-03, 74SB117-04, 74SB118-03, 74SB118-05, 74SB119-04, 74SB119-05, 74SB120-04, 74SB120-05	J/R
	acrolein iodomethane pentachloroethane 2-butanone 4-methyl-2-pentanone 2-hexanone	22.1% 22.7% 31.8% 26.3% 21.6% 26.7%		J/UJ
IC 05/18/08	acrolein isobutyl alcohol	0.0496 0.0369	74SB126-02, 74SB126-05, 74SB126-05D, 74SB127-03, 74SB127-04	J/R
CC 05/19/08	isobutyl alcohol	0.03525	74SB126-02, 74SB126-05, 74SB126-05D, 74SB127-03, 74SB127-04	J/R
	pentachloroethane	23.5%		J/UJ
CC 05/23/08	acrylonitrile pentachloroethane bromomethane cis-1,3-dichloropropene trans-1,3-dichloropropene 1,2,3-trichloropropane 1,2-dibromo-3-chloropropane	21.7% 73.5% 33.6% 25.5% 29.3% 21.6% 34.0%	74TB14	J/UJ

ICSA/ICSAB Standards

Metals

The associated ICSAB standards exhibited non-compliant recoveries above than the upper QC limit for the analyte zinc (130%/128%). Based on Region II guidelines, reported positive results for zinc were qualified as estimated J in all samples.

Blanks

VOA

The associated method and/or QC blanks exhibited contamination as noted in the following table. Compounds for which there was no action required, are not included in the following table. Please note that the laboratory reported non-detect results down to the MDL for this project. Therefore, the blank flagging actions were modified as follows to take this into consideration. Positive results greater than the MDL but less than the CRQL are qualified as U at the reported concentration when affected by blank contamination.

Blank ID	Compound	Concentration	Reporting Limit	Action Level
Method Blank	acetone	5.2J ug/Kg	50 ug/Kg	2X RL
FB01	2-butanone	0.69J ug/L	10 ug/L	2X RL

Associated samples and required qualifications are noted in the following table.

Sample ID	Compound	Q Flag
74SB126-02, 74SB126-05, 74SB126-05D, 74SB127-03, 74SB127-04	acetone	U at reported value
74SB114-04, 74SB126-02	2-butanone	U at reported value

Metals

Associated blanks exhibited contamination as noted in the following table. The laboratory reported non-detect results to the MDL for this project. Therefore, the blank flagging actions were modified to take this into consideration. Please see the Glossary of Qualification Flags and Abbreviations for details.

Blank ID	Analyte	Concentration	Action Level	Q Flag
CCB	antimony	0.08812J ug/L	>MDL up to RL	U
ER09	arsenic	0.052J ug/L	>MDL up to RL	U
	copper	3.9J ug/L	>MDL up to RL	U

* Field QC blank qualifications were made using QC blank tracking. Please note, when qualifying samples for CCB contamination, associated samples are those just prior to or just following a CCB. Therefore, not all analytes in all samples are flagged for CCB contamination.

Associated samples and required qualifications are noted in the following table.

Sample ID	Analyte	Q Flag
all samples > MDL but < RL	antimony	U
74SB127-04	arsenic	U
74SB127-04	copper	U

Matrix Spike Recoveries

Metals

The matrix spikes of sample 74SB118-03 exhibited non-compliant %Rs for analytes that required qualification in the field samples. A summary of these non-compliances and affected samples are noted in the following table.

MS	Analytes	Samples	%R	Q Flag
74SB118-03	antimony	all samples	62%/53%	J/UJ

Serial Dilutions

Metals

The serial dilution of sample 74SB118-03 exhibited a non-compliant %D for zinc that required qualification in the field samples. A summary of this non-compliance and affected samples are noted in the following table.

SD	Analytes	Samples	RPD	Q Flag
74SB118-03	zinc	all samples	42.6%	J/UJ

Field Duplicates

Metals

The field duplicate pair of samples 74SB116-05 and 74SB116-05D exhibited a non-compliant RPD >35% but <120% for the analyte cobalt (50%) and field duplicate pair of samples 74SB126-05 and 74SB126-05D exhibited non-compliant RPDs >35% but <120% for the analytes barium (53%,), cobalt (78%), nickel (38%) and zinc (57%). These analytes were flagged as estimated J in the respective field duplicate pairs.

A summary of qualifications required is provided on the following page. Please do not hesitate to contact DataQual ES with any questions regarding this validation report.

Sincerely,

Laura Maschhoff
President

Jacqueline Cleveland
Vice-President

Summary of Data Qualifications

VOA

Sample ID	Compound	Results	Q flag
74SB114-04, 74SB114-05, 74SB115-03, 74SB115-05, 74SB116-04, 74SB116-05, 74SB116-05D, 74SB117-03, 74SB117-04, 74SB118-03, 74SB118-05, 74SB119-04, 74SB119-05, 74SB120-04, 74SB120-05	isobutyl alcohol acetone	+/-	J/R
74SB114-04, 74SB114-05, 74SB115-03, 74SB115-05, 74SB116-04, 74SB116-05, 74SB116-05D, 74SB117-03, 74SB117-04, 74SB118-03, 74SB118-05, 74SB119-04, 74SB119-05, 74SB120-04, 74SB120-05	acrolein iodomethane pentachloroethane 2-butanone 4-methyl-2-pentanone 2-hexanone	+/-	J/UJ
74SB126-02, 74SB126-05, 74SB126-05D, 74SB127-03, 74SB127-04	acrolein isobutyl alcohol	+/-	J/R
74SB126-02, 74SB126-05, 74SB126-05D, 74SB127-03, 74SB127-04	isobutyl alcohol	+/-	J/R
74SB126-02, 74SB126-05, 74SB126-05D, 74SB127-03, 74SB127-04	pentachloroethane	+/-	J/UJ
74TB14	acrylonitrile pentachloroethane bromomethane cis-1,3-dichloropropene trans-1,3-dichloropropene 1,2,3-trichloropropane 1,2-dibromo-3-chloropropane	+/-	J/UJ
74SB126-02, 74SB126-05, 74SB126-05D, 74SB127-03, 74SB127-04	acetone	+	U at reported value
74SB114-04, 74SB126-02	2-butanone	+	U at reported value

LL PAH

Sample ID	Compound	Results	Q flag
No qualifications			

DRO/GRO

Sample ID	Compound	Results	Q flag
No qualifications were required			

Summary of Data Qualifications, continued

Metals

Sample ID	Analyte	Results	Q flag
all samples	zinc	+	J
all samples	antimony	+ >MDL up to RL	U
74SB127-04	arsenic	+ >MDL up to RL	U
74SB127-04	copper	+ >MDL up to RL	U
all samples	antimony	+/-	J/UJ
all samples	zinc	+/-	J/UJ
74SB116-05, 74SB116-05D	cobalt	+	J
74SB126-05, 74SB126-05D	barium cobalt nickel zinc	+	J

Glossary of Qualification Flags and Abbreviations

Qualification Flags (Q-Flags)

U	not detected above the reported sample quantitation limit
J	estimated value
UJ	reported quantitation limit is qualified as estimated
N	analyte has been tentatively identified
JN	analyte has been tentatively identified, estimated value
R	result is rejected; the presence or absence of the analyte cannot be verified

Method/Preparation/Field QC Blank Qualification Flags (Q-Flags)

Organic Methods

NA	The sample result for the blank contaminant is greater than the RL (2X sample RL for common laboratory contaminants) when the blank value is less than the RL. The sample result for the blank contaminant is not qualified with any blank qualifiers.
U*	The sample result for the blank contaminant is less than the RL (2X sample RL for common laboratory contaminants) but greater than the MDL when the blank value is less than the RL. The sample result for the blank contaminant is qualified as non-detect U at the reported concentration.
RL**	The sample result for the blank contaminant is less than the RL (2X sample RL for common laboratory contaminants) but greater than the MDL when the blank value is less than the RL. The sample result for the blank contaminant is changed to the RL and qualified as non-detect U.

* This guideline is used when the laboratory is reporting non-detects to the MDL. ** This guideline is used when the laboratory is reporting non-detects to the RL.

Inorganic Methods

ICB/CCB/PB Action:

No Action -	The sample result is greater than the RL and greater than ten times (10X) the blank value.
U -	The sample result is greater than or equal to the MDL but less than or equal to the RL, result is reported as non-detect at the reported concentration, when the ICB/CCB/PB result is less or greater than the RL.

Glossary of Qualification Flags and Abbreviations, continued

R -	Sample result is greater than the RL and less than the ICB/CCB/PB value when the ICB/CCB/PB value is greater than the RL.
J -	Sample result is greater than the ICB/CCB/PB value but less than 10X the ICB/CCB/PB value when ICB/CCB/PB value is greater than the RL.
J/UJ -	Sample result is less than 10X RL when blank result is below the negative RL.

Field QC Blank action:

Note – Use field blanks to qualify data only if field blank results are greater than prep blank results.

Do not use rinsate blank associated with soils to qualify water samples and vice versa.

No Action -	The sample result is greater than the RL and greater than ten times (10X) the blank value.
U -	The sample result is greater than or equal to the MDL but less than or equal to the RL, result is reported as non-detect at the reported concentration, when the FB result is less or greater than the RL.
R -	Sample result is greater than the RL and less than the FB value when the FB value is greater than the RL.
J -	Sample result is greater than the FB value but less than 10X the FB value when FB value is greater than the RL.

General Abbreviations

RL	reporting limit
IDL	instrument detection limit
MDL	method detection limit
CRDL	contract required detection limit
CRQL	contract required quantitation limit
+	positive result
-	non-detect result

TEST AMERICA SAVANNAH SDG 36766-2

DataQual

Environmental Services, LLC

Michael Baker, Jr., Inc.
Airside Business Park
100 Airside Drive
Moon Township, PA 15108

August 6, 2008
SDG# SWMU36766-2, Test America-Savannah
NAPR SWMU 74, Puerto Rico

Dear Mr. Kimes,

The following Data Validation report is provided as requested for the parameters noted in the table below for SDG # SWMU36766-2. The data validation was performed in accordance with the SW-846 methods utilized by the laboratory, the Region II Standard Operating Procedures for the Validation of Organic Data Acquired Using SW-846 Methods (8260B-Rev 2, January 2006- SOP #HW-24 and 8270D-Rev 3, October 2006- SOP #HW-22), and professional judgment. Region II has not developed a validation checklist SOP for the methods used to assess the inorganic methods in this SDG (SW-846 methods 6020B and 7471A). Therefore, alternative worksheets were provided. Region II flagging conventions were used. All areas of concern are discussed in the body of the report and a summary of data qualifications is provided.

Sample ID	Lab ID	Matrix	VOA App IX	LL PAH	DRO/GRO	Metals
74SB128-03	680-36766-21	soil	X		X	X
74SB128-05	680-36766-22	soil	X		X	X
74SB129-02	680-36766-23	soil	X		X	X
74SB129-03	680-36766-24	soil	X		X	X
74SB130-03	680-36766-25	soil	X		X	X
74SB130-05	680-36766-26	soil	X		X	X
74VP2a/9-08	680-36766-27	soil	X	X	X	X
74VP2a/9-10	680-36766-28	soil	X	X	X	X
74SB128-03MS	680-36766-21MS	soil				X
74SB128-03MSD	680-36766-21MSD	soil				X

The samples were evaluated based on the following criteria:

- Data Completeness *
- Sample Condition *
- Technical Holding Times *
- GC/MS Tuning *
- GC Performance *
- Initial/Continuing Calibrations
- ICSA/ICSAB Standards
- CRDL Standards *
- Blanks
- Internal Standards *

- Laboratory Control Samples *
- Matrix Spike Recoveries
- Matrix Duplicate RPDs *
- Serial Dilutions *
- Field Duplicates NA
- Identification/Quantitation
- Reporting Limits *
- Tentatively Identified Compounds NA

* - indicates that qualifications were not required based on this criteria

Overall Evaluation of Data/Potential Usability Issues

A summary of qualifications applied to the sample results are noted below for the fractions validated. Specific details regarding qualification of the data are addressed in the Specific Evaluation section of this narrative. If an issue is not addressed there were no actions required based on unmet quality criteria. When more than one qualifier is associated with a compound/analyte the validator has chosen the qualifier that best indicates possible bias in the results and flagged the data accordingly. However, information regarding all quality control issues is provided in the body of the report and on the qualification summary page.

VOA

The initial and continuing calibration exhibited some compounds with low RRF values, which resulted in qualifying non-detected values as rejected for these compounds. Due to high %D values in the continuing calibrations, some compounds were qualified as estimated.

Blank contamination was noted in the method and QC blank associated with samples in this batch. Qualifications were added to the data.

One sample exhibited low surrogate recovery that resulted in qualifications to the data.

LL PAH

No qualifications to the data were required.

DRO/GRO

No qualifications to the data were required.

Metals

The ICSAB standard exhibited non-compliant recoveries above the QC limits for the analyte zinc. all reported positive results for zinc were qualified as estimated J.

Blank contamination was noted and qualification was required in the samples in this SDG.

The associated matrix spikes exhibited non-compliant %Rs for one analyte for which qualifications were required. Positive and non-detect results for antimony were flagged as estimated J/UJ in the samples.

Specific Evaluation of Data

Data Completeness

The SDG was received complete and intact. Resubmissions were not required. Clarification questions were asked of the laboratory regarding the metals fraction. A copy of the e-mail correspondence is included in the validation worksheets. Clarification questions were asked of the laboratory regarding the DRO and GRO fractions. A copy of the e-mail correspondence is included in the project file.

Technical Holding Times

According to chain of custody records, sampling was performed on 05/13-14/08 and samples were received at the laboratory 05/15/08. All sample preparation and analysis was performed within Region II and/or method holding time requirements.

Initial/Continuing Calibration

VOA

Calibration standards exhibited RRFs and %Ds that were non-compliant. A summary of these non-compliances and affected samples are noted in the following table. Sample results are qualified as indicated.

Standard ID	Compound(s)	RRF, %RSD, %D	Samples	Q Flag
IC 05/18/08	acrolein isobutyl alcohol	0.0496 0.0369	all samples	J/R
CC 05/19/08	isobutyl alcohol	0.03525	74SB128-03, 74SB128-05, 74SB129-03, 74SB130-03, 74SB130-05, 74VP2A/9-08	J/R
	pentachloroethane	23.5%		J/UJ

Standard ID	Compound(s)	RRF, %RSD, %D	Samples	Q Flag
CC 05/20/08	isobutyl alcohol	0.03902	74SB129-02, 74VP2A/9-08, 74VP2A/9-10	J/R
	iodomethane 3-chloro-1-propene pentachloroethane	37.6% 30.3% 38.4%		J/UJ

ICSA/ICSAB Standards

Metals

The associated ICSAB standards exhibited non-compliant recoveries above than the upper QC limit for the analyte zinc (130%/128%). Based on Region II guidelines, reported positive results for zinc were qualified as estimated J in all samples.

Blanks

VOA

The associated method and/or QC blanks exhibited contamination as noted in the following table. Compounds for which there was no action required, are not included in the following table. Please note that the laboratory reported non-detect results down to the MDL for this project. Therefore, the blank flagging actions were modified as follows to take this into consideration. Positive results greater than the MDL but less than the CRQL are qualified as U at the reported concentration when affected by blank contamination.

Blank ID	Compound	Concentration	Reporting Limit	Action Level
Method Blank	acetone	5.2J ug/Kg	50 ug/Kg	2X RL
Method Blank	acetone	4.5J ug/Kg	50 ug/Kg	2X RL

Associated samples and required qualifications are noted in the following table.

Sample ID	Compound	Q Flag
74SB128-03, 74SB128-05, 74SB129-03, 74SB130-03, 74SB130-05, 74SB129-02, 74VP2a/9-10	acetone	U at reported value

Metals

Associated blanks exhibited contamination as noted in the following table. The laboratory reported non-detect results to the MDL for this project. Therefore, the blank flagging actions were modified to take this into consideration. Please see the Glossary of Qualification Flags and Abbreviations for details.

Blank ID	Analyte	Concentration	Action Level	Q Flag
CCB	antimony	0.09576J ug/L	>MDL up to RL	U
ER09	arsenic	0.052J ug/L	>MDL up to RL	U

* Field QC blank qualifications were made using QC blank tracking. Please note, when qualifying samples for CCB contamination,

associated samples are those just prior to or just following a CCB. Therefore, not all analytes in all samples are flagged for CCB contamination.

Associated samples and required qualifications are noted in the following table.

Sample ID	Analyte	Q Flag
74SB128-03, 74SB128-05	antimony	U
74SB128-03	arsenic	U

Surrogates

VOA

Sample 74VP2a/9-08 exhibited low surrogate recovery for dibromofluoromethane at 59% (QC limit 65-124%); therefore all results were qualified as estimated (J/UJ).

Matrix Spike Recoveries

Metals

The matrix spikes of sample 74SB128-03 exhibited a non-compliant %R for an analyte that required qualification in the field samples. A summary of these non-compliances and affected samples are noted in the following table.

MS	Analytes	Samples	%R	Q Flag
74SB128-03	antimony	all samples	65%/64%	J/UJ

Identification/Quantitation

VOA

Sample 74VP2a/9-08 was re-analyzed due to non-compliant surrogate recoveries. The re-analysis of this sample exhibited similar results. Therefore, the re-analysis was not used in favor of the initial analysis.

A summary of qualifications required is provided on the following page. Please do not hesitate to contact DataQual ES with any questions regarding this validation report.

Sincerely,

Laura Maschhoff
President

Jacqueline Cleveland
Vice-President

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Summary of Data Qualifications

VOA

Sample ID	Compound	Results	Q flag
all samples	acrolein isobutyl alcohol	+/-	J/R
74SB128-03, 74SB128-05, 74SB129-03, 74SB130-03, 74SB130-05, 74VP2A/9-08	isobutyl alcohol	+/-	J/R
74SB128-03, 74SB128-05, 74SB129-03, 74SB130-03, 74SB130-05, 74VP2A/9-08	pentachloroethane	+/-	J/UJ
74SB129-02, 74VP2A/9-08, 74VP2A/9-10	isobutyl alcohol	+/-	J/R
74SB129-02, 74VP2A/9-08, 74VP2A/9-10	iodomethane 3-chloro-1-propene pentachloroethane	+/-	J/UJ
74SB128-03, 74SB128-05, 74SB129-03, 74SB130-03, 74SB130-05, 74SB129-02, 74VP2a/9-10	acetone	+	U at reported value
74VP2a/9-08	all results	+/-	J/UJ
74VP2a/9-08RA	all results	+/-	R

LL PAH

Sample ID	Compound	Results	Q flag
No qualifications			

DRO/GRO

Sample ID	Compound	Results	Q flag
No qualifications were required			

Metals

Sample ID	Analyte	Results	Q flag
all samples	zinc	+	J
74SB128-03, 74SB128-05	antimony	+ >MDL up to RL	U
74SB128-03	arsenic	+ >MDL up to RL	U
all samples	antimony	+/-	J/UJ

Glossary of Qualification Flags and Abbreviations

Qualification Flags (Q-Flags)

U	not detected above the reported sample quantitation limit
J	estimated value
UJ	reported quantitation limit is qualified as estimated
N	analyte has been tentatively identified
JN	analyte has been tentatively identified, estimated value
R	result is rejected; the presence or absence of the analyte cannot be verified

Method/Preparation/Field QC Blank Qualification Flags (Q-Flags)

Organic Methods

NA	The sample result for the blank contaminant is greater than the RL (2X sample RL for common laboratory contaminants) when the blank value is less than the RL. The sample result for the blank contaminant is not qualified with any blank qualifiers.
U*	The sample result for the blank contaminant is less than the RL (2X sample RL for common laboratory contaminants) but greater than the MDL when the blank value is less than the RL. The sample result for the blank contaminant is qualified as non-detect U at the reported concentration.
RL**	The sample result for the blank contaminant is less than the RL (2X sample RL for common laboratory contaminants) but greater than the MDL when the blank value is less than the RL. The sample result for the blank contaminant is changed to the RL and qualified as non-detect U.

* This guideline is used when the laboratory is reporting non-detects to the MDL. ** This guideline is used when the laboratory is reporting non-detects to the RL.

Inorganic Methods

ICB/CCB/PB Action:

No Action -	The sample result is greater than the RL and greater than ten times (10X) the blank value.
U -	The sample result is greater than or equal to the MDL but less than or equal to the RL, result is reported as non-detect at the reported concentration, when the ICB/CCB/PB result is less or greater than the RL.

Glossary of Qualification Flags and Abbreviations, continued

R -	Sample result is greater than the RL and less than the ICB/CCB/PB value when the ICB/CCB/PB value is greater than the RL.
J -	Sample result is greater than the ICB/CCB/PB value but less than 10X the ICB/CCB/PB value when ICB/CCB/PB value is greater than the RL.
J/UJ -	Sample result is less than 10X RL when blank result is below the negative RL.

Field QC Blank action:

Note – Use field blanks to qualify data only if field blank results are greater than prep blank results.

Do not use rinsate blank associated with soils to qualify water samples and vice versa.

No Action -	The sample result is greater than the RL and greater than ten times (10X) the blank value.
U -	The sample result is greater than or equal to the MDL but less than or equal to the RL, result is reported as non-detect at the reported concentration, when the FB result is less or greater than the RL.
R -	Sample result is greater than the RL and less than the FB value when the FB value is greater than the RL.
J -	Sample result is greater than the FB value but less than 10X the FB value when FB value is greater than the RL.

General Abbreviations

RL	reporting limit
IDL	instrument detection limit
MDL	method detection limit
CRDL	contract required detection limit
CRQL	contract required quantitation limit
+	positive result
-	non-detect result

TEST AMERICA SAVANNAH SDG 36806-1

DataQual

Environmental Services, LLC

Michael Baker, Jr., Inc.
Airside Business Park
100 Airside Drive
Moon Township, PA 15108

August 6, 2008
SDG# SWMU36806-1, Test America-Savannah
NAPR SWMU 74, Puerto Rico

Dear Mr. Kimes,

The following Data Validation report is provided as requested for the parameters noted in the table below for SDG # SWMU36806-1. The data validation was performed in accordance with the SW-846 methods utilized by the laboratory, the Region II Standard Operating Procedures for the Validation of Organic Data Acquired Using SW-846 Methods (8260B-Rev 2, January 2006- SOP #HW-24), and professional judgment. Region II has not developed a validation checklist SOP for the methods used to assess the inorganic methods in this SDG (SW-846 methods 6020B and 7471A). Therefore, alternative worksheets were provided. Region II flagging conventions were used. All areas of concern are discussed in the body of the report and a summary of data qualifications is provided.

Sample ID	Lab ID	Matrix	VOA App IX	DRO/GRO	Metals
74SB141-00	680-36806-1	soil	X	X	X
74SB141-03	680-36806-2	soil	X	X	X
74SB141-05	680-36806-3	soil	X	X	X
74SB141-05D	680-36806-4	soil	X	X	X
74SB142-02	680-36806-5	soil	X	X	X
74SB142-04	680-36806-6	soil	X	X	X
74SB143-02	680-36806-7	soil	X	X	X
74SB143-04	680-36806-8	soil	X	X	X
74SB144-03	680-36806-9	soil	X	X	X
74SB144-05	680-36806-10	soil	X	X	X
74SB157-04	680-36806-11	soil	X	X	X
74SB157-05	680-36806-12	soil	X	X	X
74SB158-03	680-36806-13	soil	X	X	X
74SB158-04	680-36806-14	soil	X	X	X
74SB122-03	680-36806-15	soil	X	X	X
74SB122-04	680-36806-16	soil	X	X	X
74SB123-03	680-36806-17	soil	X	X	X
74SB123-05	680-36806-18	soil	X	X	X
74SB124-02	680-36806-19	soil	X	X	X
74SB124-05	680-36806-20	soil	X	X	X
74SB141-03 MS	680-36806-2MS	soil	X	X	X
74SB141-03 MSD	680-36806-2MSD	soil	X	X	X

The following quality control samples were provided with this SDG: sample 74SB141-05D-field duplicate of sample 74SB141-05.

5830 Amberway Drive • St. Louis, MO 63128 • 314-330-1327 • Fax 314-849-6264

The samples were evaluated based on the following criteria:

- Data Completeness *
- Sample Condition *
- Technical Holding Times *
- GC/MS Tuning *
- GC Performance *
- Initial/Continuing Calibrations
- ICSA/ICSAB Standards
- CRDL Standards *
- Blanks
- Internal Standards *
- Surrogate Recoveries *
- Laboratory Control Samples *
- Matrix Spike Recoveries
- Matrix Duplicate RPDs
- Serial Dilutions
- Field Duplicates *
- Identification/Quantitation *
- Reporting Limits *
- Tentatively Identified Compounds NA

* - indicates that qualifications were not required based on this criteria

Overall Evaluation of Data/Potential Usability Issues

A summary of qualifications applied to the sample results are noted below for the fractions validated. Specific details regarding qualification of the data are addressed in the Specific Evaluation section of this narrative. If an issue is not addressed there were no actions required based on unmet quality criteria. When more than one qualifier is associated with a compound/analyte the validator has chosen the qualifier that best indicates possible bias in the results and flagged the data accordingly. However, information regarding all quality control issues is provided in the body of the report and on the qualification summary page.

VOA

The initial and continuing calibration exhibited some compounds with low RRF values, which resulted in qualifying non-detected values as rejected for these compounds. Due to high %D values in the continuing calibrations, some compounds were qualified as estimated.

Blank contamination was noted in the method and QC blank associated with samples in this batch. Qualifications were added to the data.

DRO/GRO

No qualifications to the data were required.

Metals

The ICSAB standard exhibited non-compliant recoveries above the QC limits for the analyte zinc. all reported positive results for zinc were qualified as estimated J.

Blank contamination was noted and qualification was required in the samples in this SDG.

The associated matrix spikes exhibited non-compliant %Rs for two analytes for which qualifications were required. Positive and non-detect results for antimony were flagged as estimated J/UJ and positive results for nickel were qualified as estimated J.

The associated matrix duplicates exhibited non-compliant RPDs for two analytes for which qualifications were required. Positive and non-detect results for barium and cobalt were flagged as estimated J/UJ.

The associated serial dilution exhibited a non-compliant RPD for one analyte for which qualifications were required. Positive and non-detect results for zinc required qualification as estimated J/UJ in the samples.

Specific Evaluation of Data

Data Completeness

The SDG was received complete and intact. Resubmissions were not required. Clarification questions were asked of the laboratory regarding the metals fraction. A copy of the e-mail correspondence is included in the validation worksheets. Clarification questions were asked of the laboratory regarding the DRO and GRO fractions. A copy of the e-mail correspondence is included in the project file.

Technical Holding Times

According to chain of custody records, sampling was performed on 05/13-14/08 and samples were received at the laboratory 05/16/08. All sample preparation and analysis was performed within Region II and/or method holding time requirements.

Initial/Continuing Calibration

VOA

Calibration standards exhibited RRFs and %Ds that were non-compliant. A summary of these non-compliances and affected samples are noted in the following table. Sample results are qualified as indicated.

Standard ID	Compound(s)	RRF, %RSD, %D	Samples	Q Flag
IC 05/18/08	acrolein isobutyl alcohol	0.0496 0.0369	all samples	J/R
CC 05/20/08	isobutyl alcohol	0.03902	74SB141-00, 74SB141-03, 74SB142-04, 74SB143-02	J/R
	iodomethane 3-chloro-1-propene pentachloroethane	37.6% 30.3% 38.4%		J/UJ
CC 05/20/08	acrolein isobutyl alcohol acetone	0.04801 0.03361 0.04896	74SB141-05, 74SB141-05D, 74SB142-02, 74SB143-04, 74SB144-03, 74SB144-05, 74SB157-04, 74SB158-03, 74SB158-04, 74SB122-03, 74SB122-04, 74SB123-03, 74SB123-05, 74SB124-02, 74SB124-05	J/R
CC 05/21/08	isobutyl alcohol	0.03526	74SB157-05	J/R
	iodomethane pentachloroethane chloroethane	23.8% 22.7% 27.0%		J/UJ

ICSA/ICSAB Standards

Metals

The associated ICSAB standards exhibited non-compliant recoveries above than the upper QC limit for the analyte zinc (124%/124%/123%). Based on Region II guidelines, reported positive results for zinc were qualified as estimated J in all samples.

Blanks

VOA

The associated method and/or QC blanks exhibited contamination as noted in the following table. Compounds for which there was no action required, are not included in the following table. Please note that the laboratory reported non-detect results down to the MDL for this project. Therefore, the blank flagging actions were modified as follows to take this into consideration. Positive results greater than the MDL but less than the CRQL are qualified as U at the reported concentration when affected by blank

contamination.

Blank ID	Compound	Concentration	Reporting Limit	Action Level
Method Blank	acetone	4.5J ug/Kg	50 ug/Kg	2X RL
FB01	2-butanone	0.69J ug/L	10 ug/L	2X RL

Associated samples and required qualifications are noted in the following table.

Sample ID	Compound	Q Flag
74SB141-00, 74SB141-03, 74SB142-04	acetone	U at reported value
74SB158-03, 74SB158-04, 74SB124-02	2-butanone	U at reported value

Metals

Associated blanks exhibited contamination as noted in the following table. The laboratory reported non-detect results to the MDL for this project. Therefore, the blank flagging actions were modified to take this into consideration. Please see the Glossary of Qualification Flags and Abbreviations for details.

Blank ID	Analyte	Concentration	Action Level	Q Flag
ER11	antimony	0.54J ug/L	>MDL up to RL	U

* Field QC blank qualifications were made using QC blank tracking.

Associated samples and required qualifications are noted in the following table.

Sample ID	Analyte	Q Flag
all samples > MDL but < RL	antimony	U

Matrix Spike Recoveries

Metals

The matrix spikes of sample 74SB141-03 exhibited non-compliant %Rs for analytes that required qualification in the field samples. A summary of these non-compliances and affected samples are noted in the following table.

MS	Analytes	Samples	%R	Q Flag
74SB141-03	antimony	all samples	62%/73%	J/UJ
	nickel		135%/158%	J

Matrix Duplicates

Metals

The matrix duplicate of sample 74SB141-03 exhibited non-compliant %Ds for two analytes that required qualification in the field samples. A summary of these non-compliances and affected samples are noted in the following table.

MD	Analytes	Samples	RPD	Q Flag
74SB141-03	barium	all samples	94.0%	J/UJ
	cobalt		42.9%	

Serial Dilutions

Metals

The serial dilution of sample 74SB141-03 exhibited a non-compliant %D for zinc that required qualification in the field samples. A summary of this non-compliance and affected samples are noted in the following table.

SD	Analytes	Samples	RPD	Q Flag
74SB141-03	zinc	all samples	10.9%	J/UJ

A summary of qualifications required is provided on the following page. Please do not hesitate to contact DataQual ES with any questions regarding this validation report.

Sincerely,

Laura Maschhoff
President

Jacqueline Cleveland
Vice-President

Summary of Data Qualifications

VOA

Sample ID	Compound	Results	Q flag
all samples	acrolein isobutyl alcohol	+/-	J/R
74SB141-00, 74SB141-03, 74SB142-04, 74SB143-02	isobutyl alcohol	+/-	J/R
74SB141-00, 74SB141-03, 74SB142-04, 74SB143-02	iodomethane 3-chloro-1-propene pentachloroethane	+/-	J/UJ
74SB141-05, 74SB141-05D, 74SB142-02, 74SB143-04, 74SB144-03, 74SB144-05, 74SB157-04, 74SB158-03, 74SB158-04, 74SB122-03, 74SB122-04, 74SB123-03, 74SB123-05, 74SB124-02, 74SB124-05	acrolein isobutyl alcohol acetone	+/-	J/R
74SB157-05	isobutyl alcohol	+/-	J/R
74SB157-05	iodomethane pentachloroethane chloroethane	+/-	J/UJ
74SB141-00, 74SB141-03, 74SB142-04	acetone	+	U at reported value
74SB158-03, 74SB158-04, 74SB124-02	2-butanone	+	U at reported value

DRO/GRO

Sample ID	Compound	Results	Q flag
No qualifications were required			

Metals

Sample ID	Analyte	Results	Q flag
all samples	zinc	+	J
all samples	antimony	+ >MDL up to RL	U
all samples	antimony	+/-	J/UJ
all samples	nickel	+	J
all samples	barium cobalt	+/-	J/UJ
all samples	zinc	+/-	J/UJ

Glossary of Qualification Flags and Abbreviations

Qualification Flags (Q-Flags)

U	not detected above the reported sample quantitation limit
J	estimated value
UJ	reported quantitation limit is qualified as estimated
N	analyte has been tentatively identified
JN	analyte has been tentatively identified, estimated value
R	result is rejected; the presence or absence of the analyte cannot be verified

Method/Preparation/Field QC Blank Qualification Flags (Q-Flags)

Organic Methods

NA	The sample result for the blank contaminant is greater than the RL (2X sample RL for common laboratory contaminants) when the blank value is less than the RL. The sample result for the blank contaminant is not qualified with any blank qualifiers.
U*	The sample result for the blank contaminant is less than the RL (2X sample RL for common laboratory contaminants) but greater than the MDL when the blank value is less than the RL. The sample result for the blank contaminant is qualified as non-detect U at the reported concentration.
RL**	The sample result for the blank contaminant is less than the RL (2X sample RL for common laboratory contaminants) but greater than the MDL when the blank value is less than the RL. The sample result for the blank contaminant is changed to the RL and qualified as non-detect U.

* This guideline is used when the laboratory is reporting non-detects to the MDL. ** This guideline is used when the laboratory is reporting non-detects to the RL.

Inorganic Methods

ICB/CCB/PB Action:

No Action -	The sample result is greater than the RL and greater than ten times (10X) the blank value.
U -	The sample result is greater than or equal to the MDL but less than or equal to the RL, result is reported as non-detect at the reported concentration, when the ICB/CCB/PB result is less or greater than the RL.

Glossary of Qualification Flags and Abbreviations, continued

R -	Sample result is greater than the RL and less than the ICB/CCB/PB value when the ICB/CCB/PB value is greater than the RL.
J -	Sample result is greater than the ICB/CCB/PB value but less than 10X the ICB/CCB/PB value when ICB/CCB/PB value is greater than the RL.
J/UJ -	Sample result is less than 10X RL when blank result is below the negative RL.

Field QC Blank action:

Note – Use field blanks to qualify data only if field blank results are greater than prep blank results.

Do not use rinsate blank associated with soils to qualify water samples and vice versa.

No Action -	The sample result is greater than the RL and greater than ten times (10X) the blank value.
U -	The sample result is greater than or equal to the MDL but less than or equal to the RL, result is reported as non-detect at the reported concentration, when the FB result is less or greater than the RL.
R -	Sample result is greater than the RL and less than the FB value when the FB value is greater than the RL.
J -	Sample result is greater than the FB value but less than 10X the FB value when FB value is greater than the RL.

General Abbreviations

RL	reporting limit
IDL	instrument detection limit
MDL	method detection limit
CRDL	contract required detection limit
CRQL	contract required quantitation limit
+	positive result
-	non-detect result

TEST AMERICA SAVANNAH SDG 36806-2

DataQual

Environmental Services, LLC

Michael Baker, Jr., Inc.
Airside Business Park
100 Airside Drive
Moon Township, PA 15108

August 6, 2008
SDG# SWMU36806-2, Test America-Savannah
NAPR SWMU 74, Puerto Rico

Dear Mr. Kimes,

The following Data Validation report is provided as requested for the parameters noted in the table below for SDG # SWMU36806-2. The data validation was performed in accordance with the SW-846 methods utilized by the laboratory, the Region II Standard Operating Procedures for the Validation of Organic Data Acquired Using SW-846 Methods (8260B-Rev 2, January 2006- SOP #HW-24), and professional judgment. Region II has not developed a validation checklist SOP for the methods used to assess the inorganic methods in this SDG (SW-846 methods 6020B and 7471A). Therefore, alternative worksheets were provided. Region II flagging conventions were used. All areas of concern are discussed in the body of the report and a summary of data qualifications is provided.

Sample ID	Lab ID	Matrix	VOA App IX	DRO/GRO	DRO	Metals
74SB159-03	680-36806-23	soil	X	X		X
74SB159-05	680-36806-24	soil	X	X		X
74SB160-04	680-36806-25	soil	X	X		X
74SB160-05	680-36806-26	soil	X	X		X
74SB146-02	680-36806-27	soil	X	X		X
74SB146-02D	680-36806-28	soil	X	X		X
74SB146-05	680-36806-29	soil	X	X		X
74SB147-03	680-36806-30	soil	X	X		X
74SB147-04	680-36806-31	soil	X	X		X
74SB148-02	680-36806-32	soil	X	X		X
74SB148-04	680-36806-33	soil	X	X		X
74SB149-04	680-36806-34	soil	X	X		X
74SB149-06	680-36806-35	soil	X	X		X
74SB150-02	680-36806-36	soil	X	X		X
74SB150-06	680-36806-37	soil	X	X		X
74SB152-03	680-36806-38	soil	X	X		X
74SB152-05	680-36806-39	soil	X	X		X
74SB153-02	680-36806-40	soil	X	X		X
74SB153-04	680-36806-41	soil	X	X		X
74VP08a-07	680-36806-42	soil	X	X		X
74SB159-03MS	680-36806-23MS	soil				X
74SB159-03MSD	680-36806-23MSD	soil				X
74SB147-03MS	680-36806-30MS	soil			X	
74SB147-03MSD	680-36806-30MSD	soil			X	

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The following quality control samples were provided with this SDG: sample 74SB146-02D-field duplicate of sample 74SB146-02.

The samples were evaluated based on the following criteria:

• Data Completeness	*
• Sample Condition	*
• Technical Holding Times	*
• GC/MS Tuning	*
• GC Performance	*
• Initial/Continuing Calibrations	
• ICSA/ICSAB Standards	
• CRDL Standards	*
• Blanks	
• Internal Standards	*
• Surrogate Recoveries	*
• Laboratory Control Samples	*
• Matrix Spike Recoveries	
• Matrix Duplicate RPDs	
• Serial Dilutions	*
• Field Duplicates	
• Identification/Quantitation	*
• Reporting Limits	*
• Tentatively Identified Compounds	NA

* - indicates that qualifications were not required based on this criteria

Overall Evaluation of Data/Potential Usability Issues

A summary of qualifications applied to the sample results are noted below for the fractions validated. Specific details regarding qualification of the data are addressed in the Specific Evaluation section of this narrative. If an issue is not addressed there were no actions required based on unmet quality criteria. When more than one qualifier is associated with a compound/analyte the validator has chosen the qualifier that best indicates possible bias in the results and flagged the data accordingly. However, information regarding all quality control issues is provided in the body of the report and on the qualification summary page.

VOA

The initial and continuing calibration exhibited some compounds with low RRF values, which resulted in qualifying non-detected values as rejected for these compounds. Due to high %D values in the continuing calibrations, some compounds were qualified as estimated.

Blank contamination was noted in the method and QC blank associated with samples in this batch. Qualifications were added to the data.

DRO/GRO

No qualifications to the data were required.

Metals

The ICSAB standard exhibited non-compliant recoveries above the QC limits for the analyte zinc. all reported positive results for zinc were qualified as estimated J.

Blank contamination was noted and qualification was required in the samples in this SDG.

The associated matrix spikes exhibited non-compliant %Rs for three analytes for which qualifications were required. Positive and non-detect results for cobalt, zinc and mercury were qualified as estimated J/UJ.

The associated matrix duplicates exhibited non-compliant RPDs for five analytes for which qualifications were required. Positive and non-detect results for barium, chromium, cobalt, copper and vanadium were flagged as estimated J/UJ.

The field duplicate pair of samples 74SB146-02 and 74SB146-02D exhibited non-compliant RPDs for twp analytes for which qualifications were required. The reported positive results for cobalt required qualification as estimated J and the reported results for cadmium were rejected R in the field duplicate pair.

Specific Evaluation of Data

Data Completeness

The SDG was received complete and intact. Resubmissions were not required. Clarification questions were asked of the laboratory regarding the metals fraction. A copy of the e-mail correspondence is included in the validation worksheets. Clarification questions were asked of the laboratory regarding the DRO and GRO fractions. A copy of the e-mail correspondence is included in the project file.

Technical Holding Times

According to chain of custody records, sampling was performed on 05/13-15/08 and samples were received at the laboratory 05/16/08. All sample preparation and analysis was performed within Region II and/or method holding time requirements.

Initial/Continuing Calibration

VOA

Calibration standards exhibited RRFs and %Ds that were non-compliant. A summary of these non-compliances and affected samples are noted in the following table. Sample results are qualified as indicated.

Standard ID	Compound(s)	RRF, %RSD, %D	Samples	Q Flag
IC 05/18/08	acrolein isobutyl alcohol	0.0496 0.0369	all samples	J/R
CC 05/21/08	isobutyl alcohol	0.03526	74SB160-04, 74SB160-05, 74SB146-02, 74SB146-02D, 74SB146-05, 74SB147-03, 74SB148-04, 74SB150-02, 74SB150-06	J/R
	iodomethane pentachloroethane chloroethane	23.8% 22.7% 27.0%		J/UJ
CC 05/21/08	acrolein isobutyl alcohol acetone	0.04224 0.03444 0.04723	74SB159-03, 74SB159-05, 74SB147-04, 74SB148-02, 74SB149-04, 74SB149-06, 74SB152-03	J/R
	bromomethane chloroethane	43.7% 33.0%		J/UJ
CC 05/22/08	acrolein isobutyl alcohol	0.04713 0.01646	74SB152-05, 74SB153-02, 74VP08A-07, 74SB153-04	J/R
	pentachloroethane chloroethane	23.3% 32.4%		J/UJ

ICSA/ICSAB Standards

Metals

The associated ICSAB standards exhibited non-compliant recoveries above than the upper QC limit for the analyte zinc (124%/124%/123%). Based on Region II guidelines, reported positive results for zinc were qualified as estimated J in all samples.

Blanks

VOA

The associated method and/or QC blanks exhibited contamination as noted in the following table. Compounds for which there was no action required, are not included in the following table. Please note that the laboratory reported non-detect results down to the MDL for this project. Therefore, the blank flagging actions were modified as follows to take this into consideration. Positive results greater than the MDL but less than the CRQL are qualified as U at the reported concentration when affected by blank

contamination.

Blank ID	Compound	Concentration	Reporting Limit	Action Level
Method Blank	acetone	6.4J ug/Kg	50 ug/Kg	2X RL
FB01	2-butanone	0.69J ug/L	10 ug/L	2X RL

Associated samples and required qualifications are noted in the following table.

Sample ID	Compound	Q Flag
74SB152-05, 74VP08a-07, 74SB153-04	acetone	U at reported value
74SB149-04, 74SB149-06, 74SB152-03, 74SB153-02	2-butanone	U at reported value

Metals

Associated blanks exhibited contamination as noted in the following table. The laboratory reported non-detect results to the MDL for this project. Therefore, the blank flagging actions were modified to take this into consideration. Please see the Glossary of Qualification Flags and Abbreviations for details.

Blank ID	Analyte	Concentration	Action Level	Q Flag
ER11	antimony	0.54J ug/L	>MDL up to RL	U

* Field QC blank qualifications were made using QC blank tracking.

Associated samples and required qualifications are noted in the following table.

Sample ID	Analyte	Q Flag
all samples > MDL but < RL	antimony	U

Matrix Spike Recoveries

Metals

The matrix spikes of sample 74SB159-03 exhibited non-compliant %Rs for analytes that required qualification in the field samples. A summary of these non-compliances and affected samples are noted in the following table.

MS	Analytes	Samples	%R	Q Flag
74SB159-03	cobalt	all samples	124%/-13%	J/UJ
	zinc		129%/63%	
	mercury		34.2%/0%	

Matrix Duplicates

Metals

The matrix duplicate of sample 74SB159-03 exhibited non-compliant %Ds for five analytes that required qualification in the field samples. A summary of these non-compliances and affected samples are noted in the following table.

MD	Analytes	Samples	RPD	Q Flag
74SB159-03	barium	all samples	105.6%	J/UJ
	chromium		67.5%	
	cobalt		41.6%	
	copper		52.9%	
	vanadium		57.6%	

Field Duplicates

Metals

The field duplicate pair of samples 74SB146-02 and 74SB146-02D exhibited non-compliant RPD >35% but less than 120% for the analyte cobalt (40%). This analyte was flagged as estimated J in the field duplicate pair. The analyte cadmium (0.89) exhibited an absolute difference > 4X CRDL. This analyte was rejected R in the field duplicate pair. All qualifications were made based on the Region II guidance.

A summary of qualifications required is provided on the following page. Please do not hesitate to contact DataQual ES with any questions regarding this validation report.

Sincerely,

Laura Maschhoff
President

Jacqueline Cleveland
Vice-President

Summary of Data Qualifications

VOA

Sample ID	Compound	Results	Q flag
all samples	acrolein isobutyl alcohol	+/-	J/R
74SB160-04, 74SB160-05, 74SB146-02, 74SB146-02D, 74SB146-05, 74SB147-03, 74SB148-04, 74SB150-02, 74SB150-06	isobutyl alcohol	+/-	J/R
74SB160-04, 74SB160-05, 74SB146-02, 74SB146-02D, 74SB146-05, 74SB147-03, 74SB148-04, 74SB150-02, 74SB150-06	iodomethane pentachloroethane chloroethane	+/-	J/UJ
74SB159-03, 74SB159-05, 74SB147-04, 74SB148-02, 74SB149-04, 74SB149-06, 74SB152-03	acrolein isobutyl alcohol acetone	+/-	J/R
74SB159-03, 74SB159-05, 74SB147-04, 74SB148-02, 74SB149-04, 74SB149-06, 74SB152-03	bromomethane chloroethane	+/-	J/UJ
74SB152-05, 74SB153-02, 74VP08A-07, 74SB153-04	acrolein isobutyl alcohol	+/-	J/R
74SB152-05, 74SB153-02, 74VP08A-07, 74SB153-04	pentachloroethane chloroethane	+/-	J/UJ
74SB152-05, 74VP08a-07, 74SB153-04	acetone	+	U at reported value
74SB149-04, 74SB149-06, 74SB152-03, 74SB153-02	2-butanone	+	U at reported value

DRO/GRO

Sample ID	Compound	Results	Q flag
No qualifications were required			

Summary of Data Qualifications, continued

Metals

Sample ID	Analyte	Results	Q flag
all samples	zinc	+	J
all samples	antimony	+ >MDL up to RL	U
all samples	cobalt zinc mercury	+/-	J/UJ
all samples	barium chromium cobalt copper vanadium	+/-	J/UJ
74SB146-02, 74SB146-02D	cobalt	+	J
74SB146-02, 74SB146-02D	cadmium	+	R

Glossary of Qualification Flags and Abbreviations

Qualification Flags (Q-Flags)

U	not detected above the reported sample quantitation limit
J	estimated value
UJ	reported quantitation limit is qualified as estimated
N	analyte has been tentatively identified
JN	analyte has been tentatively identified, estimated value
R	result is rejected; the presence or absence of the analyte cannot be verified

Method/Preparation/Field QC Blank Qualification Flags (Q-Flags)

Organic Methods

NA	The sample result for the blank contaminant is greater than the RL (2X sample RL for common laboratory contaminants) when the blank value is less than the RL. The sample result for the blank contaminant is not qualified with any blank qualifiers.
U*	The sample result for the blank contaminant is less than the RL (2X sample RL for common laboratory contaminants) but greater than the MDL when the blank value is less than the RL. The sample result for the blank contaminant is qualified as non-detect U at the reported concentration.
RL**	The sample result for the blank contaminant is less than the RL (2X sample RL for common laboratory contaminants) but greater than the MDL when the blank value is less than the RL. The sample result for the blank contaminant is changed to the RL and qualified as non-detect U.

* This guideline is used when the laboratory is reporting non-detects to the MDL. ** This guideline is used when the laboratory is reporting non-detects to the RL.

Inorganic Methods

ICB/CCB/PB Action:

No Action -	The sample result is greater than the RL and greater than ten times (10X) the blank value.
U -	The sample result is greater than or equal to the MDL but less than or equal to the RL, result is reported as non-detect at the reported concentration, when the ICB/CCB/PB result is less or greater than the RL.

Glossary of Qualification Flags and Abbreviations, continued

R -	Sample result is greater than the RL and less than the ICB/CCB/PB value when the ICB/CCB/PB value is greater than the RL.
J -	Sample result is greater than the ICB/CCB/PB value but less than 10X the ICB/CCB/PB value when ICB/CCB/PB value is greater than the RL.
J/UJ -	Sample result is less than 10X RL when blank result is below the negative RL.

Field QC Blank action:

Note – Use field blanks to qualify data only if field blank results are greater than prep blank results.
Do not use rinsate blank associated with soils to qualify water samples and vice versa.

No Action -	The sample result is greater than the RL and greater than ten times (10X) the blank value.
U -	The sample result is greater than or equal to the MDL but less than or equal to the RL, result is reported as non-detect at the reported concentration, when the FB result is less or greater than the RL.
R -	Sample result is greater than the RL and less than the FB value when the FB value is greater than the RL.
J -	Sample result is greater than the FB value but less than 10X the FB value when FB value is greater than the RL.

General Abbreviations

RL	reporting limit
IDL	instrument detection limit
MDL	method detection limit
CRDL	contract required detection limit
CRQL	contract required quantitation limit
+	positive result
-	non-detect result

TEST AMERICA SAVANNAH SDG 36806-3

DataQual

Environmental Services, LLC

Michael Baker, Jr., Inc.
Airside Business Park
100 Airside Drive
Moon Township, PA 15108

August 19, 2008
SDG# SWMU36806-3, Test America-Savannah
NAPR SWMU 74, Puerto Rico

Dear Mr. Kimes,

The following Data Validation report is provided as requested for the parameters noted in the table below for SDG # SWMU36806-3. The data validation was performed in accordance with the SW-846 methods utilized by the laboratory, the Region II Standard Operating Procedures for the Validation of Organic Data Acquired Using SW-846 Methods (8260B-Rev 2, January 2006- SOP #HW-24 and 8270D-Rev 3, October 2006- SOP #HW-22), and professional judgment. Region II has not developed a validation checklist SOP for the methods used to assess the inorganic methods in this SDG (SW-846 methods 6020B, 7471A) or the organic methods for hydrocarbons (SW-846 methods 8015_DRO and 8015_GRO). Therefore, alternative worksheets were provided. Region II flagging conventions were used. All areas of concern are discussed in the body of the report and a summary of data qualifications is provided.

Sample ID	Lab ID	Matrix	VOA App IX	LL-PAH	DRO/GRO	GRO	TMetals	DMetals
74GWVP1Cb	680-36806-44	water	X	X	X		X	X
74GWVPICbD	680-36806-45	water	X	X	X		X	X
74GWVP3A	680-69806-46	water	X	X	X		X	X
74GWVP3B	680-69806-47	water	X	X	X		X	X
74GWVP1Ca	680-69806-48	water	X	X			X	
74ER11	680-69806-49	water	X	X	X		X	
74ER12	680-69806-50	water	X	X	X		X	
74TB15	680-69806-51	water	X			X		
74TB16	680-69806-52	water	X			X		
74TB17	680-69806-53	water	X			X		
74GWVP1CbMS	680-36806-44MS	water					X	X
74GWVP1CbMSD	680-36806-44MSD	water					X	X
74ER12MS	680-69806-50MS	water				X		
74ER12MSD	680-69806-50MSD	water				X		

The following quality control samples were provided with this SDG: sample 74GWVPICbD-field duplicate of sample 74GWVPICb; samples 74ER11 and 74ER12-equipment blanks; and samples 74TB15, 74TB16 and 74TB17-trip blanks.

The samples were evaluated based on the following criteria:

- Data Completeness *
- Sample Condition *

- Technical Holding Times *
- GC/MS Tuning *
- GC Performance *
- Initial/Continuing Calibrations
- ICSA/ICSAB Standards
- CRDL Standards *
- Blanks
- Internal Standards *
- Surrogate Recoveries
- Laboratory Control Samples *
- Matrix Spike Recoveries *
- Matrix Duplicate RPDs *
- Serial Dilutions
- Field Duplicates *
- Identification/Quantitation
- Reporting Limits *
- Tentatively Identified Compounds NA

* - indicates that qualifications were not required based on this criteria

Overall Evaluation of Data/Potential Usability Issues

A summary of qualifications applied to the sample results are noted below for the fractions validated. Specific details regarding qualification of the data are addressed in the Specific Evaluation section of this narrative. If an issue is not addressed there were no actions required based on unmet quality criteria. When more than one qualifier is associated with a compound/analyte the validator has chosen the qualifier that best indicates possible bias in the results and flagged the data accordingly. However, information regarding all quality control issues is provided in the body of the report and on the qualification summary page. Please note that the reviewer added an F to the sample ID to indicate dissolved metals analysis when necessary.

VOA

The continuing calibration exhibited some compounds with low RRF values, which resulted in qualifying non-detected values as rejected for these compounds. Due to high %D values, in the continuing calibrations, some compounds were qualified as estimated.

Blank contamination was noted in the method and QC blank associated with samples in this batch. Qualifications were added to the data.

PAH

One sample exhibited high surrogate results that resulted in qualifying positive results as estimated.

DRO/GRO

Three samples analyzed for GRO required qualification due to high surrogate recoveries.

Metals

The ICSAB standards associated with the dissolved metals samples exhibited non-compliant recoveries below the QC limit for the analyte silver. Based on Region II guidelines all positive and non-detect results for silver in the dissolved metals samples were qualified as estimated J/UJ.

Blank contamination was noted and qualification was required in the samples in this SDG.

The serial dilution analysis of sample 74CWVP1CbF exhibited a non-compliant %D for the analyte lead. All results for lead in the dissolved metals samples were qualified as estimated J/UJ.

The total/dissolved metals analysis comparison exhibited %Ds greater than 20% but less than or equal to 50% for analytes in three pairs. These analytes were qualified as estimated in the sample pairs.

Specific Evaluation of Data

Data Completeness

Resubmissions were required. The DRO fraction required resubmission due to incomplete continuing calibration forms. Clarification questions were asked of the laboratory regarding the metals fraction. Copies of these e-mail correspondences are included in the validation worksheets. Clarification questions were asked of the laboratory regarding the GRO/DRO fraction. A copy of these e-mail correspondences is included in the project file.

Technical Holding Times

According to chain of custody records, sampling was performed on 05/13-15/08 and samples were received at the laboratory 05/16/08. All sample preparation and analysis was performed within Region II and/or method holding time requirements.

Initial/Continuing Calibration

VOA

Calibration standards exhibited RRFs and %Ds that were non-compliant. A summary of these non-compliances and affected samples are noted in the following table. Sample results are qualified as indicated.

Standard ID	Compound(s)	RRF, %RSD, %D	Samples	Q Flag
CC 05/23/08	acrylonitrile pentachloroethane bromomethane cis-1,3-dichloropropene trans-1,3-dichloropropene 1,2,3-trichloropropane 1,2-dibromo-3-chloropropane	21.7% 73.5% 33.6% 25.5% 29.3% 21.6% 34.0%	74ER11, 74ER12, 74TB15, 74TB16, 74TB17, 74GWVP3B, 74GWVP3A	J/UJ
CC 05/27/08	pentachloroethane	91.8%	74GWVP1CbD, 74GWVP1Ca	J/R
	acrylonitrile	23.2%		J/UJ
CC 05/28/08	pentachloroethane	91.1%	74GWVP1Cb	J/R
	acrylonitrile bromomethane	26.6% 32.7%		J/UJ

ICSA/ICSAB Standards

Metals

The ICSAB standards associated with the dissolved metals analysis exhibited non-compliant recoveries less than the lower QC limit for the analyte silver (76%/76%/76%). Based on Region II guidelines, reported positive and non-detect results for silver in the dissolved metals samples were qualified as estimated J/UJ in all samples.

Blanks

VOA

The associated method and/or QC blanks exhibited contamination as noted in the following table. Compounds for which there was no action required, are not included in the following table. Please note that the laboratory reported non-detect results down to the MDL for this project. Therefore, the blank flagging actions were modified as follows to take this into consideration. Positive results greater than the MDL but less than the CRQL are qualified as U at the reported concentration when affected by blank contamination.

Blank ID	Compound	Concentration	Reporting Limit	Action Level
Method Blk	carbon disulfide	0.33J ug/L	2 ug/L	RL
Method Blk	acetone	7.2J ug/L	25 ug/L	2X RL

Associated samples and required qualifications are noted in the following table.

Sample ID	Compound	Q Flag
74GWVP1Cb	carbon disulfide	U at reported value
74GWVP1CbD, 74GWVP1Ca	acetone	U at reported value

Metals

Associated blanks exhibited contamination as noted in the following table. The laboratory reported non-detect results to the MDL for this project. Therefore, the blank flagging actions were modified to take this into consideration. Please see the Glossary of Qualification Flags and Abbreviations for details.

Blank ID	Analyte	Concentration	Action Level	Q Flag
PBLK - TM	arsenic	0.2989J ug/L	>MDL up to RL	U
	antimony	0.5570 ug/L	> MDL up to RL	U
ICB – DM	antimony	0.1595 ug/L	> MDL up to RL	U
FB01	copper	2.1J ug/L	> MDL up to RL	U
	lead	0.38J ug/L	> MDL up to RL	U

Field Blank associations were made based on tracking provided by the client. Please note, when qualifying samples for CCB contamination, associated samples are those just prior to or just following a CCB. Therefore, not all analytes in all samples are flagged for CCB contamination.

Associated samples and required qualifications are noted in the following table.

Sample ID	Analyte	Q Flag
all samples >MDL up to RL	antimony	U
74GWVP3A, 74GWVP3B, 74GWVP1Ca	arsenic	U
74GWVP1Cb, 74GWVP1CbD, 74GWVP3B, 74GWVP1Ca	copper	U
74GWVP3A	lead	U

Surrogate Recoveries

PAH

Sample 74GWVP3B high surrogate recoveries for o-terphenyl at 130% (QC limits 44-123%); therefore all positive results were qualified as estimated (J).

DRO/GRO

Three samples analyzed for GRO exhibited non-compliant surrogate recovery above the QC limits. The reported positive results for GRO in samples 74GWVP1Cb (164%) 74GWVP1CbD (206%) and 74GWVP1Ca (146%) were qualified as estimated J.

Serial Dilutions

Metals

The serial dilution of sample 74GWVP1CB associated with the dissolved metals analysis exhibited a non-compliant %D for one analyte that required qualification in the field samples. A summary of this non-compliance and affected samples is noted in the following table.

SD	Analytes	Samples	RPD	Q Flag
74GWVP1CB	lead	dissolved metals samples	12.9%	J/UJ

Identification/Quantitation

Metals

The total and dissolved metals analysis exhibited %Ds >20% but less than or equal to 50% for several analytes. Elements exhibiting >20% but less than or equal to 50% difference between total and dissolved concentrations were qualified as estimated J based on the Region II guidelines. Specific action is noted in the following table.

Sample ID	Analyte	%D	Q Flag
74GWVP1Cb, 74GWVP1CbF	cobalt	29%	J
74GWVP1CbD, 74GWVP1CbDF	vanadium	30%	J
74GWVP3A, 74GWVP3AF	barium	39%	J
	cobalt	50%	J

A summary of qualifications required is provided on the following page. Please do not hesitate to contact DataQual ES with any questions regarding this validation report.

Sincerely,

Laura Maschhoff
President

Jacqueline Cleveland
Vice President

Summary of Data Qualifications

VOA

Sample ID	Compound	Results	Q flag
74ER11, 74ER12, 74TB15, 74TB16, 74TB17, 74GWVP3B, 74GWVP3A	acrylonitrile pentachloroethane bromomethane cis-1,3-dichloropropene trans-1,3-dichloropropene 1,2,3-trichloropropane 1,2-dibromo-3-chloropropane	+/-	J/UJ
74GWVP1CbD, 74GWVP1Ca	pentachloroethane	+/-	J/R
74GWVP1CbD, 74GWVP1Ca	acrylonitrile	+/-	J/UJ
74GWVP1Cb	pentachloroethane	+/-	J/R
74GWVP1Cb	acrylonitrile bromomethane	+/-	J/UJ
74GWVP1Cb	carbon disulfide	+	U at reported value
74GWVP1CbD, 74GWVP1Ca	acetone	+	U at reported value

PAH

Sample ID	Compound	Results	Q flag
74GWVP3B	all results	+	J

DRO/GRO

Sample ID	Compound	Results	Q flag
74GWVP1Cb, 74GWVP1CbD, 74GWVP1Ca	GRO	+	J

Metals

Sample ID	Analyte	Results	Q flag
all dissolved metals samples	silver	+/-	J/UJ
all samples >MDL up to RL	antimony	>MDL up to RL	U
74GWVP3A, 74GWVP3B, 74GWVP1Ca	arsenic	>MDL up to RL	U
74GWVP1Cb, 74GWVP1CbD, 74GWVP3B, 74GWVP1Ca	copper	>MDL up to RL	U
74GWVP3A	lead	>MDL up to RL	U
all dissolved metals samples	lead	+/-	J/UJ
74GWVP1Cb, 74GWVP1CbF	cobalt	+	J
74GWVP1CbD, 74GWVP1CbDF	vanadium	+	J
74GWVP3A, 74GWVP3AF	barium	+	J
	cobalt		

Glossary of Qualification Flags and Abbreviations

Qualification Flags (Q-Flags)

U	not detected above the reported sample quantitation limit
J	estimated value
UJ	reported quantitation limit is qualified as estimated
N	analyte has been tentatively identified
JN	analyte has been tentatively identified, estimated value
R	result is rejected; the presence or absence of the analyte cannot be verified

Method/Preparation/Field QC Blank Qualification Flags (Q-Flags)

Organic Methods

NA	The sample result for the blank contaminant is greater than the RL (2X sample RL for common laboratory contaminants) when the blank value is less than the RL. The sample result for the blank contaminant is not qualified with any blank qualifiers.
U*	The sample result for the blank contaminant is less than the RL (2X sample RL for common laboratory contaminants) but greater than the MDL when the blank value is less than the RL. The sample result for the blank contaminant is qualified as non-detect U at the reported concentration.
RL**	The sample result for the blank contaminant is less than the RL (2X sample RL for common laboratory contaminants) but greater than the MDL when the blank value is less than the RL. The sample result for the blank contaminant is changed to the RL and qualified as non-detect U.

* This guideline is used when the laboratory is reporting non-detects to the MDL. ** This guideline is used when the laboratory is reporting non-detects to the RL.

Inorganic Methods

ICB/CCB/PB Action:

No Action -	The sample result is greater than the RL and greater than ten times (10X) the blank value.
U -	The sample result is greater than or equal to the MDL but less than or equal to the RL, result is reported as non-detect at the reported concentration, when the ICB/CCB/PB result is less or greater than the RL.

Glossary of Qualification Flags and Abbreviations, continued

R -	Sample result is greater than the RL and less than the ICB/CCB/PB value when the ICB/CCB/PB value is greater than the RL.
J -	Sample result is greater than the ICB/CCB/PB value but less than 10X the ICB/CCB/PB value when ICB/CCB/PB value is greater than the RL.
J/UJ -	Sample result is less than 10X RL when blank result is below the negative RL.

Field QC Blank action:

Note – Use field blanks to qualify data only if field blank results are greater than prep blank results.

Do not use rinsate blank associated with soils to qualify water samples and vice versa.

No Action -	The sample result is greater than the RL and greater than ten times (10X) the blank value.
U -	The sample result is greater than or equal to the MDL but less than or equal to the RL, result is reported as non-detect at the reported concentration, when the FB result is less or greater than the RL.
R -	Sample result is greater than the RL and less than the FB value when the FB value is greater than the RL.
J -	Sample result is greater than the FB value but less than 10X the FB value when FB value is greater than the RL.

General Abbreviations

RL	reporting limit
IDL	instrument detection limit
MDL	method detection limit
CRDL	contract required detection limit
CRQL	contract required quantitation limit
+	positive result
-	non-detect result

TEST AMERICA SAVANNAH SDG 36806-4

DataQual

Environmental Services, LLC

Michael Baker, Jr., Inc.
Airside Business Park
100 Airside Drive
Moon Township, PA 15108

August 5, 2008
SDG# SWMU36806-4, Test America-Savannah
NAPR SWMU 74, Puerto Rico

Dear Mr. Kimes,

The following Data Validation report is provided as requested for the parameters noted in the table below for SDG # SWMU36806-4. The data validation was performed in accordance with the SW-846 methods utilized by the laboratory, the Region II Standard Operating Procedures for the Validation of Organic Data Acquired Using SW-846 Methods (8260B-Rev 2, January 2006- SOP #HW-24), and professional judgment. Region II has not developed a validation checklist SOP for the methods used to assess the inorganic methods in this SDG (SW-846 methods 6020B, 7471A) or the organic methods for hydrocarbons (SW-846 methods 8015_DRO and 8015_GRO). Therefore, alternative worksheets were provided. Region II flagging conventions were used. All areas of concern are discussed in the body of the report and a summary of data qualifications is provided.

Sample ID	Lab ID	Matrix	VOA App IX	DRO/GRO	Metals
74SB125-03	680-36806-21	soil	X	X	X
74SB125-05	680-36806-22	soil	X	X	X
74VP08a-10	680-36806-43	soil	X	X	X
74SB125-03MS	680-36806-21MS	soil			X
74SB125-03MSD	680-36806-21MSD	soil			X

The samples were evaluated based on the following criteria:

- Data Completeness *
- Sample Condition *
- Technical Holding Times *
- GC/MS Tuning *
- GC Performance *
- Initial/Continuing Calibrations
- ICSA/ICSAB Standards *
- CRDL Standards *
- Blanks
- Internal Standards *
- Surrogate Recoveries *
- Laboratory Control Samples *
- Matrix Spike Recoveries

- Matrix Duplicate RPDs *
- Serial Dilutions *
- Field Duplicates NA
- Identification/Quantitation *
- Reporting Limits *
- Tentatively Identified Compounds NA

* - indicates that qualifications were not required based on this criteria

Overall Evaluation of Data/Potential Usability Issues

A summary of qualifications applied to the sample results are noted below for the fractions validated. Specific details regarding qualification of the data are addressed in the Specific Evaluation section of this narrative. If an issue is not addressed there were no actions required based on unmet quality criteria. When more than one qualifier is associated with a compound/analyte the validator has chosen the qualifier that best indicates possible bias in the results and flagged the data accordingly. However, information regarding all quality control issues is provided in the body of the report and on the qualification summary page.

VOA

The initial and continuing calibration exhibited some compounds with low RRF values, which resulted in qualifying non-detected values as rejected for these compounds. Due to high %D values in the continuing calibrations, some compounds were qualified as estimated.

Blank contamination was noted in the method blank associated with samples in this batch. Qualifications were added to the data.

DRO/GRO

No qualifications to the data were required.

Metals

Blank contamination was noted and qualification was required in the samples in this SDG.

The associated matrix spikes exhibited non-compliant %Rs for several analytes for which qualifications were required. Positive and non-detect results for antimony, arsenic, and cobalt were flagged as estimated J/UJ in the samples.

Specific Evaluation of Data

Data Completeness

The SDG was received complete and intact. Resubmissions were not required. Clarification questions were asked of the laboratory regarding the metals fraction. A copy of the e-mail correspondence is included in the validation worksheets. Clarification questions were asked of the laboratory regarding the DRO and GRO fractions. A copy of the e-mail correspondence is included in the project file.

Technical Holding Times

According to chain of custody records, sampling was performed on 05/13-15/08 and samples were received at the laboratory 05/16/08. All sample preparation and analysis was performed within Region II and/or method holding time requirements.

Initial/Continuing Calibration

VOA

Calibration standards exhibited RRFs and %Ds that were non-compliant. A summary of these non-compliances and affected samples are noted in the following table. Sample results are qualified as indicated.

Standard ID	Compound(s)	RRF, %RSD, %D	Samples	Q Flag
IC 05/18/08	acrolein isobutyl alcohol	0.0496 0.0369	all samples	J/R
CC 05/21/08	isobutyl alcohol	0.03526	73SB125-03	J/R
	iodomethane pentachloroethane chloroethane	23.8% 22.7% 27.0%		J/UJ
CC 05/21/08	acrolein isobutyl alcohol acetone	0.04224 0.03444 0.04723	74SB125-05	J/R
	bromomethane chloroethane	43.7% 33.0%		J/UJ
CC 05/22/08	acrolein isobutyl alcohol	0.04713 0.01646	74VP08a-10	J/R
	pentachloroethane chloroethane	23.3% 32.4%		J/UJ

Blanks

VOA

The associated method and/or QC blanks exhibited contamination as noted in the following table. Compounds for which there was no action required, are not included in the following table. Please note that the laboratory reported non-detect results down to

the MDL for this project. Therefore, the blank flagging actions were modified as follows to take this into consideration. Positive results greater than the MDL but less than the CRQL are qualified as U at the reported concentration when affected by blank contamination.

Blank ID	Compound	Concentration	Reporting Limit	Action Level
Method Blank	acetone	6.4J ug/Kg	50 ug/Kg	2X RL

Associated samples and required qualifications are noted in the following table.

Sample ID	Compound	Q Flag
74VP08a-10	acetone	U at reported value

Metals

Associated blanks exhibited contamination as noted in the following table. The laboratory reported non-detect results to the MDL for this project. Therefore, the blank flagging actions were modified to take this into consideration. Please see the Glossary of Qualification Flags and Abbreviations for details.

Blank ID	Analyte	Concentration	Action Level	Q Flag
PBS	antimony	0.1156J ug/L	>MDL up to RL	U

Associated samples and required qualifications are noted in the following table.

Sample ID	Analyte	Q Flag
all samples >MDL but <RL	antimony	U

Matrix Spike Recoveries

Metals

The matrix spikes of samples 74SB125-03 exhibited non-compliant %Rs for analytes that required qualification in the field samples. A summary of these non-compliances and affected samples are noted in the following table. Please note that mercury had a recovery below 10% in the associated MSD. However, the validator did not reject the reported results for mercury because the MS recovery was above 10%.

MS	Analytes	Samples	%R	Q Flag
74SB125-03	antimony	all samples	53%/48%	J/UJ
	cobalt		48%/72%	
74SB153-02	mercury	74SB125-03, 74SB125-05	57%/49%	J/UJ

A summary of qualifications required is provided on the following page. Please do not hesitate to contact DataQual ES with any questions regarding this validation report.

Sincerely,

Laura Maschhoff
President

Jacqueline Cleveland
Vice-President

Summary of Data Qualifications

VOA

Sample ID	Compound	Results	Q flag
all samples	acrolein isobutyl alcohol	+/-	J/R
73SB125-03	isobutyl alcohol	+/-	J/R
73SB125-03	iodomethane pentachloroethane chloroethane	+/-	J/UJ
74SB125-05	acrolein isobutyl alcohol acetone	+/-	J/R
74SB125-05	bromomethane chloroethane	+/-	J/UJ
74VP08a-10	acrolein isobutyl alcohol	+/-	J/R
74VP08a-10	pentachloroethane chloroethane	+/-	J/UJ
74VP08a-10	acetone	+	U at reported value

DRO/GRO

Sample ID	Compound	Results	Q flag
No qualifications required			

Metals

Sample ID	Analyte	Results	Q flag
all samples	antimony	>MDL up to RL	U
all samples	antimony cobalt	+/-	J/UJ
74SB125-03, 74SB125-05	mercury	+/-	J/UJ

Glossary of Qualification Flags and Abbreviations

Qualification Flags (Q-Flags)

U	not detected above the reported sample quantitation limit
J	estimated value
UJ	reported quantitation limit is qualified as estimated
N	analyte has been tentatively identified
JN	analyte has been tentatively identified, estimated value
R	result is rejected; the presence or absence of the analyte cannot be verified

Method/Preparation/Field QC Blank Qualification Flags (Q-Flags)

Organic Methods

NA	The sample result for the blank contaminant is greater than the RL (2X sample RL for common laboratory contaminants) when the blank value is less than the RL. The sample result for the blank contaminant is not qualified with any blank qualifiers.
U*	The sample result for the blank contaminant is less than the RL (2X sample RL for common laboratory contaminants) but greater than the MDL when the blank value is less than the RL. The sample result for the blank contaminant is qualified as non-detect U at the reported concentration.
RL**	The sample result for the blank contaminant is less than the RL (2X sample RL for common laboratory contaminants) but greater than the MDL when the blank value is less than the RL. The sample result for the blank contaminant is changed to the RL and qualified as non-detect U.

* This guideline is used when the laboratory is reporting non-detects to the MDL. ** This guideline is used when the laboratory is reporting non-detects to the RL.

Inorganic Methods

ICB/CCB/PB Action:

No Action -	The sample result is greater than the RL and greater than ten times (10X) the blank value.
U -	The sample result is greater than or equal to the MDL but less than or equal to the RL, result is reported as non-detect at the reported concentration, when the ICB/CCB/PB result is less or greater than the RL.

Glossary of Qualification Flags and Abbreviations, continued

R -	Sample result is greater than the RL and less than the ICB/CCB/PB value when the ICB/CCB/PB value is greater than the RL.
J -	Sample result is greater than the ICB/CCB/PB value but less than 10X the ICB/CCB/PB value when ICB/CCB/PB value is greater than the RL.
J/UJ -	Sample result is less than 10X RL when blank result is below the negative RL.

Field QC Blank action:

Note – Use field blanks to qualify data only if field blank results are greater than prep blank results.
Do not use rinsate blank associated with soils to qualify water samples and vice versa.

No Action -	The sample result is greater than the RL and greater than ten times (10X) the blank value.
U -	The sample result is greater than or equal to the MDL but less than or equal to the RL, result is reported as non-detect at the reported concentration, when the FB result is less or greater than the RL.
R -	Sample result is greater than the RL and less than the FB value when the FB value is greater than the RL.
J -	Sample result is greater than the FB value but less than 10X the FB value when FB value is greater than the RL.

General Abbreviations

RL	reporting limit
IDL	instrument detection limit
MDL	method detection limit
CRDL	contract required detection limit
CRQL	contract required quantitation limit
+	positive result
-	non-detect result

TEST AMERICA SAVANNAH SDG 36880-1

DataQual

Environmental Services, LLC

Michael Baker, Jr., Inc.
Airside Business Park
100 Airside Drive
Moon Township, PA 15108

August 19, 2008
SDG# SWMU36880-1, Test America-Savannah
NAPR SWMU 74, Puerto Rico

Dear Mr. Kimes,

The following Data Validation report is provided as requested for the parameters noted in the table below for SDG # SWMU36880-1. The data validation was performed in accordance with the SW-846 methods utilized by the laboratory, the Region II Standard Operating Procedures for the Validation of Organic Data Acquired Using SW-846 Methods (8260B-Rev 2, January 2006- SOP #HW-24 and 8270D-Rev 3, October 2006- SOP #HW-22), and professional judgment. Region II has not developed a validation checklist SOP for the methods used to assess the inorganic methods in this SDG (SW-846 methods 6020B and 7471A) or the organic methods for hydrocarbons (SW-846 methods 8015_DRO and 8015_GRO). Therefore, alternative worksheets were provided. Region II flagging conventions were used. All areas of concern are discussed in the body of the report and a summary of data qualifications is provided.

Sample ID	Lab ID	Matrix	VOA App IX	LL PAH	DRO	GRO	Metals
74SB131-00	680-36880-1	soil	X		X	X	X
74SB131-03	680-36880-2	soil	X		X	X	X
74SB131-03D	680-36880-3	soil	X		X	X	X
74SB131-05	680-36880-4	soil	X		X	X	X
74SB132-04	680-36880-5	soil	X	X	X	X	X
74SB132-05	680-36880-6	soil	X		X	X	X
74SB133-04	680-36880-7	soil	X		X	X	X
74SB133-05	680-36880-8	soil	X		X	X	X
74SB134-04	680-36880-9	soil	X		X	X	X
74SB134-05	680-36880-10	soil	X		X	X	X
74SB135-03	680-36880-11	soil	X		X	X	X
74SB135-05	680-36880-12	soil	X		X	X	X
74SB136-03	680-36880-13	soil	X		X	X	X
74SB136-03D	680-36880-14	soil	X		X	X	X
74SB136-05	680-36880-15	soil	X		X	X	X
74SB137-03	680-36880-16	soil	X		X	X	X
74SB134-04	680-36880-17	soil	X		X	X	X
74SB138-03	680-36880-18	soil	X		X	X	X
74SB138-04	680-36880-19	soil	X		X	X	X
74SB139-03	680-36880-20	soil	X		X	X	X
74SB131-03 MS	680-36880-2MS	soil	X		X	X	X
74SB131-03 MSD	680-36880-2MSD	soil	X		X	X	X

The following quality control samples were provided with this SDG: sample 74SB131-03D-field duplicate of sample 74SB131-03; and sample 74SB136-03D-field duplicate of sample 74SB136-03.

5830 Amberway Drive • St. Louis, MO 63128 • 314-330-1327 • Fax 314-849-6264

The samples were evaluated based on the following criteria:

- Data Completeness *
- Sample Condition *
- Technical Holding Times *
- GC/MS Tuning *
- GC Performance *
- Initial/Continuing Calibrations
- ICSA/ICSAB Standards
- CRDL Standards *
- Blanks
- Internal Standards *
- Surrogate Recoveries
- Laboratory Control Samples *
- Matrix Spike Recoveries
- Matrix Duplicate RPDs *
- Serial Dilutions *
- Field Duplicates
- Identification/Quantitation *
- Reporting Limits *
- Tentatively Identified Compounds NA

* - indicates that qualifications were not required based on this criteria

Overall Evaluation of Data/Potential Usability Issues

A summary of qualifications applied to the sample results are noted below for the fractions validated. Specific details regarding qualification of the data are addressed in the Specific Evaluation section of this narrative. If an issue is not addressed there were no actions required based on unmet quality criteria. When more than one qualifier is associated with a compound/analyte the validator has chosen the qualifier that best indicates possible bias in the results and flagged the data accordingly. However, information regarding all quality control issues is provided in the body of the report and on the qualification summary page.

VOA

The initial and continuing calibration exhibited some compounds with low RRF values, which resulted in qualifying non-detected values as rejected for these compounds. Due to high %D values in the continuing calibrations, some compounds were qualified as estimated.

Blank contamination was noted in the method and QC blanks associated with samples in this batch. Qualifications were added to the data.

One sample exhibited non-compliant surrogate recoveries that resulted in qualifications to the data.

LL PAH

No qualifications to the data were required.

DRO/GRO

The associated GRO fraction rinse blank exhibited contamination and qualification was required in the samples in this SDG.

Metals

The ICSAB standard exhibited non-compliant recoveries for the analytes silver and zinc. Silver was recovered below the QC limits and zinc was recovered above the QC limits. Based on Region II guidelines all positive and non-detect results for silver were qualified as estimated J/UJ and positive results for zinc were qualified as estimated J in the field samples.

Blank contamination was noted and qualification was required in the samples in this SDG.

The associated matrix spikes exhibited non-compliant %Rs for several analytes for which qualifications were required. Positive and non-detect results for antimony were flagged as estimated J/UJ in the samples. Positive results for barium and cobalt were flagged as estimated J in the samples.

The field duplicate pair of samples 74SB131-03 and 74SB131-03D exhibited non-compliant RPD >35% but less than 120% for the analytes barium and vanadium. The field duplicate pair of samples 74SB136-03 and 74SB136-03D exhibited non-compliant RPD >35% but less than 120% for the analytes barium, chromium, cobalt and lead. These analytes were flagged as estimated J in the field duplicate pair. All qualifications were made based on the Region II guidance.

Specific Evaluation of Data

Data Completeness

Resubmissions were required for the low level PAH fraction. The laboratory submitted Forms V and VII and raw data for the incorrect sample file. The laboratory was contacted and corrected forms and raw data were submitted. Clarification questions were asked of the laboratory regarding the metals fraction. Copies of these e-mail correspondences are included in the validation worksheets. Clarification questions were

asked of the laboratory regarding the GRO/DRO fraction. A copy of these e-mail correspondences is included in the project file.

Technical Holding Times

According to chain of custody records, sampling was performed on 05/15/08 and samples were received at the laboratory 05/17/08. All sample preparation and analysis was performed within Region II and/or method holding time requirements.

Initial/Continuing Calibration

VOA

Calibration standards exhibited RRFs and %Ds that were non-compliant. A summary of these non-compliances and affected samples are noted in the following table. Sample results are qualified as indicated.

Standard ID	Compound(s)	RRF, %RSD, %D	Samples	Q Flag
IC 05/18/08	acrolein isobutyl alcohol	0.0496 0.0369	74SB131-03, 74SB131-05, 74SB133-04, 74SB135-03, 74SB131-03D, 74SB137-04	J/R
CC 05/22/08	acrolein isobutyl alcohol	0.04713 0.01646	74SB131-03, 74SB131-05, 74SB133-04, 74SB135-03	J/R
	pentachloroethane chloroethane	23.3% 32.4%		J/UJ
CC 05/22/08	acrolein isobutyl alcohol acetone	0.04622 0.01743 0.04664	74SB131-03D, 74SB137-04	J/R
	bromomethane	27.9%		J/UJ
CC 05/24/08	pentachloroethane	163.2%	74SB135-05, 74SB136-03, 74SB136-03D, 74SB136-05, 74SB137-03, 74SB138-04, 74SB139-03, 74SB138-03	J/R
	acrolein acetonitrile acrylonitrile propionitrile methacrylonitrile isobutyl alcohol chloroethane vinyl acetate	28.3% 37.2% 22.4% 41.2% 22.1% 57.1% 32.5% 20.1%		J/UJ
CC 05/27/08	pentachloroethane	173.3%	74SB131-00, 74SB132-04, 74SB132-05, 74SB133-05, 74SB134-04, 74SB134-05	J/R
	2-hexanone	23.0%		J/UJ

ICSA/ICSAB Standards

Metals

The associated ICSAB standards exhibited non-compliant recoveries less than the lower QC limit for the analyte silver (78%/78%/76%). Based on Region II guidelines, reported positive and non-detect results for silver were qualified as estimated J/UJ in all samples. The associated ICSAB standards exhibited non-compliant recoveries above the upper QC limit for the analyte zinc (122%/121%). Based on Region II guidelines, reported positive results for zinc were qualified as estimated J in all samples.

Blanks

VOA

The associated method and/or QC blanks exhibited contamination as noted in the following table. Compounds for which there was no action required, are not included in the following table. Please note that the laboratory reported non-detect results down to the MDL for this project. Therefore, the blank flagging actions were modified as follows to take this into consideration. Positive results greater than the MDL but less than the CRQL are qualified as U at the reported concentration when affected by blank contamination.

Blank ID	Compound	Concentration	Reporting Limit	Action Level
Method Blank	acetone	6.4J ug/Kg	50 ug/Kg	2X RL
FB01	2-butanone	0.69J ug/L	10 ug/L	RL

Associated samples and required qualifications are noted in the following table.

Sample ID	Compound	Q Flag
74SB131-03, 74SB131-05, 74SB133-04, 74SB135-03	acetone	U at reported value
74SB131-05, 74SB136-03, 74SB136-03D, 74SB136-05, 74SB137-03, 74SB138-03, 74SB138-04	2-butanone	U at reported value

DRO/GRO

The associated GRO rinse blank exhibited contamination as noted in the following table. The laboratory reported non-detect results to the MDL for this project. Therefore, the blank flagging actions were modified to take this into consideration. Please see the Glossary of Qualification Flags and Abbreviations for details.

Blank ID	Compound	Concentration	Action Level
ER13	GRO	0.014 mg/Kg	>MDL up to RL

Associated samples and required qualifications are noted in the following table.

Sample ID	Compound	Q Flag
all samples >MDL up to RL	GRO	U

Metals

Associated blanks exhibited contamination as noted in the following table. The laboratory reported non-detect results to the MDL for this project. Therefore, the blank flagging actions were modified to take this into consideration. Please see the Glossary of Qualification Flags and Abbreviations for details.

Blank ID	Analyte	Concentration	Action Level	Q Flag
PBS	antimony	0.27010J mg/Kg	>MDL up to RL	U

* Field QC blank qualifications were made using QC blank tracking. Please note, when qualifying samples for CCB contamination, associated samples are those just prior to or just following a CCB. Therefore, not all analytes in all samples are flagged for CCB contamination.

Associated samples and required qualifications are noted in the following table.

Sample ID	Analyte	Q Flag
all samples > MDL up to RL	antimony	U

Surrogates

VOA

Sample 74SB131-03D exhibited high surrogate recovery for dibromofluoromethane at 127% recovery (QC limit 65-124%); therefore all positive results were qualified as estimated (J).

Matrix Spike Recoveries

Metals

The matrix spikes of samples 74SB131-03 exhibited non-compliant %Rs for analytes that required qualification in the field samples. A summary of these non-compliances and affected samples are noted in the following table. Please note that one of the recoveries for barium was above 200%. However, the validator did not reject the reported results for barium because the other recovery was not above 200%.

MS	Analytes	Samples	%R	Q Flag
74SB131-03	antimony	all samples	61%/63%	J/UJ
	barium		205%/186%	J+
	cobalt		187%/154%	

Field Duplicates

Metals

The field duplicate pair of samples 74SB131-03 and 74SB131-03D exhibited non-compliant RPD >35% but less than 120% for the analytes barium and vanadium. The field duplicate pair of samples 74SB136-03 and 74SB136-03D exhibited non-compliant RPD >35% but less than 120% for the analytes barium, chromium, cobalt and lead. These analytes were flagged as estimated J in the field duplicate pair. All qualifications were made based on the Region II guidance.

A summary of qualifications required is provided on the following page. Please do not hesitate to contact DataQual ES with any questions regarding this validation report.

Sincerely,

Laura Maschhoff
President

Jacqueline Cleveland
Vice-President

Summary of Data Qualifications

VOA

Sample ID	Compound	Results	Q flag
74SB131-03, 74SB131-05, 74SB133-04, 74SB135-03, 74SB131-03D, 74SB137-04	acrolein isobutyl alcohol	+/-	J/R
74SB131-03, 74SB131-05, 74SB133-04, 74SB135-03	acrolein isobutyl alcohol	+/-	J/R
74SB131-03, 74SB131-05, 74SB133-04, 74SB135-03	pentachloroethane chloroethane	+/-	J/UJ
74SB131-03D, 74SB137-04	acrolein isobutyl alcohol acetone	+/-	J/R
74SB131-03D, 74SB137-04	bromomethane	+/-	J/UJ
74SB135-05, 74SB136-03, 74SB136-03D, 74SB136-05, 74SB137-03, 74SB138-04, 74SB139-03, 74SB138-03	pentachloroethane	+/-	J/R
74SB135-05, 74SB136-03, 74SB136-03D, 74SB136-05, 74SB137-03, 74SB138-04, 74SB139-03, 74SB138-03	acrolein acetonitrile acrylonitrile propionitrile methacrylonitrile isobutyl alcohol chloroethane vinyl acetate	+/-	J/UJ
74SB131-00, 74SB132-04, 74SB132-05, 74SB133-05, 74SB134-04, 74SB134-05	pentachloroethane	+/-	J/R
74SB131-00, 74SB132-04, 74SB132-05, 74SB133-05, 74SB134-04, 74SB134-05	2-hexanone	+/-	J/UJ
74SB131-03, 74SB131-05, 74SB133-04, 74SB135-03	acetone	+	U at reported value
74SB131-05, 74SB136-03, 74SB136-03D, 74SB136-05, 74SB137-03, 74SB138-03, 74SB138-04	2-butanone	+	U at reported value
74SB131-03D	all results	+	J

LL PAH

Sample ID	Compound	Results	Q flag
No qualifications			

DRO/GRO

Sample ID	Compound	Results	Q flag
all samples >MDL up to RL	GRO	+J	U

Summary of Data Qualifications, continued

Metals

Sample ID	Analyte	Results	Q flag
all samples	silver	+/-	J/UJ
all samples	zinc	+	J
all samples	antimony	>MDL up to RL	U
all samples	antimony	+/-	J/UJ
all samples	barium cobalt	+	J
74SB131-03, 74SB131-03D	barium vanadium	+	J
74SB136-03, 74SB136-03	barium chromium cobalt lead	+	J

Glossary of Qualification Flags and Abbreviations

Qualification Flags (Q-Flags)

U	not detected above the reported sample quantitation limit
J	estimated value
UJ	reported quantitation limit is qualified as estimated
N	analyte has been tentatively identified
JN	analyte has been tentatively identified, estimated value
R	result is rejected; the presence or absence of the analyte cannot be verified

Method/Preparation/Field QC Blank Qualification Flags (Q-Flags)

Organic Methods

NA	The sample result for the blank contaminant is greater than the RL (2X sample RL for common laboratory contaminants) when the blank value is less than the RL. The sample result for the blank contaminant is not qualified with any blank qualifiers.
U*	The sample result for the blank contaminant is less than the RL (2X sample RL for common laboratory contaminants) but greater than the MDL when the blank value is less than the RL. The sample result for the blank contaminant is qualified as non-detect U at the reported concentration.
RL**	The sample result for the blank contaminant is less than the RL (2X sample RL for common laboratory contaminants) but greater than the MDL when the blank value is less than the RL. The sample result for the blank contaminant is changed to the RL and qualified as non-detect U.

* This guideline is used when the laboratory is reporting non-detects to the MDL. ** This guideline is used when the laboratory is reporting non-detects to the RL.

Inorganic Methods

ICB/CCB/PB Action:

No Action -	The sample result is greater than the RL and greater than ten times (10X) the blank value.
U -	The sample result is greater than or equal to the MDL but less than or equal to the RL, result is reported as non-detect at the reported concentration, when the ICB/CCB/PB result is less or greater than the RL.

Glossary of Qualification Flags and Abbreviations, continued

R -	Sample result is greater than the RL and less than the ICB/CCB/PB value when the ICB/CCB/PB value is greater than the RL.
J -	Sample result is greater than the ICB/CCB/PB value but less than 10X the ICB/CCB/PB value when ICB/CCB/PB value is greater than the RL.
J/UJ -	Sample result is less than 10X RL when blank result is below the negative RL.

Field QC Blank action:

Note – Use field blanks to qualify data only if field blank results are greater than prep blank results.

Do not use rinsate blank associated with soils to qualify water samples and vice versa.

No Action -	The sample result is greater than the RL and greater than ten times (10X) the blank value.
U -	The sample result is greater than or equal to the MDL but less than or equal to the RL, result is reported as non-detect at the reported concentration, when the FB result is less or greater than the RL.
R -	Sample result is greater than the RL and less than the FB value when the FB value is greater than the RL.
J -	Sample result is greater than the FB value but less than 10X the FB value when FB value is greater than the RL.

General Abbreviations

RL	reporting limit
IDL	instrument detection limit
MDL	method detection limit
CRDL	contract required detection limit
CRQL	contract required quantitation limit
+	positive result
-	non-detect result

TEST AMERICA SAVANNAH SDG 36880-2

DataQual

Environmental Services, LLC

Michael Baker, Jr., Inc.
Airside Business Park
100 Airside Drive
Moon Township, PA 15108

August 19, 2008
SDG# SWMU36880-2, Test America-Savannah
NAPR SWMU 74, Puerto Rico

Dear Mr. Kimes,

The following Data Validation report is provided as requested for the parameters noted in the table below for SDG # SWMU36880-2. The data validation was performed in accordance with the SW-846 methods utilized by the laboratory, the Region II Standard Operating Procedures for the Validation of Organic Data Acquired Using SW-846 Methods (8260B-Rev 2, January 2006- SOP #HW-24 and 8270D-Rev 3, October 2006- SOP #HW-22), and professional judgment. Region II has not developed a validation checklist SOP for the methods used to assess the inorganic methods in this SDG (SW-846 methods 6020B and 7471A) or the organic methods for hydrocarbons (SW-846 methods 8015_DRO and 8015_GRO). Therefore, alternative worksheets were provided. Region II flagging conventions were used. All areas of concern are discussed in the body of the report and a summary of data qualifications is provided.

Sample ID	Lab ID	Matrix	VOA App IX	LL PAH	DRO/GRO	Metals
74SB139-05	680-36880-21	soil	X		X	X
74SB140-04	680-36880-22	soil	X		X	X
74SB140-05	680-36880-23	soil	X		X	X
74SB154-04	680-36880-24	soil	X		X	X
74SB154-05	680-36880-25	soil	X		X	X
74SB155-04	680-36880-26	soil	X		X	X
74SB155-05	680-36880-27	soil	X		X	X
74SB156-04	680-36880-28	soil	X		X	X
74SB156-05	680-36880-29	soil	X	X	X	X
74SB156-05D	680-36880-30	soil	X	X	X	X
74SB151-00	680-36880-31	soil	X		X	X
74SB151-01	680-36880-32	soil	X		X	X
74SB151-01D	680-36880-33	soil	X		X	X
74SB161-00	680-36880-34	soil	X		X	X
74SB161-00D	680-36880-35	soil	X		X	X
74SB161-04	680-36880-36	soil	X		X	X
74SB161-04D	680-36880-37	soil	X		X	X
74SB161-05	680-36880-38	soil	X		X	X
74SB162-04	680-36880-39	soil	X		X	X
74SB162-05	680-36880-40	soil	X		X	X
74SB161-05 MS	680-36880-38MS	soil	X		X	X
74SB161-05 MSD	680-36880-38MSD	soil	X		X	X

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The following quality control samples were provided with this SDG: sample 74SB156-05D-field duplicate of sample 74SB156-05; sample 74SB151-01D-field duplicate of sample 74SB151-01; sample 74SB161-00D-field duplicate of sample 74SB161-00; and sample 74SB161-04D-field duplicate of sample 74SB161-04.

The samples were evaluated based on the following criteria:

• Data Completeness	*
• Sample Condition	*
• Technical Holding Times	*
• GC/MS Tuning	*
• Initial/Continuing Calibrations	
• ICSA/ICSAB Standards	
• CRDL Standards	*
• Blanks	*
• Internal Standards	*
• Surrogate Recoveries	*
• Laboratory Control Samples	*
• Matrix Spike Recoveries	
• Matrix Duplicate RPDs	
• Serial Dilutions	*
• Field Duplicates	
• Identification/Quantitation	*
• Reporting Limits	*
• Tentatively Identified Compounds	NA

* - indicates that qualifications were not required based on this criteria

Overall Evaluation of Data/Potential Usability Issues

A summary of qualifications applied to the sample results are noted below for the fractions validated. Specific details regarding qualification of the data are addressed in the Specific Evaluation section of this narrative. If an issue is not addressed there were no actions required based on unmet quality criteria. When more than one qualifier is associated with a compound/analyte the validator has chosen the qualifier that best indicates possible bias in the results and flagged the data accordingly. However, information regarding all quality control issues is provided in the body of the report and on the qualification summary page.

VOA

The initial and continuing calibration exhibited some compounds with low RRF values, which resulted in qualifying non-detected values as rejected for these compounds. Due to

high %D values in the continuing calibrations, some compounds were qualified as estimated.

Blank contamination was noted in the QC blanks associated with samples in this batch. Qualifications were added to the data.

The associated matrix spike and matrix spike duplicate exhibited a low recovery for one compound that resulted in qualifications to the data.

LL PAH

One of the field duplicate pairs did not exhibit comparable results for two compounds that resulted in qualifying data.

DRO/GRO

One continuing calibration standard for the DRO fraction exhibited a non-compliant %D that resulted in the qualification of three DRO results as estimated J.

The associated GRO fraction rinse blank exhibited contamination and qualification was required in the samples in this SDG.

The MS/MSD analyzed for the DRO fraction exhibited varying non-compliant recoveries that resulted in the qualification of the DRO result in native sample as estimated J.

The GRO field duplicate pair of samples 74SB156-05 & 74SB156-05D exhibited and RPD of 179%. The result in the field duplicate was less than the RL and was therefore flagged as U at the reported concentration due to rinse blank contamination. The results were qualified as estimated J/UJ and it should be noted that the possibility of a field sampling issue exists in these results.

Metals

The ICSAB standard exhibited non-compliant recoveries for the analytes silver and zinc. Silver was recovered below the QC limits and zinc was recovered above the QC limits. Based on Region II guidelines all positive and non-detect results for silver were qualified as estimated J/UJ and positive results for zinc were qualified as estimated J in the field samples.

Blank contamination was noted and qualification was required in the samples in this SDG.

The associated matrix spikes exhibited non-compliant %Rs for several analytes for which qualifications were required. Positive and non-detect results for antimony, barium, chromium and lead were flagged as estimated J/UJ in the samples.

The associated matrix duplicate exhibited non-compliant RPDs for several analytes for which qualifications were required. Positive and non-detect results for chromium, cobalt and barium were flagged as estimated J/UJ in the samples.

The field duplicate pair of samples 74SB151-01 and 74SB151-01D exhibited a non-compliant RPD >35% but less than 120% for the analyte cobalt. The field duplicate pair of samples 74SB161-00 and 74SB161-00D exhibited non-compliant RPDs >35% but less than 120% for the analytes copper and zinc. These analytes were flagged as estimated in the respective field duplicate pairs only. All qualifications were made based on the Region II guidance.

Specific Evaluation of Data

Data Completeness

The SDG was received complete and intact. Resubmissions were not required. Clarification questions were asked of the laboratory regarding the metals fraction. Copies of these e-mail correspondences are included in the validation worksheets. Clarification questions were asked of the laboratory regarding the GRO/DRO fraction. A copy of these e-mail correspondences is included in the project file.

Technical Holding Times

According to chain of custody records, sampling was performed on 05/14-16/08 and samples were received at the laboratory 05/17/08. All sample preparation and analysis was performed within Region II and/or method holding time requirements.

Initial/Continuing Calibration

VOA

Calibration standards exhibited RRFs and %Ds that were non-compliant. A summary of these non-compliances and affected samples are noted in the following table. Sample results are qualified as indicated.

Standard ID	Compound(s)	RRF, %RSD, %D	Samples	Q Flag
IC 05/18/08	acrolein isobutyl alcohol	0.0496 0.0369	74SB139-05, 74SB140-04, 74SB140-05, 74SB154-04, 74SB154-05, 74SB155-04, 74SB155-05, 74SB156-04, 74SB156-05, 74SB156-05D, 74SB151-00, 74SB151-01, 74SB161-00, 74SB161-00D, 74SB161-04	J/R

Standard ID	Compound(s)	RRF, %RSD, %D	Samples	Q Flag
CC 05/22/08	acrolein isobutyl alcohol acetone	0.04622 0.01743 0.04664	74SB139-05	J/R
	bromomethane	27.9%		J/UJ
CC 05/23/08	isobutyl alcohol acetone	0.01817 0.04603	74SB140-04, 74SB140-05, 74SB154-04, 74SB154-05, 74SB155-04, 74SB155-05, 74SB156-04, 74SB156-05, 74SB156-05D, 74SB151-00 74SB151-01, 74SB161-00, 74SB161-00D, 74SB161-04	J/R
	iodomethane 3-chloro-1-propene acrylonitrile methyl methacrylate pentachloroethane bromomethane	22.6% 26.1% 22.5% 22.2% 21.7% 28.9%		J/UJ
CC 05/24/08	pentachloroethane	163.2%	74SB161-05, 74SB151-01D, 74SB161-04D	J/R
	acrolein acetonitrile acrylonitrile propionitrile methacrylonitrile isobutyl alcohol chloroethane vinyl acetate	28.3% 37.2% 22.4% 41.2% 22.1% 57.1% 32.5% 20.1%		J/UJ
CC 05/27/08	pentachloroethane	173.3%	74SB162-04, 74SB162-05	J/R
	2-hexanone	23.0%		J/UJ

DRO/GRO

One calibration standard exhibited a non-compliant %D for DRO. A summary of this non-compliance and affected samples are noted in the following table. Sample results are qualified as indicated.

Standard ID	Compound(s)	%D	Samples	Q Flag
QE270127	DRO	18.7%	74SB156-04, 74SB156-05, 74SB156-05D	J

ICSA/ICSAB Standards

Metals

The associated ICSAB standards exhibited non-compliant recoveries less than the lower QC limit for the analyte silver (78%/78%/76%). Based on Region II guidelines, reported positive and non-detect results for silver were qualified as estimated J/UJ in all samples. The associated ICSAB standards exhibited non-compliant recoveries above the upper QC

limit for the analyte zinc (122%/121%). Based on Region II guidelines, reported positive results for zinc were qualified as estimated J in all samples.

Blanks

VOA

The associated method and/or QC blanks exhibited contamination as noted in the following table. Compounds for which there was no action required, are not included in the following table. Please note that the laboratory reported non-detect results down to the MDL for this project. Therefore, the blank flagging actions were modified as follows to take this into consideration. Positive results greater than the MDL but less than the CRQL are qualified as U at the reported concentration when affected by blank contamination.

Blank ID	Compound	Concentration	Reporting Limit	Action Level
FB01	2-butanone	0.69J ug/L	10 ug/L	RL

Associated samples and required qualifications are noted in the following table.

Sample ID	Compound	Q Flag
74SB151-00, 74SB151-01, 74SB151-01D, 74SB161-00, 74SB161-00D, 74SB161-04, 74SB161-04D, 74SB161-05	2-butanone	U at reported value

DRO/GRO

The associated GRO rinse blank exhibited contamination as noted in the following table. The laboratory reported non-detect results to the MDL for this project. Therefore, the blank flagging actions were modified to take this into consideration. Please see the Glossary of Qualification Flags and Abbreviations for details.

Blank ID	Compound	Concentration	Action Level
ER13	GRO	0.014 mg/Kg	>MDL up to RL

Associated samples and required qualifications are noted in the following table.

Sample ID	Compound	Q Flag
all samples >MDL up to RL	GRO	U

Metals

Associated blanks exhibited contamination as noted in the following table. The laboratory reported non-detect results to the MDL for this project. Therefore, the blank flagging actions were modified to take this into consideration. Please see the Glossary of Qualification Flags and Abbreviations for details.

Blank ID	Analyte	Concentration	Action Level	Q Flag
PBS	antimony	0.2033 mg/Kg	>MDL up to RL	U

* Field QC blank qualifications were made using QC blank tracking. Please note, when qualifying samples for CCB contamination, associated samples are those just prior to or just following a CCB. Therefore, not all analytes in all samples are flagged for CCB contamination.

Associated samples and required qualifications are noted in the following table.

Sample ID	Analyte	Q Flag
all samples >MDL up to RL	antimony	U

Matrix Spike Recoveries

VOA

The matrix spike and matrix spike duplicate associated with samples 74SB151-01 and 74SB151-01D exhibited low recoveries for styrene with 74% and 66% recoveries (QC limits 75-123%); therefore the results for this compound were qualified as estimated for these samples.

Metals

The matrix spikes of samples 74SB161-05 & 74SB151-01 exhibited non-compliant %Rs for analytes that required qualification in the field samples. A summary of these non-compliances and affected samples are noted in the following table. Please note that some of the recoveries were below 10% or above 200%. However, the validator did not reject the reported results for those analytes because not all of the recoveries for a particular analyte were below 10% or above 200%.

MS	Analytes	Samples	%R	Q Flag
74SB161-05	antimony	all samples	51%/54%	J/UJ
	barium		128%/47%	
	tin		139%/141%	J+
74SB151-01	antimony	all samples	49%/57%	J/UJ
	chromium		158%/56%	
	lead		30%/10%	
	tin		145%/136%	J+

DRO/GRO

The DRO fraction matrix spike and matrix spike duplicate associated with samples 74SB151-01 and 74SB151-01D exhibited varying non-compliant recoveries; therefore the results for DRO were qualified as estimated J in these samples.

Matrix Duplicates

Metals

The matrix duplicate of samples 74SB151-01 & 74SB161-05 exhibited non-compliant %Ds for several analytes that required qualification in the field samples. A summary of these non-compliances and affected samples are noted in the following table.

MD	Analytes	Samples	RPD	Q Flag
74SB151-01	chromium	all samples	27.8%	J/UJ
	cobalt		26.4%	
74SB161-05	barium	all samples	20.6%	J/UJ

Field Duplicates

VOA

Sample 74SB156-05 and duplicate 74SB156-05D did not exhibit comparable results for fluorene and phenanthrene with 200% RPD for both compounds. These compounds were qualified as estimated (J/UJ) in both samples.

Metals

The field duplicate pair of samples 74SB151-01 and 74SB151-01D exhibited a non-compliant RPD >35% but less than 120% for the analyte cobalt. The field duplicate pair of samples 74SB161-00 and 74SB161-00D exhibited non-compliant RPDs >35% but less than 120% for the analytes copper and zinc. These analytes were flagged as estimated in the respective field duplicate pairs only. All qualifications were made based on the Region II guidance.

A summary of qualifications required is provided on the following page. Please do not hesitate to contact DataQual ES with any questions regarding this validation report.

Sincerely,

Laura Maschhoff
President

Jacqueline Cleveland
Vice-President

Summary of Data Qualifications

VOA

Sample ID	Compound	Results	Q flag
74SB139-05, 74SB140-04, 74SB140-05, 74SB154-04, 74SB154-05, 74SB155-04, 74SB155-05, 74SB156-04, 74SB156-05, 74SB156-05D, 74SB151-00, 74SB151-01, 74SB161-00, 74SB161-00D, 74SB161-04	acrolein isobutyl alcohol	+/-	J/R
74SB139-05	acrolein isobutyl alcohol acetone	+/-	J/R
74SB139-05	bromomethane	+/-	J/UJ
74SB140-04, 74SB140-05, 74SB154-04, 74SB154-05, 74SB155-04, 74SB155-05, 74SB156-04, 74SB156-05, 74SB156-05D, 74SB151-00, 74SB151-01, 74SB161-00, 74SB161-00D, 74SB161-04	isobutyl alcohol acetone	+/-	J/R
74SB140-04, 74SB140-05, 74SB154-04, 74SB154-05, 74SB155-04, 74SB155-05, 74SB156-04, 74SB156-05, 74SB156-05D, 74SB151-00, 74SB151-01, 74SB161-00, 74SB161-00D, 74SB161-04	iodomethane 3-chloro-1-propene acrylonitrile methyl methacrylate pentachloroethane bromomethane	+/-	J/UJ
74SB161-05, 74SB151-01D, 74SB161-04D	pentachloroethane	+/-	J/R
74SB161-05, 74SB151-01D, 74SB161-04D	acrolein acetonitrile acrylonitrile propionitrile methacrylonitrile isobutyl alcohol chloroethane vinyl acetate	+/-	J/UJ
74SB162-04, 74SB162-05	pentachloroethane	+/-	J/R
74SB151-00, 74SB151-01, 74SB151-01D, 74SB161-00, 74SB161-00D, 74SB161-04, 74SB161-04D, 74SB161-05	2-butanone	+	U at reported value
74SB162-04, 74SB162-05	2-hexanone	+/-	J/UJ
74SB151-01, 74SB151-01D	styrene	+/-	J/UJ

LL PAH

Sample ID	Compound	Results	Q flag
74SB156-05, 74SB156-05D	fluorene phenanthrene	+/-	J/UJ

Summary of Data Qualifications, continued

DRO/GRO

Sample ID	Compound	Results	Q flag
74SB156-04, 74SB156-05, 74SB156-05D	DRO	+	J
all samples >MDL up to RL	GRO	+J	U
74SB151-01, 74SB151-01D	DRO	+	J
74SB156-05, 74SB156-05D	GRO	+/-	J/UJ

Metals

Sample ID	Analyte	Results	Q flag
all samples	silver	+/-	J/UJ
all samples	zinc	+	J
all samples	antimony	>MDL up to RL	U
all samples	antimony barium chromium lead	+/-	J/UJ
all samples	chromium cobalt barium	+/-	J/UJ
74SB151-01, 74SB151-01D	cobalt	+	J
74SB161-00, 74SB161-00D	copper zinc	+	J

Glossary of Qualification Flags and Abbreviations

Qualification Flags (Q-Flags)

U	not detected above the reported sample quantitation limit
J	estimated value
UJ	reported quantitation limit is qualified as estimated
N	analyte has been tentatively identified
JN	analyte has been tentatively identified, estimated value
R	result is rejected; the presence or absence of the analyte cannot be verified

Method/Preparation/Field QC Blank Qualification Flags (Q-Flags)

Organic Methods

NA	The sample result for the blank contaminant is greater than the RL (2X sample RL for common laboratory contaminants) when the blank value is less than the RL. The sample result for the blank contaminant is not qualified with any blank qualifiers.
U*	The sample result for the blank contaminant is less than the RL (2X sample RL for common laboratory contaminants) but greater than the MDL when the blank value is less than the RL. The sample result for the blank contaminant is qualified as non-detect U at the reported concentration.
RL**	The sample result for the blank contaminant is less than the RL (2X sample RL for common laboratory contaminants) but greater than the MDL when the blank value is less than the RL. The sample result for the blank contaminant is changed to the RL and qualified as non-detect U.

* This guideline is used when the laboratory is reporting non-detects to the MDL. ** This guideline is used when the laboratory is reporting non-detects to the RL.

Inorganic Methods

ICB/CCB/PB Action:

No Action -	The sample result is greater than the RL and greater than ten times (10X) the blank value.
U -	The sample result is greater than or equal to the MDL but less than or equal to the RL, result is reported as non-detect at the reported concentration, when the ICB/CCB/PB result is less or greater than the RL.

Glossary of Qualification Flags and Abbreviations, continued

R -	Sample result is greater than the RL and less than the ICB/CCB/PB value when the ICB/CCB/PB value is greater than the RL.
J -	Sample result is greater than the ICB/CCB/PB value but less than 10X the ICB/CCB/PB value when ICB/CCB/PB value is greater than the RL.
J/UJ -	Sample result is less than 10X RL when blank result is below the negative RL.

Field QC Blank action:

Note – Use field blanks to qualify data only if field blank results are greater than prep blank results.
Do not use rinsate blank associated with soils to qualify water samples and vice versa.

No Action -	The sample result is greater than the RL and greater than ten times (10X) the blank value.
U -	The sample result is greater than or equal to the MDL but less than or equal to the RL, result is reported as non-detect at the reported concentration, when the FB result is less or greater than the RL.
R -	Sample result is greater than the RL and less than the FB value when the FB value is greater than the RL.
J -	Sample result is greater than the FB value but less than 10X the FB value when FB value is greater than the RL.

General Abbreviations

RL	reporting limit
IDL	instrument detection limit
MDL	method detection limit
CRDL	contract required detection limit
CRQL	contract required quantitation limit
+	positive result
-	non-detect result

TEST AMERICA SAVANNAH SDG 36880-3

DataQual

Environmental Services, LLC

Michael Baker, Jr., Inc.
Airside Business Park
100 Airside Drive
Moon Township, PA 15108

August 20, 2008
SDG# SWMU36880-3, Test America-Savannah
NAPR SWMU 74, Puerto Rico

Dear Mr. Kimes,

The following Data Validation report is provided as requested for the parameters noted in the table below for SDG # SWMU36880-3. The data validation was performed in accordance with the SW-846 methods utilized by the laboratory, the Region II Standard Operating Procedures for the Validation of Organic Data Acquired Using SW-846 Methods (8260B-Rev 2, January 2006- SOP #HW-24), and professional judgment. Region II has not developed a validation checklist SOP for the methods used to assess the inorganic methods in this SDG (SW-846 methods 6020B and 7471A) or the organic methods for hydrocarbons (SW-846 methods 8015_DRO and 8015_GRO). Therefore, alternative worksheets were provided. Region II flagging conventions were used. All areas of concern are discussed in the body of the report and a summary of data qualifications is provided.

Sample ID	Lab ID	Matrix	VOA App IX	DRO/GRO	Metals
74SB163-03	680-36806-41	soil	X	X	X
74SB163-04	680-36806-42	soil	X	X	X
74SB163-03	680-36806-41MS	soil			X
74SB163-03	680-36806-41MSD	soil			X

The samples were evaluated based on the following criteria:

- Data Completeness *
- Sample Condition *
- Technical Holding Times *
- GC/MS Tuning *
- GC Performance *
- Initial/Continuing Calibrations
- ICSA/ICSAB Standards
- CRDL Standards *
- Blanks
- Internal Standards *
- Surrogate Recoveries *
- Laboratory Control Samples *
- Matrix Spike Recoveries
- Matrix Duplicate RPDs *

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- Serial Dilutions *
- Field Duplicates NA
- Identification/Quantitation *
- Reporting Limits *
- Tentatively Identified Compounds NA

* - indicates that qualifications were not required based on this criteria

Overall Evaluation of Data/Potential Usability Issues

A summary of qualifications applied to the sample results are noted below for the fractions validated. Specific details regarding qualification of the data are addressed in the Specific Evaluation section of this narrative. If an issue is not addressed there were no actions required based on unmet quality criteria. When more than one qualifier is associated with a compound/analyte the validator has chosen the qualifier that best indicates possible bias in the results and flagged the data accordingly. However, information regarding all quality control issues is provided in the body of the report and on the qualification summary page.

VOA

The continuing calibration exhibited some compounds with low RRF values, which resulted in qualifying non-detected values as rejected for these compounds. Due to high %D values in the continuing calibrations, some compounds were qualified as estimated.

DRO/GRO

No qualification to the data was required.

Metals

The ICSAB standard exhibited non-compliant recoveries above the QC limit for the analyte zinc. Based on Region II guidelines all positive results for zinc in the field samples were qualified as estimated J.

Blank contamination was noted and qualification was required in the samples in this SDG.

The associated matrix spikes exhibited non-compliant %Rs for one analyte for which qualifications were required. Positive and non-detect results for antimony were flagged as estimated J/UJ in the samples.

Specific Evaluation of Data

Data Completeness

The SDG was received complete and intact. Resubmissions were not required. Clarification questions were asked of the laboratory regarding the metals fraction. Copies of these e-mail correspondences are included in the validation worksheets. Clarification questions were asked of the laboratory regarding the GRO/DRO fraction. A copy of these e-mail correspondences is included in the project file.

Technical Holding Times

According to chain of custody records, sampling was performed on 05/14-16/08 and samples were received at the laboratory 05/17/08. All sample preparation and analysis was performed within Region II and/or method holding time requirements.

Initial/Continuing Calibration

VOA

Calibration standards exhibited RRFs and %Ds that were non-compliant. A summary of these non-compliances and affected samples are noted in the following table. Sample results are qualified as indicated.

Standard ID	Compound(s)	RRF, %RSD, %D	Samples	Q Flag
CC 05/27/08	pentachloroethane	173.3%	74SB163-03, 74SB163-04	J/R
	2-hexanone	23.0%		J/UJ

ICSA/ICSAB Standards

Metals

The associated ICSAB standards exhibited non-compliant recoveries above the upper QC limit for the analyte zinc (126%/126%). Based on Region II guidelines, reported positive results for zinc were qualified as estimated J in all samples.

Blanks

Metals

Associated blanks exhibited contamination as noted in the following table. The laboratory reported non-detect results to the MDL for this project. Therefore, the blank flagging actions were modified to take this into consideration. Please see the Glossary of Qualification Flags and Abbreviations for details.

Blank ID	Analyte	Concentration	Action Level	Q Flag
74ER13	antimony	0.55J mg/Kg	>MDL up to RL	U

* Field QC blank qualifications were made using QC blank tracking. Please note, when qualifying samples for CCB contamination, associated samples are those just prior to or just following a CCB. Therefore, not all analytes in all samples are flagged for CCB contamination.

Associated samples and required qualifications are noted in the following table.

Sample ID	Analyte	Q Flag
all samples	antimony	U

Matrix Spike Recoveries

Metals

The matrix spikes of samples 74SB163-03 exhibited non-compliant %Rs for analytes that required qualification in the field samples. A summary of these non-compliances and affected samples are noted in the following table.

MS	Analytes	Samples	%R	Q Flag
74SB163-03	antimony	all samples	62%/60%	J/UJ

A summary of qualifications required is provided on the following page. Please do not hesitate to contact DataQual ES with any questions regarding this validation report.

Sincerely,

Laura Maschhoff
President

Jacqueline Cleveland
Vice-President

Summary of Data Qualifications

VOA

Sample ID	Compound	Results	Q flag
74SB163-03, 74SB163-04	pentachloroethane	+/-	J/R
74SB163-03, 74SB163-04	2-hexanone	+/-	J/UJ

DRO/GRO

Sample ID	Compound	Results	Q flag
No qualifications were required			

Metals

Sample ID	Analyte	Results	Q flag
all samples	zinc	+	J
all samples	antimony	>MDL up to RL	U
all samples	antimony	+/-	J/UJ

Glossary of Qualification Flags and Abbreviations

Qualification Flags (Q-Flags)

U	not detected above the reported sample quantitation limit
J	estimated value
UJ	reported quantitation limit is qualified as estimated
N	analyte has been tentatively identified
JN	analyte has been tentatively identified, estimated value
R	result is rejected; the presence or absence of the analyte cannot be verified

Method/Preparation/Field QC Blank Qualification Flags (Q-Flags)

Organic Methods

NA	The sample result for the blank contaminant is greater than the RL (2X sample RL for common laboratory contaminants) when the blank value is less than the RL. The sample result for the blank contaminant is not qualified with any blank qualifiers.
U*	The sample result for the blank contaminant is less than the RL (2X sample RL for common laboratory contaminants) but greater than the MDL when the blank value is less than the RL. The sample result for the blank contaminant is qualified as non-detect U at the reported concentration.
RL**	The sample result for the blank contaminant is less than the RL (2X sample RL for common laboratory contaminants) but greater than the MDL when the blank value is less than the RL. The sample result for the blank contaminant is changed to the RL and qualified as non-detect U.

* This guideline is used when the laboratory is reporting non-detects to the MDL. ** This guideline is used when the laboratory is reporting non-detects to the RL.

Inorganic Methods

ICB/CCB/PB Action:

No Action -	The sample result is greater than the RL and greater than ten times (10X) the blank value.
U -	The sample result is greater than or equal to the MDL but less than or equal to the RL, result is reported as non-detect at the reported concentration, when the ICB/CCB/PB result is less or greater than the RL.

Glossary of Qualification Flags and Abbreviations, continued

R -	Sample result is greater than the RL and less than the ICB/CCB/PB value when the ICB/CCB/PB value is greater than the RL.
J -	Sample result is greater than the ICB/CCB/PB value but less than 10X the ICB/CCB/PB value when ICB/CCB/PB value is greater than the RL.
J/UJ -	Sample result is less than 10X RL when blank result is below the negative RL.

Field QC Blank action:

Note – Use field blanks to qualify data only if field blank results are greater than prep blank results.
Do not use rinsate blank associated with soils to qualify water samples and vice versa.

No Action -	The sample result is greater than the RL and greater than ten times (10X) the blank value.
U -	The sample result is greater than or equal to the MDL but less than or equal to the RL, result is reported as non-detect at the reported concentration, when the FB result is less or greater than the RL.
R -	Sample result is greater than the RL and less than the FB value when the FB value is greater than the RL.
J -	Sample result is greater than the FB value but less than 10X the FB value when FB value is greater than the RL.

General Abbreviations

RL	reporting limit
IDL	instrument detection limit
MDL	method detection limit
CRDL	contract required detection limit
CRQL	contract required quantitation limit
+	positive result
-	non-detect result

TEST AMERICA SAVANNAH SDG 36880-4

DataQual

Environmental Services, LLC

Michael Baker, Jr., Inc.
Airside Business Park
100 Airside Drive
Moon Township, PA 15108

August 19, 2008
SDG# SWMU36880-4, Test America-Savannah
NAPR SWMU 74, Puerto Rico

Dear Mr. Kimes,

The following Data Validation report is provided as requested for the parameters noted in the table below for SDG # SWMU36880-4. The data validation was performed in accordance with the SW-846 methods utilized by the laboratory, the Region II Standard Operating Procedures for the Validation of Organic Data Acquired Using SW-846 Methods (8260B-Rev 2, January 2006- SOP #HW-24 and 8270D-Rev 3, October 2006- SOP #HW-22), and professional judgment. Region II has not developed a validation checklist SOP for the methods used to assess the inorganic methods in this SDG (SW-846 methods 6020B, 7471A) or the organic methods for hydrocarbons (SW-846 methods 8015_DRO and 8015_GRO). Therefore, alternative worksheets were provided. Region II flagging conventions were used. All areas of concern are discussed in the body of the report and a summary of data qualifications is provided.

Sample ID	Lab ID	Matrix	VOA App IX	LL-PAH	DRO/GRO	DRO	GRO	TMetals	DMetals
74GWVP11B	680-36880-44	water	X	X	X			X	X
74GWVP1Aa	680-36880-45	water	X	X			X	X	X
74GWVP1Bb/9	680-36880-46	water	X				X		
74GW74	680-36880-47	water	X		X			X	X
74GWVP11A	680-36880-48	water	X	X			X	X	X
74GWP1Ca	680-36880-43	water				X			X
74ER13	680-36880-49	water	X		X			X	
74ER14	680-36880-50	water	X		X			X	
74TB18	680-36880-51	water	X				X		
74TB19	680-36880-52	water	X				X		
74TB20	680-36880-53	water	X				X		

The following quality control samples were provided with this SDG: samples 74ER13 and 74ER14-equipment blanks; samples 74TB18, 74TB19 and 74TB20-trip blanks.

The samples were evaluated based on the following criteria:

- Data Completeness *
- Sample Condition *
- Technical Holding Times *
- GC/MS Tuning *
- GC Performance *

- Initial/Continuing Calibrations
- ICSA/ICSAB Standards
- CRDL Standards *
- Blanks
- Internal Standards *
- Surrogate Recoveries
- Laboratory Control Samples *
- Matrix Spike Recoveries *
- Matrix Duplicate RPDs *
- Serial Dilutions
- Field Duplicates NA
- Identification/Quantitation
- Reporting Limits *
- Tentatively Identified Compounds NA

* - indicates that qualifications were not required based on this criteria

Overall Evaluation of Data/Potential Usability Issues

A summary of qualifications applied to the sample results are noted below for the fractions validated. Specific details regarding qualification of the data are addressed in the Specific Evaluation section of this narrative. If an issue is not addressed there were no actions required based on unmet quality criteria. When more than one qualifier is associated with a compound/analyte the validator has chosen the qualifier that best indicates possible bias in the results and flagged the data accordingly. However, information regarding all quality control issues is provided in the body of the report and on the qualification summary page. Please note that the reviewer added an F to the sample ID to indicate dissolved metals analysis when necessary.

VOA

The continuing calibration exhibited some compounds with low RRF values, which resulted in qualifying non-detected values as rejected for these compounds. Due to high %D values, in the continuing calibrations, some compounds were qualified as estimated.

Blank contamination was noted in the method and QC blank associated with samples in this batch. Qualifications were added to the data.

One sample required a dilution to obtain results within the calibration range.

PAH

Two samples exhibited non-compliant surrogate results that resulted in qualifications to the data.

DRO/GRO

One sample analyzed for GRO required qualification due to a high surrogate recovery.

Metals

The ICSAB standards associated with the dissolved metals samples exhibited non-compliant recoveries below the QC limit for the analyte silver. Based on Region II guidelines all positive and non-detect results for silver in the dissolved metals samples were qualified as estimated J/UJ.

Blank contamination was noted and qualification was required in the samples in this SDG.

The serial dilution analysis of sample 74CWVP1CbF (from SDG SWMU36806-3) exhibited a non-compliant %D for the analyte lead. All results for lead in the dissolved metals samples were qualified as estimated J/UJ.

The total/dissolved metals analysis comparison exhibited a %D greater than 20% but less than or equal to 50% for one analyte in one pair and a %D greater than 50% for one analyte in one pair. These analytes were qualified based on Region II guidelines.

Specific Evaluation of Data

Data Completeness

The SDG was received complete and intact. Resubmissions were required. Calculation and transcription issues were noted in the GRO fraction. Corrections were requested and received from the laboratory. A copy of the email correspondence is included in the validation worksheets. Clarification questions were asked of the laboratory regarding the metals fraction. A copy of the e-mail correspondence is included in the validation worksheets. Clarification questions were asked of the laboratory regarding the GRO/DRO fraction. A copy of these e-mail correspondences is included in the project file.

Technical Holding Times

According to chain of custody records, sampling was performed on 05/14-16/08 and samples were received at the laboratory 05/17/08. All sample preparation and analysis was performed within Region II and/or method holding time requirements.

Initial/Continuing Calibration

VOA

Calibration standards exhibited RRFs and %Ds that were non-compliant. A summary of these non-compliances and affected samples are noted in the following table. Sample results are qualified as indicated.

Standard ID	Compound(s)	RRF, %RSD, %D	Samples	Q Flag
CC 05/28/08	pentachloroethane	91.1%	74TB20, 74TB19, 74TB18, 74ER14, 74ER13, 74GWVP11A, 74GWVP1Bb/9, 74GWVP1Aa	J/R
	acrylonitrile bromomethane	26.6% 32.7%		J/UJ
CC 05/29/08	pentachloroethane	101.0%	74GWVP11B, 74GW74	J/R
	acrylonitrile 1,2-dichloroethane	21.2% 24.8%		J/UJ

ICSA/ICSAB Standards

Metals

The ICSAB standards associated with the dissolved metals analysis exhibited non-compliant recoveries less than the lower QC limit for the analyte silver (76%/76%/76%). Based on Region II guidelines, reported positive and non-detect results for silver in the dissolved metals samples were qualified as estimated J/UJ in all samples.

Blanks

VOA

The associated method and/or QC blanks exhibited contamination as noted in the following table. Compounds for which there was no action required, are not included in the following table. Please note that the laboratory reported non-detect results down to the MDL for this project. Therefore, the blank flagging actions were modified as follows to take this into consideration. Positive results greater than the MDL but less than the

CRQL are qualified as U at the reported concentration when affected by blank contamination.

Blank ID	Compound	Concentration	Reporting Limit	Action Level
Method Blk	carbon disulfide	0.33J ug/L	2 ug/L	RL
ER12	toluene	0.52J ug/L	1 ug/L	RL
FB01	2-butanone	0.69J ug/L	10 ug/L	2X RL

Associated samples and required qualifications are noted in the following table.

Sample ID	Compound	Q Flag
74GWVP11A, 74GWVP1Aa	carbon disulfide	U at reported value
74GWVP11B, 74GW74	toluene	U at reported value
74GWVP11B, 74GWVP1Aa	acetone	U at reported value

Metals

Associated blanks exhibited contamination as noted in the following table. The laboratory reported non-detect results to the MDL for this project. Therefore, the blank flagging actions were modified to take this into consideration. Please see the Glossary of Qualification Flags and Abbreviations for details.

Blank ID	Analyte	Concentration	Action Level	Q Flag
PBLK - TM	arsenic	0.2989J ug/L	>MDL up to RL	U
	vanadium	1.1195J ug/L	>MDL up to RL	U
	antimony	0.5570 ug/L	> MDL up to RL	U
ICB – DM	antimony	0.1595 ug/L	> MDL up to RL	U
FB01	copper	2.1J ug/L	> MDL up to RL	U
	lead	0.38J ug/L	> MDL up to RL	U
ER12	vanadium	0.99J ug/L	>MDL up to RL	U

Field Blank associations were made based on tracking provided by the client. Please note, when qualifying samples for CCB contamination, associated samples are those just prior to or just following a CCB. Therefore, not all analytes in all samples are flagged for CCB contamination.

Associated samples and required qualifications are noted in the following table.

Sample ID	Analyte	Q Flag
all samples >MDL up to RL	antimony	U
74GWVP11B, 74GWVP1Aa, 74GWVP11A	arsenic	U
74GWVP1Aa, 74GWVP11A, 74GWVP1AaF, 74GWVP11AF	copper	U
74GWVP11A	lead	U
74GWVP11B, 74GWVP11A, 74GWVP11BF, 74GWVP11AF	vanadium	U

Surrogate Recoveries

PAH

Sample 74GWVP11A high surrogate recoveries for o-terphenyl at 141% (QC limits 44-123%); therefore all positive results were qualified as estimated (J). Sample

74GWVP1Aa exhibited 0% recovery for o-terphenyl. The laboratory sited that matrix effect and a dilution of 1:10 was the cause for this recovery; therefore all results were qualified as estimated (J/UJ).

DRO/GRO

One sample analyzed for GRO exhibited a non-compliant surrogate recovery above the QC limits. The reported positive result for GRO in sample 74GWVP1Bb/9 (128%) was qualified as estimated J.

Serial Dilutions

Metals

The serial dilution of sample 74GWVP1CB (from SDG SWMU36806-3) associated with the dissolved metals analysis exhibited a non-compliant %D for one analyte that required qualification in the field samples. A summary of this non-compliance and affected samples is noted in the following table.

SD	Analytes	Samples	RPD	Q Flag
74GWVP1CB	lead	dissolved metals samples	12.9%	J/UJ

Identification/Quantitation

VOA

Sample 74GWVP1Bb/9 was analyzed at a dilution to obtain results within the calibration range. For this sample, all results that were above the calibration range in the initial analysis were rejected in favor of the corresponding result in the diluted analysis.

Metals

The total and dissolved metals analysis exhibited one result with a %Ds >20% but less than or equal to 50%. The total and dissolved metals analysis exhibited one result with a %D >50%. Results were qualified based on the Region II guidelines. Specific action is noted in the following table.

Sample ID	Analyte	%D	Q Flag
74GWVP1Aa, 74GWVP1AaF	cobalt	24%	J
74GW74, 74GW74F	cobalt	90%	R

A summary of qualifications required is provided on the following page. Please do not hesitate to contact DataQual ES with any questions regarding this validation report.

Sincerely,

Laura Maschhoff
President

Jacqueline Cleveland
Vice President

Summary of Data Qualifications

VOA

Sample ID	Compound	Results	Q flag
74TB20, 74TB19, 74TB18, 74ER14, 74ER13, 74GWVP11A, 74GWVP1Bb/9, 74GWVP1Aa	pentachloroethane	+/-	J/R
74TB20, 74TB19, 74TB18, 74ER14, 74ER13, 74GWVP11A, 74GWVP1Bb/9, 74GWVP1Aa	acrylonitrile bromomethane	+/-	J/UJ
74GWVP11B, 74GW74	pentachloroethane	+/-	J/R
74GWVP11B, 74GW74	acrylonitrile 1,2-dichloroethane	+/-	J/UJ
74GWVP11A, 74GWVP1Aa	carbon disulfide	+	U at reported value
74GWVP11B, 74GW74	toluene	+	U at reported value
74GWVP11B, 74GWVP1Aa	acetone	+	U at reported value
74GWVP1Bb/9	acetone	+	R
74GWVP1Bb/9DL	all results except acetone	+/-	R

PAH

Sample ID	Compound	Results	Q flag
74GWVP11A	all results	+	J
74GWVP1Aa	all results	+/-	J/UJ

DRO/GRO

Sample ID	Compound	Results	Q flag
74GWVP1Bb/9	GRO	+	J

Metals

Sample ID	Analyte	Results	Q flag
all dissolved metals samples	silver	+/-	J/UJ
all samples >MDL up to RL	antimony	>MDL up to RL	U
74GWVP11B, 74GWVP1Aa, 74GWVP11A	arsenic	>MDL up to RL	U
74GWVP1Aa, 74GWVP11A, 74GWVP1AaF, 74GWVP11AF	copper	>MDL up to RL	U
74GWVP11A	lead	>MDL up to RL	U
74GWVP11B, 74GWVP11A, 74GWVP11BF, 74GWVP11AF	vanadium	>MDL up to RL	U
all dissolved metals samples	lead	+/-	J/UJ
74GWVP1Aa, 74GWVP1AaF	cobalt	+	J
74GW74, 74GW74F	cobalt	+	R

Glossary of Qualification Flags and Abbreviations

Qualification Flags (Q-Flags)

U	not detected above the reported sample quantitation limit
J	estimated value
UJ	reported quantitation limit is qualified as estimated
N	analyte has been tentatively identified
JN	analyte has been tentatively identified, estimated value
R	result is rejected; the presence or absence of the analyte cannot be verified

Method/Preparation/Field QC Blank Qualification Flags (Q-Flags)

Organic Methods

NA	The sample result for the blank contaminant is greater than the RL (2X sample RL for common laboratory contaminants) when the blank value is less than the RL. The sample result for the blank contaminant is not qualified with any blank qualifiers.
U*	The sample result for the blank contaminant is less than the RL (2X sample RL for common laboratory contaminants) but greater than the MDL when the blank value is less than the RL. The sample result for the blank contaminant is qualified as non-detect U at the reported concentration.
RL**	The sample result for the blank contaminant is less than the RL (2X sample RL for common laboratory contaminants) but greater than the MDL when the blank value is less than the RL. The sample result for the blank contaminant is changed to the RL and qualified as non-detect U.

* This guideline is used when the laboratory is reporting non-detects to the MDL. ** This guideline is used when the laboratory is reporting non-detects to the RL.

Inorganic Methods

ICB/CCB/PB Action:

No Action -	The sample result is greater than the RL and greater than ten times (10X) the blank value.
U -	The sample result is greater than or equal to the MDL but less than or equal to the RL, result is reported as non-detect at the reported concentration, when the ICB/CCB/PB result is less or greater than the RL.

Glossary of Qualification Flags and Abbreviations, continued

R -	Sample result is greater than the RL and less than the ICB/CCB/PB value when the ICB/CCB/PB value is greater than the RL.
J -	Sample result is greater than the ICB/CCB/PB value but less than 10X the ICB/CCB/PB value when ICB/CCB/PB value is greater than the RL.
J/UJ -	Sample result is less than 10X RL when blank result is below the negative RL.

Field QC Blank action:

Note – Use field blanks to qualify data only if field blank results are greater than prep blank results.

Do not use rinsate blank associated with soils to qualify water samples and vice versa.

No Action -	The sample result is greater than the RL and greater than ten times (10X) the blank value.
U -	The sample result is greater than or equal to the MDL but less than or equal to the RL, result is reported as non-detect at the reported concentration, when the FB result is less or greater than the RL.
R -	Sample result is greater than the RL and less than the FB value when the FB value is greater than the RL.
J -	Sample result is greater than the FB value but less than 10X the FB value when FB value is greater than the RL.

General Abbreviations

RL	reporting limit
IDL	instrument detection limit
MDL	method detection limit
CRDL	contract required detection limit
CRQL	contract required quantitation limit
+	positive result
-	non-detect result

TEST AMERICA SAVANNAH SDG 36891-1

DataQual

Environmental Services, LLC

Michael Baker, Jr., Inc.
Airside Business Park
100 Airside Drive
Moon Township, PA 15108

August 22, 2008
SDG# SWMU36891-1, Test America-Savannah
NAPR SWMU 74, Puerto Rico

Dear Mr. Kimes,

The following Data Validation report is provided as requested for the parameters noted in the table below for SDG # SWMU36891-1. The data validation was performed in accordance with the SW-846 methods utilized by the laboratory, the Region II Standard Operating Procedures for the Validation of Organic Data Acquired Using SW-846 Methods (8260B-Rev 2, January 2006- SOP #HW-24 and 8270D-Rev 3, October 2006- SOP #HW-22), and professional judgment. Region II has not developed a validation checklist SOP for the methods used to assess the inorganic methods in this SDG (SW-846 methods 6020B and 7471A) or the organic methods for hydrocarbons (SW-846 methods 8015_DRO and 8015_GRO). Therefore, alternative worksheets were provided. Region II flagging conventions were used. All areas of concern are discussed in the body of the report and a summary of data qualifications is provided.

Sample ID	Lab ID	Matrix	VOA App IX	LL PAH	DRO/GRO	DRO	Metals
74SB164-04	680-36891-1	soil	X		X		X
74SB164-05	680-36891-2	soil	X		X		X
74SB165-04	680-36891-3	soil	X		X		X
74SB165-05	680-36891-4	soil	X		X		X
74SB166-04	680-36891-5	soil	X		X		X
74SB166-04D	680-36891-6	soil	X		X		X
74SB166-05	680-36891-7	soil	X		X		X
74SB167-04	680-36891-8	soil	X		X		X
74SB167-05	680-36891-9	soil	X		X		X
74SB168-04	680-36891-10	soil	X		X		X
74SB168-05	680-36891-11	soil	X		X		X
74SB169-04	680-36891-12	soil	X		X		X
74SB169-05	680-36891-13	soil	X		X		X
74SBVP05a-04	680-36891-14	soil	X		X		X
74SBVP05a-09	680-36891-15	soil	X		X		X
74SB145-05	680-36891-16	soil	X		X		X
74SB145-09	680-36891-17	soil	X		X		X
74SBVP9b/JP5Hill-03	680-36891-18	soil	X	X	X		X
74SBVP9b/JP5Hill-05	680-36891-19	soil	X	X	X		X
74SBVP10a/JP5Hill-04	680-36891-20	soil	X	X	X		X
74SBVP9b/JP5Hill-03MS	680-36891-18MS	soil		X			
74SBVP9b/JP5Hill-03MSD	680-36891-18MSD	soil		X			
74SB164-04MS	680-36891-1MS	soil				X	
74SB164-04MSD	680-36891-1MSD	soil				X	
74SB165-04MS	680-36891-3MS	soil					X
74SB165-04MSD	680-36891-3MSD	soil					X

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The following quality control samples were provided with this SDG: sample 74SB166-04D-field duplicate of sample 74SB166-04.

The samples were evaluated based on the following criteria:

- Data Completeness *
- Sample Condition *
- Technical Holding Times *
- GC/MS Tuning *
- Initial/Continuing Calibrations
- ICSA/ICSAB Standards *
- CRDL Standards *
- Blanks
- Internal Standards *
- Surrogate Recoveries
- Laboratory Control Samples *
- Matrix Spike Recoveries
- Matrix Duplicate RPDs
- Serial Dilutions *
- Field Duplicates
- Identification/Quantitation *
- Reporting Limits *
- Tentatively Identified Compounds NA

* - indicates that qualifications were not required based on this criteria

Overall Evaluation of Data/Potential Usability Issues

A summary of qualifications applied to the sample results are noted below for the fractions validated. Specific details regarding qualification of the data are addressed in the Specific Evaluation section of this narrative. If an issue is not addressed there were no actions required based on unmet quality criteria. When more than one qualifier is associated with a compound/analyte the validator has chosen the qualifier that best indicates possible bias in the results and flagged the data accordingly. However, information regarding all quality control issues is provided in the body of the report and on the qualification summary page.

VOA

The continuing calibration exhibited some compounds with low RRF values, which resulted in qualifying non-detected values as rejected for these compounds. Due to high %D values in the continuing calibrations, some compounds were qualified as estimated.

Blank contamination was noted in the method and QC blanks associated with samples in this batch. Qualifications were added to the data.

One sample exhibited non-compliant surrogate recoveries that resulted in qualifications to the data.

One of the laboratory control samples exhibited low recoveries that resulted in qualifications to the associated samples.

LL PAH

No qualifications to the data were required.

DRO/GRO

One continuing calibration standard for the DRO fraction exhibited a non-compliant %D that resulted in the qualification of ten DRO results as estimated J.

The associated DRO fraction rinse blank exhibited contamination and qualification was required in the samples in this SDG.

One sample analyzed for GRO required qualification due to a non-compliant surrogate recovery below the QC limits.

Metals

Blank contamination was noted and qualification was required in the samples in this SDG.

The associated matrix spikes exhibited non-compliant %Rs for two analytes for which qualifications were required. Positive and non-detect results for antimony and chromium were flagged as estimated J/UJ in the samples.

The associated matrix duplicate exhibited non-compliant RPDs for one analyte for which qualifications were required. Positive and non-detect results for barium were flagged as estimated J/UJ in the samples.

The field duplicate pair of samples 74SB166-04 and 74SB166-04D exhibited a non-compliant RPD >35% but less than 120% for the analyte barium. This analyte was flagged as estimated in the field duplicate pair. All qualifications were made based on the Region II guidance.

Specific Evaluation of Data

Data Completeness

The SDG was received complete and intact. Resubmissions were not required. Clarification questions were asked of the laboratory regarding the metals fraction. Copies of these e-mail correspondences are included in the validation worksheets. Clarification questions were asked of the laboratory regarding the GRO/DRO fraction. A copy of these e-mail correspondences is included in the project file.

Technical Holding Times

According to chain of custody records, sampling was performed on 05/16-17/08 and samples were received at the laboratory 05/20/08. All sample preparation and analysis was performed within Region II and/or method holding time requirements.

Initial/Continuing Calibration

VOA

Calibration standards exhibited RRFs and %Ds that were non-compliant. A summary of these non-compliances and affected samples are noted in the following table. Sample results are qualified as indicated.

Standard ID	Compound(s)	RRF, %RSD, %D	Samples	Q Flag
CC 05/25/08	pentachloroethane	149.7%	74SB164-04, 74SB164-05, 74SB165-04, 74SB165-05, 74SB166-04, 4SB166-05, 74SB167-04, 74SB167-05, 74SB168-04, 74SB168-05, 74SB169-04, 74SB169-05, 74SBVP05a-04, 74SBVP05a-09, 74SB145-05	J/R
CC 05/27/08	pentachloroethane	173.3%	74SB166-04D, 74SB145-09, 74SBVP10a/JP5Hill-04	J/R
	2-hexanone	23.0%		J/UJ
CC 05/27/08	isobutyl alcohol	0.02675	74SBVP9b/JP5Hill-05	J/R
	acetonitrile methyl methacrylate pentachloroethane bromomethane acetone 2-butanone 4-methyl-2-pentanone 2-hexanone 1,2,3-trichloropropane 1,2-dibromo-3-chloropropane	26.5% 24.9% 24.5% 44.5% 22.7% 31.6% 25.1% 28.7% 23.0% 26.5%		J/UJ
CC 05/29/08	pentachloroethane	91.9%	74SBVP9b/JP5Hill-03	J/R

DRO/GRO

One calibration standard exhibited a non-compliant %D for DRO. A summary of this non-compliance and affected samples are noted in the following table. Sample results are qualified as indicated.

Standard ID	Compound(s)	%D	Samples	Q Flag
QE270127	DRO	18.7%	74SB164-04, 74SB164-05, 74SB165-04, 74SB165-05, 74SB166-04, 74SB166-04D, 74SB166-05, 74SB167-04, 74SB167-05, 74SB168-04	J

Blanks

VOA

The associated method and/or QC blanks exhibited contamination as noted in the following table. Compounds for which there was no action required, are not included in the following table. Please note that the laboratory reported non-detect results down to the MDL for this project. Therefore, the blank flagging actions were modified as follows to take this into consideration. Positive results greater than the MDL but less than the CRQL are qualified as U at the reported concentration when affected by blank contamination.

Blank ID	Compound	Concentration	Reporting Limit	Action Level
Method Blank	acetone	8.3J ug/Kg	50 ug/Kg	2X RL
FB01	2-butanone	0.69J ug/L	10 ug/L	RL

Associated samples and required qualifications are noted in the following table.

Sample ID	Compound	Q Flag
74SBVP9b/JP5Hill-05	acetone	U at reported value
74SB164-04, 74SB167-04, 74SB169-04, 74SBVP05a-04, 74SB145-05, 74SBVP9b/JP5Hill-03	2-butanone	U at reported value

DRO/GRO

The associated DRO rinse blank exhibited contamination as noted in the following table. The laboratory reported non-detect results to the MDL for this project. Therefore, the blank flagging actions were modified to take this into consideration. Please see the Glossary of Qualification Flags and Abbreviations for details.

Blank ID	Compound	Concentration	Action Level
ER15	DRO	0.036 mg/Kg	>MDL up to RL

Associated samples and required qualifications are noted in the following table.

Sample ID	Compound	Q Flag
all samples >MDL up to RL	DRO	U

Metals

Associated blanks exhibited contamination as noted in the following table. The laboratory reported non-detect results to the MDL for this project. Therefore, the blank flagging actions were modified to take this into consideration. Please see the Glossary of Qualification Flags and Abbreviations for details.

Blank ID	Analyte	Concentration	Action Level	Q Flag
CCB	antimony	0.10560J ug/L	>MDL up to RL	U

* Field QC blank qualifications were made using QC blank tracking. Please note, when qualifying samples for CCB contamination, associated samples are those just prior to or just following a CCB. Therefore, not all analytes in all samples are flagged for CCB contamination.

Associated samples and required qualifications are noted in the following table.

Sample ID	Analyte	Q Flag
all samples	antimony	U

Surrogates

VOA

Sample 74SBVP10a/JP5Hill-04 exhibited high surrogate recovery for 4-bromofluorobenzene at 244% recovery (QC limit 65-124%); therefore all positive results were qualified as estimated (J). The sample was re-analyzed at a dilution to show matrix effect, however the diluted sample was not used.

DRO/GRO

One sample analyzed for GRO exhibited non-compliant surrogate recovery below the QC limits and required qualification. The reported positive result for GRO in sample 74SBVP9b/JP5Hill-05 (29%) was qualified as estimated J.

Laboratory Control Sample

VOA

The LCS associated with sample 74SBVP9b/JP5Hill-03 exhibited low recovery for chloroethane with 22% recovery; results for this compound were qualified as estimated (J/UJ).

Matrix Spike Recoveries

Metals

The matrix spikes of samples 74SB165-04 exhibited non-compliant %Rs for analytes that required qualification in the field samples. A summary of these non-compliances and affected samples are noted in the following table.

MS	Analytes	Samples	%R	Q Flag
74SB165-04	antimony	all samples	57%/57%	J/UJ
	chromium		129%/67%	

Matrix Duplicates

Metals

The matrix duplicate of samples 74SB165-04 exhibited a non-compliant %D for one analyte that required qualification in the field samples. A summary of these non-compliances and affected samples are noted in the following table.

MD	Analytes	Samples	RPD	Q Flag
74SB165-04	barium	all samples	54.3%	J/UJ

Field Duplicates

Metals

The field duplicate pair of samples 74SB166-04 and 74SB166-04D exhibited a non-compliant RPD >35% but less than 120% for the analytes barium (56%). This analyte were flagged as estimated J in the field duplicate pair. All qualifications were made based on the Region II guidance.

A summary of qualifications required is provided on the following page. Please do not hesitate to contact DataQual ES with any questions regarding this validation report.

Sincerely,

Laura Maschhoff
President

Jacqueline Cleveland
Vice-President

Summary of Data Qualifications

VOA

Sample ID	Compound	Results	Q flag
74SB164-04, 74SB164-05, 74SB165-04, 74SB165-05, 74SB166-04, 74SB166-05, 74SB167-04, 74SB167-05, 74SB168-04, 74SB168-05, 74SB169-04, 74SB169-05, 74SBVP05a-04, 74SBVP05a-09, 74SB145-05	pentachloroethane	+/-	J/R
74SB166-04D, 74SB145-09, 74SBVP10a/JP5Hill-04	pentachloroethane	+/-	J/R
74SB166-04D, 74SB145-09, 74SBVP10a/JP5Hill-04	2-hexanone	+/-	J/UJ
74SBVP9b/JP5Hill-05	isobutyl alcohol	+/-	J/R
74SBVP9b/JP5Hill-05	acetonitrile methyl methacrylate pentachloroethane bromomethane acetone 2-butanone 4-methyl-2-pentanone 2-hexanone 1,2,3-trichloropropane 1,2-dibromo-3-chloropropane	+/-	J/UJ
74SBVP9b/JP5Hill-03	pentachloroethane	+/-	J/R
74SBVP9b/JP5Hill-05	acetone	+	U at reported value
74SB164-04, 74SB167-04, 74SB169-04, 74SBVP05a-04, 74SB145-05, 74SBVP9b/JP5Hill-03	2-butanone	+	U at reported value
74SBVP10a/JP5Hill-04	all results	+	J
74SBVP10a/JP5Hill-04DL	all results	+/-	R
74SBVP9b/JP5Hill-03	chloroethane	+/-	J/UJ

LL PAH

Sample ID	Compound	Results	Q flag
No qualifications			

DRO/GRO

Sample ID	Compound	Results	Q flag
74SB164-04, 74SB164-05, 74SB165-04, 74SB165-05, 74SB166-04, 74SB166-04D, 74SB166-05, 74SB167-04, 74SB167-05, 74SB168-04	DRO	+	J
all samples >MDL up to RL	DRO	+J	U
74SBVP9b/JP5Hill-05	GRO	+	J

Summary of Data Qualifications

Metals

Sample ID	Analyte	Results	Q flag
all samples	antimony	>MDL up to RL	U
all samples	antimony	+/-	J/UJ
	chromium		
all samples	barium	+/-	J/UJ
74SB166-04, 74SB166-04D	barium	+	J

Glossary of Qualification Flags and Abbreviations

Qualification Flags (Q-Flags)

U	not detected above the reported sample quantitation limit
J	estimated value
UJ	reported quantitation limit is qualified as estimated
N	analyte has been tentatively identified
JN	analyte has been tentatively identified, estimated value
R	result is rejected; the presence or absence of the analyte cannot be verified

Method/Preparation/Field QC Blank Qualification Flags (Q-Flags)

Organic Methods

NA	The sample result for the blank contaminant is greater than the RL (2X sample RL for common laboratory contaminants) when the blank value is less than the RL. The sample result for the blank contaminant is not qualified with any blank qualifiers.
U*	The sample result for the blank contaminant is less than the RL (2X sample RL for common laboratory contaminants) but greater than the MDL when the blank value is less than the RL. The sample result for the blank contaminant is qualified as non-detect U at the reported concentration.
RL**	The sample result for the blank contaminant is less than the RL (2X sample RL for common laboratory contaminants) but greater than the MDL when the blank value is less than the RL. The sample result for the blank contaminant is changed to the RL and qualified as non-detect U.

* This guideline is used when the laboratory is reporting non-detects to the MDL. ** This guideline is used when the laboratory is reporting non-detects to the RL.

Inorganic Methods

ICB/CCB/PB Action:

No Action -	The sample result is greater than the RL and greater than ten times (10X) the blank value.
U -	The sample result is greater than or equal to the MDL but less than or equal to the RL, result is reported as non-detect at the reported concentration, when the ICB/CCB/PB result is less or greater than the RL.

Glossary of Qualification Flags and Abbreviations, continued

R -	Sample result is greater than the RL and less than the ICB/CCB/PB value when the ICB/CCB/PB value is greater than the RL.
J -	Sample result is greater than the ICB/CCB/PB value but less than 10X the ICB/CCB/PB value when ICB/CCB/PB value is greater than the RL.
J/UJ -	Sample result is less than 10X RL when blank result is below the negative RL.

Field QC Blank action:

Note – Use field blanks to qualify data only if field blank results are greater than prep blank results.
Do not use rinsate blank associated with soils to qualify water samples and vice versa.

No Action -	The sample result is greater than the RL and greater than ten times (10X) the blank value.
U -	The sample result is greater than or equal to the MDL but less than or equal to the RL, result is reported as non-detect at the reported concentration, when the FB result is less or greater than the RL.
R -	Sample result is greater than the RL and less than the FB value when the FB value is greater than the RL.
J -	Sample result is greater than the FB value but less than 10X the FB value when FB value is greater than the RL.

General Abbreviations

RL	reporting limit
IDL	instrument detection limit
MDL	method detection limit
CRDL	contract required detection limit
CRQL	contract required quantitation limit
+	positive result
-	non-detect result

TEST AMERICA SAVANNAH SDG 36891-2

DataQual

Environmental Services, LLC

Michael Baker, Jr., Inc.
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August 22, 2008
SDG# SWMU36891-2, Test America-Savannah
NAPR SWMU 74, Puerto Rico

Dear Mr. Kimes,

The following Data Validation report is provided as requested for the parameters noted in the table below for SDG # SWMU36891-2. The data validation was performed in accordance with the SW-846 methods utilized by the laboratory, the Region II Standard Operating Procedures for the Validation of Organic Data Acquired Using SW-846 Methods (8260B-Rev 2, January 2006- SOP #HW-24 and 8270D-Rev 3, October 2006- SOP #HW-22), and professional judgment. Region II has not developed a validation checklist SOP for the methods used to assess the inorganic methods in this SDG (SW-846 methods 6020B and 7471A) or the organic methods for hydrocarbons (SW-846 methods 8015_DRO and 8015_GRO). Therefore, alternative worksheets were provided. Region II flagging conventions were used. All areas of concern are discussed in the body of the report and a summary of data qualifications is provided.

Sample ID	Lab ID	Matrix	VOA App IX	LL PAH	DRO/GRO	Metals
74SBVP10a/JP5Hill-05	680-36891-21	soil	X	X	X	X
74SB170-04	680-36891-22	soil	X	X	X	X
74SB170-05	680-36891-23	soil	X		X	X
74SB171-00	680-36891-24	soil	X		X	X
74SB171-04	680-36891-25	soil	X		X	X
74SB171-05	680-36891-26	soil	X		X	X
74SB171-05D	680-36891-27	soil	X		X	X
74SB172-04	680-36891-28	soil	X		X	X
74SB172-05	680-36891-29	soil	X		X	X
74SB173-04	680-36891-30	soil	X		X	X
74SB173-05	680-36891-31	soil	X		X	X
74SB174-04	680-36891-32	soil	X		X	X
74SB174-05	680-36891-33	soil	X	X	X	X
74SB175-04	680-36891-34	soil	X		X	X
74SB175-05	680-36891-35	soil	X		X	X
74SB176-04	680-36891-36	soil	X		X	X
74SB176-05	680-36891-37	soil	X		X	X
74SB176-05D	680-36891-38	soil	X		X	X
74SB177-04	680-36891-39	soil	X		X	X
74SB177-05	680-36891-40	soil	X		X	X
74SB171-04 MS	680-36891-25MS	soil	X		X	X
74SB171-04 MSD	680-36891-25MSD	soil	X		X	X

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The following quality control samples were provided with this SDG: sample 74SB171-05D-field duplicate of sample 74SB171-05; and sample 74SB176-05D-field duplicate of sample 74SB176-05.
The samples were evaluated based on the following criteria:

• Data Completeness	*
• Sample Condition	*
• Technical Holding Times	*
• GC/MS Tuning	*
• GC Performance	*
• Initial/Continuing Calibrations	
• ICSA/ICSAB Standards	*
• CRDL Standards	*
• Blanks	
• Internal Standards	
• Surrogate Recoveries	
• Laboratory Control Samples	
• Matrix Spike Recoveries	
• Matrix Duplicate RPDs	
• Serial Dilutions	*
• Field Duplicates	
• Identification/Quantitation	
• Reporting Limits	*
• Tentatively Identified Compounds	NA

* - indicates that qualifications were not required based on this criteria

Overall Evaluation of Data/Potential Usability Issues

A summary of qualifications applied to the sample results are noted below for the fractions validated. Specific details regarding qualification of the data are addressed in the Specific Evaluation section of this narrative. If an issue is not addressed there were no actions required based on unmet quality criteria. When more than one qualifier is associated with a compound/analyte the validator has chosen the qualifier that best indicates possible bias in the results and flagged the data accordingly. However, information regarding all quality control issues is provided in the body of the report and on the qualification summary page.

VOA

The continuing calibration exhibited some compounds with low RRF values, which resulted in qualifying non-detected values as rejected for these compounds. Due to high %D values in the continuing calibrations, some compounds were qualified as estimated.

Blank contamination was noted in the method and QC blanks associated with samples in this batch. Qualifications were added to the data.

One sample exhibited high internal standard area recoveries that resulted in qualifications to associated compounds.

One sample exhibited non-compliant surrogate recoveries that resulted in qualifications to the data.

One of the laboratory control samples exhibited low recoveries that resulted in qualifications to the associated samples.

LL PAH

One sample required a dilution to obtain results within the calibration range.

DRO/GRO

The associated DRO fraction rinse blank exhibited contamination and qualification was required in the samples in this SDG.

One sample analyzed for GRO required qualification due to a non-compliant surrogate recovery below the QC limits.

Metals

Blank contamination was noted and qualification was required in the samples in this SDG.

The associated matrix spikes exhibited a non-compliant %R for two analytes for which qualifications were required. Positive and non-detect results for antimony were flagged as estimated J/UJ in the samples. Positive and non-detect results for mercury were rejected due to recoveries above 200%.

The associated matrix duplicate exhibited non-compliant RPDs for two analytes for which qualifications were required. Positive and non-detect results for cobalt and lead were flagged as estimated J/UJ in the samples.

The field duplicate pair of samples 74SB171-05 and 74SB171-05D exhibited a non-compliant RPD >35% but less than 120% for the analyte cobalt. This analyte was flagged as estimated in the field duplicate pair. All qualifications were made based on the Region II guidance.

Specific Evaluation of Data

Data Completeness

The SDG was received complete and intact. Resubmissions were not required. Clarification questions were asked of the laboratory regarding the metals fraction. Copies of these e-mail correspondences are included in the validation worksheets. Clarification questions were asked of the laboratory regarding the GRO/DRO fraction. A copy of these e-mail correspondences is included in the project file.

Technical Holding Times

According to chain of custody records, sampling was performed on 05/16-17/08 and samples were received at the laboratory 05/20/08. All sample preparation and analysis was performed within Region II and/or method holding time requirements.

Initial/Continuing Calibration

VOA

Calibration standards exhibited RRFs and %Ds that were non-compliant. A summary of these non-compliances and affected samples are noted in the following table. Sample results are qualified as indicated.

Standard ID	Compound(s)	RRF, %RSD, %D	Samples	Q Flag
CC 05/27/08	isobutyl alcohol	0.02524	74SB171-05, 74SB171-05D, 74SB172-04, 74SB173-04, 74SB173-05, 74SB174-04	J/R
	acetonitrile dichlorodifluoromethane acetone	32.9% 29.0% 55.9%		J/UJ
CC 05/27/08	isobutyl alcohol	0.02675	74SB170-05, 74SB171-00, 74SB171-04, 74SB172-05, 74SB175-04, 74SB170-04, 74SB176-04, 74SB176-05, 74SB176-05D, 74SB177-04, 74SB177-05	J/R
	acetonitrile methyl methacrylate pentachloroethane bromomethane acetone 2-butanone 4-methyl-2-pentanone 2-hexanone 1,2,3-trichloropropane 1,2-dibromo-3-chloropropane	26.5% 24.9% 24.5% 44.5% 22.7% 31.6% 25.1% 28.7% 23.0% 26.5%		J/UJ
CC 05/29/08	pentachloroethane	91.9%	74SBVP10a/JP5Hill-05DL	J/R

Standard ID	Compound(s)	RRF, %RSD, %D	Samples	Q Flag
CC 05/30/08	acrolein	0.04882	74SB174-05DL	J/R
	isobutyl alcohol	0.02395		
	iodomethane	20.9%		J/UJ
	acetonitrile	41.8%		
	3-chloro-1-propene	24.3%		
	acrylonitrile	31.1%		
	propionitrile	22.1%		
	pentachloroethane	51.1%		
	bromomethane	50.5%		
	acetone	22.4%		
	2-butanone	32.2%		
	4-methyl-2-pentanone	31.3%		
	2-hexanone	33.7%		
	1,2-dibromo-3-chloropropane	32.7%		
CC 05/30/08	isobutyl alcohol	0.01828	74SB175-05	J/R
	acrolein	36.3%		J/UJ
	acetonitrile	39.5%		
	acrylonitrile	25.3%		
	pentachloroethane	37.2%		
	bromomethane	45.2%		
	acetone	23.5%		
	2-butanone	33.5%		
	4-methyl-2-pentanone	29.6%		
	2-hexanone	29.6%		
	1,2,3-trichloropropane	22.3%		

Blanks

VOA

The associated method and/or QC blanks exhibited contamination as noted in the following table. Compounds for which there was no action required, are not included in the following table. Please note that the laboratory reported non-detect results down to the MDL for this project. Therefore, the blank flagging actions were modified as follows to take this into consideration. Positive results greater than the MDL but less than the CRQL are qualified as U at the reported concentration when affected by blank contamination.

Blank ID	Compound	Concentration	Reporting Limit	Action Level
Method Blank	acetone	8.3J ug/Kg	50 ug/Kg	2X RL
Method Blank	acetone	20J ug/Kg	50 ug/Kg	2X RL
FB01	2-butanone	0.69J ug/L	10 ug/L	RL

Associated samples and required qualifications are noted in the following table.

Sample ID	Compound	Q Flag
74SB171-05, 74SB172-04, 74SB173-04, 74SB173-05, 74SB174-04, 74SB170-05, 74SB175-04, 74SB170-04, 74SB176-04, 74SB176-05, 74SB176-05D, 74SB177-04, 74SB177-05, 74SB171-05D	acetone	U at reported value
74SBVP10a/JP5Hill-05DL	2-butanone	U at reported value

DRO/GRO

The associated DRO rinse blank exhibited contamination as noted in the following table. The laboratory reported non-detect results to the MDL for this project. Therefore, the blank flagging actions were modified to take this into consideration. Please see the Glossary of Qualification Flags and Abbreviations for details.

Blank ID	Compound	Concentration	Action Level
ER15	DRO	0.036 mg/Kg	>MDL up to RL

Associated samples and required qualifications are noted in the following table.

Sample ID	Compound	Q Flag
all samples >MDL up to RL	DRO	U

Metals

Associated blanks exhibited contamination as noted in the following table. The laboratory reported non-detect results to the MDL for this project. Therefore, the blank flagging actions were modified to take this into consideration. Please see the Glossary of Qualification Flags and Abbreviations for details.

Blank ID	Analyte	Concentration	Action Level	Q Flag
PBS	antimony	0.08777J mg/Kg	>MDL up to RL	U

* Field QC blank qualifications were made using QC blank tracking. Please note, when qualifying samples for CCB contamination, associated samples are those just prior to or just following a CCB. Therefore, not all analytes in all samples are flagged for CCB contamination.

Associated samples and required qualifications are noted in the following table.

Sample ID	Analyte	Q Flag
all samples	antimony	U

Internal Standards

VOA

Sample 74SB174-05DL exhibited high internal standard area recovery for 1,2-dichloroethane-d4; therefore all associated compound positive results were qualified as estimated (J).

Surrogates

VOA

Sample 74SB174-05DL exhibited low surrogate recovery for dibromofluoromethane at 27% recovery (QC limit 65-124%); therefore all results were qualified as estimated (J/UJ). The initial analysis of the sample exhibited surrogate results below 10% therefore the sample was re-analyzed at a dilution to show matrix effect.

Laboratory Control Sample

VOA

The LCS associated with sample 74SBVP10a/JP5Hill-05DL exhibited low recovery for chloroethane with 22% recovery; results for this compound were qualified as estimated (J/UJ).

Matrix Spikes

Metals

The matrix spikes of samples 74SB171-04 exhibited non-compliant %Rs for two analytes that required qualification in the field samples. A summary of this non-compliance and affected samples are noted in the following table.

MS	Analytes	Samples	%R	Q Flag
74SB171-04	antimony	all samples	47%/49%	J/UJ
	mercury		268.5%/258.3%	R

Matrix Duplicates

Metals

The matrix duplicate of samples 74SB171-04 exhibited non-compliant %Ds for two analytes that required qualification in the field samples. A summary of these non-compliances and affected samples are noted in the following table.

MD	Analytes	Samples	RPD	Q Flag
74SB171-04	cobalt	all samples	48.7%	J/UJ
	lead		37.7%	

Field Duplicates

Metals

The field duplicate pair of samples 74SB171-05 and 74SB171-05D exhibited a non-compliant RPD >35% but less than 120% for the analyte cobalt (36%). This analyte were flagged as estimated J in the field duplicate pair. All qualifications were made based on the Region II guidance.

Identification/Quantitation

VOA

The initial analysis of samples 74SBVP10a/JP5Hill-05 and 74SB174-05 were not used, in favor of the re-analysis, due to non-compliant surrogate and internal standard area recoveries.

LL PAH

Sample 74SB174-05 was analyzed at a dilution to obtain results within the calibration range. The J-flagged results in the initial analyses were rejected in favor of the corresponding results in the diluted analyses. In the diluted analysis compound benzo(k)fluoranthene was diluted out; therefore the result from the initial analysis was used and qualified as estimated (J) since the result was above the calibration range.

A summary of qualifications required is provided on the following page. Please do not hesitate to contact DataQual ES with any questions regarding this validation report.

Sincerely,

Laura Maschhoff
President

Jacqueline Cleveland
Vice-President

Summary of Data Qualifications

VOA

Sample ID	Compound	Results	Q flag
74SB171-05, 74SB171-05D, 74SB172-04, 74SB173-04, 74SB173-05, 74SB174-04	isobutyl alcohol	+/-	J/R
74SB171-05, 74SB171-05D, 74SB172-04, 74SB173-04, 74SB173-05, 74SB174-04	acetonitrile dichlorodifluoromethane acetone	+/-	J/UJ
74SB170-05, 74SB171-00, 74SB171-04, 74SB172-05, 74SB175-04, 74SB170-04, 74SB176-04, 74SB176-05, 74SB176-05D, 74SB177-04, 74SB177-05	isobutyl alcohol	+/-	J/R
74SB170-05, 74SB171-00, 74SB171-04, 74SB172-05, 74SB175-04, 74SB170-04, 74SB176-04, 74SB176-05, 74SB176-05D, 74SB177-04, 74SB177-05	acetonitrile methyl methacrylate pentachloroethane bromomethane acetone 2-butanone 4-methyl-2-pentanone 2-hexanone 1,2,3-trichloropropane 1,2-dibromo-3-chloropropane	+/-	J/UJ
74SBVP10a/JP5Hill-05DL	pentachloroethane	+/-	J/R
74SB174-05DL	acrolein isobutyl alcohol	+/-	J/R
74SB174-05DL	iodomethane acetonitrile 3-chloro-1-propene acrylonitrile propionitrile pentachloroethane bromomethane acetone 2-butanone 4-methyl-2-pentanone 2-hexanone 1,2-dibromo-3-chloropropane	+/-	J/UJ
74SB175-05	isobutyl alcohol	+/-	J/R
74SB175-05	acrolein acetonitrile acrylonitrile pentachloroethane bromomethane acetone 2-butanone 4-methyl-2-pentanone 2-hexanone 1,2,3-trichloropropane	+/-	J/UJ

Summary of Data Qualifications, continued

Sample ID	Compound	Results	Q flag
74SB171-05, 74SB172-04, 74SB173-04, 74SB173-05, 74SB174-04, 74SB170-05, 74SB175-04, 74SB170-04, 74SB176-04, 74SB176-05, 74SB176-05D, 74SB177-04, 74SB177-05, 74SB171-05D	acetone	+	U at reported value
74SBVP10a/JP5Hill-05DL	2-butanone	+	U at reported value
74SB174-05DL	all compounds associated with: 1,2-dichloroethane-d4	+	J
74SB174-05DL	all results	+/-	J/UJ
74SBVP10a/JP5Hill-05DL	chloroethane	+/-	J/UJ
74SBVP10a/JP5Hill-05, 74SB174-05	all results	+/-	R

LL PAH

Sample ID	Compound	Results	Q flag
74SB174-05	benzo(a)anthracene benzo(a)pyrene benzo(b)fluoranthene chrysene fluoranthene fluorene anthracene pyrene	+	R
74SB174-05DL	1-methylnaphthalene 2-methylnaphthalene acenaphthene acenaphthylene benzo(g,h,i)perylene benzo(k)fluoranthene dibenz(a,h)anthracene indeno(1,2,3-cd)pyrene naphthalene phenanthrene	+/-	R
74SB174-05	benzo(k)fluoranthene	+	J

DRO/GRO

Sample ID	Compound	Results	Q flag
all samples >MDL up to RL	DRO	+J	U
74SB174-04	GRO	+/-	J/UJ

Summary of Data Qualifications, continued

Metals

Sample ID	Analyte	Results	Q flag
all samples	antimony	>MDL up to RL	U
all samples	antimony	+/-	J/UJ
all samples	mercury	+/-	R
all samples	cobalt lead	+/-	J/UJ
74SB171-05, 74SB171-05D	cobalt	+	J

Glossary of Qualification Flags and Abbreviations

Qualification Flags (Q-Flags)

U	not detected above the reported sample quantitation limit
J	estimated value
UJ	reported quantitation limit is qualified as estimated
N	analyte has been tentatively identified
JN	analyte has been tentatively identified, estimated value
R	result is rejected; the presence or absence of the analyte cannot be verified

Method/Preparation/Field QC Blank Qualification Flags (Q-Flags)

Organic Methods

NA	The sample result for the blank contaminant is greater than the RL (2X sample RL for common laboratory contaminants) when the blank value is less than the RL. The sample result for the blank contaminant is not qualified with any blank qualifiers.
U*	The sample result for the blank contaminant is less than the RL (2X sample RL for common laboratory contaminants) but greater than the MDL when the blank value is less than the RL. The sample result for the blank contaminant is qualified as non-detect U at the reported concentration.
RL**	The sample result for the blank contaminant is less than the RL (2X sample RL for common laboratory contaminants) but greater than the MDL when the blank value is less than the RL. The sample result for the blank contaminant is changed to the RL and qualified as non-detect U.

* This guideline is used when the laboratory is reporting non-detects to the MDL. ** This guideline is used when the laboratory is reporting non-detects to the RL.

Inorganic Methods

ICB/CCB/PB Action:

No Action -	The sample result is greater than the RL and greater than ten times (10X) the blank value.
U -	The sample result is greater than or equal to the MDL but less than or equal to the RL, result is reported as non-detect at the reported concentration, when the ICB/CCB/PB result is less or greater than the RL.

Glossary of Qualification Flags and Abbreviations, continued

R -	Sample result is greater than the RL and less than the ICB/CCB/PB value when the ICB/CCB/PB value is greater than the RL.
J -	Sample result is greater than the ICB/CCB/PB value but less than 10X the ICB/CCB/PB value when ICB/CCB/PB value is greater than the RL.
J/UJ -	Sample result is less than 10X RL when blank result is below the negative RL.

Field QC Blank action:

Note – Use field blanks to qualify data only if field blank results are greater than prep blank results.
Do not use rinsate blank associated with soils to qualify water samples and vice versa.

No Action -	The sample result is greater than the RL and greater than ten times (10X) the blank value.
U -	The sample result is greater than or equal to the MDL but less than or equal to the RL, result is reported as non-detect at the reported concentration, when the FB result is less or greater than the RL.
R -	Sample result is greater than the RL and less than the FB value when the FB value is greater than the RL.
J -	Sample result is greater than the FB value but less than 10X the FB value when FB value is greater than the RL.

General Abbreviations

RL	reporting limit
IDL	instrument detection limit
MDL	method detection limit
CRDL	contract required detection limit
CRQL	contract required quantitation limit
+	positive result
-	non-detect result

TEST AMERICA SAVANNAH SDG 36891-3

DataQual

Environmental Services, LLC

Michael Baker, Jr., Inc.
Airside Business Park
100 Airside Drive
Moon Township, PA 15108

August 22, 2008
SDG# SWMU36891-3, Test America-Savannah
NAPR SWMU 74, Puerto Rico

Dear Mr. Kimes,

The following Data Validation report is provided as requested for the parameters noted in the table below for SDG # SWMU36891-3. The data validation was performed in accordance with the SW-846 methods utilized by the laboratory, the Region II Standard Operating Procedures for the Validation of Organic Data Acquired Using SW-846 Methods (8260B-Rev 2, January 2006- SOP #HW-24 and 8270D-Rev 3, October 2006- SOP #HW-22), and professional judgment. Region II has not developed a validation checklist SOP for the methods used to assess the inorganic methods in this SDG (SW-846 methods 6020B, 7471A) or the organic methods for hydrocarbons (SW-846 methods 8015_DRO and 8015_GRO). Therefore, alternative worksheets were provided. Region II flagging conventions were used. All areas of concern are discussed in the body of the report and a summary of data qualifications is provided.

Sample ID	Lab ID	Matrix	VOA App IX	LL-PAH	DRO/GRO	Metals
74SBVP10b/DFM-04	680-36891-41	soil	X	X	X	X
74SBVP10b/DFM-05	680-36891-42	soil	X	X	X	X
74SBVP11b/JP5Hill-04	680-36891-43	soil	X		X	X
74SBVP11b/JP5Hill-05	680-36891-44	soil	X		X	X
74SBVP6Aa-04	680-36891-45	soil	X		X	X
74SBVP6Ba-03	680-36891-46	soil	X		X	X
74SBVP6Ba-04	680-36891-47	soil	X		X	X
74SBVP6Cb-04	680-36891-48	soil	X		X	X
74SBVP6Cb-07	680-36891-49	soil	X		X	X
74SB200-04	680-36891-50	soil	X		X	X
74SB200-05	680-36891-51	soil	X		X	X
74SB201-00	680-36891-52	soil	X		X	X
74SB201-04	680-36891-53	soil	X		X	X
74SB201-04D	680-36891-54	soil	X		X	X
74SB201-05	680-36891-55	soil	X		X	X
74SBVP6Aa-07	680-36891-56	soil	X		X	X
56SB202-04	680-36891-57	soil	X		X	X
74SB202-05	680-36891-58	soil	X		X	X
74SB203-04	680-36891-59	soil	X		X	X
74SB203-05	680-36891-60	soil	X		X	X
74SB201-05 MS	680-36891-55MS	soil	X		X	X
74SB201-05 MSD	680-36891-55MSD	soil	X		X	X

The following quality control sample was provided with this SDG: sample 74SB201-04D–field duplicate of sample 74SB201-04.

The samples were evaluated based on the following criteria:

- Data Completeness *
- Sample Condition *
- Technical Holding Times
- GC/MS Tuning *
- GC Performance *
- Initial/Continuing Calibrations
- ICSA/ICSAB Standards
- CRDL Standards *
- Blanks
- Internal Standards *
- Surrogate Recoveries *
- Laboratory Control Samples
- Matrix Spike Recoveries *
- Matrix Duplicate RPDs *
- Serial Dilutions
- Field Duplicates
- Identification/Quantitation *
- Reporting Limits *
- Tentatively Identified Compounds NA

* - indicates that qualifications were not required based on this criteria

Overall Evaluation of Data/Potential Usability Issues

A summary of qualifications applied to the sample results are noted below for the fractions validated. Specific details regarding qualification of the data are addressed in the Specific Evaluation section of this narrative. If an issue is not addressed there were no actions required based on unmet quality criteria. When more than one qualifier is associated with a compound/analyte the validator has chosen the qualifier that best indicates possible bias in the results and flagged the data accordingly. However, information regarding all quality control issues is provided in the body of the report and on the qualification summary page.

VOA

The continuing calibration exhibited some compounds with low RRF values, which resulted in qualifying non-detected values as rejected for these compounds. Due to high %D values, in the continuing calibrations, some compounds were qualified as estimated.

Blank contamination was noted in the QC blanks associated with samples in this batch. Qualifications were added to the data.

PAH

No qualifications to the data were required.

DRO/GRO

One sample was reanalyzed outside the holding time for the GRO fraction. This sample was rejected in favor of the result reported from the original analysis of the sample.

Blank contamination was noted and qualification was required in the samples in this SDG.

One sample analyzed for GRO required qualification due to high surrogate recoveries.

Metals

The ICSAB standards exhibited non-compliant recoveries below the QC limit for the analytes silver and zinc. Based on Region II guidelines all positive and non-detect results for silver were qualified as estimated J/UJ and positive results for zinc were qualified as estimated J.

Blank contamination was noted and qualification was required in the samples in this SDG.

The serial dilution analysis exhibited a non-compliant %D for one analyte and qualification was required for the analyte cobalt. All results for cobalt in the metals samples were qualified as estimated J/UJ.

The field duplicate pair exhibited a non-compliant absolute difference for one analyte. The analyte lead was rejected in the field duplicate pair based on Region II guidelines.

Specific Evaluation of Data

Data Completeness

Resubmissions were required for the metals fraction. The SDG was received with the wrong form 1s. Form 1's that were submitted were from SDG SWMU 36891-2. The laboratory was contacted and the correct Form 1's were submitted. Clarification questions were asked of the laboratory regarding the metals fraction. Copies of these e-mail correspondences are included in the validation worksheets. Clarification questions were asked of the laboratory regarding the GRO/DRO fraction. A copy of these e-mail correspondences is included in the project file.

Technical Holding Times

According to chain of custody records, sampling was performed on 05/17-18/08 and samples were received at the laboratory 05/20/08. All sample preparation and analysis was performed within Region II and/or method holding time requirements with the exception of one reanalysis.

DRO/GRO

Sample 74SBVP6Cb-07 was reanalyzed outside the holding time due to a non-compliant surrogate recovery in the original analysis. This sample reanalysis was rejected R in favor of the result reported from the original analysis.

Initial/Continuing Calibration

VOA

Calibration standards exhibited RRFs and %Ds that were non-compliant. A summary of these non-compliances and affected samples are noted in the following table. Sample results are qualified as indicated.

Standard ID	Compound(s)	RRF, %RSD, %D	Samples	Q Flag
CC 05/28/08	pentachloroethane	132.1%	74SBVP10b-DFM-04, 74SBVP10b/DFM-05, 74SBVP11b/JP5Hill-04, 74SBVP11b/JP5Hill-05, 74SBVP6Aa-04, 74SBVP6Ba-03, 74SBVP6Ba-04, 74SBVP6Cb-04, 74SB200-04, 4SB200-05, 74SB201-00, 74SB201-04, 74SB201-04D, 74SB201-05, 74SB202-04, 74SB202-05, 74SB203-04, 74SB203-05	J/R
	acrylonitrile ethyl methacrylate trans-1,4-dichloro-2-butene 2-butanone 4-methyl-2-pentanone 2-hexanone	26.2% 21.6% 22.0% 20.1% 22.8% 25.6%		J/UJ
CC 05/30/08	acrolein isobutyl alcohol	0.04882 0.02395	74SBVP6Cb-07	J/R
	iodomethane acetonitrile 3-chloro-1-propene acrylonitrile propionitrile pentachloroethane bromomethane acetone 2-butanone 4-methyl-2-pentaone 2-hexanone 1,2-dibromo-3-chloropropane	20.9% 41.8% 24.3% 31.1% 22.1% 51.1% 50.5% 22.4% 32.2% 31.3% 33.7% 32.7%		J/UJ

Standard ID	Compound(s)	RRF, %RSD, %D	Samples	Q Flag
CC 05/31/08	isobutyl alcohol	0.02358	74SBVP6Aa-07	J/R
	acrolein	26.9%		J/UJ
	acetonitrile	44.9%		
	3-chloro-1-propene	30.4%		
	propionitrile	24.7%		
	ethyl methacrylate	23.4%		
	pentachloroethane	55.2%		
	bromomethane	51.7%		
	acetone	25.0%		
	2-butanone	34.9%		
	2-hexanone	34.2%		
	1,2-dibromo-3-chloropropane	28.5%		

ICSA/ICSAB Standards

Metals

The ICSAB standards associated with the metals analysis exhibited non-compliant recoveries less than the lower QC limit for the analyte silver (78%/77%). Based on Region II guidelines, reported positive and non-detect results for silver were qualified as estimated J/UJ in all samples. The ICSAB standards associated with the metals analysis exhibited non-compliant recoveries greater than the upper QC limit for the analyte zinc (125%/124%). Based on Region II guidelines, reported positive results for zinc were qualified as estimated J in all samples.

Blanks

VOA

The associated method and/or QC blanks exhibited contamination as noted in the following table. Compounds for which there was no action required, are not included in the following table. Please note that the laboratory reported non-detect results down to the MDL for this project. Therefore, the blank flagging actions were modified as follows to take this into consideration. Positive results greater than the MDL but less than the CRQL are qualified as U at the reported concentration when affected by blank contamination.

Blank ID	Compound	Concentration	Reporting Limit	Action Level
FB01	2-butanone	0.69J ug/L	10 ug/L	2X RL

Associated samples and required qualifications are noted in the following table.

Sample ID	Compound	Q Flag
74SBVP10b/DFM-04, 74SBVP10b/DFM-05, 74SBVP11b/JP5Hill-04, 74SB200-05, 74SB201-00, 74SB201-05	2-butanone	U at reported value

DRO/GRO

The associated rinse blank exhibited contamination as noted in the following table. Compounds for which there was no action required, are not included in the following table. Please note that the laboratory reported non-detect results down to the MDL for this project. Therefore, the blank flagging actions were modified as follows to take this into consideration. Positive results greater than the MDL but less than the RL are qualified as U at the reported concentration when affected by blank contamination.

Blank ID	Compound	Concentration	Action Level	Q Flag
ER15	DRO	0.036J ug/L	RL	U

Associated samples and required qualifications are noted in the following table.

Sample ID	Compound	Q Flag
all samples >MDL up to RL	DRO	U

Surrogate Recoveries

DRO/GRO

One sample analyzed for GRO exhibited a non-compliant surrogate recovery above the QC limits. The reported positive result for GRO in sample 74SBVP6Cb-07 (181%) was qualified as estimated J.

Serial Dilutions

Metals

The matrix duplicate of samples 74SB201-05 exhibited a non-compliant %D for one analyte that required qualification in the field samples. A summary of these non-compliances and affected samples are noted in the following table.

MD	Analytes	Samples	RPD	Q Flag
74SB201-05	cobalt	all samples	12%	J/UJ

Field Duplicates

Metals

The field duplicate pair of samples 74SB201-04 and 74SB201-04D exhibited metals results for one analyte that did not compare. The analyte lead exhibited an absolute difference that was more than 4X +/- the RL and was rejected R in both samples according to the Region II guidelines.

A summary of qualifications required is provided on the following page. Please do not hesitate to contact DataQual ES with any questions regarding this validation report.

Sincerely,

Laura Maschhoff
President

Jacqueline Cleveland
Vice President

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Summary of Data Qualifications

VOA

Sample ID	Compound	Results	Q flag
74SBVP10b-DFM-04, 74SBVP10b/DFM-05, 74SBVP11b/JP5Hill-04, 74SBVP11b/JP5Hill-05, 74SBVP6Aa-04, 74SBVP6Ba-03, 74SBVP6Ba-04, 74SBVP6Cb-04, 74SB200-04, 74SB200-05, 74SB201-00, 74SB201-04, 74SB201-04D, 74SB201-05, 74SB202-04, 74SB202-05, 74SB203-04, 74SB203-05	pentachloroethane	+/-	J/R
74SBVP10b-DFM-04, 74SBVP10b/DFM-05, 74SBVP11b/JP5Hill-04, 74SBVP11b/JP5Hill-05, 74SBVP6Aa-04, 74SBVP6Ba-03, 74SBVP6Ba-04, 74SBVP6Cb-04, 74SB200-04, 74SB200-05, 74SB201-00, 74SB201-04, 74SB201-04D, 74SB201-05, 74SB202-04, 74SB202-05, 74SB203-04, 74SB203-05	acrylonitrile ethyl methacrylate trans-1,4-dichloro-2-butene 2-butanone 4-methyl-2-pentanone 2-hexanone	+/-	J/UJ
74SBVP6Cb-07	acrolein isobutyl alcohol	+/-	J/R
74SBVP6Cb-07	iodomethane acetonitrile 3-chloro-1-propene acrylonitrile propionitrile pentachloroethane bromomethane acetone 2-butanone 4-methyl-2-pentaone 2-hexanone 1,2-dibromo-3-chloropropane	+/-	J/UJ
74SBVP6Aa-07	isobutyl alcohol	+/-	J/R
74SBVP6Aa-07	acrolein acetonitrile 3-chloro-1-propene propionitrile ethyl methacrylate pentachloroethane bromomethane acetone 2-butanone 2-hexanone 1,2-dibromo-3-chloropropane	+/-	J/UJ
74SBVP10b/DFM-04, 74SBVP10b/DFM-05, 74SBVP11b/JP5Hill-04, 74SB200-05, 74SB201-00, 74SB201-05	2-butanone	+	U at reported value

Summary of Data Qualifications

PAH

Sample ID	Compound	Results	Q flag
No qualifications			

DRO/GRO

Sample ID	Compound	Results	Q flag
74SBVP6Cb-07RA	GRO	+/-	R
all samples	DRO	+>MDL up to RL	U
74SBVP6Cb-07	GRO	+	J

Metals

Sample ID	Analyte	Results	Q flag
all samples	silver	+/-	J/UJ
all samples	zinc	+	J
all samples	cobalt	+/-	J/UJ
74SB201-04, 74SB201-04D	lead	+	R

Glossary of Qualification Flags and Abbreviations

Qualification Flags (Q-Flags)

U	not detected above the reported sample quantitation limit
J	estimated value
UJ	reported quantitation limit is qualified as estimated
N	analyte has been tentatively identified
JN	analyte has been tentatively identified, estimated value
R	result is rejected; the presence or absence of the analyte cannot be verified

Method/Preparation/Field QC Blank Qualification Flags (Q-Flags)

Organic Methods

NA	The sample result for the blank contaminant is greater than the RL (2X sample RL for common laboratory contaminants) when the blank value is less than the RL. The sample result for the blank contaminant is not qualified with any blank qualifiers.
U*	The sample result for the blank contaminant is less than the RL (2X sample RL for common laboratory contaminants) but greater than the MDL when the blank value is less than the RL. The sample result for the blank contaminant is qualified as non-detect U at the reported concentration.
RL**	The sample result for the blank contaminant is less than the RL (2X sample RL for common laboratory contaminants) but greater than the MDL when the blank value is less than the RL. The sample result for the blank contaminant is changed to the RL and qualified as non-detect U.

* This guideline is used when the laboratory is reporting non-detects to the MDL. ** This guideline is used when the laboratory is reporting non-detects to the RL.

Inorganic Methods

ICB/CCB/PB Action:

No Action -	The sample result is greater than the RL and greater than ten times (10X) the blank value.
U -	The sample result is greater than or equal to the MDL but less than or equal to the RL, result is reported as non-detect at the reported concentration, when the ICB/CCB/PB result is less or greater than the RL.

Glossary of Qualification Flags and Abbreviations, continued

R -	Sample result is greater than the RL and less than the ICB/CCB/PB value when the ICB/CCB/PB value is greater than the RL.
J -	Sample result is greater than the ICB/CCB/PB value but less than 10X the ICB/CCB/PB value when ICB/CCB/PB value is greater than the RL.
J/UJ -	Sample result is less than 10X RL when blank result is below the negative RL.

Field QC Blank action:

Note – Use field blanks to qualify data only if field blank results are greater than prep blank results.

Do not use rinsate blank associated with soils to qualify water samples and vice versa.

No Action -	The sample result is greater than the RL and greater than ten times (10X) the blank value.
U -	The sample result is greater than or equal to the MDL but less than or equal to the RL, result is reported as non-detect at the reported concentration, when the FB result is less or greater than the RL.
R -	Sample result is greater than the RL and less than the FB value when the FB value is greater than the RL.
J -	Sample result is greater than the FB value but less than 10X the FB value when FB value is greater than the RL.

General Abbreviations

RL	reporting limit
IDL	instrument detection limit
MDL	method detection limit
CRDL	contract required detection limit
CRQL	contract required quantitation limit
+	positive result
-	non-detect result

TEST AMERICA SAVANNAH SDG 36891-4

DataQual

Environmental Services, LLC

Michael Baker, Jr., Inc.
Airside Business Park
100 Airside Drive
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August 22, 2008
SDG# SWMU36891-4, Test America-Savannah
NAPR SWMU 74, Puerto Rico

Dear Mr. Kimes,

The following Data Validation report is provided as requested for the parameters noted in the table below for SDG # SWMU36891-4. The data validation was performed in accordance with the SW-846 methods utilized by the laboratory, the Region II Standard Operating Procedures for the Validation of Organic Data Acquired Using SW-846 Methods (8260B-Rev 2, January 2006- SOP #HW-24 and 8270D-Rev 3, October 2006- SOP #HW-22), and professional judgment. Region II has not developed a validation checklist SOP for the methods used to assess the inorganic methods in this SDG (SW-846 methods 6020B, 7471A) or the organic methods for hydrocarbons (SW-846 methods 8015_DRO and 8015_GRO). Therefore, alternative worksheets were provided. Region II flagging conventions were used. All areas of concern are discussed in the body of the report and a summary of data qualifications is provided.

Sample ID	Lab ID	Matrix	VOA App IX	LL-PAH	DRO/GRO	Metals
74SB204-04	680-36891-61	soil	X		X	X
74SB204-05	680-36891-62	soil	X		X	X
74SB205-04	680-36891-63	soil	X		X	X
74SB205-05	680-36891-64	soil	X		X	X
74SBVP19b-03	680-36891-65	soil	X	X	X	X
74SBVP19b-05	680-36891-66	soil	X	X	X	X
74SB205-04MS	680-36891-63MS	soil				X
74SB205-04MSD	680-36891-63MSD	soil				X

The samples were evaluated based on the following criteria:

- Data Completeness *
- Sample Condition *
- Technical Holding Times
- GC/MS Tuning *
- GC Performance *
- Initial/Continuing Calibrations
- ICSA/ICSAB Standards
- CRDL Standards *
- Blanks
- Internal Standards
- Surrogate Recoveries

- Laboratory Control Samples
- Matrix Spike Recoveries
- Matrix Duplicate RPDs
- Serial Dilutions
- Field Duplicates NA
- Identification/Quantitation *
- Reporting Limits *
- Tentatively Identified Compounds NA

* - indicates that qualifications were not required based on this criteria

Overall Evaluation of Data/Potential Usability Issues

A summary of qualifications applied to the sample results are noted below for the fractions validated. Specific details regarding qualification of the data are addressed in the Specific Evaluation section of this narrative. If an issue is not addressed there were no actions required based on unmet quality criteria. When more than one qualifier is associated with a compound/analyte the validator has chosen the qualifier that best indicates possible bias in the results and flagged the data accordingly. However, information regarding all quality control issues is provided in the body of the report and on the qualification summary page.

VOA

The continuing calibration exhibited some compounds with low RRF values, which resulted in qualifying non-detected values as rejected for these compounds. Due to high %D values, in the continuing calibrations, some compounds were qualified as estimated.

Blank contamination was noted in the QC blanks associated with samples in this batch. Qualifications were added to the data.

Two of the laboratory control samples exhibited low recoveries that required associated sample compounds to be qualified as estimated.

PAH

One sample exhibited high surrogate recovery that resulted in qualifying positive results.

DRO/GRO

Two samples were reanalyzed outside the holding time for the GRO fraction. These samples were rejected in favor of the results reported from the original analyses of the samples.

One continuing calibration standard exhibited a non-compliant %D and associated samples required qualification.

Blank contamination was noted and qualification was required in the samples in this SDG.

One sample analyzed for GRO exhibited a high internal standard recovery. The reported positive result in the sample was qualified as estimated J.

Two samples analyzed for GRO required qualification due to non-compliant surrogate recoveries.

Metals

The ICSAB standards exhibited non-compliant recoveries below the QC limit for the analytes silver and zinc. Based on Region II guidelines all positive and non-detect results for silver were qualified as estimated J/UJ and positive results for zinc were qualified as estimated J.

The matrix spikes pair submitted in this SDG exhibited non-compliant recoveries and the samples required qualification for the analytes barium and cobalt. All results for barium were qualified as estimated J/UJ and all positive results for cobalt were qualified as estimated J.

The associated matrix duplicate exhibited non-compliant RPDs for three analytes for which qualifications were required. Positive and non-detect results for barium, cobalt and nickel were flagged as estimated J/UJ in the samples.

The serial dilution analysis exhibited a non-compliant %D for one analyte and qualification was required for the analyte copper. All results for copper in the samples were qualified as estimated J/UJ.

Specific Evaluation of Data

Data Completeness

The SDG was received complete and intact. Resubmissions were not required. Clarification questions were asked of the laboratory regarding the metals fraction. Copies of these e-mail correspondences are included in the validation worksheets. Clarification questions were asked of the laboratory regarding the GRO/DRO fraction. A copy of these e-mail correspondences is included in the project file.

Technical Holding Times

According to chain of custody records, sampling was performed on 05/18/08 and samples were received at the laboratory 05/20/08. All sample preparation and analysis was performed within Region II and/or method holding time requirements with the exception of two re-analyses for the GRO fraction.

DRO/GRO

Samples 74SBVP19b-03DL and 74SBVP19b-05RA were reanalyzed outside the holding time due to a non-compliant surrogate or internal standard recovery in the original analysis. These sample re-analyses were rejected R in favor of the results reported from the original analyses.

Initial/Continuing Calibration

VOA

Calibration standards exhibited RRFs and %Ds that were non-compliant. A summary of these non-compliances and affected samples are noted in the following table. Sample results are qualified as indicated.

Standard ID	Compound(s)	RRF, %RSD, %D	Samples	Q Flag
CC 05/28/08	pentachloroethane	132.1%	74SB204-04, 74SB204-05	J/R
	acrylonitrile ethyl methacrylate trans-1,4-dichloro-2-butene 2-butanone 4-methyl-2-pentanone 2-hexanone	26.2% 21.6% 22.0% 20.1% 22.8% 25.6%		J/UJ
CC 05/28/08	pentachloroethane	181.2%	74SB205-04, 74SB205-05	J/R
	acrolein acrylonitrile 2-chloro-1,3-butadiene	26.4% 35.5% 25.2%		J/UJ
CC 05/29/08	pentachloroethane	91.9%	74SBVP19b-05	J/R
CC 05/31/08	pentachloroethane	132.0%	74SBVP19b-03	J/R
	propionitrile isobutyl alcohol chloroethane	21.2% 29.5% 31.6%		J/UJ

DRO/GRO

One calibration standard exhibited a non-compliant %D for DRO. A summary of this non-compliance and affected samples are noted in the following table. Sample results are qualified as indicated.

Standard ID	Compound(s)	%D	Samples	Q Flag
QE270127	DRO	18.7%	74SBVP19b-03	J

ICSA/ICSAB Standards

Metals

The ICSAB standards associated with the metals analysis exhibited non-compliant recoveries less than the lower QC limit for the analyte silver (78%/77%). Based on Region II guidelines, reported positive and non-detect results for silver were qualified as estimated J/UJ in all samples. The ICSAB standards associated with the metals analysis exhibited non-compliant recoveries greater than the upper QC limit for the analyte zinc (125%/124%). Based on Region II guidelines, reported positive results for zinc were qualified as estimated J in all samples.

Blanks

VOA

The associated method and/or QC blanks exhibited contamination as noted in the following table. Compounds for which there was no action required, are not included in the following table. Please note that the laboratory reported non-detect results down to the MDL for this project. Therefore, the blank flagging actions were modified as follows to take this into consideration. Positive results greater than the MDL but less than the CRQL are qualified as U at the reported concentration when affected by blank contamination.

Blank ID	Compound	Concentration	Reporting Limit	Action Level
FB01	2-butanone	0.69J ug/L	10 ug/L	2X RL

Associated samples and required qualifications are noted in the following table.

Sample ID	Compound	Q Flag
74SBVP19b-05	2-butanone	U at reported value

DRO/GRO

The associated rinse blank exhibited contamination as noted in the following table. Compounds for which there was no action required, are not included in the following table. Please note that the laboratory reported non-detect results down to the MDL for this project. Therefore, the blank flagging actions were modified as follows to take this into consideration. Positive results greater than the MDL but less than the RL are qualified as U at the reported concentration when affected by blank contamination.

Blank ID	Compound	Concentration	Action Level	Q Flag
ER15	DRO	0.036 mg/L	RL	U

Associated samples and required qualifications are noted in the following table.

Sample ID	Compound	Q Flag
74SB204-05	DRO	U

Internal Standards

DRO/GRO

In the GRO analysis sample 74SBVP19b-03exhbited an internal standard recovery above the QC limit. The reported positive result for GRO in the sample was qualified as estimated J.

Surrogate Recoveries

PAH

Sample 74SBVP19b-03 exhibited high recovery for o-terphenyl at 170% (QC limits 29-122%); therefore the positive results were qualified as estimated (J) for this sample.

DRO/GRO

Two samples analyzed for GRO exhibited non-compliant surrogate recoveries. Sample 74SBVP19B-03 exhibited a recovery below the QC limits (28%) and the GRO result was qualified as estimated J/UJ. Sample 74SBVP19b-05 exhibited a recovery above the QC limits (133%) and the reported positive result for GRO was qualified as estimated J.

Laboratory Control Samples

VOA

The LCS associated with sample 74SBVP19b-05 exhibited low recovery for chloroethane at 22% recovery (QC limit 26-166%); therefore the compound was qualified as estimated (J/UJ) in this sample.

The LCS associated with sample 74SBVP19b-03 exhibited low recovery for chloroethane at 20% recovery (QC limit 26-166%); therefore the compound was qualified as estimated (J/UJ) in this sample.

Matrix Spikes

Metals

The matrix spikes pair submitted in this SDG exhibited non-compliant %R's for barium and cobalt, requiring qualification in the field samples. A summary of these non-compliances and affected samples are noted in the following table. Although some recoveries were >200% the other recoveries for the analytes were not > 200% so the results were not rejected.

MS	Analytes	Samples	%R	Q Flag
74SB205-04	barium	all samples	42%/214%	J/UJ
	cobalt		147%/581%	

Matrix Duplicates

Metals

The matrix duplicate of samples 74SB205-04 exhibited non-compliant %Ds for three analytes that required qualification in the field samples. A summary of these non-compliances and affected samples are noted in the following table.

MD	Analytes	Samples	RPD	Q Flag
74SB205-04	barium	all samples	52.8%	J/UJ
	cobalt		69.1%	
	nickel		51.2%	

Serial Dilutions

Metals

The matrix duplicate of samples 74SB205-04 exhibited a non-compliant %D for one analyte that required qualification in the field samples. A summary of these non-compliances and affected samples are noted in the following table.

MD	Analytes	Samples	RPD	Q Flag
74SB205-04	copper	all samples	21.5%	J/UJ

A summary of qualifications required is provided on the following page. Please do not hesitate to contact DataQual ES with any questions regarding this validation report.

Sincerely,

Laura Maschhoff
President

Jacqueline Cleveland
Vice President

Summary of Data Qualifications

VOA

Sample ID	Compound	Results	Q flag
74SB204-04, 74SB204-05	pentachloroethane	+/-	J/R
74SB204-04, 74SB204-05	acrylonitrile ethyl methacrylate trans-1,4-dichloro-2-butene 2-butanone 4-methyl-2-pentanone 2-hexanone	+/-	J/UJ
74SB205-04, 74SB205-05	pentachloroethane	+/-	J/R
74SB205-04, 74SB205-05	acrolein acrylonitrile 2-chloro-1,3-butadiene	+/-	J/UJ
74SBVP19b-05	pentachloroethane	+/-	J/R
74SBVP19b-03	pentachloroethane	+/-	J/R
74SBVP19b-03	propionitrile isobutyl alcohol chloroethane	+/-	J/UJ
74SBVP19b-05	2-butanone	+	U at reported value
74SBVP19b-05, 74SBVP19b-03	chloroethane	+/-	J/UJ

PAH

Sample ID	Compound	Results	Q flag
74SBVP19b-03	all results	+	J

DRO/GRO

Sample ID	Compound	Results	Q flag
74SBVP19b-03DL, 74SBVP19b-05RA	GRO	+/-	R
74SBVP19b-03	DRO	+	J
74SB204-05	DRO	+J	U
74SBVP19b-03	GRO	+	J
74SBVP19b-03	GRO	+/-	J/UJ
74SBVP19b-05	GRO	+	J

Summary of Data Qualifications, continued

Metals

Sample ID	Analyte	Results	Q flag
all samples	silver	+/-	J/UJ
all samples	zinc	+	J
all samples	barium	+/-	J/UJ
all samples	cobalt	+	J
all samples	barium cobalt nickel	+	J
all samples	copper	+/-	J/UJ

Glossary of Qualification Flags and Abbreviations

Qualification Flags (Q-Flags)

U	not detected above the reported sample quantitation limit
J	estimated value
UJ	reported quantitation limit is qualified as estimated
N	analyte has been tentatively identified
JN	analyte has been tentatively identified, estimated value
R	result is rejected; the presence or absence of the analyte cannot be verified

Method/Preparation/Field QC Blank Qualification Flags (Q-Flags)

Organic Methods

NA	The sample result for the blank contaminant is greater than the RL (2X sample RL for common laboratory contaminants) when the blank value is less than the RL. The sample result for the blank contaminant is not qualified with any blank qualifiers.
U*	The sample result for the blank contaminant is less than the RL (2X sample RL for common laboratory contaminants) but greater than the MDL when the blank value is less than the RL. The sample result for the blank contaminant is qualified as non-detect U at the reported concentration.
RL**	The sample result for the blank contaminant is less than the RL (2X sample RL for common laboratory contaminants) but greater than the MDL when the blank value is less than the RL. The sample result for the blank contaminant is changed to the RL and qualified as non-detect U.

* This guideline is used when the laboratory is reporting non-detects to the MDL. ** This guideline is used when the laboratory is reporting non-detects to the RL.

Inorganic Methods

ICB/CCB/PB Action:

No Action -	The sample result is greater than the RL and greater than ten times (10X) the blank value.
U -	The sample result is greater than or equal to the MDL but less than or equal to the RL, result is reported as non-detect at the reported concentration, when the ICB/CCB/PB result is less or greater than the RL.

Glossary of Qualification Flags and Abbreviations, continued

R -	Sample result is greater than the RL and less than the ICB/CCB/PB value when the ICB/CCB/PB value is greater than the RL.
J -	Sample result is greater than the ICB/CCB/PB value but less than 10X the ICB/CCB/PB value when ICB/CCB/PB value is greater than the RL.
J/UJ -	Sample result is less than 10X RL when blank result is below the negative RL.

Field QC Blank action:

Note – Use field blanks to qualify data only if field blank results are greater than prep blank results.

Do not use rinsate blank associated with soils to qualify water samples and vice versa.

No Action -	The sample result is greater than the RL and greater than ten times (10X) the blank value.
U -	The sample result is greater than or equal to the MDL but less than or equal to the RL, result is reported as non-detect at the reported concentration, when the FB result is less or greater than the RL.
R -	Sample result is greater than the RL and less than the FB value when the FB value is greater than the RL.
J -	Sample result is greater than the FB value but less than 10X the FB value when FB value is greater than the RL.

General Abbreviations

RL	reporting limit
IDL	instrument detection limit
MDL	method detection limit
CRDL	contract required detection limit
CRQL	contract required quantitation limit
+	positive result
-	non-detect result

TEST AMERICA SAVANNAH SDG 36891-5

DataQual

Environmental Services, LLC

Michael Baker, Jr., Inc.
Airside Business Park
100 Airside Drive
Moon Township, PA 15108

August 22, 2008
SDG# SWMU36891-5, Test America-Savannah
NAPR SWMU 74, Puerto Rico

Dear Mr. Kimes,

The following Data Validation report is provided as requested for the parameters noted in the table below for SDG # SWMU36891-5. The data validation was performed in accordance with the SW-846 methods utilized by the laboratory, the Region II Standard Operating Procedures for the Validation of Organic Data Acquired Using SW-846 Methods (8260B-Rev 2, January 2006- SOP #HW-24 and 8270D-Rev 3, October 2006- SOP #HW-22), and professional judgment. Region II has not developed a validation checklist SOP for the methods used to assess the inorganic methods in this SDG (SW-846 methods 6020B, 7471A) or the organic methods for hydrocarbons (SW-846 methods 8015_DRO and 8015_GRO). Therefore, alternative worksheets were provided. Region II flagging conventions were used. All areas of concern are discussed in the body of the report and a summary of data qualifications is provided.

Sample ID	Lab ID	Matrix	VOA App IX	LL-PAH	DRO/GRO	DRO	GRO	TMetals	DMetals
74GWVP1Aa	680-36891-69	water				X			
74GWVP1Bb/9	680-36891-70	water		X				X	X
74GWVP3b/9	680-36891-71	water	X	X	X			X	X
74GWVP3a/9	680-36891-72	water	X	X	X			X	
74GW84	680-36891-73	water	X		X			X	X
74GWVP06	680-36891-74	water	X		X			X	X
74GWVP10a/DFM	680-36891-75	water	X	X	X			X	X
74GWVP2b/9	680-36891-76	water	X	X	X			X	X
74GWVPAb/9	680-36891-77	water	X				X		
74TB21	680-36891-78	water	X				X		
74TB22	680-36891-79	water	X				X		
74TB23	680-36891-80	water	X				X		
74TB24	680-36891-81	water	X				X		
74ER15	680-36891-82	water	X		X			X	
74ER16	680-36891-83	water	X		X			X	
74ER17	680-36891-84	water	X		X			X	

The following quality control samples were provided with this SDG: samples 74ER15, 74ER16 and 74ER17-equipment blanks; samples 74TB21, 74TB22, 74TB23 and 74TB24-trip blanks.

The samples were evaluated based on the following criteria:

5830 Amberway Drive • St. Louis, MO 63128 • 314-330-1327 • Fax 314-849-6264

• Data Completeness	*
• Sample Condition	*
• Technical Holding Times	*
• GC/MS Tuning	*
• GC Performance	*
• Initial/Continuing Calibrations	
• ICSA/ICSAB Standards	
• CRDL Standards	*
• Blanks	
• Internal Standards	*
• Surrogate Recoveries	
• Laboratory Control Samples	*
• Matrix Spike Recoveries	NA
• Matrix Duplicate RPDs	NA
• Serial Dilutions	
• Field Duplicates	NA
• Identification/Quantitation	*
• Reporting Limits	*
• Tentatively Identified Compounds	NA

* - indicates that qualifications were not required based on this criteria

Overall Evaluation of Data/Potential Usability Issues

A summary of qualifications applied to the sample results are noted below for the fractions validated. Specific details regarding qualification of the data are addressed in the Specific Evaluation section of this narrative. If an issue is not addressed there were no actions required based on unmet quality criteria. When more than one qualifier is associated with a compound/analyte the validator has chosen the qualifier that best indicates possible bias in the results and flagged the data accordingly. However, information regarding all quality control issues is provided in the body of the report and on the qualification summary page. Please note that the reviewer added an F to the sample ID to indicate dissolved metals analysis when necessary.

VOA

The continuing calibration exhibited some compounds with low RRF values, which resulted in qualifying non-detected values as rejected for these compounds. Due to high %D values, in the continuing calibrations, some compounds were qualified as estimated.

Blank contamination was noted in the method and QC blanks associated with samples in this batch. Qualifications were added to the data.

PAH

No qualifications to the data were required.

DRO/GRO

One sample analyzed for GRO required qualification due to high surrogate recoveries.

Metals

The ICSAB standards associated with the total metals samples exhibited non-compliant recoveries below the QC limit for the analyte silver. Based on Region II guidelines all positive and non-detect results for silver were qualified as estimated J/UJ in the total metals samples.

Blank contamination was noted and qualification was required in the samples in this SDG.

The serial dilution analysis associated with the dissolved metals samples (from SDG SWMU 36806-3) exhibited a non-compliant %D for the analyte lead. All results for lead in the dissolved metals samples were qualified as estimated J/UJ.

The %differences between total and dissolved results were above 20% for some analytes and above 50% for cobalt in two samples. Those above 20% were flagged as estimated in both the total and dissolved sample. Those above 50% were rejected in both the total and dissolved sample. These qualifications were made according to Region II guidelines.

Specific Evaluation of Data

Data Completeness

The SDG was received complete and intact. Resubmissions were not required. The validator noticed a form calculation error in the continuing calibration forms for the GRO fraction. This error was also present in SDG SWMU36806-3. The correction submitted for that SDG was also used for this one. Clarification questions were asked of the laboratory regarding the metals fraction. A copy of the e-mail correspondence is included in the validation worksheets. Clarification questions were asked of the laboratory regarding the GRO/DRO fraction. A copy of these e-mail correspondences is included in the project file.

Technical Holding Times

According to chain of custody records, sampling was performed on 05/14-19/08 and samples were received at the laboratory 05/20/08. All sample preparation and analysis was performed within Region II and/or method holding time requirements.

Initial/Continuing Calibration

VOA

Calibration standards exhibited RRFs and %Ds that were non-compliant. A summary of these non-compliances and affected samples are noted in the following table. Sample results are qualified as indicated.

Standard ID	Compound(s)	RRF, %RSD, %D	Samples	Q Flag
CC 05/28/08	pentachloroethane	91.1%	74GWVP3b/9, 74GWVP3a/9, 74GW84, 74GWVP06, 74GWVP10a/DFM	J/R
	acrylonitrile bromomethane	26.6% 32.7%		J/UJ
CC 05/29/08	pentachloroethane	101.0%	74GWVP2b/9, 74GWVP1Ab/9, 74TB21, 74TB22, 74TB23, 74TB24, 74ER15, 74ER16, 74ER17	J/R
	acrylonitrile 1,2-dichloroethane	21.2% 24.8%		J/UJ

ICSA/ICSAB Standards

Metals

The ICSAB standards associated with the total metals analysis exhibited non-compliant recoveries less than the lower QC limit for the analyte silver (77%/77%/76%). Based on Region II guidelines, reported positive and non-detect results for silver were qualified as estimated J/UJ in all total metals samples.

Blanks

VOA

The associated method and/or QC blanks exhibited contamination as noted in the following table. Compounds for which there was no action required, are not included in the following table. Please note that the laboratory reported non-detect results down to the MDL for this project. Therefore, the blank flagging actions were modified as follows to take this into consideration. Positive results greater than the MDL but less than the CRQL are qualified as U at the reported concentration when affected by blank contamination.

Blank ID	Compound	Concentration	Reporting Limit	Action Level
Method Blank	carbon disulfide	0.33J ug/L	2.0 ug/L	RL
FB01	2-butanone	0.69J ug/L	10 ug/L	2X RL

Associated samples and required qualifications are noted in the following table.

Sample ID	Compound	Q Flag
74GWVP3b/9, 74GWVP3a/9, 74GW84, 74GWVP06, 74GWVP10a/DFM	carbon disulfide	U at reported value
74GWVP3a/9, 74GW84	2-butanone	U at reported value

Metals

Associated blanks exhibited contamination as noted in the following table. The laboratory reported non-detect results to the MDL for this project. Therefore, the blank flagging actions were modified to take this into consideration. Please see the Glossary of Qualification Flags and Abbreviations for details.

Blank ID	Analyte	Concentration	Action Level	Q Flag
PBW – DM	antimony	0.55700J ug/L	>MDL up to RL	U
	arsenic	0.2989J ug/L	> MDL up to RL	U
ICB – TM	antimony	0.15950J ug/L	>MDL up to RL	U
FB01	copper	2.1J ug/L	> MDL up to RL	U
	lead	0.38J ug/L	>MDL up to RL	U

Please note, when qualifying samples for CCB contamination, associated samples are those just prior to or just following a CCB. Therefore, not all analytes in all samples are flagged for CCB contamination.

Associated samples and required qualifications are noted in the following table.

Sample ID	Analyte	Q Flag
all samples >MDL up to RL	antimony	U
all dissolved metals samples >MDL up to RL	arsenic	U
all samples > MDL up to RL	copper	U
all samples up to RL	lead	U

Surrogate Recoveries

DRO/GRO

One sample analyzed for GRO exhibited non-compliant surrogate recovery above the QC limits and required qualification. The reported positive result for GRO in sample 74GWVP2b/9 (153%) was qualified as estimated J.

Serial Dilution

Metals

The serial dilution analysis (from SDG SWMU36806-3) associated with the dissolved metals samples in this SDG exhibited a non-compliant %D's for lead and qualification was required in the field samples. A summary of this non-compliance and affected samples are noted in the following table.

SD	Analytes	Samples	%D	Q Flag
74SBVP1CbF	lead	all dissolved metals samples	12.9	J/UJ

Identification/Quantitation

Metals

The total and dissolved metals analysis exhibited %Ds >20% but less than or equal to 50% for several analytes. Elements exhibiting >20% but less than or equal to 50% difference between total and dissolved concentrations were qualified as estimated J based on the Region II guidelines. One analyte exhibited %Ds >50% in two samples. This analyte required rejection R based on Region II guidelines. Specific action is noted in the following table.

Sample ID	Analyte	%D	Q Flag
74GWVP1Bb/9, 74GWVP1Bb/9F	cobalt	156%	R
74GWVP06, 74GWVP06F	cobalt	127%	R
74GWVP3b/9, 74GWVP3b/9F	nickel	34%	J
74GW84, 74GW84F	barium	25%	J

A summary of qualifications required is provided on the following page. Please do not hesitate to contact DataQual ES with any questions regarding this validation report.

Sincerely,

Laura Maschhoff
President

Jacqueline Cleveland
Vice President

Summary of Data Qualifications

VOA

Sample ID	Compound	Results	Q flag
74GWVP3b/9, 74GWVP3a/9, 74GW84, 74GWVP06, 74GWVP10a/DFM	pentachloroethane	+/-	J/R
74GWVP3b/9, 74GWVP3a/9, 74GW84, 74GWVP06, 74GWVP10a/DFM	acrylonitrile bromomethane	+/-	J/UJ
74GWVP2b/9, 74GWVP1Ab/9, 74TB21, 74TB22, 74TB23, 74TB24, 74ER15, 74ER16, 74ER17	pentachloroethane	+/-	J/R
74GWVP2b/9, 74GWVP1Ab/9, 74TB21, 74TB22, 74TB23, 74TB24, 74ER15, 74ER16, 74ER17	acrylonitrile 1,2-dichloroethane	+/-	J/UJ
74GWVP3b/9, 74GWVP3a/9, 74GW84, 74GWVP06, 74GWVP10a/DFM	carbon disulfide	+	U at reported value
74GWVP3a/9, 74GW84	2-butanone	+	U at reported value

PAH

Sample ID	Compound	Results	Q flag
No qualifications			

DRO/GRO

Sample ID	Compound	Results	Q flag
74SBVP2b/9	GRO	+	J

Metals

Sample ID	Analyte	Results	Q flag
all samples	silver	+/-	J/UJ
all samples	antimony	>MDL up to RL	U
all dissolved metals samples	arsenic	>MDL up to RL	U
all samples	copper	>MDL up to RL	U
all samples	lead	>MDL up to RL	U
all dissolved metals samples	lead	+	J
74GWVP1Bb/9, 74GWVP1Bb/9F	cobalt	+	R
74GWVP06, 74GWVP06F	cobalt	+	R
74GWVP3b/9, 74GWVP3b/9F	nickel	+	J
74GW84, 74GW84F	barium	+	J

Glossary of Qualification Flags and Abbreviations

Qualification Flags (Q-Flags)

U	not detected above the reported sample quantitation limit
J	estimated value
UJ	reported quantitation limit is qualified as estimated
N	analyte has been tentatively identified
JN	analyte has been tentatively identified, estimated value
R	result is rejected; the presence or absence of the analyte cannot be verified

Method/Preparation/Field QC Blank Qualification Flags (Q-Flags)

Organic Methods

NA	The sample result for the blank contaminant is greater than the RL (2X sample RL for common laboratory contaminants) when the blank value is less than the RL. The sample result for the blank contaminant is not qualified with any blank qualifiers.
U*	The sample result for the blank contaminant is less than the RL (2X sample RL for common laboratory contaminants) but greater than the MDL when the blank value is less than the RL. The sample result for the blank contaminant is qualified as non-detect U at the reported concentration.
RL**	The sample result for the blank contaminant is less than the RL (2X sample RL for common laboratory contaminants) but greater than the MDL when the blank value is less than the RL. The sample result for the blank contaminant is changed to the RL and qualified as non-detect U.

* This guideline is used when the laboratory is reporting non-detects to the MDL. ** This guideline is used when the laboratory is reporting non-detects to the RL.

Inorganic Methods

ICB/CCB/PB Action:

No Action -	The sample result is greater than the RL and greater than ten times (10X) the blank value.
U -	The sample result is greater than or equal to the MDL but less than or equal to the RL, result is reported as non-detect at the reported concentration, when the ICB/CCB/PB result is less or greater than the RL.

Glossary of Qualification Flags and Abbreviations, continued

R -	Sample result is greater than the RL and less than the ICB/CCB/PB value when the ICB/CCB/PB value is greater than the RL.
J -	Sample result is greater than the ICB/CCB/PB value but less than 10X the ICB/CCB/PB value when ICB/CCB/PB value is greater than the RL.
J/UJ -	Sample result is less than 10X RL when blank result is below the negative RL.

Field QC Blank action:

Note – Use field blanks to qualify data only if field blank results are greater than prep blank results.

Do not use rinsate blank associated with soils to qualify water samples and vice versa.

No Action -	The sample result is greater than the RL and greater than ten times (10X) the blank value.
U -	The sample result is greater than or equal to the MDL but less than or equal to the RL, result is reported as non-detect at the reported concentration, when the FB result is less or greater than the RL.
R -	Sample result is greater than the RL and less than the FB value when the FB value is greater than the RL.
J -	Sample result is greater than the FB value but less than 10X the FB value when FB value is greater than the RL.

General Abbreviations

RL	reporting limit
IDL	instrument detection limit
MDL	method detection limit
CRDL	contract required detection limit
CRQL	contract required quantitation limit
+	positive result
-	non-detect result

TEST AMERICA SAVANNAH SDG 36925-1

DataQual

Environmental Services, LLC

Michael Baker, Jr., Inc.
Airside Business Park
100 Airside Drive
Moon Township, PA 15108

September 8, 2008
SDG# SWMU36925-1, Test America-Savannah
NAPR SWMU 74, Puerto Rico

Dear Mr. Kimes,

The following Data Validation report is provided as requested for the parameters noted in the table below for SDG # SWMU36925-1. The data validation was performed in accordance with the SW-846 methods utilized by the laboratory, the Region II Standard Operating Procedures for the Validation of Organic Data Acquired Using SW-846 Methods (8260B-Rev 2, January 2006- SOP #HW-24), and professional judgment. Region II has not developed a validation checklist SOP for the methods used to assess the inorganic methods in this SDG (SW-846 methods 6020B, 7471A) or the organic methods for hydrocarbons (SW-846 methods 8015_DRO and 8015_GRO). Therefore, alternative worksheets were provided. Region II flagging conventions were used. All areas of concern are discussed in the body of the report and a summary of data qualifications is provided.

Sample ID	Lab ID	Matrix	VOA App IX	DRO/GRO	Metals
74SB184-04	680-36925-1	soil	X	X	X
74SB184-05	680-36925-2	soil	X	X	X
74SB188-03	680-36925-3	soil	X	X	X
74SB188-04	680-36925-4	soil	X	X	X
74SB189-03	680-36925-5	soil	X	X	X
74SB189-05	680-36925-6	soil	X	X	X
74SB190-03	680-36925-7	soil	X	X	X
74SB190-05	680-36925-8	soil	X	X	X
74SB191-00	680-36925-9	soil	X	X	X
74SB191-03	680-36925-10	soil	X	X	X
74SB191-03D	680-36925-11	soil	X	X	X
74SB191-05	680-36925-12	soil	X	X	X
74SB192-03	680-36925-13	soil	X	X	X
74SB192-05	680-36925-14	soil	X	X	X
74SB178-04	680-36925-15	soil	X	X	X
74SB178-05	680-36925-16	soil	X	X	X
74SB179-04	680-36925-17	soil	X	X	X
74SB179-05	680-36925-18	soil	X	X	X
74SB180-04	680-36925-19	soil	X	X	X
74SB180-05	680-36925-20	soil	X	X	X
74SB191-05 MS	680-36925-12MS	soil	X	X	X
74SB191-05 MSD	680-36925-12MSD	soil	X	X	X

The following quality control samples were provided with this SDG: sample 74SB191-03D–field duplicate of sample 74SB191-03.

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The samples were evaluated based on the following criteria:

- Data Completeness *
- Sample Condition *
- Technical Holding Times *
- GC/MS Tuning *
- GC Performance *
- Initial/Continuing Calibrations
- ICSA/ICSAB Standards *
- CRDL Standards *
- Blanks
- Internal Standards *
- Surrogate Recoveries *
- Laboratory Control Samples *
- Matrix Spike Recoveries
- Matrix Duplicate RPDs
- Serial Dilutions *
- Field Duplicates
- Identification/Quantitation *
- Reporting Limits *
- Tentatively Identified Compounds NA

* - indicates that qualifications were not required based on this criteria

Overall Evaluation of Data/Potential Usability Issues

A summary of qualifications applied to the sample results are noted below for the fractions validated. Specific details regarding qualification of the data are addressed in the Specific Evaluation section of this narrative. If an issue is not addressed there were no actions required based on unmet quality criteria. When more than one qualifier is associated with a compound/analyte the validator has chosen the qualifier that best indicates possible bias in the results and flagged the data accordingly. However, information regarding all quality control issues is provided in the body of the report and on the qualification summary page.

VOA

The continuing calibration exhibited some compounds with low RRF values, which resulted in qualifying non-detected values as rejected for these compounds. Due to high %D values, in the continuing calibrations, some compounds were qualified as estimated.

Blank contamination was noted in the QC blanks associated with samples in this batch. Qualifications were added to the data.

DRO/GRO

Blank contamination was noted and qualification was required in the samples in this SDG.

The field duplicate pair of samples 74SB191-03 and 74SB191-03D exhibited DRO results that did not compare. The reported results for DRO in this field duplicate pair were qualified as estimated J/UJ.

Metals

Blank contamination was noted and qualification was required in the samples in this SDG.

The matrix spike pair submitted in this SDG exhibited non-compliant recoveries in both the MS and the MSD for the analytes antimony, cobalt, copper and lead. All results for antimony in the metals samples were qualified as estimated J/UJ and all positive results for cobalt, copper and lead were qualified as estimated J.

The matrix duplicate submitted in this SDG exhibited non-compliant RPDs for two analytes, barium and cobalt. All results for barium and cobalt were qualified as estimated J/UJ.

The field duplicate pairs exhibited non-compliant RPDs or absolute differences for several analytes. These analytes were qualified as estimated or rejected in the field duplicate pairs.

Specific Evaluation of Data

Data Completeness

The SDG was received complete and intact. Resubmissions were not required. Clarification questions were asked of the laboratory regarding the metals fraction. Copies of these e-mail correspondences are included in the validation worksheets. Clarification questions were asked of the laboratory regarding the GRO/DRO fraction. A copy of these e-mail correspondences is included in the project file.

Technical Holding Times

According to chain of custody records, sampling was performed on 05/19/08 and samples were received at the laboratory 05/21/08. All sample preparation and analysis was performed within Region II and/or method holding time requirements.

Initial/Continuing Calibration

VOA

Calibration standards exhibited RRFs and %Ds that were non-compliant. A summary of these non-compliances and affected samples are noted in the following table. Sample results are qualified as indicated.

Standard ID	Compound(s)	RRF, %RSD, %D	Samples	Q Flag
CC 05/28/08	pentachloroethane	181.0%	74SB184-04, 74SB184-05, 74SB188-03, 74SB188-04, 74SB189-03, 74SB189-05, 74SB190-03, 74SB190-05, 74SB191-00, 74SB191-03, 74SB191-03D, 74SB191-05, 74SB192-03, 74SB192-05, 74SB178-04, 74SB178-05, 74SB179-04, 74SB179-05	J/R
	acrolein acrylonitrile 2-chloro-1,3-butadiene	26.4% 35.5% 25.2%		J/UJ
CC 05/30/08	acrolein isobutyl alcohol	0.04882 0.02395	74SB180-04, 74SB180-05	J/R
	iodomethane acetonitrile 3-chloro-1-propene acrylonitrile propionitrile pentachloroethane bromomethane acetone 2-butanone 4-methyl-2-pentaone 2-hexanone 1,2-dibromo-3-chloropropane	20.9% 41.8% 24.3% 31.1% 22.1% 51.1% 50.5% 22.4% 32.2% 31.3% 33.7% 32.7%		J/UJ

Blanks

VOA

The associated method and/or QC blanks exhibited contamination as noted in the following table. Compounds for which there was no action required, are not included in the following table. Please note that the laboratory reported non-detect results down to the MDL for this project. Therefore, the blank flagging actions were modified as follows to take this into consideration. Positive results greater than the MDL but less than the CRQL are qualified as U at the reported concentration when affected by blank

contamination.

Blank ID	Compound	Concentration	Reporting Limit	Action Level
FB01	2-butanone	0.69J ug/L	10 ug/L	2X RL

Associated samples and required qualifications are noted in the following table.

Sample ID	Compound	Q Flag
74SB188-03, 74SB188-04, 74SB190-03, 74SB191-00, 74SB191-03, 74SB191-03D	2-butanone	U at reported value

DRO/GRO

The associated rinse blank exhibited contamination as noted in the following table. Compounds for which there was no action required, are not included in the following table. Please note that the laboratory reported non-detect results down to the MDL for this project. Therefore, the blank flagging actions were modified as follows to take this into consideration. Positive results greater than the MDL but less than the CRQL are qualified as U at the reported concentration when affected by blank contamination.

Blank ID	Compound	Concentration	Action Level	Q Flag
ER17	DRO	0.0535J ug/L	RL	U

Associated samples and required qualifications are noted in the following table.

Sample ID	Compound	Q Flag
all samples >MDL but <RL	DRO	U

Metals

Associated blanks exhibited contamination as noted in the following table. The laboratory reported non-detect results to the MDL for this project. Therefore, the blank flagging actions were modified to take this into consideration. Please see the Glossary of Qualification Flags and Abbreviations for details.

Blank ID	Analyte	Concentration	Action Level	Q Flag
CCB	antimony	0.10290J ug/L	>MDL up to RL	U

Please note, when qualifying samples for CCB contamination, associated samples are those just prior to or just following a CCB. Therefore, not all analytes in all samples are flagged for CCB contamination.

Associated samples and required qualifications are noted in the following table.

Sample ID	Analyte	Q Flag
all samples >MDL up to RL	antimony	U

Matrix Spikes

Metals

The matrix spikes pair submitted in this SDG exhibited non-compliant %R's for antimony, cobalt, copper and lead, requiring qualification in the field samples. A summary of these non-compliances and affected samples are noted in the following table.

MS	Analytes	Samples	%R	Q Flag
74SB191-05	antimony	all samples	43/41	J/UJ
	cobalt		159/401	J
	copper		137/158	
	lead		127/195	

Matrix Duplicates

Metals

The matrix duplicate submitted in this SDG exhibited non-compliant %R's for barium & cobalt, requiring qualification in the field samples. A summary of these non-compliances and affected samples are noted in the following table.

MD	Analytes	Samples	%RPD	Q Flag
74SB191-05	barium	all samples	144	J/UJ
	cobalt		57.3	

Field Duplicates

DRO/GRO

The field duplicate pair of samples 74SB191-03 and 74SB191-03D exhibited DRO results that did not compare (136% RPD). The reported results for DRO in this field duplicate pair were qualified as estimated J/UJ.

Metals

The field duplicate pair of samples 74SB191-03 and 74SB191-03D exhibited metals results that did not compare. The analyte barium exhibited a RPD that was >120% (157%) and was rejected R in both samples.

A summary of qualifications required is provided on the following page. Please do not hesitate to contact DataQual ES with any questions regarding this validation report.

Sincerely,

Jacqueline Cleveland
Vice President

Summary of Data Qualifications

VOA

Sample ID	Compound	Results	Q flag
74SB184-04, 74SB184-05, 74SB188-03, 74SB188-04, 74SB189-03, 74SB189-05, 74SB190-03, 74SB190-05, 74SB191-00, 74SB191-03, 74SB191-03D, 74SB191-05, 74SB192-03, 74SB192-05, 74SB178-04, 74SB178-05, 74SB179-04, 74SB179-05	pentachloroethane	+/-	J/R
74SB184-04, 74SB184-05, 74SB188-03, 74SB188-04, 74SB189-03, 74SB189-05, 74SB190-03, 74SB190-05, 74SB191-00, 74SB191-03, 74SB191-03D, 74SB191-05, 74SB192-03, 74SB192-05, 74SB178-04, 74SB178-05, 74SB179-04, 74SB179-05	acrolein acrylonitrile 2-chloro-1,3-butadiene	+/-	J/UJ
74SB180-04, 74SB180-05	acrolein isobutyl alcohol	+/-	J/R
74SB180-04, 74SB180-05	iodomethane acetonitrile 3-chloro-1-propene acrylonitrile propionitrile pentachloroethane bromomethane acetone 2-butanone 4-methyl-2-pentaone 2-hexanone 1,2-dibromo-3-chloropropane	+/-	J/UJ
74SB188-03, 74SB188-04, 74SB190-03, 74SB191-00, 74SB191-03, 74SB191-03D	2-butanone	+	U at reported value

DRO/GRO

Sample ID	Compound	Results	Q flag
all samples	DRO	+>MDL but <RL	U
74SB191-03, 74SB191-03D	DRO	+	J

Metals

Sample ID	Analyte	Results	Q flag
all samples >MDL up to RL	antimony	>MDL up to RL	U
all samples	antimony	+/-	J/UJ
all samples	cobalt copper lead	+	J
all samples	barium cobalt	+/-	J/UJ
74SB191-03, 74SB191-03D	barium	+	R

Glossary of Qualification Flags and Abbreviations

Qualification Flags (Q-Flags)

U	not detected above the reported sample quantitation limit
J	estimated value
UJ	reported quantitation limit is qualified as estimated
N	analyte has been tentatively identified
JN	analyte has been tentatively identified, estimated value
R	result is rejected; the presence or absence of the analyte cannot be verified

Method/Preparation/Field QC Blank Qualification Flags (Q-Flags)

Organic Methods

NA	The sample result for the blank contaminant is greater than the RL (2X sample RL for common laboratory contaminants) when the blank value is less than the RL. The sample result for the blank contaminant is not qualified with any blank qualifiers.
U*	The sample result for the blank contaminant is less than the RL (2X sample RL for common laboratory contaminants) but greater than the MDL when the blank value is less than the RL. The sample result for the blank contaminant is qualified as non-detect U at the reported concentration.
RL**	The sample result for the blank contaminant is less than the RL (2X sample RL for common laboratory contaminants) but greater than the MDL when the blank value is less than the RL. The sample result for the blank contaminant is changed to the RL and qualified as non-detect U.

* This guideline is used when the laboratory is reporting non-detects to the MDL. ** This guideline is used when the laboratory is reporting non-detects to the RL.

Inorganic Methods

ICB/CCB/PB Action:

No Action -	The sample result is greater than the RL and greater than ten times (10X) the blank value.
U -	The sample result is greater than or equal to the MDL but less than or equal to the RL, result is reported as non-detect at the reported concentration, when the ICB/CCB/PB result is less or greater than the RL.

Glossary of Qualification Flags and Abbreviations, continued

R -	Sample result is greater than the RL and less than the ICB/CCB/PB value when the ICB/CCB/PB value is greater than the RL.
J -	Sample result is greater than the ICB/CCB/PB value but less than 10X the ICB/CCB/PB value when ICB/CCB/PB value is greater than the RL.
J/UJ -	Sample result is less than 10X RL when blank result is below the negative RL.

Field QC Blank action:

Note – Use field blanks to qualify data only if field blank results are greater than prep blank results.

Do not use rinsate blank associated with soils to qualify water samples and vice versa.

No Action -	The sample result is greater than the RL and greater than ten times (10X) the blank value.
U -	The sample result is greater than or equal to the MDL but less than or equal to the RL, result is reported as non-detect at the reported concentration, when the FB result is less or greater than the RL.
R -	Sample result is greater than the RL and less than the FB value when the FB value is greater than the RL.
J -	Sample result is greater than the FB value but less than 10X the FB value when FB value is greater than the RL.

General Abbreviations

RL	reporting limit
IDL	instrument detection limit
MDL	method detection limit
CRDL	contract required detection limit
CRQL	contract required quantitation limit
+	positive result
-	non-detect result

TEST AMERICA SAVANNAH SDG 36925-2

DataQual

Environmental Services, LLC

Michael Baker, Jr., Inc.
Airside Business Park
100 Airside Drive
Moon Township, PA 15108

September 8, 2008
SDG# SWMU36925-2, Test America-Savannah
NAPR SWMU 74, Puerto Rico

Dear Mr. Kimes,

The following Data Validation report is provided as requested for the parameters noted in the table below for SDG # SWMU36925-2. The data validation was performed in accordance with the SW-846 methods utilized by the laboratory, the Region II Standard Operating Procedures for the Validation of Organic Data Acquired Using SW-846 Methods (8260B-Rev 2, January 2006- SOP #HW-24), and professional judgment. Region II has not developed a validation checklist SOP for the methods used to assess the inorganic methods in this SDG (SW-846 methods 6020B and 7471A). Therefore, alternative worksheets were provided. Region II flagging conventions were used. All areas of concern are discussed in the body of the report and a summary of data qualifications is provided.

Sample ID	Lab ID	Matrix	VOA App IX	DRO/GRO	Metals
74SB181-00	680-36925-21	soil	X	X	X
74SB181-04	680-36925-22	soil	X	X	X
74SB181-05	680-36925-23	soil	X	X	X
74SB181-05D	680-36925-24	soil	X	X	X
74SB182-04	680-36925-25	soil	X	X	X
74SB182-05	680-36925-26	soil	X	X	X
74SB183-04	680-36925-27	soil	X	X	X
74SB183-05	680-36925-28	soil	X	X	X
74SB185-03	680-36925-29	soil	X	X	X
74SB185-05	680-36925-30	soil	X	X	X
74SB186-03	680-36925-31	soil	X	X	X
74SB186-05	680-36925-32	soil	X	X	X
74SB187-03	680-36925-33	soil	X	X	X
74SB187-04	680-36925-34	soil	X	X	X
74SB206-04	680-36925-35	soil	X	X	X
74SB206-04D	680-36925-36	soil	X	X	X
74SB206-05	680-36925-37	soil	X	X	X
74SB207-04	680-36925-38	soil	X	X	X
74SB207-05	680-36925-39	soil	X	X	X
74SB209-04	680-36925-40	soil	X	X	X
74SB181-04 MS	680-36925-22MS	soil	X	X	X
74SB181-04 MSD	680-36925-22MSD	soil	X	X	X

The following quality control samples were provided with this SDG: sample 74SB181-05D-field duplicate of sample 74SB181-05 and sample 74SB206-04D-field duplicate of sample 74SB206-04.

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The samples were evaluated based on the following criteria:

- Data Completeness *
- Sample Condition *
- Technical Holding Times *
- GC/MS Tuning *
- Initial/Continuing Calibrations
- ICSA/ICSAB Standards
- CRDL Standards *
- Blanks
- Internal Standards *
- Surrogate Recoveries *
- Laboratory Control Samples *
- Matrix Spike Recoveries
- Matrix Duplicate RPDs *
- Serial Dilutions
- Field Duplicates
- Identification/Quantitation *
- Reporting Limits *
- Tentatively Identified Compounds NA

* - indicates that qualifications were not required based on this criteria

Overall Evaluation of Data/Potential Usability Issues

A summary of qualifications applied to the sample results are noted below for the fractions validated. Specific details regarding qualification of the data are addressed in the Specific Evaluation section of this narrative. If an issue is not addressed there were no actions required based on unmet quality criteria. When more than one qualifier is associated with a compound/analyte the validator has chosen the qualifier that best indicates possible bias in the results and flagged the data accordingly. However, information regarding all quality control issues is provided in the body of the report and on the qualification summary page.

VOA

The continuing calibration exhibited some compounds with low RRF values, which resulted in qualifying non-detected values as rejected for these compounds. Due to high %D values in the continuing calibrations, some compounds were qualified as estimated.

Blank contamination was noted in the QC blanks associated with samples in this batch. Qualifications were added to the data.

DRO/GRO

Due to a high %D value in the associated continuing calibration, DRO was qualified as estimated J/UJ in all samples.

DRO contamination was noted in the associated rinse blank and qualification was required in the samples in this SDG.

Metals

Blank contamination was noted and qualification was required in the samples in this SDG.

The associated matrix spike exhibited non-compliant %Rs for one analyte for which qualifications were required. Positive and non-detect results for antimony were qualified as estimated J/UJ.

The associated serial dilution exhibited a non-compliant %D for one analyte. Positive and non-detect results for the analyte zinc were qualified as estimated J/UJ in the samples.

The field duplicate pairs exhibited non-compliant RPDs >35% but less than 120% for the analytes barium, cobalt and an absolute difference >2X the CRDL for the analyte mercury. These analytes were flagged as estimated in the respective field duplicate pair. All qualifications were made based on the Region II guidance.

Specific Evaluation of Data

Data Completeness

Resubmissions were required for the VOA fraction. The data package did not contain Form III. The laboratory was contacted and forms were submitted. Clarification questions were asked of the laboratory regarding the metals fraction. Copies of these e-mail correspondences are included in the validation worksheets. Clarification questions were asked of the laboratory regarding the GRO/DRO fraction. A copy of these e-mail correspondences is included in the project file.

Technical Holding Times

According to chain of custody records, sampling was performed on 05/19/08 and samples were received at the laboratory 05/21/08. All sample preparation and analysis was performed within Region II and/or method holding time requirements.

Initial/Continuing Calibration

VOA

Calibration standards exhibited RRFs and %Ds that were non-compliant. A summary of these non-compliances and affected samples are noted in the following table. Sample results are qualified as indicated.

Standard ID	Compound(s)	RRF, %RSD, %D	Samples	Q Flag
CC 05/29/08	isobutyl alcohol	0.02437	74SB182-04, 74SB183-04, 74SB183-05, 74SB185-03, 74SB185-05, 74SB186-03, 74SB186-05, 74SB187-03, 74SB187-04, 74SB206-04, 74SB206-04D	J/R
	acrolein	32.0%		J/UJ
	acetonitrile	24.7%		
	acrylonitrile	22.4%		
	methyl methacrylate	25.5%		
	pentachloroethane	32.1%		
	chloroethane	51.3%		
	2-butanone	24.6%		
	4-methyl-2-pentanone	22.6%		
	2-hexanone	26.3%		
	1,2-dibromo-3-chloropropane	26.3%		
CC 05/30/08	acrolein	0.04882	74SB181-00, 74SB181-04, 74SB181-05, 74SB181-05D, 74SB182-05, 74SB206-05, 74SB207-04, 74SB207-05, 74SB209-04	J/R
	isobutyl alcohol	0.02395		
	iodomethane	20.9%		J/UJ
	acetonitrile	41.8%		
	3-chloro-1-propene	24.3%		
	acrylonitrile	31.1%		
	propionitrile	22.1%		
	pentachloroethane	51.1%		
	bromomethane	50.5%		
	acetone	22.4%		
	2-butanone	32.2%		
	4-methyl-2-pentaone	31.3%		
	2-hexanone	33.7%		
	1,2-dibromo-3-chloropropane	32.7%		

DRO/GRO

The CCV QE300095, analyzed on 5/31/08 at 0248 exhibited a non-compliant %D for DRO (16.1%). All samples were associated with this CCV so the reported positive and non-detect results for DRO were qualified as estimated J/UJ.

Blanks

VOA

The associated method and/or QC blanks exhibited contamination as noted in the following table. Compounds for which there was no action required, are not included in the following table. Please note that the laboratory reported non-detect results down to the MDL for this project. Therefore, the blank flagging actions were modified as follows

to take this into consideration. Positive results greater than the MDL but less than the CRQL are qualified as U at the reported concentration when affected by blank contamination.

Blank ID	Compound	Concentration	Reporting Limit	Action Level
ER17	toluene	1.2 ug/L	1 ug/L	RL
FB01	2-butanone	0.69J ug/L	10 ug/L	RL

Associated samples and required qualifications are noted in the following table.

Sample ID	Compound	Q Flag
74SB185-03, 74SB185-05	toluene	U at reported value
74SB185-03, 74SB185-05, 74SB207-05	2-butanone	U at reported value

DRO/GRO

The associated rinse blank exhibited contamination as noted in the following table. Compounds for which there was no action required, are not included in the following table. Please note that the laboratory reported non-detect results down to the MDL for this project. Therefore, the blank flagging actions were modified as follows to take this into consideration. Positive results greater than the MDL but less than the CRQL are qualified as U at the reported concentration when affected by blank contamination.

Blank ID	Compound	Concentration	Action Level	Q Flag
ER17	DRO	0.0535J ug/L	RL	U

Associated samples and required qualifications are noted in the following table.

Sample ID	Compound	Q Flag
all samples >MDL but <RL	DRO	U

Metals

Associated blanks exhibited contamination as noted in the following table. The laboratory reported non-detect results to the MDL for this project. Therefore, the blank flagging actions were modified to take this into consideration. Please see the Glossary of Qualification Flags and Abbreviations for details.

Blank ID	Analyte	Concentration	Action Level	Q Flag
CCB	antimony	0.07970J ug/L	>MDL up to RL	U

* Field QC blank qualifications were made using QC blank tracking. Please note, when qualifying samples for CCB contamination, associated samples are those just prior to or just following a CCB. Therefore, not all analytes in all samples are flagged for CCB contamination.

Associated samples and required qualifications are noted in the following table.

Sample ID	Analyte	Q Flag
all samples >MDL <RL	antimony	U

Matrix Spikes

Metals

The matrix spike pair submitted in this SDG exhibited non-compliant %R's for antimony requiring qualification in the field samples. A summary of these non-compliances and affected samples are noted in the following table.

MS	Analytes	Samples	%R	Q Flag
74SB181-04	antimony	all samples	65/67	J/UJ

Serial Dilutions

Metals

The serial dilution of sample 74SB181-04 exhibited a non-compliant %D for zinc that required qualification in the field samples. A summary of this non-compliance and affected samples are noted in the following table.

SD	Analytes	Samples	RPD	Q Flag
74SB181-04	zinc	all samples	14.3%	J/UJ

Metals

The field duplicate pair of samples 74SB206-04 and 74SB206-04D exhibited non-compliant RPD >35% but less than 120% for the analyte cobalt (42%) and an absolute difference >2X the CRDL for the analyte mercury (0.066). The field duplicate pair of samples 74SB181-05 and 74SB181-05D exhibited a non-compliant RPD >35% but less than 120% for the analyte barium (37%). These analytes were flagged as estimated J in the field duplicate pair. All qualifications were made based on the Region II guidance.

A summary of qualifications required is provided on the following page. Please do not hesitate to contact DataQual ES with any questions regarding this validation report.

Sincerely,

Jacqueline Cleveland
Vice-President

Summary of Data Qualifications

VOA

Sample ID	Compound	Results	Q flag
74SB182-04, 74SB183-04, 74SB183-05, 74SB185-03, 74SB185-05, 74SB186-03, 74SB186-05, 74SB187-03, 74SB187-04, 74SB206-04, 74SB206-04D	isobutyl alcohol	+/-	J/R
74SB182-04, 74SB183-04, 74SB183-05, 74SB185-03, 74SB185-05, 74SB186-03, 74SB186-05, 74SB187-03, 74SB187-04, 74SB206-04, 74SB206-04D	acrolein acetonitrile acrylonitrile methyl methacrylate pentachloroethane chloroethane 2-butanone 4-methyl-2-pentanone 2-hexanone 1,2-dibromo-3-chloropropane	+/-	J/UJ
74SB181-00, 74SB181-04, 74SB181-05, 74SB181-05D, 74SB182-05, 74SB206-05, 74SB207-04, 74SB207-05, 74SB209-04	acrolein isobutyl alcohol	+/-	J/R
74SB181-00, 74SB181-04, 74SB181-05, 74SB181-05D, 74SB182-05, 74SB206-05, 74SB207-04, 74SB207-05, 74SB209-04	iodomethane acetonitrile 3-chloro-1-propene acrylonitrile propionitrile pentachloroethane bromomethane acetone 2-butanone 4-methyl-2-pentaone 2-hexanone 1,2-dibromo-3-chloropropane	+/-	J/UJ
74SB185-03, 74SB185-05	toluene	+	U at reported value
74SB185-03, 74SB185-05, 74SB207-05	2-butanone	+	U at reported value

Summary of Data Qualifications

DRO/GRO

Sample ID	Compound	Results	Q flag
all samples	DRO	+/-	J/UJ
all samples	DRO	+>MDL but <RL	U

Metals

Sample ID	Analyte	Results	Q flag
all samples	antimony	>MDL up to RL	U
all samples	antimony	+/-	J/UJ
all samples	zinc	+/-	J/UJ
74SB206-04, 74SB206-04D	cobalt mercury	+	J
74SB181-05, 74SB181-05D	barium	+	J

Glossary of Qualification Flags and Abbreviations

Qualification Flags (Q-Flags)

U	not detected above the reported sample quantitation limit
J	estimated value
UJ	reported quantitation limit is qualified as estimated
N	analyte has been tentatively identified
JN	analyte has been tentatively identified, estimated value
R	result is rejected; the presence or absence of the analyte cannot be verified

Method/Preparation/Field QC Blank Qualification Flags (Q-Flags)

Organic Methods

NA	The sample result for the blank contaminant is greater than the RL (2X sample RL for common laboratory contaminants) when the blank value is less than the RL. The sample result for the blank contaminant is not qualified with any blank qualifiers.
U*	The sample result for the blank contaminant is less than the RL (2X sample RL for common laboratory contaminants) but greater than the MDL when the blank value is less than the RL. The sample result for the blank contaminant is qualified as non-detect U at the reported concentration.
RL**	The sample result for the blank contaminant is less than the RL (2X sample RL for common laboratory contaminants) but greater than the MDL when the blank value is less than the RL. The sample result for the blank contaminant is changed to the RL and qualified as non-detect U.

* This guideline is used when the laboratory is reporting non-detects to the MDL. ** This guideline is used when the laboratory is reporting non-detects to the RL.

Inorganic Methods

ICB/CCB/PB Action:

No Action -	The sample result is greater than the RL and greater than ten times (10X) the blank value.
U -	The sample result is greater than or equal to the MDL but less than or equal to the RL, result is reported as non-detect at the reported concentration, when the ICB/CCB/PB result is less or greater than the RL.

Glossary of Qualification Flags and Abbreviations, continued

R -	Sample result is greater than the RL and less than the ICB/CCB/PB value when the ICB/CCB/PB value is greater than the RL.
J -	Sample result is greater than the ICB/CCB/PB value but less than 10X the ICB/CCB/PB value when ICB/CCB/PB value is greater than the RL.
J/UJ -	Sample result is less than 10X RL when blank result is below the negative RL.

Field QC Blank action:

Note – Use field blanks to qualify data only if field blank results are greater than prep blank results.
Do not use rinsate blank associated with soils to qualify water samples and vice versa.

No Action -	The sample result is greater than the RL and greater than ten times (10X) the blank value.
U -	The sample result is greater than or equal to the MDL but less than or equal to the RL, result is reported as non-detect at the reported concentration, when the FB result is less or greater than the RL.
R -	Sample result is greater than the RL and less than the FB value when the FB value is greater than the RL.
J -	Sample result is greater than the FB value but less than 10X the FB value when FB value is greater than the RL.

General Abbreviations

RL	reporting limit
IDL	instrument detection limit
MDL	method detection limit
CRDL	contract required detection limit
CRQL	contract required quantitation limit
+	positive result
-	non-detect result

TEST AMERICA SAVANNAH SDG 36925-3

DataQual

Environmental Services, LLC

Michael Baker, Jr., Inc.
Airside Business Park
100 Airside Drive
Moon Township, PA 15108

September 8, 2008
SDG# SWMU36925-3, Test America-Savannah
NAPR SWMU 74, Puerto Rico

Dear Mr. Kimes,

The following Data Validation report is provided as requested for the parameters noted in the table below for SDG # SWMU36925-3. The data validation was performed in accordance with the SW-846 methods utilized by the laboratory, the Region II Standard Operating Procedures for the Validation of Organic Data Acquired Using SW-846 Methods (8260B-Rev 2, January 2006- SOP #HW-24 and 8270D-Rev 3, October 2006- SOP #HW-22), and professional judgment. Region II has not developed a validation checklist SOP for the methods used to assess the inorganic methods in this SDG (SW-846 methods 6020B and 7471A) or the organic methods for hydrocarbons (SW-846 methods 8015_DRO and 8015_GRO). Therefore, alternative worksheets were provided. Region II flagging conventions were used. All areas of concern are discussed in the body of the report and a summary of data qualifications is provided.

Sample ID	Lab ID	Matrix	VOA App IX	LL PAH	DRO/GRO	DRO	Metals
74SB209-05	680-36925-41	soil	X	X	X		X
74SB210-04	680-36925-42	soil	X	X	X		X
74SB210-05	680-36925-43	soil			X		X
74SB210-05MS	680-36925-43MS	soil				X	
74SB210-05MSD	680-36925-43MSD	soil				X	
74SB210-04MS	680-36925-42MS	soil					X
74SB210-04MSD	680-36925-42MSD	soil					X

The samples were evaluated based on the following criteria:

- Data Completeness *
- Sample Condition *
- Technical Holding Times
- GC/MS Tuning *
- Initial/Continuing Calibrations
- ICSA/ICSAB Standards *
- CRDL Standards *
- Blanks *
- Internal Standards *
- Surrogate Recoveries
- Laboratory Control Samples

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- Matrix Spike Recoveries
- Matrix Duplicate RPDs
- Serial Dilutions *
- Field Duplicates NA
- Identification/Quantitation
- Reporting Limits *
- Tentatively Identified Compounds NA

* - indicates that qualifications were not required based on this criteria

Overall Evaluation of Data/Potential Usability Issues

A summary of qualifications applied to the sample results are noted below for the fractions validated. Specific details regarding qualification of the data are addressed in the Specific Evaluation section of this narrative. If an issue is not addressed there were no actions required based on unmet quality criteria. When more than one qualifier is associated with a compound/analyte the validator has chosen the qualifier that best indicates possible bias in the results and flagged the data accordingly. However, information regarding all quality control issues is provided in the body of the report and on the qualification summary page.

VOA

The continuing calibration exhibited some compounds with low RRF values, which resulted in qualifying non-detected values as rejected for these compounds. Due to high %D values in the continuing calibrations, some compounds were qualified as estimated.

One sample exhibited non-compliant surrogate recoveries that resulted in qualifying results as estimated.

One of the laboratory control samples exhibited low recovery a compound that resulted in qualifications to the associated samples.

One sample required a dilution to obtain results within the calibration range.

LL PAH

One sample exhibited non-compliant surrogate recoveries that resulted in qualifying results as estimated.

DRO/GRO

Two necessary dilutions were performed on GRO samples outside the analysis holding time. The GRO results in these samples were qualified as estimated J.

Blank contamination was noted for DRO in the associated rinse blank and qualification was required in the samples in this SDG.

The original analyses of two samples were rejected in favor of the dilution analyses results for two GRO samples.

Metals

The matrix spike pair submitted in this SDG exhibited non-compliant recoveries requiring qualification in both the MS and the MSD for the analyte antimony. All results for antimony in the metals samples were qualified as estimated J/UJ.

Specific Evaluation of Data

Data Completeness

Resubmissions were required for the VOA fraction. The data package did not contain Form IIIs, the laboratory was contacted and forms were submitted. Resubmission was required for the GRO fraction. The data package was submitted without a case narrative. This was requested and received from the laboratory. Clarification questions were asked of the laboratory regarding the metals fraction. Copies of these e-mail correspondences are included in the validation worksheets. Clarification questions were asked of the laboratory regarding the GRO/DRO fraction. A copy of these e-mail correspondences is included in the project file.

Technical Holding Times

According to chain of custody records, sampling was performed on 05/19/08 and samples were received at the laboratory 05/21/08. All sample preparation and analysis was performed within Region II and/or method holding time requirements.

Initial/Continuing Calibration

VOA

Calibration standards exhibited RRFs and %Ds that were non-compliant. A summary of these non-compliances and affected samples are noted in the following table. Sample results are qualified as indicated.

Standard ID	Compound(s)	RRF, %RSD, %D	Samples	Q Flag
CC 05/30/08	isobutyl alcohol	0.01828	74SB209-05	J/R
	acrolein	36.3%		J/UJ
	acetonitrile	39.5%		
	acrylonitrile	25.3%		
	pentachloroethane	37.2%		
	bromomethane	45.2%		
	acetone	23.5%		
	2-butanone	33.3%		
	4-methyl-2-pentanone	29.6%		
	2-hexanone	29.6%		
	1,2,3-trichloropropane	22.3%		
CC 06/02/08	pentachloroethane	126.2%	74SB210-04	J/R
	acrolein	38.2%		J/UJ
	methyl methacrylate	21.2%		
	acetone	54.7%		
	2-butanone	42.5%		
	carbon tetrachloride	21.9%		
	2-hexanone	37.8%		

Blanks

DRO/GRO

The associated rinse blank exhibited contamination as noted in the following table. Compounds for which there was no action required, are not included in the following table. Please note that the laboratory reported non-detect results down to the MDL for this project. Therefore, the blank flagging actions were modified as follows to take this into consideration. Positive results greater than the MDL but less than the CRQL are qualified as U at the reported concentration when affected by blank contamination.

Blank ID	Compound	Concentration	Action Level	Q Flag
ER17	DRO	0.0535J ug/L	RL	U

Associated samples and required qualifications are noted in the following table.

Sample ID	Compound	Q Flag
all samples >MDL but <RL	DRO	U

Surrogate Recoveries

VOA

Sample 74SB210-04 exhibited high recovery for toluene-d8 at 140% (QC limit 65-132%); the sample was re-analyzed with similar results. Due to high recoveries, all positive results for this sample were qualified as estimated (J).

LL PAH

Sample 74SB210-05 exhibited high recovery for o-terphenyl at 124% (QC limit 29-122%). Due to high recoveries, all positive results for this sample were qualified as estimated (J).

Laboratory Control Samples

VOA

The LCS associated with sample 74SB210-04 exhibited low recovery for chloroethane with 22% recovery (QC limit 26-166%); therefore results were qualified as estimated (J/UJ).

Matrix Spike Recoveries

Metals

The matrix spikes pair submitted in this SDG exhibited non-compliant %R's for antimony, requiring qualification in the field samples. A summary of these non-compliances and affected samples are noted in the following table.

MS	Analytes	Samples	%R	Q Flag
74SB210-04	antimony	all samples	64/65	J/UJ

Identification/Quantitation

VOA

Sample 74SB210-04 was re-analyzed due to non-compliant surrogate recoveries. Due to similar results the re-analysis was not used in favor of the initial analysis.

Sample 74SB210-04 exhibited above calibration range results for ethylbenzene and xylene, total therefore results for these compounds were used from the corresponding dilution.

DRO/GRO

The samples 74SB210-04 and 74SB210-05 were rejected R in favor of the results reported from the dilution analyses of these samples.

A summary of qualifications required is provided on the following page. Please do not hesitate to contact DataQual ES with any questions regarding this validation report.

Sincerely,

Jacqueline Cleveland

Jacqueline Cleveland
Vice-President

Summary of Data Qualifications

VOA

Sample ID	Compound	Results	Q flag
74SB209-05	isobutyl alcohol	+/-	J/R
74SB209-05	acrolein acetonitrile acrylonitrile pentachloroethane bromomethane acetone 2-butanone 4-methyl-2-pentanone 2-hexanone 1,2,3-trichloropropane	+/-	J/UJ
74SB210-04	pentachloroethane	+/-	J/R
74SB210-04	acrolein methyl methacrylate acetone 2-butanone carbon tetrachloride 2-hexanone	+/-	J/UJ
74SB210-04	all results	+	J
74SB210-04DL	all results	+/-	R
74SB210-04	chloroethane	+/-	J/UJ
74SB210-04	ethylbenzene and xylene, total	+	R
74SB210-04DL	all results except ethylbenzene and xylene, total	+/-	R

LL PAH

Sample ID	Compound	Results	Q flag
74SB210-05	all results	+	J

DRO/GRO

Sample ID	Compound	Results	Q flag
74SB210-04DL, 74SB210-05DL	GRO	+	J
all samples	DRO	+>MDL but <RL	U
74SB210-04, 74SB210-05	GRO	+/-	R

Metals

Sample ID	Analyte	Results	Q flag
all samples	antimony	+/-	J/UJ

Glossary of Qualification Flags and Abbreviations

Qualification Flags (Q-Flags)

U	not detected above the reported sample quantitation limit
J	estimated value
UJ	reported quantitation limit is qualified as estimated
N	analyte has been tentatively identified
JN	analyte has been tentatively identified, estimated value
R	result is rejected; the presence or absence of the analyte cannot be verified

Method/Preparation/Field QC Blank Qualification Flags (Q-Flags)

Organic Methods

NA	The sample result for the blank contaminant is greater than the RL (2X sample RL for common laboratory contaminants) when the blank value is less than the RL. The sample result for the blank contaminant is not qualified with any blank qualifiers.
U*	The sample result for the blank contaminant is less than the RL (2X sample RL for common laboratory contaminants) but greater than the MDL when the blank value is less than the RL. The sample result for the blank contaminant is qualified as non-detect U at the reported concentration.
RL**	The sample result for the blank contaminant is less than the RL (2X sample RL for common laboratory contaminants) but greater than the MDL when the blank value is less than the RL. The sample result for the blank contaminant is changed to the RL and qualified as non-detect U.

* This guideline is used when the laboratory is reporting non-detects to the MDL. ** This guideline is used when the laboratory is reporting non-detects to the RL.

Inorganic Methods

ICB/CCB/PB Action:

No Action -	The sample result is greater than the RL and greater than ten times (10X) the blank value.
U -	The sample result is greater than or equal to the MDL but less than or equal to the RL, result is reported as non-detect at the reported concentration, when the ICB/CCB/PB result is less or greater than the RL.

Glossary of Qualification Flags and Abbreviations, continued

R -	Sample result is greater than the RL and less than the ICB/CCB/PB value when the ICB/CCB/PB value is greater than the RL.
J -	Sample result is greater than the ICB/CCB/PB value but less than 10X the ICB/CCB/PB value when ICB/CCB/PB value is greater than the RL.
J/UJ -	Sample result is less than 10X RL when blank result is below the negative RL.

Field QC Blank action:

Note – Use field blanks to qualify data only if field blank results are greater than prep blank results.

Do not use rinsate blank associated with soils to qualify water samples and vice versa.

No Action -	The sample result is greater than the RL and greater than ten times (10X) the blank value.
U -	The sample result is greater than or equal to the MDL but less than or equal to the RL, result is reported as non-detect at the reported concentration, when the FB result is less or greater than the RL.
R -	Sample result is greater than the RL and less than the FB value when the FB value is greater than the RL.
J -	Sample result is greater than the FB value but less than 10X the FB value when FB value is greater than the RL.

General Abbreviations

RL	reporting limit
IDL	instrument detection limit
MDL	method detection limit
CRDL	contract required detection limit
CRQL	contract required quantitation limit
+	positive result
-	non-detect result

TEST AMERICA SAVANNAH SDG 36925-4

DataQual

Environmental Services, LLC

Michael Baker, Jr., Inc.
Airside Business Park
100 Airside Drive
Moon Township, PA 15108

August 8, 2008
SDG# SWMU36925-4, Test America-Savannah
NAPR SWMU 74, Puerto Rico

Dear Mr. Kimes,

The following Data Validation report is provided as requested for the parameters noted in the table below for SDG # SWMU36925-4. The data validation was performed in accordance with the SW-846 methods utilized by the laboratory, the Region II Standard Operating Procedures for the Validation of Organic Data Acquired Using SW-846 Methods (8260B-Rev 2, January 2006- SOP #HW-24 and 8270D-Rev 3, October 2006-SOP #HW-22), and professional judgment. Region II has not developed a validation checklist SOP for the methods used to assess the inorganic methods in this SDG (SW-846 methods 6020B, 7471A) or the organic methods for hydrocarbons (SW-846 methods 8015_DRO and 8015_GRO). Therefore, alternative worksheets were provided. Region II flagging conventions were used. All areas of concern are discussed in the body of the report and a summary of data qualifications is provided.

Sample ID	Lab ID	Matrix	VOA App IX	LL-PAH	DRO/GRO	GRO	TMetals	DMetals
74GWVP2a/9	680-36925-44	water	X	X	X		X	X
74GWVP10A/JP5Hill	680-36925-45	water	X	X	X		X	X
74GWVP1Ba/9	680-36925-46	water	X			X		
74TB25	680-36925-47	water	X			X		
74TB26	680-36925-48	water	X			X		

The following quality control samples were provided with this SDG: samples 74TB25 and 74TB26-trip blanks.

The samples were evaluated based on the following criteria:

- Data Completeness *
- Sample Condition *
- Technical Holding Times *
- GC/MS Tuning *
- GC Performance *
- Initial/Continuing Calibrations
- ICSA/ICSAB Standards
- CRDL Standards *
- Blanks

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- Internal Standards *
- Surrogate Recoveries *
- Laboratory Control Samples *
- Matrix Spike Recoveries
- Matrix Duplicate RPDs NA
- Serial Dilutions *
- Field Duplicates NA
- Identification/Quantitation
- Reporting Limits *
- Tentatively Identified Compounds NA

* - indicates that qualifications were not required based on this criteria

Overall Evaluation of Data/Potential Usability Issues

A summary of qualifications applied to the sample results are noted below for the fractions validated. Specific details regarding qualification of the data are addressed in the Specific Evaluation section of this narrative. If an issue is not addressed there were no actions required based on unmet quality criteria. Please note that the reviewer added an F to the sample ID to indicate dissolved metals analysis when necessary. When more than one qualifier is associated with a compound/analyte the validator has chosen the qualifier that best indicates possible bias in the results and flagged the data accordingly. However, information regarding all quality control issues is provided in the body of the report and on the qualification summary page.

VOA

The continuing calibration exhibited some compounds with low RRF values, which resulted in qualifying non-detected values as rejected for these compounds. Due to high %D values, in the continuing calibrations, some compounds were qualified as estimated.

Blank contamination was noted in the method blanks associated with samples in this batch. Qualifications were added to the data.

PAH

No qualifications to the data were required.

DRO/GRO

No qualifications to the data were required.

Metals

The ICSAB standards exhibited a non-compliant recovery below the QC limit for silver and a non-compliant recovery above the QC limit for zinc. Based on Region II guidelines all positive and non-detect results for silver and all positive results for zinc were qualified as estimated J.

Blank contamination was noted and qualification was required in the samples in this SDG.

The matrix spike pair submitted in this SDG exhibited non-compliant recoveries for the dissolved metals analytes. The analytes arsenic, copper, and nickel were recovered above the QC limit but below 200% (in at least one spike sample) and positive results were qualified as estimated J in all dissolved metals samples. The analytes barium and zinc were recovered above 200% in both the MS and MSD and positive and non-detect results were rejected R in all dissolved metals samples.

The total/dissolved metals analysis comparison exhibited %Ds greater than 50% for three analytes in one pair. Two of these analytes were not qualified because the total sample was analyzed without dilution but the dissolved sample was analyzed with dilution. The analyte cobalt was rejected in sample pair 74GWVP10A/JP5Hill and 74GWVP10A/JP5HillF based on Region II guidelines.

Specific Evaluation of Data

Data Completeness

Resubmissions were required. Data was missing from the package for an ICP-MS tune. This tune was requested and received from the laboratory. A copy of the e-mail correspondence is included in the validation worksheets. Clarification questions were asked of the laboratory regarding the metals fraction. A copy of the e-mail correspondence is included in the validation worksheets. Clarification questions were asked of the laboratory regarding the GRO/DRO fraction. A copy of these e-mail correspondences is included in the project file.

Technical Holding Times

According to chain of custody records, sampling was performed on 05/19/08 and samples were received at the laboratory 05/21/08. All sample preparation and analysis was performed within Region II and/or method holding time requirements.

Initial/Continuing Calibration

VOA

Calibration standards exhibited RRFs and %Ds that were non-compliant. A summary of these non-compliances and affected samples are noted in the following table. Sample results are qualified as indicated.

Standard ID	Compound(s)	RRF, %RSD, %D	Samples	Q Flag
CC 05/29/08	pentachloroethane	101.0%	74TB25, 74TB26	J/R
	acrylonitrile 1,2-dichloroethane	21.2% 24.8%		J/UJ
CC 05/30/08	pentachloroethane	94.9%	74GWVP10A/JP5Hill, 74GWVP1Ba/9	J/R
	iodomethane acrylonitrile 1,2-dichloroethane	25.9% 23.5% 21.8%		J/UJ
CC 06/02/08	acrolein pentachloroethane	93.0% 92.3%	74GWVP2a/9	J/R
	chloromethane chloroethane carbon disulfide	32.5% 35.2% 23.8%		J/UJ

ICSA/ICSAB Standards

Metals

The ICSAB standards associated with the dissolved metals analysis exhibited non-compliant recoveries less than the lower QC limit for the analyte silver (76%/76%/76%) and a recovery above the QC limit for the analyte zinc (121%). Based on Region II guidelines, reported positive and non-detect results for silver were qualified as estimated J/UJ and reported positive results for zinc were qualified as estimated J in all dissolved metals samples.

Blanks

VOA

The associated method and/or QC blanks exhibited contamination as noted in the following table. Compounds for which there was no action required, are not included in the following table. Please note that the laboratory reported non-detect results down to the MDL for this project. Therefore, the blank flagging actions were modified as follows to take this into consideration. Positive results greater than the MDL but less than the CRQL are qualified as U at the reported concentration when affected by blank contamination.

Blank ID	Compound	Concentration	Reporting Limit	Action Level
Method Blank	carbon disulfide	0.29J ug/L	2.0 ug/L	RL

Associated samples and required qualifications are noted in the following table.

Sample ID	Compound	Q Flag
74GWVP2a/9	carbon disulfide	U at reported value

Metals

Associated blanks exhibited contamination as noted in the following table. The laboratory reported non-detect results to the MDL for this project. Therefore, the blank flagging actions were modified to take this into consideration. Please see the Glossary of Qualification Flags and Abbreviations for details.

Blank ID	Analyte	Concentration	Action Level	Q Flag
PBLK – DM	arsenic	0.3063J ug/L	>MDL up to RL	U
	chromium	1.3360J ug/L	> MDL up to RL	U
	tin	4.3710J ug/L	> MDL up to RL	U
CCB – TM	antimony	0.9434J ug/L	> MDL up to RL	U
CCB – DM	antimony	0.08154J ug/L	>MDL up to RL	U
	lead	0.060J ug/L	> MDL up to RL	U
ER16	copper	3.9J ug/L	> MDL up to RL	U
	chromium	0.68J ug/L	> MDL up to RL	U
	vanadium	0.94J ug/L	> MDL up to RL	U
FB01	lead	0.38J ug/L	> MDL up to RL	U

Field Blank associations were made based on tracking provided by the client. Please note, when qualifying samples for CCB contamination, associated samples are those just prior to or just following a CCB. Therefore, not all analytes in all samples are flagged for CCB contamination.

Associated samples and required qualifications are noted in the following table.

Sample ID	Analyte	Q Flag
all samples >MDL up to RL	antimony	U
all dissolved metals samples > MDL up to RL	arsenic	U
all samples > MDL up to RL	chromium	U
all dissolved metals samples > MDL up to RL	tin	U
all samples > MDL up to RL	lead	U
all samples > MDL up to RL	copper	U
all samples > MDL up to RL	vanadium	U

Matrix Spikes

Metals

The matrix spikes pair associated with the samples in this SDG (from SDG SWMU36978-4) for the dissolved metals fraction exhibited non-compliant %R's above the QC limits for arsenic, barium, copper, nickel and zinc, requiring qualification in the field samples. A summary of these non-compliances and affected samples are noted in the following table.

MS	Analytes	Samples	%R	Q Flag
74GW9MW02SF	arsenic	all dissolved metals samples	159/157	J
	copper		205/199	
	nickel		169/171	
	barium		235/227	R
	zinc		470/478	

Identification/Quantitation

Metals

The total and dissolved metals analysis exhibited a %D greater than 50% for one analyte. Elements exhibiting >50% difference was rejected based on the Region II guidelines. Specific action is noted in the following table. Please note that there were three analytes that exhibited %Ds greater than 50% in the sample pair. However, two of these analytes were not qualified because the total sample was analyzed without dilution and the dissolved sample was analyzed with dilution.

Sample ID	Analyte	%D	Q Flag
74GWVP10A/JP5Hill, 7GWVP10A/JP5HillF	cobalt	282%	R

A summary of qualifications required is provided on the following page. Please do not hesitate to contact DataQual ES with any questions regarding this validation report.

Sincerely,

Jacqueline Cleveland

Jacqueline Cleveland
Vice President

Summary of Data Qualifications

VOA

Sample ID	Compound	Results	Q flag
74TB25, 74TB26	pentachloroethane	+/-	J/R
74TB25, 74TB26	acrylonitrile 1,2-dichloroethane	+/-	J/UJ
74GWVP10A/JP5Hill, 74GWVP1Ba/9	pentachloroethane	+/-	J/R
74GWVP10A/JP5Hill, 74GWVP1Ba/9	iodomethane acrylonitrile 1,2-dichloroethane	+/-	J/UJ
74GWVP2a/9	acrolein pentachloroethane	+/-	J/R
74GWVP2a/9	chloromethane chloroethane carbon disulfide	+/-	J/UJ
74GWVP2a/9	carbon disulfide	+	U at reported value

PAH

Sample ID	Compound	Results	Q flag
No qualifications			

DRO/GRO

Sample ID	Compound	Results	Q flag
No qualifications			

Metals

Sample ID	Analyte	Results	Q flag
all dissolved metals samples	silver	+/-	J/UJ
all dissolved metals samples	zinc	+	J
all samples	antimony	>MDL up to RL	U
all dissolved metals samples	arsenic	>MDL up to RL	U
all samples	chromium	>MDL up to RL	U
all dissolved metals samples	tin	>MDL up to RL	U
all samples	lead	>MDL up to RL	U
all samples	copper	>MDL up to RL	U
all samples	vanadium	>MDL up to RL	U
all dissolved metals samples	arsenic copper nickel	+	J
all dissolved metals samples	barium zinc	+	R
74GWVP10A/JP5Hill, 7GWVP10A/JP5HillF	cobalt	+	R

Glossary of Qualification Flags and Abbreviations

Qualification Flags (Q-Flags)

U	not detected above the reported sample quantitation limit
J	estimated value
UJ	reported quantitation limit is qualified as estimated
N	analyte has been tentatively identified
JN	analyte has been tentatively identified, estimated value
R	result is rejected; the presence or absence of the analyte cannot be verified

Method/Preparation/Field QC Blank Qualification Flags (Q-Flags)

Organic Methods

NA	The sample result for the blank contaminant is greater than the RL (2X sample RL for common laboratory contaminants) when the blank value is less than the RL. The sample result for the blank contaminant is not qualified with any blank qualifiers.
U*	The sample result for the blank contaminant is less than the RL (2X sample RL for common laboratory contaminants) but greater than the MDL when the blank value is less than the RL. The sample result for the blank contaminant is qualified as non-detect U at the reported concentration.
RL**	The sample result for the blank contaminant is less than the RL (2X sample RL for common laboratory contaminants) but greater than the MDL when the blank value is less than the RL. The sample result for the blank contaminant is changed to the RL and qualified as non-detect U.

* This guideline is used when the laboratory is reporting non-detects to the MDL. ** This guideline is used when the laboratory is reporting non-detects to the RL.

Inorganic Methods

ICB/CCB/PB Action:

No Action -	The sample result is greater than the RL and greater than ten times (10X) the blank value.
U -	The sample result is greater than or equal to the MDL but less than or equal to the RL, result is reported as non-detect at the reported concentration, when the ICB/CCB/PB result is less or greater than the RL.

Glossary of Qualification Flags and Abbreviations, continued

R -	Sample result is greater than the RL and less than the ICB/CCB/PB value when the ICB/CCB/PB value is greater than the RL.
J -	Sample result is greater than the ICB/CCB/PB value but less than 10X the ICB/CCB/PB value when ICB/CCB/PB value is greater than the RL.
J/UJ -	Sample result is less than 10X RL when blank result is below the negative RL.

Field QC Blank action:

Note – Use field blanks to qualify data only if field blank results are greater than prep blank results.
Do not use rinsate blank associated with soils to qualify water samples and vice versa.

No Action -	The sample result is greater than the RL and greater than ten times (10X) the blank value.
U -	The sample result is greater than or equal to the MDL but less than or equal to the RL, result is reported as non-detect at the reported concentration, when the FB result is less or greater than the RL.
R -	Sample result is greater than the RL and less than the FB value when the FB value is greater than the RL.
J -	Sample result is greater than the FB value but less than 10X the FB value when FB value is greater than the RL.

General Abbreviations

RL	reporting limit
IDL	instrument detection limit
MDL	method detection limit
CRDL	contract required detection limit
CRQL	contract required quantitation limit
+	positive result
-	non-detect result

TEST AMERICA SAVANNAH SDG 36978-1 and SDG 36978-5

DataQual

Environmental Services, LLC

Michael Baker, Jr., Inc.
Airside Business Park
100 Airside Drive
Moon Township, PA 15108

September 8, 2008
SDG# SWMU36978-1 and SWMU36978-5, Test America-Savannah
NAPR SWMU 74, Puerto Rico

Dear Mr. Kimes,

The following Data Validation report is provided as requested for the parameters noted in the table below for SDG # SWMU36978-1 and SWMU36978-5. The data validation was performed in accordance with the SW-846 methods utilized by the laboratory, the Region II Standard Operating Procedures for the Validation of Organic Data Acquired Using SW-846 Methods (8260B-Rev 2, January 2006- SOP #HW-24 and 8270D-Rev 3, October 2006-SOP #HW-22), and professional judgment. Region II has not developed a validation checklist SOP for the methods used to assess the inorganic methods in this SDG (SW-846 methods 6020B, 7471A) or the organic methods for hydrocarbons (SW-846 methods 8015_DRO and 8015_GRO). Therefore, alternative worksheets were provided. Region II flagging conventions were used. All areas of concern are discussed in the body of the report and a summary of data qualifications is provided.

Sample ID	Lab ID	Matrix	VOA App IX	LL-PAH	DRO/GRO	GRO	Metals
74SB210-05	680-36978-1	soil	X			X	
74SB211-00	680-36978-2	soil	X		X		X
74SB211-03	680-36978-3	soil	X		X		X
74SB211-03D	680-36978-4	soil	X		X		X
74SB211-04	680-36978-5	soil	X		X		X
74SB213-03	680-36978-6	soil	X		X		X
74SB215-03	680-36978-7	soil	X		X		X
74SB216-03	680-36978-8	soil	X		X		X
74SB216-05	680-36978-9	soil	X		X		X
74SB216-05D	680-36978-10	soil	X		X		X
74SB218-03	680-36978-11	soil	X		X		X
74SB218-05	680-36978-12	soil	X		X		X
74SBVP20-05	680-36978-13	soil	X		X		X
74SBVP20-06	680-36978-14	soil	X	X	X		X
74SBVP1982-05	680-36978-15	soil	X		X		X
74SB221-00	680-36978-16	soil	X		X		X
74SB221-00D	680-36978-17	soil	X		X		X
74SB221-02	680-36978-18	soil	X	X	X		X
74SBVP1982-03	680-36978-19	soil	X	X	X		X
74SB221-02D	680-36978-20	soil	X	X	X		X
74SB211-04 MS	680-36978-5MS	soil	X		X		X
74SB211-04 MSD	680-36978-5MSD	soil	X		X		X
74SB221-02 MS	680-36978-18MS	soil	X	X	X		X
74SB221-02 MSD	680-36978-18MSD	soil	X	X	X		X

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The following quality control samples were provided with this SDG: sample 74SB211-03D –field duplicate of sample 74SB211-03; sample 74SB216-05D-field duplicate of sample 74SB216-05; sample 74SB221-02D-field duplicate of sample 74SB221-02; and sample 74SB221-00D- field duplicate of sample 74SB221-00.

The samples were evaluated based on the following criteria:

• Data Completeness	*
• Sample Condition	*
• Technical Holding Times	
• GC/MS Tuning	*
• GC Performance	*
• Initial/Continuing Calibrations	
• ICSA/ICSAB Standards	*
• CRDL Standards	*
• Blanks	
• Internal Standards	*
• Surrogate Recoveries	
• Laboratory Control Samples	
• Matrix Spike Recoveries	
• Matrix Duplicate RPDs	*
• Serial Dilutions	
• Field Duplicates	
• Identification/Quantitation	
• Reporting Limits	*
• Tentatively Identified Compounds	NA

* - indicates that qualifications were not required based on this criteria

Overall Evaluation of Data/Potential Usability Issues

A summary of qualifications applied to the sample results are noted below for the fractions validated. Specific details regarding qualification of the data are addressed in the Specific Evaluation section of this narrative. If an issue is not addressed there were no actions required based on unmet quality criteria. When more than one qualifier is associated with a compound/analyte the validator has chosen the qualifier that best indicates possible bias in the results and flagged the data accordingly. However, information regarding all quality control issues is provided in the body of the report and on the qualification summary page.

VOA

The continuing calibration exhibited some compounds with low RRF values, which resulted in qualifying non-detected values as rejected for these compounds. Due to high %D values, in the continuing calibrations, some compounds were qualified as estimated.

Blank contamination was noted in the method and QC blanks associated with samples in this batch. Qualifications were added to the data.

Two samples exhibited non-compliant surrogate results that resulted in qualifications to the data.

Two of the laboratory control samples exhibited low recoveries that required associated sample compounds to be qualified as estimated.

One of the field duplicate pairs did not exhibit comparable results. Qualifications were added to the data.

PAH

No qualifications to the data were required.

DRO/GRO

Please note that sample 74SB210-05 was reported on a wet weight basis for the GRO fraction. According to the laboratory there was not enough sample provided to perform the percent moisture determination.

Two samples analyzed for GRO required qualification as estimated due to holding times that were exceeded by 1 day.

Blank contamination was noted in the rinse blank analyzed for DRO and qualification was required in the samples in this SDG.

Four samples analyzed for GRO required qualification due to high surrogate recoveries.

The field duplicate pairs of samples 74SB221-02/74SB221-02D and 74SB221-00/74SB221-00D exhibited DRO results that were not comparable. The reported results for DRO in these field duplicate pairs were qualified as estimated J.

Two samples analyzed for GRO were rejected in favor of the original analyses because the re-analyses were outside of holding time. Two samples analyzed for GRO were rejected in favor of the re-analysis due to QC issues in the original analyses.

Metals

One of the matrix spikes pairs submitted in this SDG exhibited non-compliant recoveries in both the MS and the MSD for the analyte mercury. All positive results for mercury were qualified as estimated J.

The serial dilution analysis of sample 74SB211-04 exhibited non-compliant %Ds for the analytes copper and zinc. These analytes were qualified as estimated J.

One of the field duplicate pairs exhibited a non-compliant RPD for barium. This analyte was qualified as estimated in the field duplicate pairs.

Specific Evaluation of Data

Data Completeness

Resubmissions were required for the VOA and GRO fractions. The laboratory was contacted because the submitted Form Is did not have dry weight corrected results. All samples were reprocessed with dry weight correction and new Form Is were submitted with the exception of sample 74SB210-05 (680-36978-1). This sample was reported without dry weigh correction since the laboratory did not receive bulk sample. This sample was reported under SDG# SWMU36978-5 due to computer limitations.

Technical Holding Times

According to chain of custody records, sampling was performed on 05/19-20/08 and samples were received at the laboratory 05/22/08. All sample preparation and analysis was performed within Region II and/or method holding time requirements with the following exceptions.

DRO/GRO

The reported GRO results for samples 74SBVP20-06DL and 74SBVP1982-03DL were qualified as estimated J because the analytical holding time was exceeded by one day.

Initial/Continuing Calibration

VOA

Calibration standards exhibited RRFs and %Ds that were non-compliant. A summary of these non-compliances and affected samples are noted in the following table. Sample results are qualified as indicated.

Standard ID	Compound(s)	RRF, %RSD, %D	Samples	Q Flag
CC 05/30/08	isobutyl alcohol	0.01828	74SB211-00, 74SB211-03, 74SB211-03D, 74SB213-03, 74SB215-03, 74SB216-05, 74SB216-05D, 74SBVP20-05, 74SBVP20-06, 74SBVP1982-05, 74SB221-00, 74SB221-00D, 74SB221-02, 74SB211-04	J/R
	acrolein acetonitrile acrylonitrile pentachloroethane bromomethane acetone 2-butanone 4-methyl-2-pentanone 2-hexanone 1,2,3-trichloropropane	36.3% 39.5% 25.3% 37.2% 45.2% 23.5% 33.3% 29.6% 29.6% 22.3%		J/UJ
CC 06/01/08	pentachloroethane acrolein	123.3% 0.04480	74SB218-03, 74SB218-05, 74SB221-02D	J/R
	acrylonitrile acetone 2-butanone 2-hexanone	37.5% 28.0% 21.6% 35.9%		J/UJ
CC 06/02/08	pentachloroethane	126.2%	74SBVP1982-03, 74SB216-03, 74SB210-05	J/R
	acrolein methyl methacrylate 4-methyl-2-pentanone 2-hexanone	38.2% 21.2% 24.6% 21.0%		J/UJ

Blanks

VOA

The associated method and/or QC blanks exhibited contamination as noted in the following table. Compounds for which there was no action required, are not included in the following table. Please note that the laboratory reported non-detect results down to the MDL for this project. Therefore, the blank flagging actions were modified as follows to take this into consideration. Positive results greater than the MDL but less than the CRQL are qualified as U at the reported concentration when affected by blank contamination.

Blank ID	Compound	Concentration	Reporting Limit	Action Level
ER17	toluene	1.2 ug/L	1.0 ug/L	RL
FB01	2-butanone	0.69J ug/L	10 ug/L	2X RL

Associated samples and required qualifications are noted in the following table.

Sample ID	Compound	Q Flag
74SB216-03, 74SB218-03, 74SB218-05, 74SBVP1982-03, 74SB221-02D	toluene	U at reported value
74SB211-00, 74SB211-03, 74SB211-04, 74SB213-03, 74SB215-03, 74SBVP20-05, 74SBVP1982-05, 74SB221-00	2-butanone	U at reported value

DRO/GRO

The associated rinse blank exhibited contamination as noted in the following table. Compounds for which there was no action required, are not included in the following table. Please note that the laboratory reported non-detect results down to the MDL for this project. Therefore, the blank flagging actions were modified as follows to take this into consideration. Positive results greater than the MDL but less than the CRQL are qualified as U at the reported concentration when affected by blank contamination.

Blank ID	Compound	Concentration	Action Level	Q Flag
ER17	DRO	0.053J ug/L	RL	U

Associated samples and required qualifications are noted in the following table.

Sample ID	Compound	Q Flag
all sample results >MDL but less than RL	DRO	U

Surrogate Recoveries

VOA

Sample 74SB210-05 exhibited high surrogate results for 4-bromofluorobenzene at 144% (QC limits 65-124%) that resulted in qualifying all positive results as estimated (J). Sample 74SBVP1982-03 exhibited low surrogate results for dibromofluoromethane at 62% (QC limits 65-124%); therefore all results were qualified as estimated (J/UJ).

DRO/GRO

Four samples analyzed for GRO exhibited non-compliant surrogate recovery above the QC limits. The reported positive results for GRO in samples 74SB210-005(124%), 74SBVP20-06DL (126%), 74SBVP1982-03DL (505%) and 74SBSBVP20-05 (124%) were qualified as estimated J.

Laboratory Control Samples

VOA

The LCS associated with samples 74SB218-03, 74SB218-05 and 74SB221-02D exhibited low recovery for chloroethane at 22% recovery (QC limit 26-166%); therefore the compound was qualified as estimated (J/UJ) in these samples. The LCS associated

with samples 74SBVP1982-03, 74SB216-03 and 74SB210-05 exhibited low recovery for chloroethane at 22% recovery (QC limit 26-166%); therefore the compound was qualified as estimated (J/UJ) in these samples.

Matrix Spikes

Metals

One of the matrix spike pairs submitted in this SDG exhibited non-compliant %R's for mercury, requiring qualification in the field samples. A summary of this non-compliance and affected samples are noted in the following table.

MS	Analytes	Samples	%R	Q Flag
74SB221-02	mercury	all samples	183.8/190.4	J

Serial Dilution

Metals

The serial dilution analysis exhibited non-compliant %D's for copper and zinc, requiring qualification in the field samples. A summary of this non-compliance and affected samples are noted in the following table.

SD	Analytes	Samples	%D	Q Flag
74SB211-04	copper	all samples	10.8	J/UJ
	zinc		13.0	

Field Duplicates

VOA

Sample 74SB211-03 and duplicate sample 74SB211-03D exhibited non-comparable results for acetone with 118% RPD. Results for acetone were qualified as estimated (J) in both samples.

DRO/GRO

The field duplicate pairs of samples 74SB221-02/74SB221-02D and samples 74SB221-00/74SB221-00D exhibited DRO results that did not compare. The reported results for DRO in these field duplicate pairs were qualified as estimated J.

Metals

The field duplicate pair of samples 74SB221-00 and 74SB221-00D exhibited metals results that did not compare. The analyte barium exhibited a RPD that was ≥35% but less than 120% and was qualified as estimated J in both samples.

Compound Identification/Quantitation

DRO/GRO

The following samples were rejected in favor of the original analysis or the reanalysis due to various quality control issues. The reported GRO results in samples 74SBVP1982-03, 74SBVP20-06, 74SB210-05DL and 74SB215-03RA were rejected R.

A summary of qualifications required is provided on the following page. Please do not hesitate to contact DataQual ES with any questions regarding this validation report.

Sincerely,

Jacqueline Cleveland

Jacqueline Cleveland
Vice President

Summary of Data Qualifications

VOA

Sample ID	Compound	Results	Q flag
74SB211-00, 74SB211-03, 74SB211-03D, 74SB213-03, 74SB215-03, 74SB216-05, 74SB216-05D, 74SBVP20-05, 74SBVP20-06, 74SBVP1982-05, 74SB221-00, 74SB221-00D, 74SB221-02, 74SB211-04	isobutyl alcohol	+/-	J/R
74SB211-00, 74SB211-03, 74SB211-03D, 74SB213-03, 74SB215-03, 74SB216-05, 74SB216-05D, 74SBVP20-05, 74SBVP20-06, 74SBVP1982-05, 74SB221-00, 74SB221-00D, 74SB221-02, 74SB211-04	acrolein acetonitrile acrylonitrile pentachloroethane bromomethane acetone 2-butanone 4-methyl-2-pentanone 2-hexanone 1,2,3-trichloropropane	+/-	J/UJ
74SB218-03, 74SB218-05, 74SB221-02D	pentachloroethane acrolein	+/-	J/R
74SB218-03, 74SB218-05, 74SB221-02D	acrylonitrile acetone 2-butanone 2-hexanone	+/-	J/UJ
74SBVP1982-03, 74SB216-03, 74SB210-05	pentachloroethane	+/-	J/R
74SBVP1982-03, 74SB216-03, 74SB210-05	acrolein methyl methacrylate 4-methyl-2-pentanone 2-hexanone	+/-	J/UJ
74SB216-03, 74SB218-03, 74SB218-05, 74SBVP1982-03, 74SB221-02D	toluene	+	U at reported value
74SB211-00, 74SB211-03, 74SB211-04, 74SB213-03, 74SB215-03, 74SBVP20-05, 74SBVP1982-05, 74SB221-00	2-butanone	+	U at reported value
74SB210-05	all results	+	J
74SBVP1982-03	all results	+/-	J/UJ
74SB218-03, 74SB218-05, 74SB221-02D, 74SBVP1982-03, 74SB216-03, 74SB210-05	chloroethane	+/-	J/UJ
74SB211-03, 74SB211-03D	acetone	+	J

PAH

Sample ID	Compound	Results	Q flag
No qualifications			

Summary of Data Qualifications, continued

DRO/GRO

Sample ID	Compound	Results	Q flag
74SBSBVP20-06DL, 74SBVP1982-03DL	GRO	+	J
all samples	DRO	+> MDL <RL	U
74SB210-005, 74SBVP20-06DL, 74SBVP1982-03DL, 74SBSBVP20-05	GRO	+	J
74SB221-02, 74SB221-02D,74SB221-00, 74SB221-00D	DRO	+	J
74SBVP1982-03, 74SBVP20-06, 74SB210-05DL, 74SB215-03RA	GRO	+	R

Metals

Sample ID	Analyte	Results	Q flag
all samples	mercury	+	J
all samples	copper zinc	+/-	J/UJ
74SB221-00, 74SB221-00D	barium	+	J

Glossary of Qualification Flags and Abbreviations

Qualification Flags (Q-Flags)

U	not detected above the reported sample quantitation limit
J	estimated value
UJ	reported quantitation limit is qualified as estimated
N	analyte has been tentatively identified
JN	analyte has been tentatively identified, estimated value
R	result is rejected; the presence or absence of the analyte cannot be verified

Method/Preparation/Field QC Blank Qualification Flags (Q-Flags)

Organic Methods

NA	The sample result for the blank contaminant is greater than the RL (2X sample RL for common laboratory contaminants) when the blank value is less than the RL. The sample result for the blank contaminant is not qualified with any blank qualifiers.
U*	The sample result for the blank contaminant is less than the RL (2X sample RL for common laboratory contaminants) but greater than the MDL when the blank value is less than the RL. The sample result for the blank contaminant is qualified as non-detect U at the reported concentration.
RL**	The sample result for the blank contaminant is less than the RL (2X sample RL for common laboratory contaminants) but greater than the MDL when the blank value is less than the RL. The sample result for the blank contaminant is changed to the RL and qualified as non-detect U.

* This guideline is used when the laboratory is reporting non-detects to the MDL. ** This guideline is used when the laboratory is reporting non-detects to the RL.

Inorganic Methods

ICB/CCB/PB Action:

No Action -	The sample result is greater than the RL and greater than ten times (10X) the blank value.
U -	The sample result is greater than or equal to the MDL but less than or equal to the RL, result is reported as non-detect at the reported concentration, when the ICB/CCB/PB result is less or greater than the RL.

Glossary of Qualification Flags and Abbreviations, continued

R -	Sample result is greater than the RL and less than the ICB/CCB/PB value when the ICB/CCB/PB value is greater than the RL.
J -	Sample result is greater than the ICB/CCB/PB value but less than 10X the ICB/CCB/PB value when ICB/CCB/PB value is greater than the RL.
J/UJ -	Sample result is less than 10X RL when blank result is below the negative RL.

Field QC Blank action:

Note – Use field blanks to qualify data only if field blank results are greater than prep blank results.
Do not use rinsate blank associated with soils to qualify water samples and vice versa.

No Action -	The sample result is greater than the RL and greater than ten times (10X) the blank value.
U -	The sample result is greater than or equal to the MDL but less than or equal to the RL, result is reported as non-detect at the reported concentration, when the FB result is less or greater than the RL.
R -	Sample result is greater than the RL and less than the FB value when the FB value is greater than the RL.
J -	Sample result is greater than the FB value but less than 10X the FB value when FB value is greater than the RL.

General Abbreviations

RL	reporting limit
IDL	instrument detection limit
MDL	method detection limit
CRDL	contract required detection limit
CRQL	contract required quantitation limit
+	positive result
-	non-detect result

TEST AMERICA SAVANNAH SDG 36978-2

DataQual

Environmental Services, LLC

Michael Baker, Jr., Inc.
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100 Airside Drive
Moon Township, PA 15108

September 8, 2008
SDG# SWMU36978-2, Test America-Savannah
NAPR SWMU 74, Puerto Rico

Dear Mr. Kimes,

The following Data Validation report is provided as requested for the parameters noted in the table below for SDG # SWMU36978-2. The data validation was performed in accordance with the SW-846 methods utilized by the laboratory, the Region II Standard Operating Procedures for the Validation of Organic Data Acquired Using SW-846 Methods (8260B-Rev 2, January 2006- SOP #HW-24 and 8270D-Rev 3, October 2006- SOP #HW-22), and professional judgment. Region II has not developed a validation checklist SOP for the methods used to assess the inorganic methods in this SDG (SW-846 methods 6020B, 7471A) or the organic methods for hydrocarbons (SW-846 methods 8015_DRO and 8015_GRO). Therefore, alternative worksheets were provided. Region II flagging conventions were used. All areas of concern are discussed in the body of the report and a summary of data qualifications is provided.

Sample ID	Lab ID	Matrix	VOA App IX	LL-PAH	DRO/GRO	GRO	Metals
74SB222-03	680-36978-21	soil	X	X	X		X
74SB223-03	680-36978-22	soil	X	X	X		X
74SB224-04	680-36978-23	soil	X		X		X
74SB224-05	680-36978-24	soil	X		X		X
74SB225-04	680-36978-25	soil	X		X		X
74SB225-05	680-36978-26	soil	X		X		X
74SB226-04	680-36978-27	soil	X		X		X
74SB226-05	680-36978-28	soil	X	X	X		X
74SB226-05D	680-36978-29	soil	X	X	X		X
74SB227-04	680-36978-30	soil	X		X		X
74SB227-05	680-36978-31	soil	X	X	X		X
74SB193-03	680-36978-32	soil	X		X		X
74SB193-05	680-36978-33	soil	X		X		X
74SB194-03	680-36978-34	soil	X		X		X
74SB194-05	680-36978-35	soil	X		X		X
74SB195-03	680-36978-36	soil	X		X		X
74SB195-05	680-36978-37	soil	X		X		X
74SB196-03	680-36978-38	soil	X		X		X
74SB196-03D	680-36978-39	soil	X		X		X
74SB196-05	680-36978-40	soil	X		X		X
74SB223-03MS	680-36978-22MS	soil				X	
74SB223-03MSD	680-36978-22MSD	soil				X	
74SB194-03MS	680-36978-34MS	soil					X
74SB194-03MSD	680-36978-34MSD	soil					X

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The following quality control samples were provided with this SDG: sample 74SB226-05D–field duplicate of sample 74SB226-05; and sample 74SB196-03D-field duplicate of sample 74SB196-03.

The samples were evaluated based on the following criteria:

• Data Completeness	*
• Sample Condition	*
• Technical Holding Times	*
• GC/MS Tuning	*
• GC Performance	*
• Initial/Continuing Calibrations	
• ICSA/ICSAB Standards	
• CRDL Standards	*
• Blanks	
• Internal Standards	*
• Surrogate Recoveries	*
• Laboratory Control Samples	
• Matrix Spike Recoveries	
• Matrix Duplicate RPDs	*
• Serial Dilutions	
• Field Duplicates	
• Identification/Quantitation	*
• Reporting Limits	*
• Tentatively Identified Compounds	NA

* - indicates that qualifications were not required based on this criteria

Overall Evaluation of Data/Potential Usability Issues

A summary of qualifications applied to the sample results are noted below for the fractions validated. Specific details regarding qualification of the data are addressed in the Specific Evaluation section of this narrative. If an issue is not addressed there were no actions required based on unmet quality criteria. When more than one qualifier is associated with a compound/analyte the validator has chosen the qualifier that best indicates possible bias in the results and flagged the data accordingly. However, information regarding all quality control issues is provided in the body of the report and on the qualification summary page.

VOA

The continuing calibration exhibited some compounds with low RRF values, which resulted in qualifying non-detected values as rejected for these compounds. Due to high %D values, in the continuing calibrations, some compounds were qualified as estimated.

Blank contamination was noted in the method and QC blanks associated with samples in this batch. Qualifications were added to the data.

Two of the laboratory control samples exhibited low recoveries that required associated sample compounds to be qualified as estimated.

PAH

No qualifications to the data were required.

DRO/GRO

Blank contamination was noted for DRO in the associated rinse blank and qualification was required in the samples in this SDG.

The field duplicate pair of samples 74SB226-05 and 74SB226-05D exhibited DRO results that did not compare. The reported results for DRO in this field duplicate pair were qualified as estimated J.

Metals

The ICSAB standards exhibited non-compliant recoveries above the QC limit for the analyte zinc. Based on Region II guidelines all positive results for zinc were qualified as estimated J.

Blank contamination was noted and qualification was required in the samples in this SDG.

The matrix spike pair submitted in this SDG exhibited non-compliant recoveries in both the MS and the MSD for the analyte antimony. All results for antimony in the metals samples were qualified as estimated J/UJ.

The serial dilution analysis submitted in this SDG exhibited a non-compliant %D for the analyte vanadium. All results for vanadium in the metals samples were qualified as estimated J/UJ.

Specific Evaluation of Data

Data Completeness

Resubmissions were required for the VOA fraction. The laboratory was contacted as the submitted Form Is did not have dry weight corrected results. All samples were reprocessed with dry weight correction and new Form Is were submitted.

Technical Holding Times

According to chain of custody records, sampling was performed on 05/19-20/08 and samples were received at the laboratory 05/22/08. All sample preparation and analysis was performed within Region II and/or method holding time requirements.

Initial/Continuing Calibration

VOA

Calibration standards exhibited RRFs and %Ds that were non-compliant. A summary of these non-compliances and affected samples are noted in the following table. Sample results are qualified as indicated.

Standard ID	Compound(s)	RRF, %RSD, %D	Samples	Q Flag
CC 05/31/08	isobutyl alcohol	0.02358	74SB222-03, 74SB224-05, 74SB225-04, 74SB225-05, 74SB226-04, 74SB227-04, 74SB193-03, 74SB193-05, 74SB194-05, 74SB195-03, 74SB195-05, 74SB196-03, 74SB196-03D	J/R
	acrolein	26.9%		J/UJ
	acetonitrile	44.9%		
	3-chloro-1-propene	30.4%		
	propionitrile	24.7%		
	ethyl methacrylate	23.4%		
	pentachloroethane	55.2%		
	bromomethane	51.7%		
	acetone	25.0%		
	2-butanone	34.9%		
	2-hexanone	34.2%		
	1,2-dibromo-3-chloropropane	28.5%		
CC 06/01/08	pentachloroethane	123.3%	74SB223-03	J/R
	acrolein	0.04480		
	acrylonitrile	37.5%		J/UJ
	acetone	28.0%		
	2-butanone	21.6%		
	2-hexanone	35.9%		
CC 06/01/08	acrolein	0.04454	74SB194-03, 74SB196-05	J/R
	isobutyl alcohol	0.01504		
	acetonitrile	42.2%		J/UJ
	3-chloro-1-propene	36.5%		
	acrylonitrile	30.7%		
	propionitrile	24.5%		
	pentachloroethane	34.4%		
	bromomethane	37.3%		
	2-butanone	29.8%		
	4-methyl-2-pentanone	28.7%		
	2-hexanone	29.8%		
	1,2,3-trichloropropane	22.9%		
	1,2-dibromo-3-chloropropane	28.7%		

Standard ID	Compound(s)	RRF, %RSD, %D	Samples	Q Flag
CC 06/02/08	pentachloroethane	151.9%	74SB224-04, 74SB226-05, 74SB226-05D, 74SB227-05	J/R
	acrolein	28.7%		J/UJ
	acrylonitrile	21.8%		
	chloroethane	45.5%		
	acetone	21.9%		
	2-hexanone	26.0%		

ICSA/ICSAB Standards

Metals

The ICSAB standards associated with the metals analysis exhibited non-compliant recoveries above the upper QC limit for the analyte zinc (125%/124%/122%). Based on Region II guidelines, reported positive results for zinc were qualified as estimated J in all samples.

Blanks

VOA

The associated method and/or QC blanks exhibited contamination as noted in the following table. Compounds for which there was no action required, are not included in the following table. Please note that the laboratory reported non-detect results down to the MDL for this project. Therefore, the blank flagging actions were modified as follows to take this into consideration. Positive results greater than the MDL but less than the CRQL are qualified as U at the reported concentration when affected by blank contamination.

Blank ID	Compound	Concentration	Reporting Limit	Action Level
Method Blank	acetone	9.9J ug/Kg	50 ug/Kg	2X RL
Method Blank	toluene	36J ug/Kg	200 ug/Kg	RL
ER18	acetone	8.4 ug/L	25 ug/L	2X RL
FB01	2-butanone	0.69J ug/L	10 ug/L	2X RL

Associated samples and required qualifications are noted in the following table.

Sample ID	Compound	Q Flag
74SB224-04, 74SB226-05, 74SB226-05D, 74SB227-05	toluene	U at reported value
74SB194-03, 74SB196-05, 74SB222-03, 74SB224-05, 74SB225-04, 74SB225-05, 74SB226-04, 74SB226-05, 74SB227-04, 74SB193-03, 74SB193-05, 74SB194-03, 74SB194-05, 74SB195-03, 74SB195-05, 74SB196-03, 74SB196-03D, 74SB196-05	acetone	U at reported value
74SB222-03, 74SB223-03, 74SB224-05, 74SB225-04, 74SB225-05, 74SB226-04, 74SB226-05, 74SB226-05D, 74SB227-04, 74SB194-03, 74SB195-03, 74SB195-05, 74SB196-05	2-butanone	U at reported value

DRO/GRO

The associated rinse blank exhibited contamination as noted in the following table. Compounds for which there was no action required, are not included in the following table. Please note that the laboratory reported non-detect results down to the MDL for this project. Therefore, the blank flagging actions were modified as follows to take this into consideration. Positive results greater than the MDL but less than the CRQL are qualified as U at the reported concentration when affected by blank contamination.

Blank ID	Compound	Concentration	Action Level	Q Flag
ER18	DRO	0.068 mg/L	RL	U

Associated samples and required qualifications are noted in the following table.

Sample ID	Compound	Q Flag
all sample results >MDL but less than RL	DRO	U

Metals

Associated blanks exhibited contamination as noted in the following table. The laboratory reported non-detect results to the MDL for this project. Therefore, the blank flagging actions were modified to take this into consideration. Please see the Glossary of Qualification Flags and Abbreviations for details.

Blank ID	Analyte	Concentration	Action Level	Q Flag
CCB	silver	0.022J ug/L	>MDL up to RL	U

Please note, when qualifying samples for CCB contamination, associated samples are those just prior to or just following a CCB. Therefore, not all analytes in all samples are flagged for CCB contamination.

Associated samples and required qualifications are noted in the following table.

Sample ID	Analyte	Q Flag
all samples >MDL up to RL	silver	U

Laboratory Control Samples

VOA

The LCS associated with sample 74SB223-03 exhibited low recovery for chloroethane at 22% recovery (QC limit 26-166%); therefore the compound was qualified as estimated (J/UJ) in this sample.

The LCS associated with samples 74SB224-04, 74SB226-05, 74SB226-05D and 74SB227-05 exhibited low recoveries for chloroethane at 24% recovery (QC limit 26-166%), 1,2-dichloroethane at 59% (QC limits (62-140%); methylene chloride at 62% (QC limits 65-126%) and trans-1,2-dichloroethene at 64% (QC limits 66-127%); therefore these compounds were qualified as estimated (J/UJ) in these samples.

Matrix Spikes

Metals

The matrix spike pair submitted in this SDG exhibited non-compliant %R's for antimony, requiring qualification in the field samples. A summary of this non-compliance and affected samples are noted in the following table.

MS	Analytes	Samples	%R	Q Flag
74SB194-03	antimony	all samples	34/32	J/UJ

Serial Dilution

Metals

The serial dilution analysis in this SDG exhibited a non-compliant %D for vanadium, requiring qualification in the field samples. A summary of this non-compliance and affected samples are noted in the following table.

SD	Analytes	Samples	%D	Q Flag
74SB194-03	vanadium	all samples	11.9	J/UJ

Field Duplicates

DRO/GRO

The field duplicate pair of samples 74SB226-05 and 74SB226-05D exhibited DRO results that did not compare. The reported results for GRO in this field duplicate pair were qualified as estimated J/UJ.

A summary of qualifications required is provided on the following page. Please do not hesitate to contact DataQual ES with any questions regarding this validation report.

Sincerely,

Jacqueline Cleveland

Jacqueline Cleveland
Vice President

Summary of Data Qualifications

VOA

Sample ID	Compound	Results	Q flag
74SB222-03, 74SB224-05, 74SB225-04, 74SB225-05, 74SB226-04, 74SB227-04, 74SB193-03, 74SB193-05, 74SB194-05, 74SB195-03, 74SB195-05, 74SB196-03, 74SB196-03D	isobutyl alcohol	+/-	J/R
74SB222-03, 74SB224-05, 74SB225-04, 74SB225-05, 74SB226-04, 74SB227-04, 74SB193-03, 74SB193-05, 74SB194-05, 74SB195-03, 74SB195-05, 74SB196-03, 74SB196-03D	acrolein acetonitrile 3-chloro-1-propene propionitrile ethyl methacrylate pentachloroethane bromomethane acetone 2-butanone 2-hexanone 1,2-dibromo-3-chloropropane	+/-	J/UJ
74SB223-03	pentachloroethane acrolein	+/-	J/R
74SB223-03	acrylonitrile acetone 2-butanone 2-hexanone	+/-	J/UJ
74SB194-03, 74SB196-05	acrolein isobutyl alcohol	+/-	J/R
74SB194-03, 74SB196-05	acetonitrile 3-chloro-1-propene acrylonitrile propionitrile pentachloroethane bromomethane 2-butanone 4-methyl-2-pentanone 2-hexanone 1,2,3-trichloropropane 1,2-dibromo-3-chloropropane	+/-	J/UJ
74SB224-04, 74SB226-05, 74SB226-05D, 74SB227-05	pentachloroethane	+/-	J/R
74SB224-04, 74SB226-05, 74SB226-05D, 74SB227-05	acrolein acrylonitrile chloroethane acetone 2-hexanone	+/-	J/UJ
74SB224-04, 74SB226-05, 74SB226-05D, 74SB227-05	toluene	+	U at reported value

Summary of Data Qualifications

Sample ID	Compound	Results	Q flag
74SB194-03, 74SB196-05, 74SB222-03, 74SB224-05, 74SB225-04, 74SB225-05, 74SB226-04, 74SB226-05, 74SB227-04, 74SB193-03, 74SB193-05, 74SB194-03, 74SB194-05, 74SB195-03, 74SB195-05, 74SB196-03, 74SB196-03D, 74SB196-05	acetone	+.	U at reported value
74SB222-03, 74SB223-03, 74SB224-05, 74SB225-04, 74SB225-05, 74SB226-04, 74SB226-05, 74SB226-05D, 74SB227-04, 74SB194-03, 74SB195-03, 74SB195-05, 74SB196-05	2-butanone	+	U at reported value
74SB223-03	chloroethane	+/-	J/UJ
74SB224-04, 74SB226-05, 74SB226-05D, 74SB227-05	chloroethane, 1,2-dichloroethane, methylene chloride, trans-1,2-dichloroethene	+/-	J/UJ

PAH

Sample ID	Compound	Results	Q flag
No qualifications			

DRO/GRO

Sample ID	Compound	Results	Q flag
all samples	DRO	>MDL up to RL	U
74SB226-05, 74SB226-05D	DRO	+	J

Metals

Sample ID	Analyte	Results	Q flag
all samples	zinc	+	J
all samples >MDL up to RL	silver	>MDL up to RL	U
all samples	antimony	+/-	J/UJ
all samples	vanadium	+/-	J/UJ

Glossary of Qualification Flags and Abbreviations

Qualification Flags (Q-Flags)

U	not detected above the reported sample quantitation limit
J	estimated value
UJ	reported quantitation limit is qualified as estimated
N	analyte has been tentatively identified
JN	analyte has been tentatively identified, estimated value
R	result is rejected; the presence or absence of the analyte cannot be verified

Method/Preparation/Field QC Blank Qualification Flags (Q-Flags)

Organic Methods

NA	The sample result for the blank contaminant is greater than the RL (2X sample RL for common laboratory contaminants) when the blank value is less than the RL. The sample result for the blank contaminant is not qualified with any blank qualifiers.
U*	The sample result for the blank contaminant is less than the RL (2X sample RL for common laboratory contaminants) but greater than the MDL when the blank value is less than the RL. The sample result for the blank contaminant is qualified as non-detect U at the reported concentration.
RL**	The sample result for the blank contaminant is less than the RL (2X sample RL for common laboratory contaminants) but greater than the MDL when the blank value is less than the RL. The sample result for the blank contaminant is changed to the RL and qualified as non-detect U.

* This guideline is used when the laboratory is reporting non-detects to the MDL. ** This guideline is used when the laboratory is reporting non-detects to the RL.

Inorganic Methods

ICB/CCB/PB Action:

No Action -	The sample result is greater than the RL and greater than ten times (10X) the blank value.
U -	The sample result is greater than or equal to the MDL but less than or equal to the RL, result is reported as non-detect at the reported concentration, when the ICB/CCB/PB result is less or greater than the RL.

Glossary of Qualification Flags and Abbreviations, continued

R -	Sample result is greater than the RL and less than the ICB/CCB/PB value when the ICB/CCB/PB value is greater than the RL.
J -	Sample result is greater than the ICB/CCB/PB value but less than 10X the ICB/CCB/PB value when ICB/CCB/PB value is greater than the RL.
J/UJ -	Sample result is less than 10X RL when blank result is below the negative RL.

Field QC Blank action:

Note – Use field blanks to qualify data only if field blank results are greater than prep blank results.

Do not use rinsate blank associated with soils to qualify water samples and vice versa.

No Action -	The sample result is greater than the RL and greater than ten times (10X) the blank value.
U -	The sample result is greater than or equal to the MDL but less than or equal to the RL, result is reported as non-detect at the reported concentration, when the FB result is less or greater than the RL.
R -	Sample result is greater than the RL and less than the FB value when the FB value is greater than the RL.
J -	Sample result is greater than the FB value but less than 10X the FB value when FB value is greater than the RL.

General Abbreviations

RL	reporting limit
IDL	instrument detection limit
MDL	method detection limit
CRDL	contract required detection limit
CRQL	contract required quantitation limit
+	positive result
-	non-detect result

TEST AMERICA SAVANNAH SDG 36978-3

DataQual

Environmental Services, LLC

Michael Baker, Jr., Inc.
Airside Business Park
100 Airside Drive
Moon Township, PA 15108

September 12, 2008
SDG# SWMU36978-3, Test America-Savannah
NAPR SWMU 74, Puerto Rico

Dear Mr. Kimes,

The following Data Validation report is provided as requested for the parameters noted in the table below for SDG # SWMU36978-3. The data validation was performed in accordance with the SW-846 methods utilized by the laboratory, the Region II Standard Operating Procedures for the Validation of Organic Data Acquired Using SW-846 Methods (8260B-Rev 2, January 2006- SOP #HW-24 and 8270D-Rev 3, October 2006-SOP #HW-22), and professional judgment. Region II has not developed a validation checklist SOP for the methods used to assess the inorganic methods in this SDG (SW-846 methods 6020B, 7471A) or the organic methods for hydrocarbons (SW-846 methods 8015_DRO and 8015_GRO). Therefore, alternative worksheets were provided. Region II flagging conventions were used. All areas of concern are discussed in the body of the report and a summary of data qualifications is provided.

Sample ID	Lab ID	Matrix	VOA App IX	LL-PAH	DRO/GRO	Metals
74SB197-03	680-36978-41	soil	X		X	X
74SB197-05	680-36978-42	soil	X		X	X
74SB228-04	680-36978-43	soil	X		X	X
74SB228-05	680-36978-44	soil	X	X	X	X
74SB229-04	680-36978-45	soil	X		X	X
74SB229-05	680-36978-46	soil	X		X	X
74SB230-04	680-36978-47	soil	X		X	X
74SB230-05	680-36978-48	soil	X	X	X	X
74SB231-00	680-36978-49	soil	X		X	X
74SB231-04	680-36978-51	soil	X		X	X
74SB231-05	680-36978-52	soil	X		X	X
74SB231-05D	680-36978-53	soil	X		X	X
74SB232-04	680-36978-54	soil	X		X	X
74SB232-05	680-36978-55	soil	X		X	X
74SB233-04	680-36978-56	soil	X		X	X
74SB233-05	680-36978-57	soil	X		X	X
74SB234-04	680-36978-58	soil	X		X	X
74SB234-05	680-36978-59	soil	X		X	X
74SB235-04	680-36978-60	soil	X		X	X
74SB235-05	680-36978-61	soil	X		X	X
74SB231-04 MS	680-36978-51MS	soil	X		X	X
74SB231-04 MSD	680-36978-51MSD	soil	X		X	X

The following quality control samples were provided with this SDG: sample 74SB231-05D–field duplicate of sample 74SB231-05.

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The samples were evaluated based on the following criteria:

- Data Completeness *
- Sample Condition *
- Technical Holding Times
- GC/MS Tuning *
- GC Performance *
- Initial/Continuing Calibrations
- ICSA/ICSAB Standards
- CRDL Standards *
- Blanks
- Internal Standards
- Surrogate Recoveries
- Laboratory Control Samples
- Matrix Spike Recoveries *
- Matrix Duplicate RPDs *
- Serial Dilutions *
- Field Duplicates *
- Identification/Quantitation
- Reporting Limits *
- Tentatively Identified Compounds NA

* - indicates that qualifications were not required based on this criteria

Overall Evaluation of Data/Potential Usability Issues

A summary of qualifications applied to the sample results are noted below for the fractions validated. Specific details regarding qualification of the data are addressed in the Specific Evaluation section of this narrative. If an issue is not addressed there were no actions required based on unmet quality criteria. Please note that the reviewer added an F to the sample ID to indicate dissolved metals analysis when necessary. When more than one qualifier is associated with a compound/analyte the validator has chosen the qualifier that best indicates possible bias in the results and flagged the data accordingly. However, information regarding all quality control issues is provided in the body of the report and on the qualification summary page.

VOA

One sample was analyzed out of holding time limits by one day; therefore all positive results were qualified as estimated and non-detected results were rejected.

The continuing calibration exhibited some compounds with low RRF values, which resulted in qualifying non-detected values as rejected for these compounds. Due to high %D values, in the continuing calibrations, some compounds were qualified as estimated.

Blank contamination was noted in the method and QC blanks associated with samples in this batch. Qualifications were added to the data.

One sample exhibited low internal standard area recoveries that resulted in qualifying all associated compounds as estimated.

One of the samples exhibited high surrogate recoveries that resulted in qualifying all positive results as estimated.

Three of the laboratory control samples exhibited low recoveries that required associated sample compounds to be qualified as estimated.

PAH

No qualifications to the data were required.

DRO/GRO

Blank contamination was noted in the associated DRO rinse blank and qualification was required in the samples in this SDG.

One sample analyzed for GRO required qualification due to a high surrogate recovery.

The field duplicate pair of samples 74SB231-05 and 74SB231-05D exhibited DRO results that did not compare. The reported results for DRO in this field duplicate pair were qualified as estimated J.

Metals

The ICSAB standards exhibited non-compliant recoveries below the QC limit for the analyte silver. Based on Region II guidelines all positive and non-detect results for silver were qualified as estimated J/UJ.

Blank contamination was noted and qualification was required in the samples in this SDG.

The field duplicate pair exhibited non-compliant RPDs or absolute differences for several analytes. These analytes were qualified as estimated or rejected in the field duplicate pairs.

Specific Evaluation of Data

Data Completeness

Resubmissions were required for the VOA & GRO fractions. The laboratory was contacted as the submitted Form Is did not have dry weight corrected results. All samples were reprocessed with dry weight correction and new Form I's were submitted. Also, three samples were incorrectly calculated for the GRO fraction. Correction to these sample results was requested and received. Clarification questions were asked of the laboratory regarding the metals fraction. Copies of these e-mail correspondences are included in the validation worksheets. Clarification questions were asked of the laboratory regarding the GRO/DRO fraction. A copy of these e-mail correspondences is included in the project file.

Technical Holding Times

According to chain of custody records, sampling was performed on 05/20/08 and samples were received at the laboratory 05/22/08. All sample preparation and analysis was performed within Region II and/or method holding time requirements with the following exceptions.

VOA

Sample 74SB235-04 exceeded the Region II analysis holding by one day; therefore all positive results were qualified as estimated (J) and non-detected results were qualified as rejected (R).

Initial/Continuing Calibration

VOA

Calibration standards exhibited RRFs and %Ds that were non-compliant. A summary of these non-compliances and affected samples are noted in the following table. Sample results are qualified as indicated.

Standard ID	Compound(s)	RRF, %RSD, %D	Samples	Q Flag
CC 06/01/08	acrolein isobutyl alcohol	0.04454 0.01504	74SB197-03, 74SB197-05, 74SB228-04, 74SB229-04, 74SB230-04, 74SB231-00, 74SB231-04, 74SB231-05, 74SB231-05D, 74SB232-04, 74SB232-05, 74SB233-04	J/R
	acetonitrile 3-chloro-1-propene acrylonitrile propionitrile pentachloroethane bromomethane 2-butanone 4-methyl-2-pentanone 2-hexanone 1,2,3-trichloropropane 1,2-dibromo-3-chloropropane	42.2% 36.5% 30.7% 24.5% 34.4% 37.3% 29.8% 28.7% 29.8% 22.9% 28.7%		J/UJ

Standard ID	Compound(s)	RRF, %RSD, %D	Samples	Q Flag
CC 06/02/08	pentachloroethane	151.9%	74SB228-05, 74SB230-05	J/R
	acrolein	28.7%		J/UJ
	acrylonitrile	21.8%		
	chloroethane	45.5%		
	acetone	21.9%		
	2-hexanone	26.0%		
CC 06/02/08	isobutyl alcohol	0.02344	74SB233-05, 74SB234-04	J/R
	acetonitrile	36.7%		J/UJ
	acrylonitrile	22.1%		
	propionitrile	25.5%		
	pentachloroethane	24.1%		
	bromomethane	63.1%		
	acetone	24.7%		
	2-butanone	35.5%		
	4-methyl-2-pentanone	32.2%		
	2-hexanone	35.4%		
	1,2,3-trichloropropane	27.7%		
	1,2-dibromo-3-chloropropane	33.6%		
CC 06/02/08	pentachloroethane	126.2%	74SB229-05	J/R
	acrolein	38.2%		J/UJ
	methyl methacrylate	21.2%		
	4-methyl-2-pentanone	24.6%		
	2-hexanone	21.0%		
CC 06/03/08	isobutyl alcohol	0.02448	74SB234-05, 74SB235-05	J/R
	acetonitrile	28.2%		J/UJ
	3-chloro-1-propene	46.5%		
	pentachloroethane	27.4%		
	bromomethane	25.3%		
	2-butanone	24.9%		
	4-methyl-2-pentanone	22.3%		
	2-hexanone	20.6%		
	1,2,3-trichloropropane	21.4%		
	1,2-dibromo-3-chloropropane	22.3%		
CC 06/03/08	isobutyl alcohol	0.01018	74SB235-04	J/R
	acrolein	52.2%		J/UJ
	acetonitrile	54.4%		
	3-chloro-1-propene	25.4%		
	acrylonitrile	26.5%		
	propionitrile	38.1%		
	pentachloroethane	27.1%		
	dichlorodifluoromethane	48.1%		
	chloromethane	20.4%		
	bromomethane	43.4%		
	acetone	21.5%		
	2-butanone	34.5%		
	4-methyl-2-pentanone	27.2%		
	2-hexanone	34.5%		
	1,2,3-trichloropropane	28.9%		
	1,2-dibromo-3-chloropropane	34.2%		

ICSA/ICSAB Standards

Metals

The ICSAB standards associated with the total metals analysis exhibited non-compliant recoveries less than the lower QC limit for the analyte silver (77%/77%/76%/76%). Based on Region II guidelines, reported positive and non-detect results for silver were qualified as estimated J/UJ in all samples.

Blanks

VOA

The associated method and/or QC blanks exhibited contamination as noted in the following table. Compounds for which there was no action required, are not included in the following table. Please note that the laboratory reported non-detect results down to the MDL for this project. Therefore, the blank flagging actions were modified as follows to take this into consideration. Positive results greater than the MDL but less than the CRQL are qualified as U at the reported concentration when affected by blank contamination.

Blank ID	Compound	Concentration	Reporting Limit	Action Level
Method Blank	acetone	13J ug/Kg	50 ug/Kg	2X RL
Method Blank	acetone	9.9J ug/Kg	5- ug/Kg	2X RL
Method Blank	toluene	36J ug/Kg	200 ug/Kg	RL
Method Blank	acetone	6.4J ug/Kg	50 ug/Kg	2X RL
ER18	acetone	8.4 ug/L	25 ug/L	2X RL
	chloroform	0.32J ug/L	1 ug/L	RL
	methylene chloride	1.1J ug/L	5 ug/L	2X RL
FB01	2-butanone	0.69J ug/L	10 ug/L	2X RL

Associated samples and required qualifications are noted in the following table.

Sample ID	Compound	Q Flag
74SB228-05	toluene	U at reported value
74SB234-05, 74SB235-05, 74SB197-03, 74SB197-05, 74SB228-04, 74SB229-04, 74SB230-04, 74SB231-00, 74SB231-04, 74SB231-05, 74SB231-05D, 74SB232-04, 74SB232-05, 74SB233-04, 74SB235-04, 74SB233-05	acetone	U at reported value
74SB197-03, 74SB197-05, 74SB230-04, 74SB231-00, 74SB231-04, 74SB231-05, 74SB231-05D, 74SB232-04, 74SB232-05, 74SB233-04, 74SB233-05, 74SB234-04, 74SB235-04, 74SB235-05	2-butanone	U at reported value
74SB231-04	chloroform	U at reported value
74SB228-05, 74SB235-04	methylene chloride	U at reported value

DRO/GRO

The associated rinse blank exhibited contamination as noted in the following table. Compounds for which there was no action required, are not included in the following table. Please note that the laboratory reported non-detect results down to the MDL for this project. Therefore, the blank flagging actions were modified as follows to take this into consideration. Positive results greater than the MDL but less than the CRQL are qualified as U at the reported concentration when affected by blank contamination.

Blank ID	Compound	Concentration	Action Level	Q Flag
ER18	DRO	0.068J ug/L	RL	U

Associated samples and required qualifications are noted in the following table.

Sample ID	Compound	Q Flag
all samples >MDL but <RL	DRO	U

Metals

Associated blanks exhibited contamination as noted in the following table. The laboratory reported non-detect results to the MDL for this project. Therefore, the blank flagging actions were modified to take this into consideration. Please see the Glossary of Qualification Flags and Abbreviations for details.

Blank ID	Analyte	Concentration	Action Level	Q Flag
ICB	antimony	0.15950 ug/L	>MDL up to RL	U
FB01	copper	2.1J ug/L	>MDL up to RL	U
	lead	0.38J ug/L	>MDL up to RL	U

Please note, when qualifying samples for CCB contamination, associated samples are those just prior to or just following a CCB. Therefore, not all analytes in all samples are flagged for CCB contamination.

Associated samples and required qualifications are noted in the following table.

Sample ID	Analyte	Q Flag
all samples >MDL up to RL	antimony	U
all samples >MDL up to RL	copper	U
all samples >MDL up to RL	lead	U

Internal Standards

VOA

Sample 74SB229-05 exhibited low internal standard area recovery for 1,4-difluorobenzene; therefore all associated results were qualified as estimated (J/UJ).

Surrogate Recoveries

VOA

Sample 74SB229-05 exhibited high recoveries for toluene-d8 at 171% (QC limit 65-132%) and 4-bromofluorobenzene at 244% (QC limit 65-124%); therefore all positive results were qualified as estimated (J).

DRO/GRO

One sample analyzed for GRO exhibited a non-compliant surrogate recovery above the QC limits. The reported positive result for GRO in sample 74SB228-05 (158%) was qualified as estimated J.

Laboratory Control Samples

VOA

The LCS associated with sample 74SB229-05 exhibited low recovery for chloroethane at 22% recovery (QC limit 26-166%); therefore the compound was qualified as estimated (J/UJ) in this sample.

The LCS associated with samples 74SB228-05 and 74SB230-05 exhibited low recoveries for chloroethane at 24% recovery (QC limit 26-166%), 1,2-dichloroethane at 59% (QC limits (62-140%); methylene chloride at 62% (QC limits 65-126%) and trans-1,2-dichloroethene at 64% (QC limits 66-127%); therefore these compounds were qualified as estimated (J/UJ) in these samples.

The LCS associated with sample 74SB235-04 exhibited low recovery for 1,2-dibromo-3-chloropropane at 54% recovery (QC limit 62-140%) and 1,2,3-trichloropropane at 60% recovery (QC limit 65-132%); therefore these compounds were qualified as estimated (J/UJ) in this sample.

Field Duplicates

DRO/GRO

The field duplicate pair of samples 74SB231-05 and 74SB231-05D exhibited DRO results that did not compare (117%). The reported results for DRO in this field duplicate pair were qualified as estimated J/UJ.

Metals

The field duplicate pair of samples 74SB231-05 and 74SB231-05D exhibited metals results that did not compare. The analytes cobalt (47%), vanadium (67%), and zinc (60%) exhibited RPDs that were ≥35% but less than 120% and were qualified as

estimated J in both samples. The analyte lead (1.42) exhibited an absolute difference greater than +/- 2X the RL and was qualified as estimated J in both samples

Identification/Quantitation

VOA

Sample 74SB229-05 was re-analyzed due to non-compliant surrogate recoveries. The re-analysis also exhibited non-compliant recoveries therefore the initial analysis was used.

A summary of qualifications required is provided on the following page. Please do not hesitate to contact DataQual ES with any questions regarding this validation report.

Sincerely,

Laura Maschhoff
President

Jacqueline Cleveland
Vice President

Summary of Data Qualifications

VOA

Sample ID	Compound	Results	Q flag
74SB235-04	all results	+/-	J/R
74SB197-03, 74SB197-05, 74SB228-04, 74SB229-04, 74SB230-04, 74SB231-00, 74SB231-04, 74SB231-05, 74SB231-05D, 74SB232-04, 74SB232-05, 74SB233-04	acrolein isobutyl alcohol	+/-	J/R
74SB197-03, 74SB197-05, 74SB228-04, 74SB229-04, 74SB230-04, 74SB231-00, 74SB231-04, 74SB231-05, 74SB231-05D, 74SB232-04, 74SB232-05, 74SB233-04	acetonitrile 3-chloro-1-propene acrylonitrile propionitrile pentachloroethane bromomethane 2-butanone 4-methyl-2-pentanone 2-hexanone 1,2,3-trichloropropane 1,2-dibromo-3-chloropropane	+/-	J/UJ
74SB228-05, 74SB230-05	pentachloroethane	+/-	J/R
74SB228-05, 74SB230-05	acrolein acrylonitrile chloroethane acetone 2-hexanone	+/-	J/UJ
74SB233-05, 74SB234-04	isobutyl alcohol	+/-	J/R
74SB233-05, 74SB234-04	acetonitrile acrylonitrile propionitrile pentachloroethane bromomethane acetone 2-butanone 4-methyl-2-pentanone 2-hexanone 1,2,3-trichloropropane 1,2-dibromo-3-chloropropane	+/-	J/UJ
74SB229-05	pentachloroethane	+/-	J/R
74SB229-05	acrolein methyl methacrylate 4-methyl-2-pentanone 2-hexanone	+/-	J/UJ
74SB234-05, 74SB235-05	isobutyl alcohol	+/-	J/R

Summary of Data Qualifications, continued

VOA, continued

Sample ID	Compound	Results	Q flag
74SB234-05, 74SB235-05	acetonitrile 3-chloro-1-propene pentachloroethane bromomethane 2-butanone 4-methyl-2-pentanone 2-hexanone 1,2,3-trichloropropane 1,2-dibromo-3-chloropropane	+/-	J/UJ
74SB235-04	isobutyl alcohol	+/-	J/R
74SB235-04	acrolein acetonitrile 3-chloro-1-propene acrylonitrile propionitrile pentachloroethane dichlorodifluoromethane chloromethane bromomethane acetone 2-butanone 4-methyl-2-pentanone 2-hexanone 1,2,3-trichloropropane 1,2-dibromo-3-chloropropane	+/-	J/UJ
74SB228-05	toluene	+	U at reported value
74SB234-05, 74SB235-05, 74SB197-03, 74SB197-05, 74SB228-04, 74SB229-04, 74SB230-04, 74SB231-00, 74SB231-04, 74SB231-05, 74SB231-05D, 74SB232-04, 74SB232-05, 74SB233-04, 74SB235-04, 74SB233-05	acetone	+	U at reported value
74SB197-03, 74SB197-05, 74SB230-04, 74SB231-00, 74SB231-04, 74SB231-05, 74SB231-05D, 74SB232-04, 74SB232-05, 74SB233-04, 74SB233-05, 74SB234-04, 74SB235-04, 74SB235-05	2-butanone	+	U at reported value
74SB231-04	chloroform	+	U at reported value
74SB228-05, 74SB235-04	methylene chloride	+	U at reported value
74SB229-05	all compounds associated with: 1,4-difluorobenzene	+/-	J/UJ

Summary of Data Qualifications, continued

VOA, continued

Sample ID	Compound	Results	Q flag
74SB229-05	all results	+	J
74SB229-05	chloroethane	+/-	J/UJ
74SB228-05, 74SB230-05	chloroethane, 1,2-dichloroethane, methylene chloride, trans-1,2-dichloroethene	+/-	J/UJ
74SB235-04	1,2-dibromo-3-chloropropane 1,2,3-trichloropropane	+/-	J/UJ
74SB229-05RA	all results	+/-	R

PAH

Sample ID	Compound	Results	Q flag
No qualifications			

DRO/GRO

Sample ID	Compound	Results	Q flag
all samples	DRO	+J >MDL up to RL	U
74SB228-05	GRO	+	J
74SB231-05, 74SB231-05D	DRO	+	J

Metals

Sample ID	Analyte	Results	Q flag
all samples	silver	+/-	J/UJ
all samples	antimony	>MDL up to RL	U
all samples	copper	>MDL up to RL	U
all samples	lead	>MDL up to RL	U
74SB231-05, 74SB231-05D	cobalt vanadium zinc lead	+	J

Glossary of Qualification Flags and Abbreviations

Qualification Flags (Q-Flags)

U	not detected above the reported sample quantitation limit
J	estimated value
UJ	reported quantitation limit is qualified as estimated
N	analyte has been tentatively identified
JN	analyte has been tentatively identified, estimated value
R	result is rejected; the presence or absence of the analyte cannot be verified

Method/Preparation/Field QC Blank Qualification Flags (Q-Flags)

Organic Methods

NA	The sample result for the blank contaminant is greater than the RL (2X sample RL for common laboratory contaminants) when the blank value is less than the RL. The sample result for the blank contaminant is not qualified with any blank qualifiers.
U*	The sample result for the blank contaminant is less than the RL (2X sample RL for common laboratory contaminants) but greater than the MDL when the blank value is less than the RL. The sample result for the blank contaminant is qualified as non-detect U at the reported concentration.
RL**	The sample result for the blank contaminant is less than the RL (2X sample RL for common laboratory contaminants) but greater than the MDL when the blank value is less than the RL. The sample result for the blank contaminant is changed to the RL and qualified as non-detect U.

* This guideline is used when the laboratory is reporting non-detects to the MDL. ** This guideline is used when the laboratory is reporting non-detects to the RL.

Inorganic Methods

ICB/CCB/PB Action:

No Action -	The sample result is greater than the RL and greater than ten times (10X) the blank value.
U -	The sample result is greater than or equal to the MDL but less than or equal to the RL, result is reported as non-detect at the reported concentration, when the ICB/CCB/PB result is less or greater than the RL.

Glossary of Qualification Flags and Abbreviations, continued

R -	Sample result is greater than the RL and less than the ICB/CCB/PB value when the ICB/CCB/PB value is greater than the RL.
J -	Sample result is greater than the ICB/CCB/PB value but less than 10X the ICB/CCB/PB value when ICB/CCB/PB value is greater than the RL.
J/UJ -	Sample result is less than 10X RL when blank result is below the negative RL.

Field QC Blank action:

Note – Use field blanks to qualify data only if field blank results are greater than prep blank results.

Do not use rinsate blank associated with soils to qualify water samples and vice versa.

No Action -	The sample result is greater than the RL and greater than ten times (10X) the blank value.
U -	The sample result is greater than or equal to the MDL but less than or equal to the RL, result is reported as non-detect at the reported concentration, when the FB result is less or greater than the RL.
R -	Sample result is greater than the RL and less than the FB value when the FB value is greater than the RL.
J -	Sample result is greater than the FB value but less than 10X the FB value when FB value is greater than the RL.

General Abbreviations

RL	reporting limit
IDL	instrument detection limit
MDL	method detection limit
CRDL	contract required detection limit
CRQL	contract required quantitation limit
+	positive result
-	non-detect result

TEST AMERICA SAVANNAH SDG 36978-4

DataQual

Environmental Services, LLC

Michael Baker, Jr., Inc.
Airside Business Park
100 Airside Drive
Moon Township, PA 15108

September 8, 2008
SDG# SWMU36978-4, Test America-Savannah
NAPR SWMU 74, Puerto Rico

Dear Mr. Kimes,

The following Data Validation report is provided as requested for the parameters noted in the table below for SDG # SWMU36978-4. The data validation was performed in accordance with the SW-846 methods utilized by the laboratory, the Region II Standard Operating Procedures for the Validation of Organic Data Acquired Using SW-846 Methods (8260B-Rev 2, January 2006- SOP #HW-24 and 8270D-Rev 3, October 2006- SOP #HW-22), and professional judgment. Region II has not developed a validation checklist SOP for the methods used to assess the inorganic methods in this SDG (SW-846 methods 6020B, 7471A) or the organic methods for hydrocarbons (SW-846 methods 8015_DRO and 8015_GRO). Therefore, alternative worksheets were provided. Region II flagging conventions were used. All areas of concern are discussed in the body of the report and a summary of data qualifications is provided.

Sample ID	Lab ID	Matrix	VOA App IX	LL-PAH	DRO/GRO	DRO	GRO	TMetals	DMetals
74GW9MW02S	680-36978-62	water	X	X	X			X	X
74GW9MW02SD	680-36978-63	water	X	X	X			X	X
74GW151	680-36978-64	water	X		X			X	X
74GWVP07	680-36978-65	water	X		X			X	X
74GWVP1Bb/9	680-36978-66	water				X			
74GWVP1Ab/9	680-36978-67	water		X					
74GWVP6Cb	680-36978-68	water	X		X			X	X
74GWVP6Ca	680-36978-69	water	X				X	X	X
74GW145	680-36978-70	water	X				X		
74ER18	680-36978-71	water	X	X	X			X	
74ER19	680-36978-72	water	X		X			X	
74TB27	680-36978-73	water	X				X		
74TB28	680-36978-74	water	X				X		
74TB29	680-36978-75	water	X				X		
74GW9MW02S MS	680-36978-62MS	water	X	X	X			X	X
74GW9MW02S MSD	680-36978-62MSD	water	X	X	X			X	X

The following quality control samples were provided with this SDG: sample 74GW9MW02SD-field duplicate of sample 74GW9MW02S; samples 74ER18 and 74ER19-equipment blanks; and samples 74TB27, 74TB28 and 74TB29-trip blanks.

The samples were evaluated based on the following criteria:

- Data Completeness *

- Sample Condition *
- Technical Holding Times
- GC/MS Tuning *
- GC Performance *
- Initial/Continuing Calibrations
- ICSA/ICSAB Standards
- CRDL Standards *
- Blanks
- Internal Standards *
- Surrogate Recoveries *
- Laboratory Control Samples *
- Matrix Spike Recoveries
- Matrix Duplicate RPDs *
- Serial Dilutions *
- Field Duplicates *
- Identification/Quantitation
- Reporting Limits *
- Tentatively Identified Compounds NA

* - indicates that qualifications were not required based on this criteria

Overall Evaluation of Data/Potential Usability Issues

A summary of qualifications applied to the sample results are noted below for the fractions validated. Specific details regarding qualification of the data are addressed in the Specific Evaluation section of this narrative. If an issue is not addressed there were no actions required based on unmet quality criteria. Please note that the reviewer added an F to the sample ID to indicate dissolved metals analysis when necessary. When more than one qualifier is associated with a compound/analyte the validator has chosen the qualifier that best indicates possible bias in the results and flagged the data accordingly. However, information regarding all quality control issues is provided in the body of the report and on the qualification summary page.

VOA

The continuing calibration exhibited some compounds with low RRF values, which resulted in qualifying non-detected values as rejected for these compounds. Due to high %D values, in the continuing calibrations, some compounds were qualified as estimated.

PAH

No qualifications to the data were required.

DRO/GRO

Two samples for the GRO fraction were analyzed one day outside the holding time. The reported results in these samples were qualified as estimated.

Blank contamination was noted in the rinse blank associated with the DRO fraction and qualification was required in the samples in this SDG.

Metals

The ICSAB standards exhibited a non-compliant recovery below the QC limit for silver and a non-compliant recovery above the QC limit for zinc. Based on Region II guidelines all positive and non-detect results for silver and all positive results for zinc were qualified as estimated J.

Blank contamination was noted and qualification was required in the samples in this SDG.

The matrix spike pair submitted in this SDG exhibited non-compliant recoveries for the dissolved metals analytes. The analytes arsenic, copper, and nickel were recovered above the QC limit but below 200% (in at least one spike sample) and positive results were qualified as estimated J in all dissolved metals samples. The analytes barium and zinc were recovered above 200% in both the MS and MSD and positive and non-detect results were rejected R in all dissolved metals samples.

Based on an issue discussed in the Identification/Quantitation section of this report, it is the professional opinion of the validator that the field duplicate sample 74GW9MW02SDF should not be used to assess precision. Therefore, sample 74GW9MW02SDF is rejected, R.

The total/dissolved metals analysis comparison exhibited %Ds greater than 20% but less than or equal to 50% for one analyte in one pair and a %D greater than 50% for one analytes in one pair. These analytes were qualified as estimated or rejected in the associated sample pair based on Region II guidelines.

Specific Evaluation of Data

Data Completeness

Resubmissions were required for the metals fraction. Data was missing from the package for an ICP-MS tune. This tune was requested and received from the laboratory. A copy of the e-mail correspondence is included in the validation worksheets. Clarification questions were asked of the laboratory regarding the metals fraction. A copy of the e-mail correspondence is included in the validation worksheets. Clarification questions were asked of the laboratory regarding the GRO/DRO fraction. A copy of these e-mail

correspondences is included in the project file. Please note: the lab reported a CRDL standard on one of the submitted Form 2B's that was not associated with the samples in this SDG. The validator did not use these results in the validation process.

Technical Holding Times

According to chain of custody records, sampling was performed on 05/16-21/08 and samples were received at the laboratory 05/22/08. All sample preparation and analysis was performed within Region II and/or method holding time requirements with the following exception.

DRO/GRO

Two samples for the GRO fraction were analyzed 1 day out of the analytical holding time. The reported results in samples 74TB28 and 74TB29 were qualified as estimated J.

Initial/Continuing Calibration

VOA

Calibration standards exhibited RRFs and %Ds that were non-compliant. A summary of these non-compliances and affected samples are noted in the following table. Sample results are qualified as indicated.

Standard ID	Compound(s)	RRF, %RSD, %D	Samples	Q Flag
CC 05/30/08	pentachloroethane	94.9%	74TB28, 74TB29, 74ER19, 74ER18, 74GW9MW02SD, 74GW9MW02S, 74TB27, 74GW151, 74GWVP07, 74GW145	J/R
	iodomethane acrylonitrile 1,2-dichloroethane	25.9% 23.5% 21.8%		J/UJ
CC 06/03/08	acrolein pentachloroethane bromomethane 1,2-dibromo-3-chloropropane	65.3% 79.4% 28.6% 38.6%	74GWVP6Cb, 74GWVP6Ca	J/UJ

ICSA/ICSAB Standards

Metals

The ICSAB standards associated with the dissolved metals analysis exhibited non-compliant recoveries less than the lower QC limit for the analyte silver (76%/76%/76%) and a recovery above the QC limit for the analyte zinc (121%). Based on Region II guidelines, reported positive and non-detect results for silver were qualified as estimated

J/UJ and reported positive results for zinc were qualified as estimated J in all dissolved metals samples.

Blanks

DRO/GRO

The associated rinse blank exhibited contamination as noted in the following table. Compounds for which there was no action required, are not included in the following table. Please note that the laboratory reported non-detect results down to the MDL for this project. Therefore, the blank flagging actions were modified as follows to take this into consideration. Positive results greater than the MDL but less than the CRQL are qualified as U at the reported concentration when affected by blank contamination.

Blank ID	Compound	Concentration	Action Level	Q Flag
ER16	DRO	0.038 mg/L	RL	U

Associated samples and required qualifications are noted in the following table.

Sample ID	Compound	Q Flag
all samples >MDL but less than RL	DRO	U

Metals

Associated blanks exhibited contamination as noted in the following table. The laboratory reported non-detect results to the MDL for this project. Therefore, the blank flagging actions were modified to take this into consideration. Please see the Glossary of Qualification Flags and Abbreviations for details.

Blank ID	Analyte	Concentration	Action Level	Q Flag
PBLK – DM	arsenic	0.03063J ug/L	>MDL up to RL	U
	chromium	1.3360J ug/L	> MDL up to RL	U
	tin	4.3710J ug/L	> MDL up to RL	U
CCB – TM	antimony	0.9434J ug/L	> MDL up to RL	U
CCB – DM	antimony	0.08154J ug/L	>MDL up to RL	U
	beryllium	0.028J ug/L	> MDL up to RL	U
	lead	0.060J ug/L	> MDL up to RL	U
	silver	0.021J ug/L	> MDL up to RL	U
FB01	lead	0.38J ug/L	> MDL up to RL	U
74ER16	chromium	0.68J ug/L	> MDL up to RL	U
	copper	3.9J ug/L	> MDL up to RL	U
	vanadium	0.94J ug/L	> MDL up to RL	U

Field Blank associations were made based on tracking provided by the client. Please note, when qualifying samples for CCB contamination, associated samples are those just prior to or just following a CCB. Therefore, not all analytes in all samples are flagged for CCB contamination.

Associated samples and required qualifications are noted in the following table.

Sample ID	Analyte	Q Flag
all total metals samples >MDL up to RL	antimony	U
74GWVP07F, 74GWVP6CbF, 74GWVP6CaF	antimony	U
all dissolved metals samples > MDL up to RL	arsenic	U
all metals samples > MDL up to RL	chromium	U
all dissolved metals samples > MDL up to RL	tin	U
74GW9MW02SF, 74GW9MW02SDF	beryllium	U
all metals samples > MDL up to RL	lead	U
74GW9MW02SF, 74GW9MW02SDF	silver	U
all samples > MDL up to RL	copper	U
all samples > MDL up to RL	vanadium	U

Matrix Spikes

Metals

The matrix spikes pair submitted in this SDG for the dissolved metals fraction exhibited non-compliant %R's above the QC limits for arsenic, barium, copper, nickel and zinc, requiring qualification in the field samples. A summary of these non-compliances and affected samples are noted in the following table.

MS	Analytes	Samples	%R	Q Flag
74GW9MW02SF	arsenic	all dissolved metals samples	159/157	J
	copper		205/199	
	nickel		169/171	
	barium		235/227	R
	zinc		470/478	

Field Duplicates

Metals

For field duplicate pair 74GW9MW02SF/74GW9MW02SDF, it appears that the results reported from the 10X dilution in the field duplicate sample are biased high by approximately a factor of 10. Positive results reported from the undiluted analysis of the field duplicate exhibited acceptable reproducibility with the associated field sample. It is unclear to the validator what happened in this situation. The results reported in the dissolved analysis field duplicate are actually reproducible with the total analysis field duplicate results. Perhaps the field duplicate did not get filtered. However, because of the anomalous results, it is the professional opinion of the validator that this field duplicate sample should not be used to assess precision. Therefore, the field duplicate sample 74GW9MW02SDF is rejected, R.

Identification/Quantitation

Metals

The total and dissolved metals analysis exhibited %Ds >20% but less than or equal to 50% for one analyte and greater than 50% for one analyte. Elements exhibiting >20% but less than or equal to 50% difference between total and dissolved concentrations were qualified as estimated J and elements exhibiting >50% difference were rejected based on the Region II guidelines. Specific action is noted in the following table.

Sample ID	Analyte	%D	Q Flag
74GWVP07, 74GWVP07F	cobalt	33%	J
74GWVP6Cb, 74GWVP6CbF	cobalt	60%	R

A summary of qualifications required is provided on the following page. Please do not hesitate to contact DataQual ES with any questions regarding this validation report.

Sincerely,

Jacqueline Cleveland

Jacqueline Cleveland
Vice President

Summary of Data Qualifications

VOA

Sample ID	Compound	Results	Q flag
74TB28, 74TB29, 74ER19, 74ER18, 74GW9MW02SD, 74GW9MW02S, 74TB27, 74GW151, 74GWVP07, 74GW145	pentachloroethane	+/-	J/R
74TB28, 74TB29, 74ER19, 74ER18, 74GW9MW02SD, 74GW9MW02S, 74TB27, 74GW151,74GWVP07, 74GW145	iodomethane acrylonitrile 1,2-dichloroethane	+/-	J/UJ
74GWVP6Cb, 74GWVP6Ca	acrolein pentachloroethane bromomethane 1,2-dibromo-3-chloropropane	+/-	J/UJ

PAH

Sample ID	Compound	Results	Q flag
No qualifications			

DRO/GRO

Sample ID	Compound	Results	Q flag
74TB28, 74TB29	GRO	+/-	J/UJ
all samples	DRO	+>MDL but <RL	U

Metals

Sample ID	Analyte	Results	Q flag
all dissolved metals samples	silver	+/-	J/UJ
all dissolved metals samples	zinc	+	J
all total metals field samples, 74GWVP07F, 74GWVP6CbF, 74GWVP6CaF	antimony	>MDL up to RL	U
all dissolved metals samples	arsenic	>MDL up to RL	U
all field samples	chromium	>MDL up to RL	U
all dissolved metals samples	tin	>MDL up to RL	U
74GW9MW02SF, 74GW9MW02SDF	beryllium	>MDL up to RL	U
all field samples	lead	>MDL up to RL	U
74GW9MW02SF, 74GW9MW02SDF	silver	>MDL up to RL	U
all field samples	copper	>MDL up to RL	U
all field samples	vanadium	>MDL up to RL	U

Summary of Data Qualifications, continued

Metals

Sample ID	Analyte	Results	Q flag
all dissolved metals samples	arsenic copper nickel	+	J
all dissolved metals samples	barium zinc	+	R
74GWVP07, 74GWVP07F	cobalt	+	J
74GWVP6Cb, 74GWVP6CbF	cobalt	+	R

Glossary of Qualification Flags and Abbreviations

Qualification Flags (Q-Flags)

U	not detected above the reported sample quantitation limit
J	estimated value
UJ	reported quantitation limit is qualified as estimated
N	analyte has been tentatively identified
JN	analyte has been tentatively identified, estimated value
R	result is rejected; the presence or absence of the analyte cannot be verified

Method/Preparation/Field QC Blank Qualification Flags (Q-Flags)

Organic Methods

NA	The sample result for the blank contaminant is greater than the RL (2X sample RL for common laboratory contaminants) when the blank value is less than the RL. The sample result for the blank contaminant is not qualified with any blank qualifiers.
U*	The sample result for the blank contaminant is less than the RL (2X sample RL for common laboratory contaminants) but greater than the MDL when the blank value is less than the RL. The sample result for the blank contaminant is qualified as non-detect U at the reported concentration.
RL**	The sample result for the blank contaminant is less than the RL (2X sample RL for common laboratory contaminants) but greater than the MDL when the blank value is less than the RL. The sample result for the blank contaminant is changed to the RL and qualified as non-detect U.

* This guideline is used when the laboratory is reporting non-detects to the MDL. ** This guideline is used when the laboratory is reporting non-detects to the RL.

Inorganic Methods

ICB/CCB/PB Action:

No Action -	The sample result is greater than the RL and greater than ten times (10X) the blank value.
U -	The sample result is greater than or equal to the MDL but less than or equal to the RL, result is reported as non-detect at the reported concentration, when the ICB/CCB/PB result is less or greater than the RL.

Glossary of Qualification Flags and Abbreviations, continued

R -	Sample result is greater than the RL and less than the ICB/CCB/PB value when the ICB/CCB/PB value is greater than the RL.
J -	Sample result is greater than the ICB/CCB/PB value but less than 10X the ICB/CCB/PB value when ICB/CCB/PB value is greater than the RL.
J/UJ -	Sample result is less than 10X RL when blank result is below the negative RL.

Field QC Blank action:

Note – Use field blanks to qualify data only if field blank results are greater than prep blank results.

Do not use rinsate blank associated with soils to qualify water samples and vice versa.

No Action -	The sample result is greater than the RL and greater than ten times (10X) the blank value.
U -	The sample result is greater than or equal to the MDL but less than or equal to the RL, result is reported as non-detect at the reported concentration, when the FB result is less or greater than the RL.
R -	Sample result is greater than the RL and less than the FB value when the FB value is greater than the RL.
J -	Sample result is greater than the FB value but less than 10X the FB value when FB value is greater than the RL.

General Abbreviations

RL	reporting limit
IDL	instrument detection limit
MDL	method detection limit
CRDL	contract required detection limit
CRQL	contract required quantitation limit
+	positive result
-	non-detect result

TEST AMERICA SAVANNAH SDG 37020-1

DataQual

Environmental Services, LLC

Michael Baker, Jr., Inc.
Airside Business Park
100 Airside Drive
Moon Township, PA 15108

September 20, 2008
SDG# SWMU37020-1, Test America-Savannah
NAPR SWMU 74, Puerto Rico

Dear Mr. Kimes,

The following Data Validation report is provided as requested for the parameters noted in the table below for SDG # SWMU37020-1. The data validation was performed in accordance with the SW-846 methods utilized by the laboratory, the Region II Standard Operating Procedures for the Validation of Organic Data Acquired Using SW-846 Methods (8260B-Rev 2, January 2006- SOP #HW-24 and 8270D-Rev 3, October 2006- SOP #HW-22), and professional judgment. Region II has not developed a validation checklist SOP for the methods used to assess the inorganic methods in this SDG (SW-846 methods 6020B, 7471A) or the organic methods for hydrocarbons (SW-846 methods 8015_DRO and 8015_GRO). Therefore, alternative worksheets were provided. Region II flagging conventions were used. All areas of concern are discussed in the body of the report and a summary of data qualifications is provided.

Sample ID	Lab ID	Matrix	VOA App IX	LL-PAH	DRO/GRO	Metals
74SB265-03	680-37020-1	soil	X		X	X
74SB265-03D	680-37020-2	soil	X		X	X
74SB265-04	680-37020-3	soil	X		X	X
74SB266-03	680-37020-4	soil	X		X	X
74SB267-02	680-37020-5	soil	X		X	X
74SB267-03	680-37020-6	soil	X		X	X
74SB268-03	680-37020-7	soil	X		X	X
74SB268-05	680-37020-8	soil	X	X	X	X
74SB269-04	680-37020-9	soil	X		X	X
74SB269-05	680-37020-10	soil	X	X	X	X
74SB263-03	680-37020-11	soil	X		X	X
74SB263-04	680-37020-12	soil	X		X	X
74SB264-03	680-37020-13	soil	X		X	X
74SB264-04	680-37020-14	soil	X	X	X	X
74SB256-03	680-37020-15	soil	X		X	X
74SB256-03D	680-37020-16	soil	X		X	X
74SB256-04	680-37020-17	soil	X		X	X
74SB258-03	680-37020-18	soil	X		X	X
74SB258-05	680-37020-19	soil	X		X	X
74SB259-03	680-37020-20	soil	X		X	X
74SB263-04MS	680-37020-12MS	soil				X
74SB263-04MSD	680-37020-12MSD	soil				X

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The following quality control sample was provided with this SDG: sample 74SB265-03D -field duplicate of sample 74SB265-03; sample 74SB256-03D-field duplicate of sample 74SB256-03.

The samples were evaluated based on the following criteria:

- Data Completeness *
- Sample Condition *
- Technical Holding Times
- GC/MS Tuning *
- GC Performance *
- Initial/Continuing Calibrations
- ICSA/ICSAB Standards
- CRDL Standards *
- Blanks
- Internal Standards *
- Surrogate Recoveries
- Laboratory Control Samples
- Matrix Spike Recoveries *
- Matrix Duplicate RPDs *
- Serial Dilutions
- Field Duplicates
- Identification/Quantitation
- Reporting Limits *
- Tentatively Identified Compounds NA

* - indicates that qualifications were not required based on this criteria

Overall Evaluation of Data/Potential Usability Issues

A summary of qualifications applied to the sample results are noted below for the fractions validated. Specific details regarding qualification of the data are addressed in the Specific Evaluation section of this narrative. If an issue is not addressed there were no actions required based on unmet quality criteria. When more than one qualifier is associated with a compound/analyte the validator has chosen the qualifier that best indicates possible bias in the results and flagged the data accordingly. However, information regarding all quality control issues is provided in the body of the report and on the qualification summary page.

VOA

Due to high %D and low RRF values, in the continuing calibrations, some compounds were qualified as estimated and rejected.

Blank contamination was noted in the method and QC blanks associated with samples in this batch. Qualifications were added to the data.

Two samples exhibited high surrogate recoveries that resulted in qualifying positive results as estimated.

Two of the laboratory control samples exhibited low recoveries that resulted in qualifying compounds in associated samples as estimated.

One of the field duplicate pairs did not exhibit comparable results for one compound that resulted in qualifications.

LL-PAH

No qualifications to the data were required.

DRO/GRO

Two samples for DRO were re-extracted outside holding time because the field duplicate results didn't agree. These RE samples were rejected in favor of the original analysis.

Several samples were analyzed for GRO one day outside the analytical holding time due to necessary dilutions or for confirmation of surrogate recoveries. These samples were qualified as estimated J/UJ.

Two samples analyzed for GRO required qualification due to high surrogate recoveries.

The field duplicate pair of samples 74SB265-03 and 74SB265-03D exhibited GRO & DRO results that did not compare. The reported results for GRO and DRO in this field duplicate pair were qualified as estimated J.

Several samples were reported from reanalysis runs. The original analyses were rejected R in favor of these reanalysis runs.

Metals

The ICSAB standards exhibited non-compliant recoveries below the QC limit for the analyte silver and above the QC limit for the analyte zinc. Based on Region II guidelines all positive and non-detect results for silver were qualified as estimated J/UJ and all positive results for zinc were qualified as estimated J.

Blank contamination was noted and qualification was required in the samples in this SDG.

The SD pair of sample 74SB263-04 exhibited one analyte that was above the QC limit. Zinc was qualified as estimated in the samples.

The field duplicate pair of samples 74SB265-03 and 74SB265-03D exhibited a non-compliant RPD for the analyte lead. Therefore, lead was qualified as estimated in the field duplicate pairs.

Specific Evaluation of Data

Data Completeness

Resubmissions were required for the GRO and DRO fractions. Several sample results in the GRO fraction and one sample in the DRO fraction were incorrectly calculated. Corrections were requested and received from the laboratory. Clarification questions were asked of the laboratory regarding the metals fraction. A copy of the e-mail correspondence is included in the validation worksheets. Clarification questions were asked of the laboratory regarding the GRO/DRO fraction. A copy of these e-mail correspondences is included in the project file.

Technical Holding Times

According to chain of custody records, sampling was performed on 05/20-21/08 and samples were received at the laboratory 05/23/08. All sample preparation and analysis was performed within Region II and/or method holding time requirements with the following exception.

DRO/GRO

The following samples were analyzed for GRO one day outside the holding time. Results were qualified as estimated J in samples 74SB265-03DL, 74SB265-03DRA, 74SB269-04DL, 74SB269-05DL and 74SB256-03RA.

Initial/Continuing Calibration

VOA

Calibration standards exhibited %Ds and RRF values that were non-compliant. A summary of these non-compliances and affected samples are noted in the following table. Sample results are qualified as indicated.

Standard ID	Compound(s)	RRF, %RSD, %D	Samples	Q Flag
CC 06/02/08	isobutyl alcohol	0.0234	74SB265-03, 74SB266-03, 74SB267-02, 74SB263-04, 74SB264-03, 74SB264-04, 74SB256-03, 74SB256-03D	J/R
	acetonitrile	36.7%		J/UJ
	acrylonitrile	22.1%		
	propionitrile	25.5%		
	pentachloroethane	24.1%		
	bromomethane	63.1%		
	acetone	24.7%		
	2-butanone	35.5%		
	4-methyl-2-pentanone	32.2%		
	2-hexanone	35.4%		
	1,2,3-trichloropropane	27.7%		
	1,2-dibromo-3-chloropropane	33.6%		
CC 06/02/08	pentachloroethane	126.2%	74SB267-03	J/R
	acrolein	38.2%		J/UJ
	methyl methacrylate	21.2%		
	4-methyl-2-pentanone	24.6%		
	2-hexanone	21.0%		
CC 06/02/08	isobutyl alcohol	0.02347	74SB256-04, 74SB258-03, 74SB258-05, 74SB259-03, 74SB263-03	J/R
	acrolein	39.1%		J/UJ
	iodomethane	24.4%		
	acetonitrile	37.1%		
	3-chloro-1-propene	55.9%		
	2-chloro-1,3-butadiene	32.2%		
	pentachloroethane	39.0%		
	2-butanone	28.3%		
	4-methyl-2-pentanone	28.9%		
	2-hexanone	32.4%		
	bromoform	23.0%		
	1,2,3-trichloropropane	25.7%		
	1,2-dibromo-3-chloropropane	36.8%		
CC 06/02/08	pentachloroethane	151.9%	74SB265-03D, 74SB265-04, 74SB268-03, 74SB268-05	J/R
	acrolein	28.7%		J/UJ
	acrylonitrile	21.8%		
	chloroethane	45.5%		
	acetone	21.9%		
	2-hexanone	26.0%		
CC 06/03/08	pentachloroethane	104.8%	74SB269-04, 74SB269-05	J/R
	acrolein	57.7%		J/UJ
	isobutyl alcohol	32.9%		
	methyl methacrylate	47.5%		
	acetone	43.8%		
	4-methyl-2-pentanaone	21.4%		

ICSA/ICSAB Standards

Metals

The ICSAB standards associated with the metals analysis exhibited non-compliant recoveries less than the lower QC limit for the analyte silver (79%) and greater than the

upper QC limit for the analyte zinc (122%/123%/123%). Based on Region II guidelines, reported positive and non-detect results for silver were qualified as estimated J/UJ and reported positive results for zinc were qualified as estimated J in all samples.

Blanks

VOA

The associated method and/or QC blanks exhibited contamination as noted in the following table. Compounds for which there was no action required, are not included in the following table. Please note that the laboratory reported non-detect results down to the MDL for this project. Therefore, the blank flagging actions were modified as follows to take this into consideration. Positive results greater than the MDL but less than the CRQL are qualified as U at the reported concentration when affected by blank contamination.

Blank ID	Compound	Concentration	Reporting Limit	Action Level
Method Blank	toluene	35J ug/Kg	200 ug/Kg	RL
Method Blank	toluene	36J ug/Kg	200 ug/Kg	RL
Method Blank	acetone	7.3J ug/Kg	50 ug/Kg	2X RL
FB01	2-butanone	0.69J ug/L	10 ug/L	2X RL

Associated samples and required qualifications are noted in the following table.

Sample ID	Compound	Q Flag
74SB256-04, 74SB258-03, 74SB258-05, 74SB259-03, 74SB263-0374SB266-03, 74SB267-02, 74SB267-03, 74SB263-04, 74SB264-03, 74SB256-03, 74SB256-03D	acetone	U at reported value
74SB269-04, 74SB269-05, 74SB265-03D, 74SB268-03	toluene	U at reported value
74SB265-03, 74SB266-03, 74SB267-02, 74SB263-03, 74SB263-04, 74SB264-03, 74SB264-04, 74SB256-03, 74SB256-04, 74SB258-03, 74SB258-05, 74SB259-03	2-butanone	U at reported value

Metals

Associated blanks exhibited contamination as noted in the following table. The laboratory reported non-detect results to the MDL for this project. Therefore, the blank flagging actions were modified to take this into consideration. Please see the Glossary of Qualification Flags and Abbreviations for details.

Blank ID	Analyte	Concentration	Action Level	Q Flag
CCB	antimony	0.09049J ug/L	>MDL up to RL	U

Please note, when qualifying samples for CCB contamination, associated samples are those just prior to or just following a CCB. Therefore, not all analytes in all samples are flagged for CCB contamination.

Associated samples and required qualifications are noted in the following table.

Sample ID	Analyte	Q Flag
all samples >MDL up to RL	antimony	U

Surrogate Recoveries

VOA

Sample 74SB265-03 exhibited high surrogate recovery for 4-bromofluorobenzene at 163% (QC limit 65-124%); therefore positive results were qualified as estimated (J).

Sample 74SB264-04 exhibited high surrogate recovery for 4-bromofluorobenzene at 260% (QC limit 65-124%); therefore positive results were qualified as estimated (J).

DRO/GRO

Two samples analyzed for GRO exhibited non-compliant surrogate recovery above the QC limits. The reported positive results for GRO in samples 74SB265-03DL (123%) and 74SB268-05 (186%) were qualified as estimated J.

Laboratory Control Samples

VOA

The LCS associated with samples 74SB265-03D, 74SB265-04, 74SB268-03 and 74SB268-05 exhibited low recoveries for chloroethane at 24% (QC limit 26-166%), 1,2-dichloroethane at 59% (QC limit 62-140%), methylene chloride at 62% (QC limit 65-126%) and trans-1,2-dichloroethene at 64% (QC limit 66-127%); therefore results for these compounds were qualified as estimated (J/UJ).

The LCS associated with sample 74SB267-03 exhibited low recovery for chloroethane at 22% (QC limit 26-166%); therefore results for this compound was qualified as estimated (J/UJ).

Serial Dilutions

Metals

The serial dilution analysis submitted in this SDG exhibited a non-compliant %D for zinc, requiring qualification in the field samples. A summary of this non-compliance and affected samples is noted in the following table.

MS	Analytes	Samples	%D	Q Flag
74SB263-04	zinc	all samples	11.8	J/UJ

Field Duplicates

VOA

Sample 74SB265-03 and duplicate sample 74SB265-03D exhibited non-comparable results for acetone with 200% RPD; therefore results were qualified as estimated for this compound in both samples.

DRO/GRO

The field duplicate pair of samples 74SB265-03(DL) and 74SB265-03D(RA) exhibited DRO and GRO results that did not compare. The reported results for DRO and GRO in this field duplicate pair were qualified as estimated J.

Metals

The field duplicate pair of samples 74SB265-03 and 74SB265-03D exhibited metals results that did not compare. The analyte lead exhibited a RPD that was ≥35% but less than 120% and was qualified as estimated J in both samples.

Identification/Quantitation

DRO/GRO

The following samples analyzed for GRO were rejected R in favor of the dilution or reanalysis: 74SB265-03, 74SB265-03D, 74SB269-04, 74SB269-05 and 74SB256-03.

The following samples analyzed for DRO were rejected R in favor of the original analysis: 74SB265-03RE and 74SB265-03DRE.

A summary of qualifications required is provided on the following page. Please do not hesitate to contact DataQual ES with any questions regarding this validation report.

Sincerely,

Jacqueline Cleveland

Jacqueline Cleveland
Vice President

Summary of Data Qualifications

VOA

Sample ID	Compound	Results	Q flag
74SB265-03, 74SB266-03, 74SB267-02, 74SB263-04, 74SB264-03, 74SB264-04, 74SB256-03, 74SB256-03D	isobutyl alcohol	+/-	J/R
74SB265-03, 74SB266-03, 74SB267-02, 74SB263-04, 74SB264-03, 74SB264-04, 74SB256-03, 74SB256-03D	acetonitrile acrylonitrile propionitrile pentachloroethane bromomethane acetone 2-butanone 4-methyl-2-pentanone 2-hexanone 1,2,3-trichloropropane 1,2-dibromo-3-chloropropane	+/-	J/UJ
74SB267-03	pentachloroethane	+/-	J/R
74SB267-03	acrolein methyl methacrylate 4-methyl-2-pentanone 2-hexanone	+/-	J/UJ
74SB256-04, 74SB258-03, 74SB258-05, 74SB259-03, 74SB263-03	isobutyl alcohol	+/-	J/R
74SB256-04, 74SB258-03, 74SB258-05, 74SB259-03, 74SB263-03	acrolein iodomethane acetonitrile 3-chloro-1-propene 2-chloro-1,3-butadiene pentachloroethane 2-butanone 4-methyl-2-pentanone 2-hexanone bromoform 1,2,3-trichloropropane 1,2-dibromo-3-chloropropane	+/-	J/UJ
74SB265-03D, 74SB265-04, 74SB268-03, 74SB268-05	pentachloroethane	+/-	J/R
74SB265-03D, 74SB265-04, 74SB268-03, 74SB268-05	acrolein acrylonitrile chloroethane acetone 2-hexanone	+/-	J/UJ
74SB269-04, 74SB269-05	pentachloroethane	+/-	J/R
74SB269-04, 74SB269-05	acrolein isobutyl alcohol methyl methacrylate acetone 4-methyl-2-pentanaone	+/-	J/UJ

Summary of Data Qualifications

VOA

Sample ID	Compound	Results	Q flag
74SB256-04, 74SB258-03, 74SB258-05, 74SB259-03, 74SB263-0374SB266-03, 74SB267-02, 74SB267-03, 74SB263-04, 74SB264-03, 74SB256-03, 74SB256-03D	acetone	+	U at reported value
74SB269-04, 74SB269-05, 74SB265-03D, 74SB268-03	toluene	+	U at reported value
74SB265-03, 74SB266-03, 74SB267-02, 74SB263-03, 74SB263-04, 74SB264-03, 74SB264-04, 74SB256-03, 74SB256-04, 74SB258-03, 74SB258-05, 74SB259-03	2-butanone	+	U at reported value
74SB265-03, 74SB264-04	all results	+	J
74SB265-03D, 74SB265-04, 74SB268-03, 74SB268-05	chloroethane, 1,2-dichloroethane, methylene chloride, trans-1,2-dichloroethene	+/-	J/UJ
74SB267-03	chloroethane	+/-	J/UJ
74SB265-03, 74SB265-03D	acetone	+/-	J/UJ

PAH

Sample ID	Compound	Results	Q flag
No qualifications required			

DRO/GRO

Sample ID	Compound	Results	Q flag
74SB265-03DL, 74SB265-03DRA, 74SB269-04DL, 74SB269-05DL, 74SB256-03RA.	GRO	+	J
74SB265-03DL, 74SB268-05	GRO	+	J
74SB265-03, 74SB265-03D	DRO	+	J
74SB265-03DL, 74SB265-03DRA	GRO	+	J
74SB265-03, 74SB265-03D, 74SB269-04, 74SB269-05, 74SB256-03	GRO	+/-	R
74SB265-03RE, 74SB265-03DRE	DRO	+-	R

Metals

Sample ID	Analyte	Results	Q flag
all samples	silver	+/-	J/UJ
all samples	zinc	+	J
all samples >MDL up to RL	antimony	>MDL up to RL	U
all samples	zinc	+/-	J/UJ
74SB265-03, 74SB265-03D	lead	+	J

Glossary of Qualification Flags and Abbreviations

Qualification Flags (Q-Flags)

U	not detected above the reported sample quantitation limit
J	estimated value
UJ	reported quantitation limit is qualified as estimated
N	analyte has been tentatively identified
JN	analyte has been tentatively identified, estimated value
R	result is rejected; the presence or absence of the analyte cannot be verified

Method/Preparation/Field QC Blank Qualification Flags (Q-Flags)

Organic Methods

NA	The sample result for the blank contaminant is greater than the RL (2X sample RL for common laboratory contaminants) when the blank value is less than the RL. The sample result for the blank contaminant is not qualified with any blank qualifiers.
U*	The sample result for the blank contaminant is less than the RL (2X sample RL for common laboratory contaminants) but greater than the MDL when the blank value is less than the RL. The sample result for the blank contaminant is qualified as non-detect U at the reported concentration.
RL**	The sample result for the blank contaminant is less than the RL (2X sample RL for common laboratory contaminants) but greater than the MDL when the blank value is less than the RL. The sample result for the blank contaminant is changed to the RL and qualified as non-detect U.

* This guideline is used when the laboratory is reporting non-detects to the MDL. ** This guideline is used when the laboratory is reporting non-detects to the RL.

Inorganic Methods

ICB/CCB/PB Action:

No Action -	The sample result is greater than the RL and greater than ten times (10X) the blank value.
U -	The sample result is greater than or equal to the MDL but less than or equal to the RL, result is reported as non-detect at the reported concentration, when the ICB/CCB/PB result is less or greater than the RL.

Glossary of Qualification Flags and Abbreviations, continued

R -	Sample result is greater than the RL and less than the ICB/CCB/PB value when the ICB/CCB/PB value is greater than the RL.
J -	Sample result is greater than the ICB/CCB/PB value but less than 10X the ICB/CCB/PB value when ICB/CCB/PB value is greater than the RL.
J/UJ -	Sample result is less than 10X RL when blank result is below the negative RL.

Field QC Blank action:

Note – Use field blanks to qualify data only if field blank results are greater than prep blank results.
Do not use rinsate blank associated with soils to qualify water samples and vice versa.

No Action -	The sample result is greater than the RL and greater than ten times (10X) the blank value.
U -	The sample result is greater than or equal to the MDL but less than or equal to the RL, result is reported as non-detect at the reported concentration, when the FB result is less or greater than the RL.
R -	Sample result is greater than the RL and less than the FB value when the FB value is greater than the RL.
J -	Sample result is greater than the FB value but less than 10X the FB value when FB value is greater than the RL.

General Abbreviations

RL	reporting limit
IDL	instrument detection limit
MDL	method detection limit
CRDL	contract required detection limit
CRQL	contract required quantitation limit
+	positive result
-	non-detect result

TEST AMERICA SAVANNAH SDG 37020-2

DataQual

Environmental Services, LLC

Michael Baker, Jr., Inc.
Airside Business Park
100 Airside Drive
Moon Township, PA 15108

September 15, 2008
SDG# SWMU37020-2, Test America-Savannah
NAPR SWMU 74, Puerto Rico

Dear Mr. Kimes,

The following Data Validation report is provided as requested for the parameters noted in the table below for SDG # SWMU37020-2. The data validation was performed in accordance with the SW-846 methods utilized by the laboratory, the Region II Standard Operating Procedures for the Validation of Organic Data Acquired Using SW-846 Methods (8260B-Rev 2, January 2006- SOP #HW-24 and 8270D-Rev 3, October 2006- SOP #HW-22), and professional judgment. Region II has not developed a validation checklist SOP for the methods used to assess the inorganic methods in this SDG (SW-846 methods 6020B, 7471A) or the organic methods for hydrocarbons (SW-846 methods 8015_DRO and 8015_GRO). Therefore, alternative worksheets were provided. Region II flagging conventions were used. All areas of concern are discussed in the body of the report and a summary of data qualifications is provided.

Sample ID	Lab ID	Matrix	VOA App IX	LL-PAH	DRO/GRO	Metals
74SB259-04	680-37020-21	soil	X		X	X
74SB260-03	680-37020-22	soil	X		X	X
74SB260-04	680-37020-23	soil	X	X	X	X
74SB261-00	680-37020-24	soil	X		X	X
74SB261-03	680-37020-25	soil	X		X	X
74SB261-03D	680-37020-26	soil	X		X	X
74SB262-03	680-37020-27	soil	X		X	X
74SB236-04	680-37020-28	soil	X		X	X
74SB236-05	680-37020-29	soil	X		X	X
74SB236-05D	680-37020-30	soil	X		X	X
74SB237-04	680-37020-31	soil	X		X	X
74SB237-05	680-37020-32	soil	X		X	X
74SB238-04	680-37020-33	soil	X		X	X
74SB238-05	680-37020-34	soil	X		X	X
74SB239-04	680-37020-35	soil	X		X	X
74SB239-05	680-37020-36	soil	X		X	X
74SB240-04	680-37020-37	soil	X		X	X
74SB240-05	680-37020-38	soil	X		X	X
74SB241-00	680-37020-39	soil	X		X	X
74SB241-04	680-37020-40	soil	X		X	X
74SB261-03 MS	680-37020-25MS	soil	X		X	X
74SB261-03 MSD	680-37020-25MSD	soil	X		X	X

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The following quality control sample was provided with this SDG: sample 74SB261-03D-field duplicate of sample 74SB261-03; sample 74SB236-05D-field duplicate of sample 74SB236-05.

The samples were evaluated based on the following criteria:

- Data Completeness *
- Sample Condition *
- Technical Holding Times
- GC/MS Tuning *
- GC Performance *
- Initial/Continuing Calibrations
- ICSA/ICSAB Standards *
- CRDL Standards *
- Blanks
- Internal Standards *
- Surrogate Recoveries *
- Laboratory Control Samples
- Matrix Spike Recoveries
- Matrix Duplicate RPDs *
- Serial Dilutions
- Field Duplicates
- Identification/Quantitation *
- Reporting Limits *
- Tentatively Identified Compounds NA

* - indicates that qualifications were not required based on this criteria

Overall Evaluation of Data/Potential Usability Issues

A summary of qualifications applied to the sample results are noted below for the fractions validated. Specific details regarding qualification of the data are addressed in the Specific Evaluation section of this narrative. If an issue is not addressed there were no actions required based on unmet quality criteria. When more than one qualifier is associated with a compound/analyte the validator has chosen the qualifier that best indicates possible bias in the results and flagged the data accordingly. However, information regarding all quality control issues is provided in the body of the report and on the qualification summary page.

VOA

Due to high %D and low RRF values, in the continuing calibrations, some compounds were qualified as estimated and rejected.

Blank contamination was noted in the method and QC blanks associated with samples in this batch. Qualifications were added to the data.

Two of the laboratory control samples exhibited low recoveries for two compounds that resulted in qualifying results as estimated.

LL-PAH

No qualifications to the data were required.

DRO/GRO

Two samples were analyzed for GRO six days outside the analytical holding time. These results were qualified as estimated J/UJ.

The field duplicate pair of samples 74SB261-03 and 74SB261-03D exhibited DRO results that did not compare. The reported results for DRO in this field duplicate pair were qualified as estimated J/UJ.

Metals

Blank contamination was noted and qualification was required in the samples in this SDG.

The matrix spikes pair exhibited required qualification for non-compliant recoveries in both the MS and the MSD for the analytes chromium and copper. All results for chromium and copper in the metals samples were qualified as estimated J/UJ.

The serial dilution analysis exhibited non-compliant %Ds for five analytes. All results for barium, chromium, cobalt, nickel, and vanadium were qualified as estimated J/UJ.

One of the field duplicate pairs exhibited a non-compliant RPD for one analyte. Zinc was qualified as estimated in the field duplicate pair.

Specific Evaluation of Data

Data Completeness

The SDG was received complete and intact. Resubmissions were not required. Clarification questions were asked of the laboratory regarding the metals fraction. A copy of the e-mail correspondence is included in the validation worksheets. Clarification questions were asked of the laboratory regarding the GRO/DRO fraction. A copy of these e-mail correspondences is included in the project file.

Technical Holding Times

According to chain of custody records, sampling was performed on 05/21/08 and samples were received at the laboratory 05/23/08. All sample preparation and analysis was performed within Region II and/or method holding time requirements with the following exception.

DRO/GRO

Samples 74SB261-03 and 74SB237-04 were analyzed for GRO six days outside the holding time. The MS/MSD of sample 74SB261-03 were also analyzed outside the holding time. The reported GRO results in samples 74SB261-03 and 74SB237-04 were qualified as estimated J/UJ.

Initial/Continuing Calibration

VOA

Calibration standards exhibited %Ds and RRF values that were non-compliant. A summary of these non-compliances and affected samples are noted in the following table. Sample results are qualified as indicated.

Standard ID	Compound(s)	RRF, %RSD, %D	Samples	Q Flag
CC 06/02/08	isobutyl alcohol	0.02347	74SB259-04, 74SB260-04, 74SB261-00, 74SB261-03, 74SB236-04, 74SB236-05, 74SB237-04, 74SB237-05, 74SB238-04	J/R
	acrolein	39.1%		J/UJ
	iodomethane	24.4%		
	acetonitrile	37.1%		
	3-chloro-1-propene	55.9%		
	2-chloro-1,3-butadiene	32.2%		
	pentachloroethane	39.0%		
	2-butanone	28.3%		
	4-methyl-2-pentanone	28.9%		
	2-hexanone	32.4%		
	bromoform	23.0%		
	1,2,3-trichloropropane	25.7%		
	1,2-dibromo-3-chloropropane	36.8%		
CC 06/02/08	pentachloroethane	151.9%	74SB261-03D	J/R
	acrolein	28.7%		J/UJ
	acrylonitrile	21.8%		
	chloroethane	45.5%		
	acetone	21.9%		
	2-hexanone	26.0%		

Standard ID	Compound(s)	RRF, %RSD, %D	Samples	Q Flag
CC 06/03/08	isobutyl alcohol	0.02448	74SB238-05, 74SB239-04, 74SB239-05, 74SB240-04, 74SB240-05, 74SB241-00, 74SB241-04	J/R
	acetonitrile	28.2%		J/UJ
	3-chloro-1-propene	46.5%		
	pentachloroethane	27.4%		
	bromomethane	25.3%		
	2-butanone	24.9%		
	4-methyl-2-pentanone	22.3%		
	2-hexanone	20.6%		
	1,2,3-trichloropropane	21.4%		
	1,2-dibromo-3-chloropropane	22.3%		
CC 06/03/08	acrolein	0.03924	74SB260-03, 74SB262-03, 74SB236-05D	J/R
	isobutyl alcohol	0.01018		
	acetonitrile	54.4%		J/UJ
	3-chloro-1-propene	25.4%		
	acrylonitrile	26.5%		
	propionitrile	38.1%		
	pentachloroethane	27.1%		
	dichlorodifluoromethane	48.1%		
	chloromethane	20.4%		
	bromomethane	43.4%		
	acetone	21.5%		
	2-butanone	34.5%		
	4-methyl-2-pentanone	27.2%		
	2-hexanone	34.5%		
	bromoform	21.2%		
	1,2,3-trichloropropane	28.9%		
	1,2-dibromo-3-chloropropane	34.2%		

Blanks

VOA

The associated method and/or QC blanks exhibited contamination as noted in the following table. Compounds for which there was no action required, are not included in the following table. Please note that the laboratory reported non-detect results down to the MDL for this project. Therefore, the blank flagging actions were modified as follows to take this into consideration. Positive results greater than the MDL but less than the CRQL are qualified as U at the reported concentration when affected by blank contamination.

Blank ID	Compound	Concentration	Reporting Limit	Action Level
Method Blank	acetone	13J ug/Kg	50 ug/Kg	2X RL
Method Blank	acetone	6.4J ug/Kg	50 ug/Kg	2X RL
Method Blank	toluene	36J ug/Kg	200 ug/Kg	2X RL
Method Blank	acetone	7.3J ug/Kg	50 ug/Kg	2X RL
FB01	2-butanone	0.69J ug/L	10 ug/L	2X RL

Associated samples and required qualifications are noted in the following table.

Sample ID	Compound	Q Flag
74SB239-04, 74SB239-05, 74SB240-04, 74SB240-05, 74SB241-00, 74SB241-04, 74SB260-03, 74SB262-03, 74SB236-05D, 74SB259-04, 74SB260-04, 74SB261-00, 74SB261-03, 74SB236-04, 74SB236-05, 74SB237-04, 74SB237-05, 74SB238-04	acetone	U at reported value
74SB261-03D	toluene	U at reported value
74SB259-04, 74SB260-03, 74SB260-04, 74SB261-03D, 74SB262-03, 74SB236-05D, 74SB237-05, 74SB239-04, 74SB239-05, 74SB240-04, 74SB240-05, 74SB241-00, 74SB241-04	2-butanone	U at reported value

Metals

Associated blanks exhibited contamination as noted in the following table. The laboratory reported non-detect results to the MDL for this project. Therefore, the blank flagging actions were modified to take this into consideration. Please see the Glossary of Qualification Flags and Abbreviations for details.

Blank ID	Analyte	Concentration	Action Level	Q Flag
CCB	beryllium	0.020J ug/L	>MDL up to RL	U
FB01	coper	2.1J ug/L	>MDL up to RL	U

Please note, when qualifying samples for CCB contamination, associated samples are those just prior to or just following a CCB. Therefore, not all analytes in all samples are flagged for CCB contamination.

Associated samples and required qualifications are noted in the following table.

Sample ID	Analyte	Q Flag
all samples >MDL up to RL	beryllium	U
all samples >MDL up to RL	copper	U

Laboratory Control Samples

VOA

The LCS associated with samples 74SB260-03, 74SB262-03 and 74SB236-05D exhibited low recoveries for 1,2-dibromo-3-chloropropene at 58% (QC limit 62-140%) and 1,2,3-trichloropropane at 60% (QC limit 65-132%); therefore results for these compounds were qualified as estimated (J/UJ).

The LCS associated with sample 74SB261-03D exhibited low recoveries for chloroethane at 24% (QC limit 26-166%), 1,2-dichloroethane at 59% (QC limit 62-140%), methylene chloride at 62% (QC limit 65-126%) and trans-1,2-dichloroethene at 64% (QC limit 66-127%); therefore results for these compounds were qualified as estimated (J/UJ).

Matrix Spikes

Metals

The matrix spikes pair submitted in this SDG exhibited non-compliant %R's for chromium and copper, requiring qualification in the field samples. A summary of these non-compliances and affected samples are noted in the following table.

MS	Analytes	Samples	%R	Q Flag
74SB261-03	chromium	all samples	127/44	J/UJ
	copper		65/47	

Serial Dilution

Metals

The serial dilution submitted in this SDG exhibited non-compliant %D's for several analytes, requiring qualification in the field samples. A summary of these non-compliances and affected samples are noted in the following table.

SD	Analytes	Samples	%D	Q Flag
74SB261-03	barium	all samples	21.4	J/UJ
	chromium		17.7	
	cobalt		16.6	
	nickel		15.1	
	vanadium		18.1	

Field Duplicates

DRO/GRO

The field duplicate pair of samples 74SB261-03 and 74SB261-03D exhibited DRO results that did not compare (168%). The reported results for DRO in this field duplicate pair were qualified as estimated J/UJ.

Metals

The field duplicate pair of samples 74SB261-03 and 74SB261-03D exhibited metals results that did not compare. The analyte zinc exhibited a RPD that was ≥35% but less than 120% (46%) and was qualified as estimated J in both samples.

A summary of qualifications required is provided on the following page. Please do not hesitate to contact DataQual ES with any questions regarding this validation report.

Sincerely,

Laura Maschhoff
President

Jacqueline Cleveland
Vice President

Summary of Data Qualifications

VOA

Sample ID	Compound	Results	Q flag
74SB259-04, 74SB260-04, 74SB261-00, 74SB261-03, 74SB236-04, 74SB236-05, 74SB237-04, 74SB237-05, 74SB238-04	isobutyl alcohol	+/-	J/R
74SB259-04, 74SB260-04, 74SB261-00, 74SB261-03, 74SB236-04, 74SB236-05, 74SB237-04, 74SB237-05, 74SB238-04	acrolein iodomethane acetonitrile 3-chloro-1-propene 2-chloro-1,3-butadiene pentachloroethane 2-butanone 4-methyl-2-pentanone 2-hexanone bromoform 1,2,3-trichloropropane 1,2-dibromo-3-chloropropane	+/-	J/UJ
74SB261-03D	pentachloroethane	+/-	J/R
74SB261-03D	acrolein acrylonitrile chloroethane acetone 2-hexanone	+/-	J/UJ
74SB238-05, 74SB239-04, 74SB239-05, 74SB240-04, 74SB240-05, 74SB241-00, 74SB241-04	isobutyl alcohol	+/-	J/R
74SB238-05, 74SB239-04, 74SB239-05, 74SB240-04, 74SB240-05, 74SB241-00, 74SB241-04	acetonitrile 3-chloro-1-propene pentachloroethane bromomethane 2-butanone 4-methyl-2-pentanone 2-hexanone 1,2,3-trichloropropane 1,2-dibromo-3-chloropropane	+/-	J/UJ
74SB260-03, 74SB262-03, 74SB236-05D	acrolein, isobutyl alcohol	+/-	J/R
74SB260-03, 74SB262-03, 74SB236-05D	acetonitrile 3-chloro-1-propene acrylonitrile propionitrile pentachloroethane dichlorodifluoromethane chloromethane bromomethane acetone 2-butanone 4-methyl-2-pentanone 2-hexanone bromoform 1,2,3-trichloropropane 1,2-dibromo-3-chloropropane	+/-	J/UJ

Summary of Data Qualifications

VOA

Sample ID	Compound	Results	Q flag
74SB239-04, 74SB239-05, 74SB240-04, 74SB240-05, 74SB241-00, 74SB241-04, 74SB260-03, 74SB262-03, 74SB236-05D, 74SB259-04, 74SB260-04, 74SB261-00, 74SB261-03, 74SB236-04, 74SB236-05, 74SB237-04, 74SB237-05, 74SB238-04	acetone	+	U at reported value
74SB261-03D	toluene	+	U at reported value
74SB259-04, 74SB260-03, 74SB260-04, 74SB261-03D, 74SB262-03, 74SB236-05D, 74SB237-05, 74SB239-04, 74SB239-05, 74SB240-04, 74SB240-05, 74SB241-00, 74SB241-04	2-butanone	+	U at reported value
74SB260-03, 74SB262-03, 74SB236-05D	1,2-dibromo-3-chloropropene 1,2,3-trichloropropane	+/-	J/UJ
74SB261-03D	chloroethane, 1,2-dichloroethane, methylene chloride, trans-1,2-dichloroethene	+/-	J/UJ

PAH

Sample ID	Compound	Results	Q flag
No qualifications required			

DRO/GRO

Sample ID	Compound	Results	Q flag
74SB261-03 and 74SB237-04	GRO	+/-	J/UJ
74SB261-03, 74SB261-03D	DRO	+	J

Metals

Sample ID	Analyte	Results	Q flag
all samples >MDL up to RL	beryllium	>MDL up to RL	U
all samples >MDL up to RL	copper	>MDL up to RL	U
all samples	chromium copper	+/-	J/UJ
all samples	barium chromium cobalt nickel vanadium	+/-	J/UJ
74SB261-03, 74SB261-03D	zinc	+	J

Glossary of Qualification Flags and Abbreviations

Qualification Flags (Q-Flags)

U	not detected above the reported sample quantitation limit
J	estimated value
UJ	reported quantitation limit is qualified as estimated
N	analyte has been tentatively identified
JN	analyte has been tentatively identified, estimated value
R	result is rejected; the presence or absence of the analyte cannot be verified

Method/Preparation/Field QC Blank Qualification Flags (Q-Flags)

Organic Methods

NA	The sample result for the blank contaminant is greater than the RL (2X sample RL for common laboratory contaminants) when the blank value is less than the RL. The sample result for the blank contaminant is not qualified with any blank qualifiers.
U*	The sample result for the blank contaminant is less than the RL (2X sample RL for common laboratory contaminants) but greater than the MDL when the blank value is less than the RL. The sample result for the blank contaminant is qualified as non-detect U at the reported concentration.
RL**	The sample result for the blank contaminant is less than the RL (2X sample RL for common laboratory contaminants) but greater than the MDL when the blank value is less than the RL. The sample result for the blank contaminant is changed to the RL and qualified as non-detect U.

* This guideline is used when the laboratory is reporting non-detects to the MDL. ** This guideline is used when the laboratory is reporting non-detects to the RL.

Inorganic Methods

ICB/CCB/PB Action:

No Action -	The sample result is greater than the RL and greater than ten times (10X) the blank value.
U -	The sample result is greater than or equal to the MDL but less than or equal to the RL, result is reported as non-detect at the reported concentration, when the ICB/CCB/PB result is less or greater than the RL.

Glossary of Qualification Flags and Abbreviations, continued

R -	Sample result is greater than the RL and less than the ICB/CCB/PB value when the ICB/CCB/PB value is greater than the RL.
J -	Sample result is greater than the ICB/CCB/PB value but less than 10X the ICB/CCB/PB value when ICB/CCB/PB value is greater than the RL.
J/UJ -	Sample result is less than 10X RL when blank result is below the negative RL.

Field QC Blank action:

Note – Use field blanks to qualify data only if field blank results are greater than prep blank results.
Do not use rinsate blank associated with soils to qualify water samples and vice versa.

No Action -	The sample result is greater than the RL and greater than ten times (10X) the blank value.
U -	The sample result is greater than or equal to the MDL but less than or equal to the RL, result is reported as non-detect at the reported concentration, when the FB result is less or greater than the RL.
R -	Sample result is greater than the RL and less than the FB value when the FB value is greater than the RL.
J -	Sample result is greater than the FB value but less than 10X the FB value when FB value is greater than the RL.

General Abbreviations

RL	reporting limit
IDL	instrument detection limit
MDL	method detection limit
CRDL	contract required detection limit
CRQL	contract required quantitation limit
+	positive result
-	non-detect result

TEST AMERICA SAVANNAH SDG 37020-3

DataQual

Environmental Services, LLC

Michael Baker, Jr., Inc.
Airside Business Park
100 Airside Drive
Moon Township, PA 15108

September 15, 2008
SDG# SWMU37020-3, Test America-Savannah
NAPR SWMU 74, Puerto Rico

Dear Mr. Kimes,

The following Data Validation report is provided as requested for the parameters noted in the table below for SDG # SWMU37020-3. The data validation was performed in accordance with the SW-846 methods utilized by the laboratory, the Region II Standard Operating Procedures for the Validation of Organic Data Acquired Using SW-846 Methods (8260B-Rev 2, January 2006- SOP #HW-24), and professional judgment. Region II has not developed a validation checklist SOP for the methods used to assess the inorganic methods in this SDG (SW-846 methods 6020B, 7471A) or the organic methods for hydrocarbons (SW-846 methods 8015_DRO and 8015_GRO). Therefore, alternative worksheets were provided. Region II flagging conventions were used. All areas of concern are discussed in the body of the report and a summary of data qualifications is provided.

Sample ID	Lab ID	Matrix	VOA App IX	DRO/GRO	Metals
74SB241-04D	680-37020-41	soil	X	X	X
74SB241-05	680-37020-42	soil	X	X	X
74SB245-03	680-37020-43	soil	X	X	X
74SB245-05	680-37020-44	soil	X	X	X
74SB246-03	680-37020-45	soil	X	X	X
74SB246-03D	680-37020-46	soil	X	X	X
74SB246-05	680-37020-47	soil	X	X	X
74SB247-03	680-37020-48	soil	X	X	X
74SB248-03	680-37020-49	soil	X	X	X
74SB249-03	680-37020-50	soil	X	X	X
74SB250-03	680-37020-51	soil	X	X	X
74SB250-05	680-37020-52	soil	X	X	X
74SB251-00	680-37020-53	soil	X	X	X
74SB251-03	680-37020-54	soil	X	X	X
74SB251-03D	680-37020-55	soil	X	X	X
74SB251-05	680-37020-56	soil	X	X	X
74SB252-03	680-37020-57	soil	X	X	X
74SB253-03	680-37020-58	soil	X	X	X
74SB254-03	680-37020-59	soil	X	X	X
74SB255-03	680-37020-60	soil	X	X	X
74SB241-05 MS	680-37020-42MS	soil	X	X	X
74SB241-05 MSD	680-37020-42MSD	soil	X	X	X
74SB251-05 MS	680-37020-56MS	soil	X	X	X
74SB251-05 MSD	680-37020-56MSD	soil	X	X	X

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The following quality control sample was provided with this SDG: sample 74SB246-03D-field duplicate of sample 74SB246-03; sample 74SB251-03D-field duplicate of sample 74SB251-03.

The samples were evaluated based on the following criteria:

- Data Completeness *
- Sample Condition *
- Technical Holding Times
- GC/MS Tuning *
- GC Performance *
- Initial/Continuing Calibrations
- ICSA/ICSAB Standards
- CRDL Standards *
- Blanks
- Internal Standards *
- Surrogate Recoveries *
- Laboratory Control Samples
- Matrix Spike Recoveries
- Matrix Duplicate RPDs *
- Serial Dilutions *
- Field Duplicates
- Identification/Quantitation *
- Reporting Limits *
- Tentatively Identified Compounds NA

* - indicates that qualifications were not required based on this criteria

Overall Evaluation of Data/Potential Usability Issues

A summary of qualifications applied to the sample results are noted below for the fractions validated. Specific details regarding qualification of the data are addressed in the Specific Evaluation section of this narrative. If an issue is not addressed there were no actions required based on unmet quality criteria. When more than one qualifier is associated with a compound/analyte the validator has chosen the qualifier that best indicates possible bias in the results and flagged the data accordingly. However, information regarding all quality control issues is provided in the body of the report and on the qualification summary page.

VOA

Due to high %D and low RRF values, in the continuing calibrations, some compounds were qualified as estimated and rejected.

Blank contamination was noted in the method and QC blanks associated with samples in this batch. Qualifications were added to the data.

One of the laboratory control samples exhibited low recoveries for two compounds that resulted in qualifying results as estimated.

One of the field duplicate pairs did not exhibit comparable results that resulted in qualifying one compound as estimated.

DRO/GRO

Three samples were analyzed for GRO six days outside the analytical holding time. These results were qualified as estimated J/UJ.

The field duplicate pair of samples 74SB246-03 and 74SB246-03D exhibited DRO results that did not compare. The reported results for DRO in this field duplicate pair were qualified as estimated J/UJ.

Metals

The ICSAB standard associated with the samples exhibited non-compliant recoveries for the analytes silver and zinc. Silver was qualified as estimated J/UJ and positive results for zinc were qualified as estimated J in all samples.

Blank contamination was noted and qualification was required in the samples in this SDG.

The matrix spikes pair exhibited required qualification for non-compliant recoveries in both the MS and the MSD for the analyte antimony. All results for antimony in the metals samples were qualified as estimated J/UJ.

One of the field duplicate pairs exhibited non-compliant RPDs for three analytes. Cobalt was qualified as estimated and chromium and vanadium were rejected in the field duplicate pair.

Specific Evaluation of Data

Data Completeness

Resubmissions were required for two metals samples that were incorrectly calculated. Clarification questions were asked of the laboratory regarding the metals fraction. A copy of the e-mail correspondence is included in the validation worksheets. Clarification questions were asked of the laboratory regarding the GRO/DRO fraction. A copy of these e-mail correspondences is included in the project file.

Technical Holding Times

According to chain of custody records, sampling was performed on 05/21/08 and samples were received at the laboratory 05/23/08. All sample preparation and analysis was performed within Region II and/or method holding time requirements with the following exception.

DRO/GRO

Samples 74SB248-03, 74SB250-03 and 74SB250-05 were analyzed for GRO six days outside the holding time. The reported GRO results in samples 74SB248-03, 74SB250-03 and 74SB250-05 were qualified as estimated J/UJ.

Initial/Continuing Calibration

VOA

Calibration standards exhibited %Ds and RRF values that were non-compliant. A summary of these non-compliances and affected samples are noted in the following table. Sample results are qualified as indicated.

Standard ID	Compound(s)	RRF, %RSD, %D	Samples	Q Flag
CC 06/03/08	isobutyl alcohol	0.02448	74SB241-04D, 74SB241-05, 74SB245-03, 74SB245-05, 74SB246-03, 74SB246-03D, 74SB247-03	J/R
	acetonitrile	28.2%		J/UJ
	3-chloro-1-propene	46.5%		
	pentachloroethane	27.4%		
	bromomethane	25.3%		
	2-butanone	24.9%		
	4-methyl-2-pentanone	22.3%		
	2-hexanone	20.6%		
	1,2,3-trichloropropane	21.4%		
	1,2-dibromo-3-chloropropane	22.3%		
CC 06/03/08	acrolein	0.03924	74SB246-05, 74SB249-03, 74SB250-03, 74SB250-05, 74SB251-00, 74SB251-03	J/R
	isobutyl alcohol	0.01018		
	acetonitrile	54.4%		J/UJ
	3-chloro-1-propene	25.4%		
	acrylonitrile	26.5%		
	propionitrile	38.1%		
	pentachloroethane	27.1%		
	dichlorodifluoromethane	48.1%		
	chloromethane	20.4%		
	bromomethane	43.4%		
	acetone	21.5%		
	2-butanone	34.5%		
	4-methyl-2-pentanone	27.2%		
	2-hexanone	34.5%		
	bromoform	21.2%		
	1,2,3-trichloropropane	28.9%		
	1,2-dibromo-3-chloropropane	34.2%		

Standard ID	Compound(s)	RRF, %RSD, %D	Samples	Q Flag
CC 06/04/08	isobutyl alcohol	0.00870	74SB251-05, 74SB255-03, 74SB251-03D, 74SB252-03, 74SB253-03, 74SB248-03, 74SB254-03	J/R
	acetonitrile	57.7%		J/UJ
	3-chloro-1-propene	44.6%		
	propionitrile	40.5%		
	trans-1,4-dichloro-2-butene	23.2%		
	bromomethane	78.2%		
	acetone	23.3%		
	2-butanone	29.2%		
	4-methyl-2-pentanone	28.7%		
	2-hexanone	33.1%		
	1,2,3-trichloropropane	23.6%		
	1,2-dibromo-3-chloropropane	29.9%		

ICSA/ICSAB Standards

Metals

The ICSAB standards associated with the metals analysis exhibited non-compliant recoveries less than the lower QC limit for the analyte silver (77%/77%) and greater than the upper QC limit for the analyte zinc (121%). Based on Region II guidelines, reported positive and non-detect results for silver were qualified as estimated J/UJ and reported positive results for zinc were qualified as estimated J in all samples.

Blanks

VOA

The associated method and/or QC blanks exhibited contamination as noted in the following table. Compounds for which there was no action required, are not included in the following table. Please note that the laboratory reported non-detect results down to the MDL for this project. Therefore, the blank flagging actions were modified as follows to take this into consideration. Positive results greater than the MDL but less than the CRQL are qualified as U at the reported concentration when affected by blank contamination.

Blank ID	Compound	Concentration	Reporting Limit	Action Level
Method Blank	acetone	13J ug/Kg	50 ug/Kg	2X RL
Method Blank	acetone	6.4J ug/Kg	50 ug/Kg	2X RL
FB01	2-butanone	0.69J ug/L	10 ug/L	2X RL

Associated samples and required qualifications are noted in the following table.

Sample ID	Compound	Q Flag
74SB241-04D, 74SB241-05, 74SB245-03, 74SB245-05, 74SB246-03, 74SB246-03D, 74SB247-03, 74SB246-05, 74SB249-03, 74SB250-03, 74SB250-05, 74SB251-00, 74SB251-03	acetone	U at reported value
74SB241-04D, 74SB241-05, 74SB245-03, 74SB245-05, 74SB246-03, 74SB246-03D, 74SB246-05, 74SB247-03, 74SB249-03, 74SB250-03, 74SB250-05, 74SB251-00, 74SB251-03, 74SB252-03, 74SB253-03	2-butanone	U at reported value

Metals

Associated blanks exhibited contamination as noted in the following table. The laboratory reported non-detect results to the MDL for this project. Therefore, the blank flagging actions were modified to take this into consideration. Please see the Glossary of Qualification Flags and Abbreviations for details.

Blank ID	Analyte	Concentration	Action Level	Q Flag
PBS	zinc	0.822 mg/Kg	>MDL up to RL	U
FB01	copper	2.1J ug/L	>MDL up to RL	U
	lead	0.38J ug/L	>MDL up to RL	U

Please note, when qualifying samples for CCB contamination, associated samples are those just prior to or just following a CCB. Therefore, not all analytes in all samples are flagged for CCB contamination.

Associated samples and required qualifications are noted in the following table.

Sample ID	Analyte	Q Flag
all samples >MDL up to RL	zinc	U
all samples >MDL up to RL	copper	U
all samples >MDL up to RL	lead	U

Laboratory Control Samples

VOA

The LCS associated with samples 74SB246-05, 74SB249-03, 74SB250-03, 74SB250-05, 74SB251-00 and 74SB251-03 exhibited low recoveries for 1,2-dibromo-3-chloropropene at 58% (QC limit 62-140%) and 1,2,3-trichloropropane at 60% (QC limit 65-132%); therefore results for these compounds were qualified as estimated (J/UJ).

Matrix Spikes

Metals

TEST AMERICA SAVANNAH SDG 37020-4

DataQual

Environmental Services, LLC

Michael Baker, Jr., Inc.
Airside Business Park
100 Airside Drive
Moon Township, PA 15108

September 15, 2008
SDG# SWMU37020-4, Test America-Savannah
NAPR SWMU 74, Puerto Rico

Dear Mr. Kimes,

The following Data Validation report is provided as requested for the parameters noted in the table below for SDG # SWMU37020-4. The data validation was performed in accordance with the SW-846 methods utilized by the laboratory, the Region II Standard Operating Procedures for the Validation of Organic Data Acquired Using SW-846 Methods (8260B-Rev 2, January 2006- SOP #HW-24), and professional judgment. Region II has not developed a validation checklist SOP for the methods used to assess the inorganic methods in this SDG (SW-846 methods 6020B, 7471A) or the organic methods for hydrocarbons (SW-846 methods 8015_DRO and 8015_GRO). Therefore, alternative worksheets were provided. Region II flagging conventions were used. All areas of concern are discussed in the body of the report and a summary of data qualifications is provided.

Sample ID	Lab ID	Matrix	VOA App IX	DRO/GRO	DRO	GRO	Metals
74GWVPBa	680-37020-61	water	X	X			
74GW145	680-37020-62	water			X		X
74GWVP6Ca	680-37020-63	water			X		
74TB30	680-37020-64	water	X			X	
74TB31	680-37020-65	water	X			X	

The samples were evaluated based on the following criteria:

- Data Completeness *
- Sample Condition *
- Technical Holding Times *
- GC/MS Tuning *
- GC Performance *
- Initial/Continuing Calibrations
- ICSA/ICSAB Standards
- CRDL Standards *
- Blanks
- Internal Standards *
- Surrogate Recoveries *
- Laboratory Control Samples *
- Matrix Spike Recoveries NA

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- Matrix Duplicate RPDs NA
- Serial Dilutions NA
- Field Duplicates NA
- Identification/Quantitation *
- Reporting Limits *
- Tentatively Identified Compounds NA

* - indicates that qualifications were not required based on this criteria

Overall Evaluation of Data/Potential Usability Issues

A summary of qualifications applied to the sample results are noted below for the fractions validated. Specific details regarding qualification of the data are addressed in the Specific Evaluation section of this narrative. If an issue is not addressed there were no actions required based on unmet quality criteria. Please note that the reviewer added an F to the sample ID to indicate dissolved metals analysis when necessary. When more than one qualifier is associated with a compound/analyte the validator has chosen the qualifier that best indicates possible bias in the results and flagged the data accordingly. However, information regarding all quality control issues is provided in the body of the report and on the qualification summary page.

VOA

Due to high %D values, in the continuing calibrations, some compounds were qualified as estimated and rejected.

Blank contamination was noted in the method and QC blanks associated with samples in this batch. Qualifications were added to the data.

DRO/GRO

No qualifications were required.

Metals

The ICSAB standards exhibited non-compliant recoveries below the QC limit for the analyte cadmium. Based on Region II guidelines all positive and non-detect results for cadmium were qualified as estimated J/UJ.

Blank contamination was noted and qualification was required in the samples in this SDG.

Specific Evaluation of Data

Data Completeness

The SDG was received complete and intact. Resubmissions were required for the VOA fraction. The laboratory was contacted as the submitted Form Is did not have dry weight corrected results. All samples were reprocessed with dry weight correction and new Form I's were submitted. Clarification questions were asked of the laboratory regarding the GRO/DRO fraction. A copy of these e-mail correspondences is included in the project file.

Technical Holding Times

According to chain of custody records, sampling was performed on 05/20-21/08 and samples were received at the laboratory 05/23/08. All sample preparation and analysis was performed within Region II and/or method holding time requirements.

Initial/Continuing Calibration

VOA

Calibration standards exhibited %Ds that were non-compliant. A summary of these non-compliances and affected samples are noted in the following table. Sample results are qualified as indicated.

Standard ID	Compound(s)	RRF, %RSD, %D	Samples	Q Flag
CC 06/02/08	acrolein pentachloroethane	93.0% 92.3%	74TB30, 74TB31, 74GWVP6Ba	J/R
	chloromethane chloroethane carbon disulfide	32.5% 35.2% 23.8%		J/UJ

ICSA/ICSAB Standards

Metals

The ICSAB standards associated with the metals analysis exhibited a non-compliant recoveries less than the lower QC limit for the analyte silver (79%) and above the upper QC limit for the analyte zinc (122%/123%, 123%). Based on Region II guidelines, reported positive and non-detect results for silver were qualified as estimated J/UJ and positive results for the analyte zinc were qualified as estimated J in the sample.

Blanks

VOA

The associated method and/or QC blanks exhibited contamination as noted in the following table. Compounds for which there was no action required, are not included in the following table. Please note that the laboratory reported non-detect results down to the MDL for this project. Therefore, the blank flagging actions were modified as follows to take this into consideration. Positive results greater than the MDL but less than the CRQL are qualified as U at the reported concentration when affected by blank contamination.

Blank ID	Compound	Concentration	Reporting Limit	Action Level
Method Blank	carbon disulfide	0.29J ug/L	2 ug/L	RL
FB01	2-butanone	0.69J ug/L	10 ug/L	2X RL

Associated samples and required qualifications are noted in the following table.

Sample ID	Compound	Q Flag
74GWVPBa	carbon disulfide	U at reported value
74GWVPBa	2-butanone	U at reported value

Metals

Associated blanks exhibited contamination as noted in the following table. The laboratory reported non-detect results to the MDL for this project. Therefore, the blank flagging actions were modified to take this into consideration. Please see the Glossary of Qualification Flags and Abbreviations for details.

Blank ID	Analyte	Concentration	Action Level	Q Flag
PBLK	arsenic	0.03054J ug/L	>MDL up to RL	U
ICB	cobalt	0.007J ug/L	> MDL up to RL	U
CCB	tin	0.195J ug/L	>MDL up to RL	U
FB01	lead	0.38J ug/L	> MDL up to RL	U

Please note, when qualifying samples for CCB contamination, associated samples are those just prior to or just following a CCB. Therefore, not all analytes in all samples are flagged for CCB contamination.

Associated samples and required qualifications are noted in the following table.

Sample ID	Analyte	Q Flag
74GW145	arsenic cobalt tin lead	U

A summary of qualifications required is provided on the following page. Please do not hesitate to contact DataQual ES with any questions regarding this validation report.

Sincerely,

Laura Maschhoff
President

Jacqueline Cleveland
Vice President

Summary of Data Qualifications

VOA

Sample ID	Compound	Results	Q flag
74TB30, 74TB31, 74GWVP6Ba	acrolein pentachloroethane	+/-	J/R
74TB30, 74TB31, 74GWVP6Ba	chloromethane chloroethane carbon disulfide	+/-	J/UJ
74GWVPBa	carbon disulfide	+	U at reported value
74GWVPBa	2-butanone	+	U at reported value

DRO/GRO

Sample ID	Compound	Results	Q flag
No qualifications were required			

Metals

Sample ID	Analyte	Results	Q flag
74GW145	silver	+/-	J/UJ
	zinc	+	J
	arsenic cobalt tin lead	>MDL up to RL	U

Glossary of Qualification Flags and Abbreviations

Qualification Flags (Q-Flags)

U	not detected above the reported sample quantitation limit
J	estimated value
UJ	reported quantitation limit is qualified as estimated
N	analyte has been tentatively identified
JN	analyte has been tentatively identified, estimated value
R	result is rejected; the presence or absence of the analyte cannot be verified

Method/Preparation/Field QC Blank Qualification Flags (Q-Flags)

Organic Methods

NA	The sample result for the blank contaminant is greater than the RL (2X sample RL for common laboratory contaminants) when the blank value is less than the RL. The sample result for the blank contaminant is not qualified with any blank qualifiers.
U*	The sample result for the blank contaminant is less than the RL (2X sample RL for common laboratory contaminants) but greater than the MDL when the blank value is less than the RL. The sample result for the blank contaminant is qualified as non-detect U at the reported concentration.
RL**	The sample result for the blank contaminant is less than the RL (2X sample RL for common laboratory contaminants) but greater than the MDL when the blank value is less than the RL. The sample result for the blank contaminant is changed to the RL and qualified as non-detect U.

* This guideline is used when the laboratory is reporting non-detects to the MDL. ** This guideline is used when the laboratory is reporting non-detects to the RL.

Inorganic Methods

ICB/CCB/PB Action:

No Action -	The sample result is greater than the RL and greater than ten times (10X) the blank value.
U -	The sample result is greater than or equal to the MDL but less than or equal to the RL, result is reported as non-detect at the reported concentration, when the ICB/CCB/PB result is less or greater than the RL.

Glossary of Qualification Flags and Abbreviations, continued

R -	Sample result is greater than the RL and less than the ICB/CCB/PB value when the ICB/CCB/PB value is greater than the RL.
J -	Sample result is greater than the ICB/CCB/PB value but less than 10X the ICB/CCB/PB value when ICB/CCB/PB value is greater than the RL.
J/UJ -	Sample result is less than 10X RL when blank result is below the negative RL.

Field QC Blank action:

Note – Use field blanks to qualify data only if field blank results are greater than prep blank results.

Do not use rinsate blank associated with soils to qualify water samples and vice versa.

No Action -	The sample result is greater than the RL and greater than ten times (10X) the blank value.
U -	The sample result is greater than or equal to the MDL but less than or equal to the RL, result is reported as non-detect at the reported concentration, when the FB result is less or greater than the RL.
R -	Sample result is greater than the RL and less than the FB value when the FB value is greater than the RL.
J -	Sample result is greater than the FB value but less than 10X the FB value when FB value is greater than the RL.

General Abbreviations

RL	reporting limit
IDL	instrument detection limit
MDL	method detection limit
CRDL	contract required detection limit
CRQL	contract required quantitation limit
+	positive result
-	non-detect result

TEST AMERICA SAVANNAH SDG 37125-1

DataQual

Environmental Services, LLC

Michael Baker, Jr., Inc.
Airside Business Park
100 Airside Drive
Moon Township, PA 15108

September 15, 2008
SDG# SWMU37125, Test America-Savannah
NAPR SWMU 74, Puerto Rico

Dear Mr. Kimes,

The following Data Validation report is provided as requested for the parameters noted in the table below for SDG # SWMU37125. The data validation was performed in accordance with the SW-846 methods utilized by the laboratory, the Region II Standard Operating Procedures for the Validation of Organic Data Acquired Using SW-846 Methods (8260B-Rev 2, January 2006- SOP #HW-24), and professional judgment. Region II has not developed a validation checklist SOP for the methods used to assess the inorganic methods in this SDG (SW-846 methods 6020B, 7471A) or the organic methods for hydrocarbons (SW-846 methods 8015_DRO and 8015_GRO). Therefore, alternative worksheets were provided. Region II flagging conventions were used. All areas of concern are discussed in the body of the report and a summary of data qualifications is provided.

Sample ID	Lab ID	Matrix	VOA App IX	DRO/GRO	GRO	Metals
74SB270-04	680-37125-1	soil	X	X		X
74SB270-05	680-37125-2	soil	X	X		X
74SB271-00	680-37125-3	soil	X	X		X
74SB271-03	680-37125-4	soil	X	X		X
74SB271-03D	680-37125-5	soil	X	X		X
74SB271-05	680-37125-6	soil	X	X		X
74SB272-04	680-37125-7	soil	X	X		X
74SB272-05	680-37125-8	soil	X	X		X
74SB273-04	680-37125-9	soil	X	X		X
74SB273-05	680-37125-10	soil	X	X		X
74SB274-03	680-37125-11	soil	X	X		X
74SB274-05	680-37125-12	soil	X	X		X
74SB279-03	680-37125-13	soil	X	X		X
74SB279-05	680-37125-14	soil	X	X		X
74SB283-02	680-37125-15	soil	X	X		X
74SB284-02	680-37125-16	soil	X	X		X
74SB284-05	680-37125-17	soil	X	X		X
74SB285-02	680-37125-18	soil	X	X		X
74SB285-05	680-37125-19	soil	X	X		X
74TB32	680-37125-20	soil	X		X	
74SB271-03 MS	680-37125-4MS	soil	X	X		X
74SB271-03 MSD	680-37125-4MSD	soil	X	X		X

The following quality control sample was provided with this SDG: sample 74SB271-03D -field duplicate of sample 74SB271-03D; and sample 74TB32-trip blank.

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The samples were evaluated based on the following criteria:

- Data Completeness *
- Sample Condition *
- Technical Holding Times *
- GC/MS Tuning *
- GC Performance *
- Initial/Continuing Calibrations
- ICSA/ICSAB Standards
- CRDL Standards *
- Blanks
- Internal Standards *
- Surrogate Recoveries *
- Laboratory Control Samples *
- Matrix Spike Recoveries
- Matrix Duplicate RPDs
- Serial Dilutions *
- Field Duplicates
- Identification/Quantitation *
- Reporting Limits *
- Tentatively Identified Compounds NA

* - indicates that qualifications were not required based on this criteria

Overall Evaluation of Data/Potential Usability Issues

A summary of qualifications applied to the sample results are noted below for the fractions validated. Specific details regarding qualification of the data are addressed in the Specific Evaluation section of this narrative. If an issue is not addressed there were no actions required based on unmet quality criteria. When more than one qualifier is associated with a compound/analyte the validator has chosen the qualifier that best indicates possible bias in the results and flagged the data accordingly. However, information regarding all quality control issues is provided in the body of the report and on the qualification summary page.

VOA

Due to high %D values, in the continuing calibrations, some compounds were qualified as estimated and rejected.

Blank contamination was noted in the method and QC blanks associated with samples in this batch. Qualifications were added to the data.

The associated matrix spike and matrix spike duplicate exhibited one compound with low recovery; therefore the results for this compound in the associated sample were qualified as estimated.

DRO/GRO

No qualifications to the data were required.

Metals

The ICSAB standards exhibited non-compliant recoveries above the QC limit for the analytes chromium and zinc. Based on Region II guidelines all positive results for chromium and zinc were qualified as estimated J.

Blank contamination was noted and qualification was required in the samples in this SDG.

The matrix spike pair exhibited required qualification for non-compliant recoveries in both the MS and the MSD for the analyte antimony. All results for antimony in the metals samples were qualified as estimated J/UJ.

The matrix duplicate analysis exhibited a non-compliant RPD for one analyte. All results for barium were qualified as estimated J/UJ.

The field duplicate pair exhibited non-compliant RPDs for two analytes. Zinc was qualified as estimated J and barium was rejected R in the field duplicate pair.

Specific Evaluation of Data

Data Completeness

The SDG was received complete and intact. Resubmissions were required not required. Clarification questions were asked of the laboratory regarding the metals fraction. A copy of the e-mail correspondence is included in the validation worksheets. Clarification questions were asked of the laboratory regarding the GRO/DRO fraction. A copy of these e-mail correspondences is included in the project file.

Technical Holding Times

According to chain of custody records, sampling was performed on 05/28/08 and samples were received at the laboratory 05/29/08. All sample preparation and analysis was performed within Region II and/or method holding time requirements.

Initial/Continuing Calibration

VOA

Calibration standards exhibited %Ds values that were non-compliant. A summary of these non-compliances and affected samples are noted in the following table. Sample results are qualified as indicated.

Standard ID	Compound(s)	RRF, %RSD, %D	Samples	Q Flag
CC 06/07/08	pentachloroethane	222.3%	all soil samples	J/R
	chloroethane acetone 2-butanone 1,1,1-trichloroethane carbon tetrachloride cis-1,3-dichloropropene 4-methyl-2-pentanone	33.6% 26.2% 27.6% 30.0% 29.0% 28.7% 44.2%		J/UJ
CC 06/08/08	pentachloroethane	100.6%	74TB32	J/R
	acrolein bromomethane 1,2-dichloroethane	57.7% 43.6% 21.8%		J/UJ

ICSA/ICSAB Standards

Metals

The ICSAB standards associated with the metals analysis exhibited non-compliant recoveries above the upper QC limit for the analytes chromium (126%/124%) and zinc (122%). Based on Region II guidelines, reported positive and non-detect results for chromium and zinc were qualified as estimated J/UJ in all samples.

Blanks

VOA

The associated method and/or QC blanks exhibited contamination as noted in the following table. Compounds for which there was no action required, are not included in the following table. Please note that the laboratory reported non-detect results down to the MDL for this project. Therefore, the blank flagging actions were modified as follows to take this into consideration. Positive results greater than the MDL but less than the CRQL are qualified as U at the reported concentration when affected by blank contamination.

Blank ID	Compound	Concentration	Reporting Limit	Action Level
Method Blank	acetone	7.9J ug/L	50 ug/L	2X RL
74ER18	acetone	8.4J ug/Kg	25 ug/Kg	2X RL
FB01	2-butanone	0.69J ug/L	10 ug/L	2X RL

Associated samples and required qualifications are noted in the following table.

Sample ID	Compound	Q Flag
74SB270-04, 74SB270-05, 74SB271-00, 74SB271-03, 74SB271-03D, 74SB272-04, 74SB272-05, 74SB273-04, 74SB273-05, 74SB274-03, 74SB274-05, 74SB279-03, 74SB279-05, 74SB283-02, 74SB284-02, 74SB284-05, 74SB285-02, 74SB285-05	acetone	U at reported value
74SB271-00	2-butanone	U at reported value

Metals

Associated blanks exhibited contamination as noted in the following table. The laboratory reported non-detect results to the MDL for this project. Therefore, the blank flagging actions were modified to take this into consideration. Please see the Glossary of Qualification Flags and Abbreviations for details.

Blank ID	Analyte	Concentration	Action Level	Q Flag
CCB	antimony	0.08220J ug/L	>MDL up to RL	U

Please note, when qualifying samples for CCB contamination, associated samples are those just prior to or just following a CCB. Therefore, not all analytes in all samples are flagged for CCB contamination.

Associated samples and required qualifications are noted in the following table.

Sample ID	Analyte	Q Flag
all samples >MDL up to RL	antimony	U

Matrix Spikes

VOA

The matrix spike and matrix spike duplicate associated with sample 74SB271-03 and duplicate 74SB271-03D exhibited low recoveries of 43% and 57% for styrene (QC limits 75-123%); therefore the compound was qualified as estimated (J/UJ).

Metals

The matrix spike pair submitted in this SDG exhibited non-compliant %R's for antimony, requiring qualification in the field samples. A summary of these non-compliances and affected samples are noted in the following table.

MS	Analytes	Samples	%R	Q Flag
74SB271-03	antimony	all samples	41/38	J/UJ

Matrix Duplicates

Metals

The matrix duplicate analysis submitted in this SDG exhibited a non-compliant %D for barium, requiring qualification in the field samples. A summary of these non-compliances and affected samples are noted in the following table.

MD	Analytes	Samples	%D	Q Flag
74SB271-03	barium	all samples	169.5	J/UJ

Field Duplicates

Metals

The field duplicate pair of samples 74SB271-03 and 74SB271-03D exhibited metals results that did not compare. The analyte zinc (48%) exhibited a RPD that was ≥35% but less than 120% and was qualified as estimated J in both samples. The analyte barium (162%) exhibited a RPD that was >120% and was rejected R in both samples.

A summary of qualifications required is provided on the following page. Please do not hesitate to contact DataQual ES with any questions regarding this validation report.

Sincerely,

Laura Maschhoff
President

Jacqueline Cleveland
Vice President

Summary of Data Qualifications

VOA

Sample ID	Compound	Results	Q flag
all soil samples	pentachloroethane	+/-	J/R
all soil samples	chloroethane acetone 2-butanone 1,1,1-trichloroethane carbon tetrachloride cis-1,3-dichloropropene 4-methyl-2-pentanone	+/-	J/UJ
74TB32	pentachloroethane	+/-	J/R
74TB32	acrolein bromomethane 1,2-dichloroethane	+/-	J/UJ
74SB270-04, 74SB270-05, 74SB271-00, 74SB271-03, 74SB271-03D, 74SB272-04, 74SB272-05, 74SB273-04, 74SB273-05, 74SB274-03, 74SB274-05, 74SB279-03, 74SB279-05, 74SB283-02, 74SB284-02, 74SB284-05, 74SB285-02, 74SB285-05	acetone	+	U at reported value
74SB271-00	2-butanone	+	U at reported value
74SB271-03, 74SB271-03D	styrene	+/-	J/UJ

DRO/GRO

Sample ID	Compound	Results	Q flag
No qualifications were required			

Metals

Sample ID	Analyte	Results	Q flag
all samples	chromium zinc	+	J
all samples >MDL up to RL	antimony	>MDL up to RL	U
all samples	antimony	+/-	J/UJ
all samples	barium	+/-	J/UJ
74SB271-03, 74SB271-03D	zinc	+	J
74SB271-03, 74SB271-03D	barium	+	R

Glossary of Qualification Flags and Abbreviations

Qualification Flags (Q-Flags)

U	not detected above the reported sample quantitation limit
J	estimated value
UJ	reported quantitation limit is qualified as estimated
N	analyte has been tentatively identified
JN	analyte has been tentatively identified, estimated value
R	result is rejected; the presence or absence of the analyte cannot be verified

Method/Preparation/Field QC Blank Qualification Flags (Q-Flags)

Organic Methods

NA	The sample result for the blank contaminant is greater than the RL (2X sample RL for common laboratory contaminants) when the blank value is less than the RL. The sample result for the blank contaminant is not qualified with any blank qualifiers.
U*	The sample result for the blank contaminant is less than the RL (2X sample RL for common laboratory contaminants) but greater than the MDL when the blank value is less than the RL. The sample result for the blank contaminant is qualified as non-detect U at the reported concentration.
RL**	The sample result for the blank contaminant is less than the RL (2X sample RL for common laboratory contaminants) but greater than the MDL when the blank value is less than the RL. The sample result for the blank contaminant is changed to the RL and qualified as non-detect U.

* This guideline is used when the laboratory is reporting non-detects to the MDL. ** This guideline is used when the laboratory is reporting non-detects to the RL.

Inorganic Methods

ICB/CCB/PB Action:

No Action -	The sample result is greater than the RL and greater than ten times (10X) the blank value.
U -	The sample result is greater than or equal to the MDL but less than or equal to the RL, result is reported as non-detect at the reported concentration, when the ICB/CCB/PB result is less or greater than the RL.

Glossary of Qualification Flags and Abbreviations, continued

R -	Sample result is greater than the RL and less than the ICB/CCB/PB value when the ICB/CCB/PB value is greater than the RL.
J -	Sample result is greater than the ICB/CCB/PB value but less than 10X the ICB/CCB/PB value when ICB/CCB/PB value is greater than the RL.
J/UJ -	Sample result is less than 10X RL when blank result is below the negative RL.

Field QC Blank action:

Note – Use field blanks to qualify data only if field blank results are greater than prep blank results.
Do not use rinsate blank associated with soils to qualify water samples and vice versa.

No Action -	The sample result is greater than the RL and greater than ten times (10X) the blank value.
U -	The sample result is greater than or equal to the MDL but less than or equal to the RL, result is reported as non-detect at the reported concentration, when the FB result is less or greater than the RL.
R -	Sample result is greater than the RL and less than the FB value when the FB value is greater than the RL.
J -	Sample result is greater than the FB value but less than 10X the FB value when FB value is greater than the RL.

General Abbreviations

RL	reporting limit
IDL	instrument detection limit
MDL	method detection limit
CRDL	contract required detection limit
CRQL	contract required quantitation limit
+	positive result
-	non-detect result

TEST AMERICA SAVANNAH SDG 37178-1

DataQual

Environmental Services, LLC

Michael Baker, Jr., Inc.
Airside Business Park
100 Airside Drive
Moon Township, PA 15108

September 15, 2008
SDG# SWMU37178-1, Test America-Savannah
NAPR SWMU 74, Puerto Rico

Dear Mr. Kimes,

The following Data Validation report is provided as requested for the parameters noted in the table below for SDG # SWMU37178-1. The data validation was performed in accordance with the SW-846 methods utilized by the laboratory, the Region II Standard Operating Procedures for the Validation of Organic Data Acquired Using SW-846 Methods (8260B-Rev 2, January 2006- SOP #HW-24), and professional judgment. Region II has not developed a validation checklist SOP for the methods used to assess the inorganic methods in this SDG (SW-846 methods 6020B, 7471A) or the organic methods for hydrocarbons (SW-846 methods 8015_DRO and 8015_GRO). Therefore, alternative worksheets were provided. Region II flagging conventions were used. All areas of concern are discussed in the body of the report and a summary of data qualifications is provided.

Sample ID	Lab ID	Matrix	VOA App IX	DRO/GRO	Metals
74SB275-03	680-37178-1	soil	X	X	X
74SB275-03D	680-37178-2	soil	X	X	X
74SB277-02	680-37178-3	soil	X	X	X
74SB278-03	680-37178-4	soil	X	X	X
74SB280-02	680-37178-5	soil	X	X	X
74SB280-05	680-37178-6	soil	X	X	X
74SB281-00	680-37178-7	soil	X	X	X
74SB281-02	680-37178-8	soil	X	X	X
74SB281-05	680-37178-9	soil	X	X	X
74SB281-05D	680-37178-10	soil	X	X	X
74SB282-02	680-37178-11	soil	X	X	X
74SB282-05	680-37178-12	soil	X	X	X
74SB281-05 MS	680-37178-9MS	soil	X	X	X
74SB281-05 MSD	680-37178-9MSD	soil	X	X	X

The following quality control sample was provided with this SDG: sample 74SB275-03D -field duplicate of sample 74SB275-03; and sample 74SB281-05D-field duplicate of sample 74SB281-05.

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The samples were evaluated based on the following criteria:

- Data Completeness *
- Sample Condition *
- Technical Holding Times *
- GC/MS Tuning *
- GC Performance *
- Initial/Continuing Calibrations
- ICSA/ICSAB Standards
- CRDL Standards *
- Blanks
- Internal Standards *
- Surrogate Recoveries *
- Laboratory Control Samples *
- Matrix Spike Recoveries
- Matrix Duplicate RPDs *
- Serial Dilutions
- Field Duplicates
- Identification/Quantitation *
- Reporting Limits *
- Tentatively Identified Compounds NA

* - indicates that qualifications were not required based on this criteria

Overall Evaluation of Data/Potential Usability Issues

A summary of qualifications applied to the sample results are noted below for the fractions validated. Specific details regarding qualification of the data are addressed in the Specific Evaluation section of this narrative. If an issue is not addressed there were no actions required based on unmet quality criteria. When more than one qualifier is associated with a compound/analyte the validator has chosen the qualifier that best indicates possible bias in the results and flagged the data accordingly. However, information regarding all quality control issues is provided in the body of the report and on the qualification summary page.

VOA

Due to high %D and low RRF values, in the continuing calibrations, some compounds were qualified as estimated and rejected.

Blank contamination was noted in the method and QC blanks associated with samples in this batch. Qualifications were added to the data.

DRO/GRO

Two samples analyzed for GRO required qualification due to low MS/MSD recoveries.

Metals

The ICSAB standards exhibited non-compliant recoveries below the QC limit for the analyte silver. Based on Region II guidelines all positive and non-detect results for silver were qualified as estimated J/UJ.

Blank contamination was noted and qualification was required in the samples in this SDG.

The matrix spike pair exhibited required qualification for non-compliant recoveries in both the MS and the MSD for the analyte antimony. All results for antimony in the metals samples were qualified as estimated J/UJ.

The serial dilution analysis exhibited a non-compliant %D for one analyte. All results for zinc were qualified as estimated J/UJ.

The field duplicate pairs exhibited non-compliant RPDs. Barium and zinc were qualified as estimated in one or both of the field duplicate pairs.

Specific Evaluation of Data

Data Completeness

The SDG was received complete and intact. Resubmissions were not required. Clarification questions were asked of the laboratory regarding the metals fraction. A copy of the e-mail correspondence is included in the validation worksheets. Clarification questions were asked of the laboratory regarding the GRO/DRO fraction. A copy of these e-mail correspondences is included in the project file.

Technical Holding Times

According to chain of custody records, sampling was performed on 05/28-29/08 and samples were received at the laboratory 05/30/08. All sample preparation and analysis was performed within Region II and/or method holding time requirements.

Initial/Continuing Calibration

VOA

Calibration standards exhibited %Ds and RRF values that were non-compliant. A summary of these non-compliances and affected samples are noted in the following table. Sample results are qualified as indicated.

Standard ID	Compound(s)	RRF, %RSD, %D	Samples	Q Flag
CC 06/09/08	isobutyl alcohol pentachloroethane	0.04323 177.6%	all samples	J/R
	acetonitrile acrylonitrile propionitrile methacrylonitrile methyl methacrylate trans-1,4-dichloro-2-butene chloroethane acetone 2-butanone 1,1,1-trichloroethane carbon tetrachloride cis-1,3-dichloropropene 4-methyl-2-pentanone	25.0% 28.0% 27.9% 21.0% 23.4% 24.1% 42.1% 29.7% 28.7% 30.7% 27.9% 27.1% 46.0%		J/UJ

ICSA/ICSAB Standards

Metals

The ICSAB standards associated with the metals analysis exhibited non-compliant recoveries less than the lower QC limit for the analyte silver (79%). Based on Region II guidelines, reported positive and non-detect results for silver were qualified as estimated J/UJ in all samples.

Blanks

VOA

The associated method and/or QC blanks exhibited contamination as noted in the following table. Compounds for which there was no action required, are not included in the following table. Please note that the laboratory reported non-detect results down to the MDL for this project. Therefore, the blank flagging actions were modified as follows to take this into consideration. Positive results greater than the MDL but less than the CRQL are qualified as U at the reported concentration when affected by blank contamination.

Blank ID	Compound	Concentration	Reporting Limit	Action Level
74ER18	acetone	8.4J ug/Kg	25 ug/Kg	2X RL
FB01	2-butanone	0.69J ug/L	10 ug/L	2X RL

Associated samples and required qualifications are noted in the following table.

Sample ID	Compound	Q Flag
74SB275-03, 74SB275-03D, 74SB277-02, 74SB278-03, 74SB280-02, 74SB280-05, 74SB281-00, 74SB281-00, 74SB282-02, 74SB282-05	acetone	U at reported value
74SB281-00	2-butanone	U at reported value

Metals

Associated blanks exhibited contamination as noted in the following table. The laboratory reported non-detect results to the MDL for this project. Therefore, the blank flagging actions were modified to take this into consideration. Please see the Glossary of Qualification Flags and Abbreviations for details.

Blank ID	Analyte	Concentration	Action Level	Q Flag
CCB	cadmium	0.048J ug/L	>MDL up to RL	U
	selenium	0.155J ug/L	> MDL up to RL	U

Please note, when qualifying samples for CCB contamination, associated samples are those just prior to or just following a CCB. Therefore, not all analytes in all samples are flagged for CCB contamination.

Associated samples and required qualifications are noted in the following table.

Sample ID	Analyte	Q Flag
all samples >MDL up to RL	cadmium	U
all samples >MDL up to RL	selenium	U

Matrix Spikes

DRO/GRO

The MS/MSD pair of sample 74SB281-05 exhibited low recoveries for GRO in both spikes (24%/21%). The reported non-detect results for GRO in the samples 74SB281-05 and 74SB281-05D were qualified as estimated UJ.

Metals

The matrix spikes pair submitted in this SDG exhibited non-compliant %R's for antimony, requiring qualification in the field samples. A summary of these non-compliances and affected samples are noted in the following table.

MS	Analytes	Samples	%R	Q Flag
74SB281-05	antimony	all samples	50/50	J/UJ

Serial Dilution

Metals

The serial dilution submitted in this SDG exhibited a non-compliant %D for one analyte, requiring qualification in the field samples. A summary of these non-compliances and affected samples are noted in the following table.

SD	Analytes	Samples	%D	Q Flag
74SB281-05	zinc	all samples	11.3	J/UJ

Field Duplicates

Metals

The field duplicate pair of samples 74SB275-03 and 74SB275-03D exhibited metals results that did not compare. The analytes barium (78%) and zinc (44%) exhibited RPDs that were ≥35% but less than 120% and was qualified as estimated J in both samples.

The field duplicate pair of samples 74SB281-05 and 74SB281-05D exhibited metals results that did not compare. The analyte barium (46%) exhibited a RPD that was ≥35% but less than 120% and was qualified as estimated J in both samples.

A summary of qualifications required is provided on the following page. Please do not hesitate to contact DataQual ES with any questions regarding this validation report.

Sincerely,

Laura Maschhoff
President

Jacqueline Cleveland
Vice President

Summary of Data Qualifications

VOA

Sample ID	Compound	Results	Q flag
all samples	isobutyl alcohol pentachloroethane	+/-	J/R
all samples	acetonitrile acrylonitrile propionitrile methacrylonitrile methyl methacrylate trans-1,4-dichloro-2-butene chloroethane acetone 2-butanone 1,1,1-trichloroethane carbon tetrachloride cis-1,3-dichloropropene 4-methyl-2-pentanone	+/-	J/UJ
74SB275-03, 74SB275-03D, 74SB277-02, 74SB278-03, 74SB280-02, 74SB280-05, 74SB281-00, 74SB281-00, 74SB282-02, 74SB282-05	acetone	+	U at reported value
74SB281-00	2-butanone	+	U at reported value

DRO/GRO

Sample ID	Compound	Results	Q flag
74SB281-05, 74SB281-05D	GRO	-	UJ

Metals

Sample ID	Analyte	Results	Q flag
all samples	silver	+/-	J/UJ
all samples	cadmium	>MDL up to RL	U
all samples	selenium	>MDL up to RL	U
all samples	antimony	+/-	J/UJ
all samples	zinc	+/-	J/UJ
74SB275-03, 74SB275-03D	barium zinc	+	J
74SB281-05, 74SB281-05D	barium	+	J

Glossary of Qualification Flags and Abbreviations

Qualification Flags (Q-Flags)

U	not detected above the reported sample quantitation limit
J	estimated value
UJ	reported quantitation limit is qualified as estimated
N	analyte has been tentatively identified
JN	analyte has been tentatively identified, estimated value
R	result is rejected; the presence or absence of the analyte cannot be verified

Method/Preparation/Field QC Blank Qualification Flags (Q-Flags)

Organic Methods

NA	The sample result for the blank contaminant is greater than the RL (2X sample RL for common laboratory contaminants) when the blank value is less than the RL. The sample result for the blank contaminant is not qualified with any blank qualifiers.
U*	The sample result for the blank contaminant is less than the RL (2X sample RL for common laboratory contaminants) but greater than the MDL when the blank value is less than the RL. The sample result for the blank contaminant is qualified as non-detect U at the reported concentration.
RL**	The sample result for the blank contaminant is less than the RL (2X sample RL for common laboratory contaminants) but greater than the MDL when the blank value is less than the RL. The sample result for the blank contaminant is changed to the RL and qualified as non-detect U.

* This guideline is used when the laboratory is reporting non-detects to the MDL. ** This guideline is used when the laboratory is reporting non-detects to the RL.

Inorganic Methods

ICB/CCB/PB Action:

No Action -	The sample result is greater than the RL and greater than ten times (10X) the blank value.
U -	The sample result is greater than or equal to the MDL but less than or equal to the RL, result is reported as non-detect at the reported concentration, when the ICB/CCB/PB result is less or greater than the RL.

Glossary of Qualification Flags and Abbreviations, continued

R -	Sample result is greater than the RL and less than the ICB/CCB/PB value when the ICB/CCB/PB value is greater than the RL.
J -	Sample result is greater than the ICB/CCB/PB value but less than 10X the ICB/CCB/PB value when ICB/CCB/PB value is greater than the RL.
J/UJ -	Sample result is less than 10X RL when blank result is below the negative RL.

Field QC Blank action:

Note – Use field blanks to qualify data only if field blank results are greater than prep blank results.
Do not use rinsate blank associated with soils to qualify water samples and vice versa.

No Action -	The sample result is greater than the RL and greater than ten times (10X) the blank value.
U -	The sample result is greater than or equal to the MDL but less than or equal to the RL, result is reported as non-detect at the reported concentration, when the FB result is less or greater than the RL.
R -	Sample result is greater than the RL and less than the FB value when the FB value is greater than the RL.
J -	Sample result is greater than the FB value but less than 10X the FB value when FB value is greater than the RL.

General Abbreviations

RL	reporting limit
IDL	instrument detection limit
MDL	method detection limit
CRDL	contract required detection limit
CRQL	contract required quantitation limit
+	positive result
-	non-detect result

TEST AMERICA SAVANNAH SDG 37226-4

DataQual

Environmental Services, LLC

Michael Baker, Jr., Inc.
Airside Business Park
100 Airside Drive
Moon Township, PA 15108

September 15, 2008
SDG# SWMU37226-4, Test America-Savannah
NAPR SWMU 74, Puerto Rico

Dear Mr. Kimes,

The following Data Validation report is provided as requested for the parameters noted in the table below for SDG # SWMU37226-4. The data validation was performed in accordance with the SW-846 methods utilized by the laboratory, the Region II Standard Operating Procedures for the Validation of Organic Data Acquired Using SW-846 Methods (8260B-Rev 2, January 2006- SOP #HW-24 and 8270D-Rev 3, October 2006- SOP #HW-22), and professional judgment. Region II has not developed a validation checklist SOP for the methods used to assess the inorganic methods in this SDG (SW-846 methods 6020B, 7470A) or the organic methods for hydrocarbons (SW-846 methods 8015_DRO and 8015_GRO). Therefore, alternative worksheets were provided. Region II flagging conventions were used. All areas of concern are discussed in the body of the report and a summary of data qualifications is provided.

Sample ID	Lab ID	Matrix	VOA App IX	LL-PAH	DRO	GRO	DRO/GRO	TMetals	DMetals
74UGW04VP24	680-37226-28	water	X	X			X	X	X
74GWM2-2VP56	680-37226-29	water	X	X			X	X	X
74GW12VP56	680-37226-30	water	X	X			X	X	X
74GW12VP56D	680-37226-31	water	X	X			X	X	X
74GWVP6BA	680-37226-32	water						X	X
74GW145	680-37226-33	water							X
74GWVP3a/9	680-37226-34	water							X
74GWVP1Ab/9	680-37226-35	water			X			X	X
74GWVP1Ba/9	680-37226-36	water			X			X	X
74GWVP6Bb	680-37226-37	water	X				X	X	X
74GW05a	680-37226-38	water	X			X			
74GW256	680-37226-39	water	X	X			X	X	X
74GW12VP56 MS	680-37226-30MS	water	X	X			X	X	X
74GW12VP56 MSD	680-37226-30MSD	water	X	X			X	X	X

The following quality control sample was provided with this SDG: sample 74GW12VP56D-field duplicate of sample 74GW12VP56.

The samples were evaluated based on the following criteria:

- Data Completeness *
- Sample Condition *

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- Technical Holding Times *
- GC/MS Tuning *
- GC Performance *
- Initial/Continuing Calibrations
- ICSA/ICSAB Standards
- CRDL Standards *
- Blanks
- Internal Standards *
- Surrogate Recoveries *
- Laboratory Control Samples
- Matrix Spike Recoveries *
- Matrix Duplicate RPDs *
- Serial Dilutions *
- Field Duplicates *
- Identification/Quantitation
- Reporting Limits *
- Tentatively Identified Compounds NA

* - indicates that qualifications were not required based on this criteria

Overall Evaluation of Data/Potential Usability Issues

A summary of qualifications applied to the sample results are noted below for the fractions validated. Specific details regarding qualification of the data are addressed in the Specific Evaluation section of this narrative. If an issue is not addressed there were no actions required based on unmet quality criteria. Please note that the reviewer added an F to the sample ID to indicate dissolved metals analysis when necessary. When more than one qualifier is associated with a compound/analyte the validator has chosen the qualifier that best indicates possible bias in the results and flagged the data accordingly. However, information regarding all quality control issues is provided in the body of the report and on the qualification summary page.

VOA

The initial calibration exhibited some compounds with low RRF values, which resulted in qualifying non-detected values as rejected for these compounds. Due to high %D values, in the continuing calibrations, some compounds were qualified as estimated.

Blank contamination was noted in the QC blanks associated with samples in this batch. Qualifications were added to the data.

One of the laboratory control samples exhibited high recovery for one compound that resulted in qualifications for associated samples.

LL-PAH

One sample exhibited high surrogate recoveries that resulted in qualifying all positive results as estimated. Two samples exhibited low surrogate recoveries that resulted in qualifications.

Two samples required dilutions to obtain results within the calibration range.

DRO/GRO

Blank contamination was noted and qualification was required in the samples in this SDG.

Two samples analyzed for GRO required qualification due to high surrogate recoveries.

The field duplicate pair of samples 74SB05-01 and 74SB05-01D exhibited GRO results that did not compare. The field sample exhibited a non-detect result and the duplicate exhibited a result that was well above the reporting limit. The reported results for GRO in this field duplicate pair were qualified as estimated J/UJ.

Metals

The ICSAB standards associated with the total metals analysis exhibited non-compliant recoveries above the QC limit for the analytes chromium (126/124/122) and zinc (122). Based on Region II guidelines all positive results for chromium and zinc in the total metals samples were qualified as estimated J. The ICSAB standards associated with the dissolved metals analysis exhibited non-compliant recoveries below the QC limit for the analyte antimony (79). Based on Region II guidelines all positive and non-detect results for antimony in the dissolved metals samples were qualified as estimated J/UJ.

Blank contamination was noted and qualification was required in the samples in this SDG.

The total/dissolved metals analysis comparison exhibited %Ds greater than 20% but less than or equal to 50% for one analyte in two pairs and a %D greater than 50% for one analyte in three pairs. These analytes were qualified as estimated or rejected in the associated sample pair based on Region II guidelines.

Specific Evaluation of Data

Data Completeness

The SDG was received complete and intact. Resubmissions were required not required. Clarification questions were asked of the laboratory regarding the metals fraction. A copy of the e-mail correspondence is included in the validation worksheets. Clarification

questions were asked of the laboratory regarding the GRO/DRO fraction. A copy of these e-mail correspondences is included in the project file.

Technical Holding Times

According to chain of custody records, sampling was performed on 05/29-30/08 and samples were received at the laboratory 05/31/08. All sample preparation and analysis was performed within Region II and/or method holding time requirements.

Initial/Continuing Calibration

VOA

Calibration standards exhibited %Ds and RRF values that were non-compliant. A summary of these non-compliances and affected samples are noted in the following table. Sample results are qualified as indicated.

Standard ID	Compound(s)	RRF, %RSD, %D	Samples	Q Flag
IC 05/07/08	isobutyl alcohol	0.0489	74GW12VP56D, 74GWVP6Bb, 74GW05a, 74GW256	J/R
CC 06/09/08	pentachloroethane	93.3%	74GW12VP56D, 74GWVP6Bb, 74GW05a, 74GW256	J/R
	acrolein chloromethane bromomethane vinyl acetate cis-1,3-dichloropropene trans-1,3-dichloropropene 1,2-dibromo-3-chloropropane 1,2,3-trichlorobenzene	42.2% 20.7%, 38.7%, 24.3%, 23.3%, 23.7% 37.6, 20.5%		J/UJ
CC 06/11/08	pentachloroethane	107.5%	74UGW04VP24, 74GW2-2VP56, 74GW12VP56	J/R
	acrolein propionitrile isobutyl alcohol	63.1% 20.9% 34.0%		J/UJ

ICSA/ICSAB Standards

Metals

The ICSAB standards associated with the total metals analysis exhibited non-compliant recoveries greater than the upper QC limit for the analytes chromium (126%/124%/122%) and zinc (122%). Based on Region II guidelines, reported positive results for chromium and zinc were qualified as estimated J/UJ in all total metals samples.

The ICSAB standards associated with the dissolved metals analysis exhibited non-compliant recoveries less than the lower QC limit for the analyte silver (79%). Based on Region II guidelines, reported positive and non-detect results for silver were qualified as estimated J/UJ in all dissolved metals samples.

Blanks

VOA

The associated method and/or QC blanks exhibited contamination as noted in the following table. Compounds for which there was no action required, are not included in the following table. Please note that the laboratory reported non-detect results down to the MDL for this project. Therefore, the blank flagging actions were modified as follows to take this into consideration. Positive results greater than the MDL but less than the CRQL are qualified as U at the reported concentration when affected by blank contamination.

Blank ID	Compound	Concentration	Reporting Limit	Action Level
74ER21	acetone	7.0J ug/L	25 ug/L	2X RL
FB01	2-butanone	0.69J ug/L	10 ug/L	2X RL

Associated samples and required qualifications are noted in the following table.

Sample ID	Compound	Q Flag
74GW05a, 74GW256	acetone	U at reported value
74GWVP6Bb, 74GW05a	2-butanone	U at reported value

Metals

Associated blanks exhibited contamination as noted in the following table. The laboratory reported non-detect results to the MDL for this project. Therefore, the blank flagging actions were modified to take this into consideration. Please see the Glossary of Qualification Flags and Abbreviations for details.

Blank ID	Analyte	Concentration	Action Level	Q Flag
PBLK – TM	arsenic	0.5435J ug/L	>MDL up to RL	U
	vanadium	0.9175J ug/L	> MDL up to RL	U
CCB – TM	antimony	0.07563J ug/L	> MDL up to RL	U
PBLK - DM	arsenic	0.3342J ug/L	>MDL up to RL	U
ICB – DM	antimony	0.08160J ug/L	>MDL up to RL	U
FB01	lead	0.38J ug/L	> MDL up to RL	U
	copper	2.1J ug/L	> MDL up to RL	U
74ER21	vanadium	1.1J ug/L	> MDL up to RL	U

Please note, when qualifying samples for CCB contamination, associated samples are those just prior to or just following a CCB. Therefore, not all analytes in all samples are flagged for CCB contamination.

Associated samples and required qualifications are noted in the following table.

Sample ID	Analyte	Q Flag
all samples >MDL up to RL	arsenic	U
all samples >MDL up to RL	antimony	U
all samples >MDL up to RL	copper	U
all samples >MDL up to RL	lead	U
all samples >MDL up to RL	vanadium	U

Surrogate Recoveries

LL PAH

Sample 74GW256 exhibited high recovery for o-terphenyl with 131% recovery (QC limit 44-123%); therefore all positive results were qualified as estimated (J).

Sample 74GW12VP56 exhibited zero percent recovery for surrogate o-terphenyl. All positive results were qualified as estimated (J) and non-detected results were qualified as rejected (R). This sample was analyzed at a 1:10 dilution; however since associated matrix spike and matrix spike duplicate were also ran at a 1:10 dilution and acceptable surrogate recoveries were exhibited the sample has been qualified.

Sample 74GWM2-2VP56DL exhibited zero percent recovery for surrogate o-terphenyl. All positive results were qualified as estimated (J) and non-detected results were qualified as rejected (R). This sample was analyzed at a 1:10 dilution; since other samples were analyzed at this dilution and exhibited surrogate recoveries the sample was qualified.

Laboratory Control Samples

VOA

The laboratory control sample associated with samples 74GW05A and 74GW256 exhibited high recovery for carbon disulfide at 137% (QC limit 55-131%); therefore the positive results for this compound were qualified as estimated (J).

Identification/Quantitation

LL PAH

Sample 74GWM2-2VP56 exhibited above calibration range results for 1-methylnaphthalene and 2-methylnaphthalene; therefore results for these compounds were used from the corresponding dilution.

Sample 74GW12VP56 exhibited above calibration range results for 1-methylnaphthalene, 2-methylnaphthalene and naphthalene; therefore results for these compounds were used from the corresponding dilution.

Metals

The total and dissolved metals analysis exhibited %Ds >20% but less than or equal to 50% for one analyte and greater than 50% for one analyte. Elements exhibiting >20% but less than or equal to 50% difference between total and dissolved concentrations were qualified as estimated J and elements exhibiting >50% difference were rejected based on the Region II guidelines. Specific action is noted in the following table.

Sample ID	Analyte	%D	Q Flag
74UGW04VP24, 74IUGW04VP24F	cobalt	150%	R
74GWM2-2VP56, 74GWM2-2VP56F	cobalt	137%	R
74GW12VP56, 74GW12VP56F	cobalt	26%	J
74GW12VP56D, 74GW12VP56DF	cobalt	55%	R
74GWVP1Ba/9, 74GWVP1Ba/9F	cobalt	26%	J

A summary of qualifications required is provided on the following page. Please do not hesitate to contact DataQual ES with any questions regarding this validation report.

Sincerely,

Laura Maschhoff
President

Summary of Data Qualifications

VOA

Sample ID	Compound	Results	Q flag
74GW12VP56D, 74GWVP6Bb, 74GW05a, 74GW256	isobutyl alcohol	+/-	J/R
74GW12VP56D, 74GWVP6Bb, 74GW05a, 74GW256	pentachloroethane	+/-	J/R
74GW12VP56D, 74GWVP6Bb, 74GW05a, 74GW256	acrolein chloromethane bromomethane vinyl acetate cis-1,3-dichloropropene trans-1,3-dichloropropene 1,2-dibromo-3-chloropropane 1,2,3-trichlorobenzene	+/-	J/UJ
74UGW04VP24, 74GW2-2VP56, 74GW12VP56	pentachloroethane	+/-	J/R
74UGW04VP24, 74GW2-2VP56, 74GW12VP56	acrolein propionitrile isobutyl alcohol	+/-	J/UJ
74GW05a, 74GW256	acetone	+	U at reported value
74GWVP6Bb, 74GW05a	2-butanone	+	U at reported value
74GW05A, 74GW256	carbon disulfide	+	J

PAH

Sample ID	Compound	Results	Q flag
74GW256	all results	+	J
74GW12VP56, 74GWM2-2VP56DL	all results	+/-	J/R
74GWM2-2VP56	1-methylnaphthalene, 2-methylnaphthalene	+	R
74GWM2-2VP56DL	all results except 1-methylnaphthalene, 2-methylnaphthalene	+/-	R
74GW12VP56	1-methylnaphthalene, 2-methylnaphthalene, naphthalene	+	R
74GW12VP56DL	all results except 1-methylnaphthalene, 2-methylnaphthalene, naphthalene	+/-	R

Summary of Data Qualifications, continued

DRO/GRO

Sample ID	Compound	Results	Q flag
No qualifications were required			

Metals

Sample ID	Analyte	Results	Q flag
all total metals samples	chromium zinc	+	J
all dissolved metals samples	silver	+/-	J/UJ
all field samples	arsenic	>MDL up to RL	U
all field samples	antimony	>MDL up to RL	U
all field samples	vanadium	>MDL up to RL	U
all field samples	copper	>MDL up to RL	U
all field samples	lead	>MDL up to RL	U
74UGW04VP24, 74IUGW04VP24F	cobalt	+	R
74GWM2-2VP56, 74GWM2-2VP56F	cobalt	+	R
74GW12VP56, 74GW12VP56F	cobalt	+	J
74GW12VP56D, 74GW12VP56DF	cobalt	+	R
74GWVP1Ba/9, 74GWVP1Ba/9F	cobalt	+	J

Glossary of Qualification Flags and Abbreviations

Qualification Flags (Q-Flags)

U	not detected above the reported sample quantitation limit
J	estimated value
UJ	reported quantitation limit is qualified as estimated
N	analyte has been tentatively identified
JN	analyte has been tentatively identified, estimated value
R	result is rejected; the presence or absence of the analyte cannot be verified

Method/Preparation/Field QC Blank Qualification Flags (Q-Flags)

Organic Methods

NA	The sample result for the blank contaminant is greater than the RL (2X sample RL for common laboratory contaminants) when the blank value is less than the RL. The sample result for the blank contaminant is not qualified with any blank qualifiers.
U*	The sample result for the blank contaminant is less than the RL (2X sample RL for common laboratory contaminants) but greater than the MDL when the blank value is less than the RL. The sample result for the blank contaminant is qualified as non-detect U at the reported concentration.
RL**	The sample result for the blank contaminant is less than the RL (2X sample RL for common laboratory contaminants) but greater than the MDL when the blank value is less than the RL. The sample result for the blank contaminant is changed to the RL and qualified as non-detect U.

* This guideline is used when the laboratory is reporting non-detects to the MDL. ** This guideline is used when the laboratory is reporting non-detects to the RL.

Inorganic Methods

ICB/CCB/PB Action:

No Action -	The sample result is greater than the RL and greater than ten times (10X) the blank value.
U -	The sample result is greater than or equal to the MDL but less than or equal to the RL, result is reported as non-detect at the reported concentration, when the ICB/CCB/PB result is less or greater than the RL.

Glossary of Qualification Flags and Abbreviations, continued

R -	Sample result is greater than the RL and less than the ICB/CCB/PB value when the ICB/CCB/PB value is greater than the RL.
J -	Sample result is greater than the ICB/CCB/PB value but less than 10X the ICB/CCB/PB value when ICB/CCB/PB value is greater than the RL.
J/UJ -	Sample result is less than 10X RL when blank result is below the negative RL.

Field QC Blank action:

Note – Use field blanks to qualify data only if field blank results are greater than prep blank results.
Do not use rinsate blank associated with soils to qualify water samples and vice versa.

No Action -	The sample result is greater than the RL and greater than ten times (10X) the blank value.
U -	The sample result is greater than or equal to the MDL but less than or equal to the RL, result is reported as non-detect at the reported concentration, when the FB result is less or greater than the RL.
R -	Sample result is greater than the RL and less than the FB value when the FB value is greater than the RL.
J -	Sample result is greater than the FB value but less than 10X the FB value when FB value is greater than the RL.

General Abbreviations

RL	reporting limit
IDL	instrument detection limit
MDL	method detection limit
CRDL	contract required detection limit
CRQL	contract required quantitation limit
+	positive result
-	non-detect result

TEST AMERICA SAVANNAH SDG 37251-3

DataQual

Environmental Services, LLC

Michael Baker, Jr., Inc.
Airside Business Park
100 Airside Drive
Moon Township, PA 15108

September 29, 2008
SDG# SWMU37251-3, Test America-Savannah
NAPR SWMU 62, Puerto Rico

Dear Mr. Kimes,

The following Data Validation report is provided as requested for the parameters noted in the table below for SDG # SWMU37251-3. The data validation was performed in accordance with the SW-846 methods utilized by the laboratory, the Region II Standard Operating Procedures for the Validation of Organic Data Acquired Using SW-846 Methods (8260B-Rev 2, January 2006- SOP #HW-24 and 8270D-Rev 3, October 2006-SOP #HW-22), and professional judgment. Region II has not developed a validation checklist SOP for the methods used to assess the inorganic methods in this SDG (SW-846 methods 6020B, 7470A) or the organic methods for hydrocarbons (SW-846 methods 8015_DRO and 8015_GRO). Therefore, alternative worksheets were provided. Region II flagging conventions were used. All areas of concern are discussed in the body of the report and a summary of data qualifications is provided.

Sample ID	Lab ID	Matrix	VOA App IX	LL PAH	DRO/GRO	GRO	Metals
62TB01	680-37251-20	water	X				
ER23	680-37251-21	water	X	X	X		X
62TB03	680-37251-33	water	X			X	

The samples were evaluated based on the following criteria:

- Data Completeness *
- Sample Condition *
- Technical Holding Times *
- GC/MS Tuning *
- GC Performance *
- Initial/Continuing Calibrations
- ICSA/ICSAB Standards
- CRDL Standards *
- Blanks *
- Internal Standards *
- Surrogate Recoveries *
- Laboratory Control Samples *
- Matrix Spike Recoveries NA
- Matrix Duplicate RPDs NA

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- Serial Dilutions *
- Field Duplicates NA
- Identification/Quantitation *
- Reporting Limits *
- Tentatively Identified Compounds NA

* - indicates that qualifications were not required based on this criteria

Overall Evaluation of Data/Potential Usability Issues

A summary of qualifications applied to the sample results are noted below for the fractions validated. Specific details regarding qualification of the data are addressed in the Specific Evaluation section of this narrative. If an issue is not addressed there were no actions required based on unmet quality criteria. When more than one qualifier is associated with a compound/analyte the validator has chosen the qualifier that best indicates possible bias in the results and flagged the data accordingly. However, information regarding all quality control issues is provided in the body of the report and on the qualification summary page.

VOA

Due to high %D values, in the continuing calibrations, some compounds were qualified as estimated.

LL-PAH

No qualifications to the data were required.

DRO/GRO

No qualifications to the data were required.

Metals

No qualifications to the data were required.

Specific Evaluation of Data

Data Completeness

The SDG was received complete and intact. Resubmissions were not required. Clarification questions were asked of the laboratory regarding the metals fraction. A copy of the e-mail correspondence is included in the validation worksheets. Clarification

questions were asked of the laboratory regarding the GRO/DRO fraction. A copy of these e-mail correspondences is included in the project file.

Technical Holding Times

According to chain of custody records, sampling was performed on 05/31-06/01/08 and samples were received at the laboratory 06/03/08. All sample preparation and analysis was performed within Region II and/or method holding time requirements.

Initial/Continuing Calibration

VOA

Calibration standards exhibited %Ds values that were non-compliant. A summary of these non-compliances and affected samples are noted in the following table. Sample results are qualified as indicated.

Standard ID	Compound(s)	RRF, %RSD, %D	Samples	Q Flag
CC 06/08/08	pentachloroethane	103.2%	all samples	J/R
	acrolein	50.5%		J/UJ
	chloromethane	31.1%		
	bromomethane	50.2%		
	chloroethane	26.3%		
	trichlorofluoromethane	21.3%		
	cis-1,3-dichloropropene	21.8%		
	trans-1,3-dichloropropene	21.1%		
	1,2-dibromo-3-chloropropane	30.3%		

A summary of qualifications required is provided on the following page. Please do not hesitate to contact DataQual ES with any questions regarding this validation report.

Sincerely,

Laura Maschhoff
President

Jacqueline Cleveland
Vice President

Summary of Data Qualifications

VOA

Sample ID	Compound	Results	Q flag
all samples	pentachloroethane	+/-	J/R
all samples	acrolein chloromethane bromomethane chloroethane trichlorofluoromethane cis-1,3-dichloropropene trans-1,3-dichloropropene 1,2-dibromo-3-chloropropane	+/-	J/UJ

LL PAH

Sample ID	Compound	Results	Q flag
No qualifications			

DRO/GRO

Sample ID	Compound	Results	Q flag
No qualifications			

Metals

Sample ID	Analyte	Results	Q flag
No qualifications			

Glossary of Qualification Flags and Abbreviations

Qualification Flags (Q-Flags)

U	not detected above the reported sample quantitation limit
J	estimated value
UJ	reported quantitation limit is qualified as estimated
N	analyte has been tentatively identified
JN	analyte has been tentatively identified, estimated value
R	result is rejected; the presence or absence of the analyte cannot be verified

Method/Preparation/Field QC Blank Qualification Flags (Q-Flags)

Organic Methods

NA	The sample result for the blank contaminant is greater than the RL (2X sample RL for common laboratory contaminants) when the blank value is less than the RL. The sample result for the blank contaminant is not qualified with any blank qualifiers.
U*	The sample result for the blank contaminant is less than the RL (2X sample RL for common laboratory contaminants) but greater than the MDL when the blank value is less than the RL. The sample result for the blank contaminant is qualified as non-detect U at the reported concentration.
RL**	The sample result for the blank contaminant is less than the RL (2X sample RL for common laboratory contaminants) but greater than the MDL when the blank value is less than the RL. The sample result for the blank contaminant is changed to the RL and qualified as non-detect U.

* This guideline is used when the laboratory is reporting non-detects to the MDL. ** This guideline is used when the laboratory is reporting non-detects to the RL.

Inorganic Methods

ICB/CCB/PB Action:

No Action -	The sample result is greater than the RL and greater than ten times (10X) the blank value.
U -	The sample result is greater than or equal to the MDL but less than or equal to the RL, result is reported as non-detect at the reported concentration, when the ICB/CCB/PB result is less or greater than the RL.

Glossary of Qualification Flags and Abbreviations, continued

R -	Sample result is greater than the RL and less than the ICB/CCB/PB value when the ICB/CCB/PB value is greater than the RL.
J -	Sample result is greater than the ICB/CCB/PB value but less than 10X the ICB/CCB/PB value when ICB/CCB/PB value is greater than the RL.
J/UJ -	Sample result is less than 10X RL when blank result is below the negative RL.

Field QC Blank action:

Note – Use field blanks to qualify data only if field blank results are greater than prep blank results.

Do not use rinsate blank associated with soils to qualify water samples and vice versa.

No Action -	The sample result is greater than the RL and greater than ten times (10X) the blank value.
U -	The sample result is greater than or equal to the MDL but less than or equal to the RL, result is reported as non-detect at the reported concentration, when the FB result is less or greater than the RL.
R -	Sample result is greater than the RL and less than the FB value when the FB value is greater than the RL.
J -	Sample result is greater than the FB value but less than 10X the FB value when FB value is greater than the RL.

General Abbreviations

RL	reporting limit
IDL	instrument detection limit
MDL	method detection limit
CRDL	contract required detection limit
CRQL	contract required quantitation limit
+	positive result
-	non-detect result

TEST AMERICA SAVANNAH SDG 37251-6

DataQual

Environmental Services, LLC

Michael Baker, Jr., Inc.
Airside Business Park
100 Airside Drive
Moon Township, PA 15108

September 20, 2008
SDG# SWMU37251-6, Test America-Savannah
NAPR SWMU 74, Puerto Rico

Dear Mr. Kimes,

The following Data Validation report is provided as requested for the parameters noted in the table below for SDG # SWMU37251-6. The data validation was performed in accordance with the SW-846 methods utilized by the laboratory, the Region II Standard Operating Procedures for the Validation of Organic Data Acquired Using SW-846 Methods (8260B-Rev 2, January 2006- SOP #HW-24 and 8270D-Rev 3, October 2006- SOP #HW-22), and professional judgment. Region II has not developed a validation checklist SOP for the methods used to assess the inorganic methods in this SDG (SW-846 methods 6020B, 7471A) or the organic methods for hydrocarbons (SW-846 methods 8015_DRO and 8015_GRO). Therefore, alternative worksheets were provided. Region II flagging conventions were used. All areas of concern are discussed in the body of the report and a summary of data qualifications is provided.

Sample ID	Lab ID	Matrix	VOA App IX	LL-PAH	DRO/GRO	GRO	TMetals	DMetals
74GW236	680-37251-70	water	X	X	X		X	X
74GWVP08A	680-37251-71	water	X		X		X	X
74GWVP08B	680-37251-72	water	X		X		X	X
74GW246	680-37251-73	water	X	X	X		X	X
74GW273	680-37251-74	water	X		X		X	X
74GWVP05A	680-37251-75	water				X		

The samples were evaluated based on the following criteria:

- Data Completeness *
- Sample Condition *
- Technical Holding Times *
- GC/MS Tuning *
- GC Performance *
- Initial/Continuing Calibrations
- ICSA/ICSAB Standards
- CRDL Standards *
- Blanks
- Internal Standards *
- Surrogate Recoveries *
- Laboratory Control Samples

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- Matrix Spike Recoveries *
- Matrix Duplicate RPDs *
- Serial Dilutions *
- Field Duplicates NA
- Identification/Quantitation
- Reporting Limits *
- Tentatively Identified Compounds NA

* - indicates that qualifications were not required based on this criteria

Overall Evaluation of Data/Potential Usability Issues

A summary of qualifications applied to the sample results are noted below for the fractions validated. Specific details regarding qualification of the data are addressed in the Specific Evaluation section of this narrative. If an issue is not addressed there were no actions required based on unmet quality criteria. Please note that the reviewer added an F to the sample ID to indicate dissolved metals analysis when necessary. When more than one qualifier is associated with a compound/analyte the validator has chosen the qualifier that best indicates possible bias in the results and flagged the data accordingly. However, information regarding all quality control issues is provided in the body of the report and on the qualification summary page.

VOA

The initial calibration exhibited some compounds with low RRF values, which resulted in qualifying non-detected values as rejected for these compounds. Due to high %D values, in the continuing calibrations, some compounds were qualified as estimated.

Blank contamination was noted in the QC blanks associated with samples in this batch. Qualifications were added to the data.

One of the laboratory control samples exhibited high recovery for one compound that resulted in qualifications for associated samples.

LL-PAH

Blank contamination was noted in the method blank associated with samples in this batch. Qualifications were added to the data.

DRO/GRO

No qualifications were required.

Metals

Metals

The ICSAB standards associated with the dissolved metals analysis exhibited non-compliant recoveries above the QC limit for the analyte zinc (124/122) and below the QC limit for the analyte silver (78/79). Based on Region II guidelines all positive results for zinc and all positive and non-detect results for silver in the dissolved metals samples were qualified as estimated J or J/UJ. The ICSAB standards associated with the total metals analysis exhibited non-compliant recoveries above the QC limit for the analyte zinc (79). Based on Region II guidelines all positive results for zinc in the total metals samples were qualified as estimated J.

Blank contamination was noted and qualification was required in the samples in this SDG.

One sample exhibited a %D between the total and dissolved result that was greater than 20% but less than 50%. This result was qualified as estimated J in both samples.

Specific Evaluation of Data

Data Completeness

The SDG was received complete and intact. Resubmissions were required not required. Clarification questions were asked of the laboratory regarding the metals fraction. A copy of the e-mail correspondence is included in the validation worksheets. Clarification questions were asked of the laboratory regarding the GRO/DRO fraction. A copy of these e-mail correspondences is included in the project file.

Technical Holding Times

According to chain of custody records, sampling was performed on 05/30-31/08 and samples were received at the laboratory 06/03/08. All sample preparation and analysis was performed within Region II and/or method holding time requirements.

Initial/Continuing Calibration

VOA

Calibration standards exhibited %Ds and RRF values that were non-compliant. A summary of these non-compliances and affected samples are noted in the following table. Sample results are qualified as indicated.

Standard ID	Compound(s)	RRF, %RSD, %D	Samples	Q Flag
IC 05/07/08	isobutyl alcohol	0.0489	all samples	J/R
CC 06/09/08	pentachloroethane	93.3%	all samples	J/R
	acrolein chloromethane bromomethane vinyl acetate cis-1,3-dichloropropene trans-1,3-dichloropropene 1,2-dibromo-3-chloropropane	42.2% 20.7%, 38.7%, 24.3%, 23.3%, 23.7% 37.6%		J/UJ

ICSA/ICSAB Standards

Metals

The ICSAB standards associated with the dissolved metals analysis exhibited non-compliant recoveries above the QC limit for the analyte zinc (124/122) and below the QC limit for the analyte silver (78/79). Based on Region II guidelines all positive results for zinc and all positive and non-detect results for silver in the dissolved metals samples were qualified as estimated J or J/UJ. The ICSAB standards associated with the total metals analysis exhibited non-compliant recoveries above the QC limit for the analyte zinc (79). Based on Region II guidelines all positive results for zinc in the total metals samples were qualified as estimated J.

Blanks

VOA

The associated method and/or QC blanks exhibited contamination as noted in the following table. Compounds for which there was no action required, are not included in the following table. Please note that the laboratory reported non-detect results down to the MDL for this project. Therefore, the blank flagging actions were modified as follows to take this into consideration. Positive results greater than the MDL but less than the CRQL are qualified as U at the reported concentration when affected by blank contamination.

Blank ID	Compound	Concentration	Reporting Limit	Action Level
ER23	2-butanone	0.79J ug/L	10 ug/L	2X RL
FB01	2-butanone	0.69J ug/L	10 ug/L	2X RL

Associated samples and required qualifications are noted in the following table.

Sample ID	Compound	Q Flag
74GWVP08B, 74GW273	2-butanone	U at reported value

LL PAH

The associated method and/or QC blanks exhibited contamination as noted in the following table. Compounds for which there was no action required, are not included in the following table. Please note that the laboratory reported non-detect results down to the MDL for this project. Therefore, the blank flagging actions were modified as follows to take this into consideration. Positive results greater than the MDL but less than the CRQL are qualified as U at the reported concentration when affected by blank contamination.

Blank ID	Compound	Concentration	Reporting Limit	Action Level
Method Blank	phenanthrene	0.14J ug/L	0.20 ug/L	RL
	pyrene	0.034J ug/L	0.20 ug/L	RL

Associated samples and required qualifications are noted in the following table.

Sample ID	Compound	Q Flag
74GW236	phenanthrene	U at reported value
74GW246	pyrene	U at reported value

Metals

Associated blanks exhibited contamination as noted in the following table. The laboratory reported non-detect results to the MDL for this project. Therefore, the blank flagging actions were modified to take this into consideration. Please see the Glossary of Qualification Flags and Abbreviations for details.

Blank ID	Analyte	Concentration	Action Level	Q Flag
PBLK – TM	arsenic	0.4124J ug/L	>MDL up to RL	U
	chromium	1.5800J ug/L	> MDL up to RL	U
	cobalt	0.0386J ug/L	>MDL up to RL	U
	lead	0.2168J ug/L	> MDL up to RL	U
ICB - TM	antimony	0.08861J ug/L	> MDL up to RL	U
CCB – TM	beryllium	0.014J ug/L	> MDL up to RL	U
	tin	0.185J ug/L	> MDL up to RL	U
PBLK - DM	arsenic	0.2826J ug/L	>MDL up to RL	U
	lead	0.2059J ug/L	>MDL up to RL	U
CCB – DM	tin	0.218J ug/L	>MDL up to RL	U
FB01	copper	2.1J ug/L	> MDL up to RL	U
ER23	chromium	1.6J ug/L	> MDL up to RL	U

Please note, when qualifying samples for CCB contamination, associated samples are those just prior to or just following a CCB. Therefore, not all analytes in all samples are flagged for CCB contamination.

Associated samples and required qualifications are noted in the following table.

Sample ID	Analyte	Q Flag
all samples >MDL up to RL	antimony	U
all samples >MDL up to RL	arsenic	U
all samples >MDL up to RL	lead	U
all samples >MDL up to RL	tin	U
all samples >MDL up to RL	chromium	U
all samples >MDL up to RL	copper	U
all total metals samples > MDL up to RL	beryllium	U
all total metals samples >MDL up to RL	cobalt	U

Laboratory Control Samples

VOA

The laboratory control sample associated with samples 74GW236, 74GWVP08A and 74GWVP08B exhibited high recovery for carbon disulfide at 137% (QC limit 55-131%); therefore the positive results for this compound were qualified as estimated (J).

Identification/Quantitation

Metals

The total and dissolved metals analysis exhibited %Ds >20% but less than or equal to 50% for one analyte. Elements exhibiting >20% but less than or equal to 50% difference between total and dissolved concentrations were qualified as estimated J based on the Region II guidelines. Specific action is noted in the following table.

Sample ID	Analyte	%D	Q Flag
74GWVP08A, 74GWVP08AF	cobalt	30%	J

A summary of qualifications required is provided on the following page. Please do not hesitate to contact DataQual ES with any questions regarding this validation report.

Sincerely,

Jacqueline Cleveland

Jacqueline Cleveland
Vice President

Summary of Data Qualifications

VOA

Sample ID	Compound	Results	Q flag
all samples	isobutyl alcohol	+/-	J/R
all samples	pentachloroethane	+/-	J/R
all samples	acrolein chloromethane bromomethane vinyl acetate cis-1,3-dichloropropene trans-1,3-dichloropropene 1,2-dibromo-3-chloropropane		J/UJ
74GWVP08B, 74GW273	2-butanone	+	U at reported value
74GW236, 74GWVP08A, 74GWVP08B	carbon disulfide	+	J

PAH

Sample ID	Compound	Results	Q flag
74GW236	phenanthrene	+	U at reported value
74GW246	pyrene	+	U at reported value

DRO/GRO

Sample ID	Compound	Results	Q flag
No qualifications were required			

Metals

Sample ID	Analyte	Results	Q flag
all samples	zinc	+	J
all dissolved metals samples	silver	+/-	J/UJ
all samples	antimony	>MDL up to RL	U
all samples	arsenic	>MDL up to RL	U
all samples	lead	>MDL up to RL	U
all samples	tin	>MDL up to RL	U
all samples	chromium	>MDL up to RL	U
all samples	copper	>MDL up to RL	U
all total metals samples	beryllium	>MDL up to RL	U
all total metals samples	cobalt	>MDL up to RL	U
74GWVP08A, 74GWVP08AF	cobalt	+	J

Glossary of Qualification Flags and Abbreviations

Qualification Flags (Q-Flags)

U	not detected above the reported sample quantitation limit
J	estimated value
UJ	reported quantitation limit is qualified as estimated
N	analyte has been tentatively identified
JN	analyte has been tentatively identified, estimated value
R	result is rejected; the presence or absence of the analyte cannot be verified

Method/Preparation/Field QC Blank Qualification Flags (Q-Flags)

Organic Methods

NA	The sample result for the blank contaminant is greater than the RL (2X sample RL for common laboratory contaminants) when the blank value is less than the RL. The sample result for the blank contaminant is not qualified with any blank qualifiers.
U*	The sample result for the blank contaminant is less than the RL (2X sample RL for common laboratory contaminants) but greater than the MDL when the blank value is less than the RL. The sample result for the blank contaminant is qualified as non-detect U at the reported concentration.
RL**	The sample result for the blank contaminant is less than the RL (2X sample RL for common laboratory contaminants) but greater than the MDL when the blank value is less than the RL. The sample result for the blank contaminant is changed to the RL and qualified as non-detect U.

* This guideline is used when the laboratory is reporting non-detects to the MDL. ** This guideline is used when the laboratory is reporting non-detects to the RL.

Inorganic Methods

ICB/CCB/PB Action:

No Action -	The sample result is greater than the RL and greater than ten times (10X) the blank value.
U -	The sample result is greater than or equal to the MDL but less than or equal to the RL, result is reported as non-detect at the reported concentration, when the ICB/CCB/PB result is less or greater than the RL.

Glossary of Qualification Flags and Abbreviations, continued

R -	Sample result is greater than the RL and less than the ICB/CCB/PB value when the ICB/CCB/PB value is greater than the RL.
J -	Sample result is greater than the ICB/CCB/PB value but less than 10X the ICB/CCB/PB value when ICB/CCB/PB value is greater than the RL.
J/UJ -	Sample result is less than 10X RL when blank result is below the negative RL.

Field QC Blank action:

Note -- Use field blanks to qualify data only if field blank results are greater than prep blank results.
Do not use rinsate blank associated with soils to qualify water samples and vice versa.

No Action -	The sample result is greater than the RL and greater than ten times (10X) the blank value.
U -	The sample result is greater than or equal to the MDL but less than or equal to the RL, result is reported as non-detect at the reported concentration, when the FB result is less or greater than the RL.
R -	Sample result is greater than the RL and less than the FB value when the FB value is greater than the RL.
J -	Sample result is greater than the FB value but less than 10X the FB value when FB value is greater than the RL.

General Abbreviations

RL	reporting limit
IDL	instrument detection limit
MDL	method detection limit
CRDL	contract required detection limit
CRQL	contract required quantitation limit
+	positive result
-	non-detect result

TEST AMERICA SAVANNAH SDG 37369-4

DataQual

Environmental Services, LLC

Michael Baker, Jr., Inc.
Airside Business Park
100 Airside Drive
Moon Township, PA 15108

November 21, 2008
SDG# SWMU37369-4, Test America-Savannah
NAPR, Puerto Rico

Dear Mr. Kimes,

The following Data Validation report is provided as requested for the parameters noted in the table below for SDG # SWMU37369-4. The data validation was performed in accordance with the SW-846 methods utilized by the laboratory, the Region II Standard Operating Procedures for the Validation of Organic Data Acquired Using SW-846 Methods (8260B-Rev 2, January 2006- SOP #HW-24 and 8270D-Rev 3, October 2006-SOP #HW-22), and professional judgment. Region II has not developed a validation checklist SOP for the methods used to assess the inorganic methods in this SDG (SW-846 methods 6020B, 7471A) or the organic methods for hydrocarbons (SW-846 methods 8015_DRO and 8015_GRO). Therefore, alternative worksheets were provided. Region II flagging conventions were used. All areas of concern are discussed in the body of the report and a summary of data qualifications is provided.

Sample ID	Lab ID	Matrix	VOA App IX	LL-SVOA App IX	Pesticides	PCBs	DRO	GRO	Metals
ER24	680-37369-29	water	X	X	X	X	X	X	X
ER25	680-37369-30	water	X	X	X	X	X	X	X
ER26	680-37369-31	water	X	X	X			X	X
ER27	680-37369-32	water	X	X	X		X	X	X
ER28	680-37369-33	water	X	X					X

The samples were evaluated based on the following criteria:

- Data Completeness *
- Sample Condition *
- Technical Holding Times
- GC/MS Tuning *
- GC Performance *
- Initial/Continuing Calibrations
- ICSA/ICSAB Standards
- CRDL Standards *
- Blanks *
- Internal Standards *
- Surrogate Recoveries *
- Laboratory Control Samples *
- Matrix Spike Recoveries NA

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- Matrix Duplicate RPDs NA
- Serial Dilutions *
- Field Duplicates NA
- Identification/Quantitation *
- Reporting Limits *
- Tentatively Identified Compounds NA

* - indicates that qualifications were not required based on this criteria

Overall Evaluation of Data/Potential Usability Issues

A summary of qualifications applied to the sample results are noted below for the fractions validated. Specific details regarding qualification of the data are addressed in the Specific Evaluation section of this narrative. If an issue is not addressed there were no actions required based on unmet quality criteria. When more than one qualifier is associated with a compound/analyte the validator has chosen the qualifier that best indicates possible bias in the results and flagged the data accordingly. However, information regarding all quality control issues is provided in the body of the report and on the qualification summary page.

VOA

Due to high %D values, in the continuing calibrations, some compounds were qualified as estimated.

SVOA

All samples exceeded extraction-holding time, which required qualifications to the data.

The initial and continuing calibrations exhibited some compounds with low RRF values, which resulted in qualifying non-detected values as rejected for these compounds. Due to high %RSD and %D values, in the initial and continuing calibrations, some compounds were qualified as estimated.

Pesticides/PCBs

Two samples were extracted outside the recommended extraction holding time of 7 days from sampling for water samples. Results in these samples were qualified as estimated J/UJ.

DRO/GRO

Two samples for the DRO fraction were extracted outside the recommended extraction holding time of 7 days from sampling for water samples. Results in these samples were qualified as estimated J/UJ for DRO.

Metals

The ICSAB standards exhibited non-compliant recoveries requiring qualification in the field samples. The analyte silver was recovered below the lower QC limit. Based on Region II guidelines all positive and non-detect results for silver were qualified as estimated J/UJ.

Specific Evaluation of Data

Data Completeness

Resubmissions were required for the pesticide/PCB fraction due to incorrectly reported retention times and retention time windows. The laboratory provided all necessary corrected forms. A copy of the e-mail communication is included in the validation worksheets. Clarification questions were asked of the laboratory regarding the metals fraction. A copy of the e-mail correspondence is included in the validation worksheets. Clarification questions were asked of the laboratory regarding the DRO fraction. A copy of these e-mail correspondences is included in the project file.

Please note that for the QC spikes in the Pesticide/PCB fraction, raw data final concentrations do not reflect the actual concentration in the extract. The data on the quantitation pages was not reflective of the extraction information. Results were checked and reported results were correct. Also for QC spikes, the Form 10s did not always reflect the reported results. The final results were calculated as if the spikes were soil samples. However, all reported results were calculated and reflected in both the forms and raw data correctly. No qualifications were required.

Technical Holding Times

According to chain of custody records, sampling was performed on 5/31-06/04/08 and samples were received at the laboratory 06/05/08. All sample preparation and analysis was performed within Region II and/or method holding time requirements with the following exceptions.

SVOA

All samples exceeded extraction holding time by 8 to 12 days; therefore all results were qualified as estimated (J/UJ).

Pest/PCB

Samples ER24 and ER25 were extracted 2 to 3 days outside the extraction holding time. Therefore, all reported results were qualified as estimated J/UJ in the samples.

DRO/GRO

For the DRO fraction, samples ER24 and ER25 were extracted 2 to 3 days outside the extraction holding time. Therefore, all reported DRO results were qualified as estimated J/UJ in the samples.

Initial/Continuing Calibration

VOA

Calibration standards exhibited %Ds values that were non-compliant. A summary of these non-compliances and affected samples are noted in the following table. Sample results are qualified as indicated.

Standard ID	Compound(s)	RRF, %RSD, %D	Samples	Q Flag
CC 06/11/08	pentachloroethane	107.5%	all samples	J/R
	acrolein propionitrile isobutyl alcohol	63.1% 20.9% 34.0%		J/UJ

SVOA

Calibration standards exhibited %RSD, %Ds and RRF values that were non-compliant. A summary of these non-compliances and affected samples are noted in the following table. Sample results are qualified as indicated.

Standard ID	Compound(s)	RRF, %RSD, %D	Samples	Q Flag
IC 06/21/08	pentachloronitrobenzene	0.0481	all samples	J/R
	benzo(k)fluoranthene benzo(a)pyrene	16.5% 15.9%		J/UJ
CC 06/25/08	4-nitroquinoline-1-oxide	0.02492	all samples	J/R
	2,4-dinitrophenol 4,6-dinitro-2-methylphenol 3,3'-dichlorobenzidine indeno(1,2,3-cd)pyrene a,a-dimethylphenethylamine hexachlorophene aramite, total thionazin phorate disulfoton famphur	20.7% 21.5% 47.9% 29.1% 20.2% 21.0% 25.9% 20.5% 22.7% 20.6% 26.9%		J/UJ

ICSA/ICSAB Standards

Metals

The ICSAB standards associated with the total metals analysis exhibited non-compliant recoveries less than the lower QC limit for the analyte silver (78%/79%). Based on Region II guidelines, reported positive and non-detect results for silver were qualified as estimated J/UJ in all samples.

A summary of qualifications required is provided on the following page. Please do not hesitate to contact DataQual ES with any questions regarding this validation report.

Sincerely,

Laura Maschhoff
President

Jacqueline Cleveland
Vice President

Summary of Data Qualifications

VOA

Sample ID	Compound	Results	Q flag
all samples	pentachloroethane	+/-	J/R
all samples	acrolein propionitrile isobutyl alcohol	+/-	J/UJ

SVOA

Sample ID	Compound	Results	Q flag
all samples	all results	+/-	J/UJ
all samples	pentachloronitrobenzene	+/-	J/R
all samples	benzo(k)fluoranthene benzo(a)pyrene	+/-	J/UJ
all samples	4-nitroquinoline-1-oxide	+/-	J/R
all samples	2,4-dinitrophenol 4,6-dinitro-2-methylphenol 3,3'-dichlorobenzidine indeno(1,2,3-cd)pyrene a,a-dimethylphenethylamine hexachlorophene aramite, total thionazin phorate disulfoton famphur	+/-	J/UJ

Pesticides/PCBs

Sample ID	Compound	Results	Q flag
ER24, ER25	all compounds	+/-	J/UJ

DRO/GRO

Sample ID	Compound	Results	Q flag
ER24, ER25	DRO	+/-	J/UJ

Metals

Sample ID	Analyte	Results	Q flag
all samples	silver	+/-	J/UJ

Glossary of Qualification Flags and Abbreviations

Qualification Flags (Q-Flags)

U	not detected above the reported sample quantitation limit
J	estimated value
UJ	reported quantitation limit is qualified as estimated
N	analyte has been tentatively identified
JN	analyte has been tentatively identified, estimated value
R	result is rejected; the presence or absence of the analyte cannot be verified

Method/Preparation/Field QC Blank Qualification Flags (Q-Flags)

Organic Methods

NA	The sample result for the blank contaminant is greater than the RL (2X sample RL for common laboratory contaminants) when the blank value is less than the RL. The sample result for the blank contaminant is not qualified with any blank qualifiers.
U*	The sample result for the blank contaminant is less than the RL (2X sample RL for common laboratory contaminants) but greater than the MDL when the blank value is less than the RL. The sample result for the blank contaminant is qualified as non-detect U at the reported concentration.
RL**	The sample result for the blank contaminant is less than the RL (2X sample RL for common laboratory contaminants) but greater than the MDL when the blank value is less than the RL. The sample result for the blank contaminant is changed to the RL and qualified as non-detect U.

* This guideline is used when the laboratory is reporting non-detects to the MDL. ** This guideline is used when the laboratory is reporting non-detects to the RL.

Inorganic Methods

ICB/CCB/PB Action:

No Action -	The sample result is greater than the RL and greater than ten times (10X) the blank value.
U -	The sample result is greater than or equal to the MDL but less than or equal to the RL, result is reported as non-detect at the reported concentration, when the ICB/CCB/PB result is less or greater than the RL.

Glossary of Qualification Flags and Abbreviations, continued

R -	Sample result is greater than the RL and less than the ICB/CCB/PB value when the ICB/CCB/PB value is greater than the RL.
J -	Sample result is greater than the ICB/CCB/PB value but less than 10X the ICB/CCB/PB value when ICB/CCB/PB value is greater than the RL.
J/UJ -	Sample result is less than 10X RL when blank result is below the negative RL.

Field QC Blank action:

Note – Use field blanks to qualify data only if field blank results are greater than prep blank results.
Do not use rinsate blank associated with soils to qualify water samples and vice versa.

No Action -	The sample result is greater than the RL and greater than ten times (10X) the blank value.
U -	The sample result is greater than or equal to the MDL but less than or equal to the RL, result is reported as non-detect at the reported concentration, when the FB result is less or greater than the RL.
R -	Sample result is greater than the RL and less than the FB value when the FB value is greater than the RL.
J -	Sample result is greater than the FB value but less than 10X the FB value when FB value is greater than the RL.

General Abbreviations

RL	reporting limit
IDL	instrument detection limit
MDL	method detection limit
CRDL	contract required detection limit
CRQL	contract required quantitation limit
+	positive result
-	non-detect result

TEST AMERICA SAVANNAH SDG 37634-2 and SDG 37613-2

DataQual

Environmental Services, LLC

Michael Baker, Jr., Inc.
Airside Business Park
100 Airside Drive
Moon Township, PA 15108

October 7, 2008
SDG# SWMU37634-2 and SWMU37613-2, Test America-Savannah
NAPR SWMU 71, Puerto Rico

Dear Mr. Kimes,

The following Data Validation report is provided as requested for the parameters noted in the table below for SDG # SWMU37634-2 and SWMU37613-2. The data validation was performed in accordance with the SW-846 methods utilized by the laboratory, the Region II Standard Operating Procedures for the Validation of Organic Data Acquired Using SW-846 Methods (8260B-Rev 2, January 2006- SOP #HW-24 and 8270D-Rev 3, October 2006-SOP #HW-22), and professional judgment. Region II has not developed a validation checklist SOP for the methods used to assess the organic methods for hydrocarbons (SW-846 methods 8015_DRO and 8015_GRO). Therefore, alternative worksheets were provided. Region II flagging conventions were used. All areas of concern are discussed in the body of the report and a summary of data qualifications is provided.

Sample ID	Lab ID	Matrix	VOA App IX	SVOA AppIX	DRO	GRO
71GW04	680-37634-11	water	X			X
	680-37613-11	water		X		
74GWV1Ba/9	680-37613-9	water			X	

The samples were evaluated based on the following criteria:

- Data Completeness *
- Sample Condition *
- Technical Holding Times
- GC/MS Tuning *
- GC Performance *
- Initial/Continuing Calibrations
- Blanks *
- Internal Standards *
- Surrogate Recoveries *
- Laboratory Control Samples *
- Matrix Spike Recoveries NA
- Field Duplicates NA
- Identification/Quantitation *
- Reporting Limits *

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- Tentatively Identified Compounds NA

* - indicates that qualifications were not required based on this criteria

Overall Evaluation of Data/Potential Usability Issues

A summary of qualifications applied to the sample results are noted below for the fractions validated. Specific details regarding qualification of the data are addressed in the Specific Evaluation section of this narrative. If an issue is not addressed there were no actions required based on unmet quality criteria. When more than one qualifier is associated with a compound/analyte the validator has chosen the qualifier that best indicates possible bias in the results and flagged the data accordingly. However, information regarding all quality control issues is provided in the body of the report and on the qualification summary page.

VOA

Due to high %D values, in the continuing calibrations, some compounds were qualified as estimated.

SVOA

The continuing calibration exhibited some compounds with low RRF values, which resulted in qualifying non-detected values as rejected for these compounds. Due to high %RSD and %D values, in the initial and continuing calibrations, some compounds were qualified as estimated.

DRO/GRO

The DRO sample was extracted eighteen days outside the extraction holding time. The reported result was qualified as estimated J and should be considered potentially biased low.

Specific Evaluation of Data

Data Completeness

The SDG was received complete and intact. Resubmissions were not required. Clarification questions were asked of the laboratory regarding the DRO/GRO fractions. A copy of these e-mail correspondences is included in the project file.

Technical Holding Times

According to chain of custody records, sampling was performed on 06/11/08 and samples were received at the laboratory 06/13/08. All sample preparation and analysis was performed within Region II and/or method holding time requirements.

DRO/GRO

The DRO sample 74GWV1Ba/9 was extracted eighteen days outside the recommended extraction holding time of seven days from sampling for water samples. The reported positive result in this sample was qualified as estimated J and should be considered potentially biased low.

Initial/Continuing Calibration

VOA

Calibration standards exhibited %Ds values that were non-compliant. A summary of these non-compliances and affected samples are noted in the following table. Sample results are qualified as indicated.

Standard ID	Compound(s)	RRF, %RSD, %D	Samples	Q Flag
CC 06/20/08	acrolein	92.2%	71GW04	J/R
	pentachloroethane	122.6%		
	isobutyl alcohol	21.7%		J/UJ
	dichlorodifluoromethane	33.6%		
	chloromethane	34.8%		
	bromomethane	28.8%		
	chloroethane	23.7%		
	trichlorofluoromethane	23.6%		
	carbon disulfide	20.6%		

SVOA

Calibration standards exhibited %RSD, %Ds and RRF values that were non-compliant. A summary of these non-compliances and affected samples are noted in the following table. Sample results are qualified as indicated.

Standard ID	Compound(s)	RRF, %RSD, %D	Samples	Q Flag
IC 06/21/08	benzo(k)fluoranthene	16.50%	all samples	J/UJ
	benzo(a)pyrene	15.98%		

Standard ID	Compound(s)	RRF, %RSD, %D	Samples	Q Flag
CC 06/27/08	4-nitroquinoline-1-oxide	0.01945	71GW04	J/R
	2,4-dinitrophenol	41.1%		J/UJ
	4-nitrophenol	24.3%		
	4,6-dinitro-2-methylphenol	25.1%		
	3,3'dichlorobenzidine	29.2%		
	dinoseb	21.4%		
	phorate	39.0%		
	dimethoate	23.9%		
	disulfoton	29.5%		
	famphur	33.0%		
	2-naphthylamine	38.3%		
	3,3-dimethylbenzidine	41.0%		
	hexachlorophene	51.8%		
	aramite, total	20.7%		

A summary of qualifications required is provided on the following page. Please do not hesitate to contact DataQual ES with any questions regarding this validation report.

Sincerely,

Laura Maschhoff

Laura Maschhoff
President

Jacqueline Cleveland

Jacqueline Cleveland
Vice President

Summary of Data Qualifications

VOA

Sample ID	Compound	Results	Q flag
71GW04	acrolein pentachloroethane	+/-	J/R
71GW04	isobutyl alcohol dichlorodifluoromethane chloromethane bromomethane chloroethane trichlorofluoromethane carbon disulfide	+/-	J/UJ

SVOA

Sample ID	Compound	Results	Q flag
all samples	benzo(k)fluoranthene benzo(a)pyrene	+/-	J/UJ
71GW04	4-nitroquinoline-1-oxide	+/-	J/R
71GW04	2,4-dinitrophenol 4-nitrophenol 4,6-dinitro-2-methylphenol 3,3'dichlorobenzidine dinoseb phorate dimethoate disulfoton famphur 2-naphthylamine 3,3-dimethylbenzidine hexachlorophene aramite, total	+/-	J/UJ

DRO/GRO

Sample ID	Compound	Results	Q flag
74GWV1Ba/9	DRO	+	J

Glossary of Qualification Flags and Abbreviations

Qualification Flags (Q-Flags)

U	not detected above the reported sample quantitation limit
J	estimated value
UJ	reported quantitation limit is qualified as estimated
N	analyte has been tentatively identified
JN	analyte has been tentatively identified, estimated value
R	result is rejected; the presence or absence of the analyte cannot be verified

Method/Preparation/Field QC Blank Qualification Flags (Q-Flags)

Organic Methods

NA	The sample result for the blank contaminant is greater than the RL (2X sample RL for common laboratory contaminants) when the blank value is less than the RL. The sample result for the blank contaminant is not qualified with any blank qualifiers.
U*	The sample result for the blank contaminant is less than the RL (2X sample RL for common laboratory contaminants) but greater than the MDL when the blank value is less than the RL. The sample result for the blank contaminant is qualified as non-detect U at the reported concentration.
RL**	The sample result for the blank contaminant is less than the RL (2X sample RL for common laboratory contaminants) but greater than the MDL when the blank value is less than the RL. The sample result for the blank contaminant is changed to the RL and qualified as non-detect U.

* This guideline is used when the laboratory is reporting non-detects to the MDL. ** This guideline is used when the laboratory is reporting non-detects to the RL.

Inorganic Methods

ICB/CCB/PB Action:

No Action -	The sample result is greater than the RL and greater than ten times (10X) the blank value.
U -	The sample result is greater than or equal to the MDL but less than or equal to the RL, result is reported as non-detect at the reported concentration, when the ICB/CCB/PB result is less or greater than the RL.

Glossary of Qualification Flags and Abbreviations, continued

R -	Sample result is greater than the RL and less than the ICB/CCB/PB value when the ICB/CCB/PB value is greater than the RL.
J -	Sample result is greater than the ICB/CCB/PB value but less than 10X the ICB/CCB/PB value when ICB/CCB/PB value is greater than the RL.
J/UJ -	Sample result is less than 10X RL when blank result is below the negative RL.

Field QC Blank action:

Note – Use field blanks to qualify data only if field blank results are greater than prep blank results.

Do not use rinsate blank associated with soils to qualify water samples and vice versa.

No Action -	The sample result is greater than the RL and greater than ten times (10X) the blank value.
U -	The sample result is greater than or equal to the MDL but less than or equal to the RL, result is reported as non-detect at the reported concentration, when the FB result is less or greater than the RL.
R -	Sample result is greater than the RL and less than the FB value when the FB value is greater than the RL.
J -	Sample result is greater than the FB value but less than 10X the FB value when FB value is greater than the RL.

General Abbreviations

RL	reporting limit
IDL	instrument detection limit
MDL	method detection limit
CRDL	contract required detection limit
CRQL	contract required quantitation limit
+	positive result
-	non-detect result

TEST AMERICA SAVANNAH SDG 38888-2

DataQual

Environmental Services, LLC

Michael Baker, Jr., Inc.
Airside Business Park
100 Airside Drive
Moon Township, PA 15108

September 15, 2008
SDG# SWMU38888-2, Test America-Savannah
NAPR SWMU 74, Puerto Rico

Dear Mr. Kimes,

The following Data Validation report is provided as requested for the parameters noted in the table below for SDG # SWMU38888-2. The data validation was performed in accordance with the SW-846 methods utilized by the laboratory, the Region II Standard Operating Procedures for the Validation of Organic Data Acquired Using SW-846 Methods (8260B-Rev 2, January 2006- SOP #HW-24), and professional judgment. Region II has not developed a validation checklist SOP for the methods used to assess the inorganic methods in this SDG (SW-846 methods 6020B, 7470A) or the organic methods for hydrocarbons (SW-846 methods 8015_DRO and 8015_GRO). Therefore, alternative worksheets were provided. Region II flagging conventions were used. All areas of concern are discussed in the body of the report and a summary of data qualifications is provided.

Sample ID	Lab ID	Matrix	VOA App IX	DRO	GRO	TMetals	DMetals
74GWVP19B	680-38888-25	water		X		X	X
74GWVP19BMS	680-38888-25MS	water		X		X	X
74GWVP19BMSD	680-38888-25MSD	water		X		X	X
74GWVP05A	680-38888-26	water				X	X
74GWVP09B-JP5-Hill	680-38888-27	water	X		X	X	X
74TB34	680-38888-29	water	X		X		

The samples were evaluated based on the following criteria:

- Data Completeness *
- Sample Condition *
- Technical Holding Times *
- GC/MS Tuning *
- GC Performance *
- Initial/Continuing Calibrations
- ICSA/ICSAB Standards *
- CRDL Standards *
- Blanks
- Internal Standards *
- Surrogate Recoveries *
- Laboratory Control Samples *

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- Matrix Spike Recoveries *
- Matrix Duplicate RPDs *
- Serial Dilutions
- Field Duplicates NA
- Identification/Quantitation *
- Reporting Limits *
- Tentatively Identified Compounds NA

* - indicates that qualifications were not required based on this criteria

Overall Evaluation of Data/Potential Usability Issues

A summary of qualifications applied to the sample results are noted below for the fractions validated. Specific details regarding qualification of the data are addressed in the Specific Evaluation section of this narrative. If an issue is not addressed there were no actions required based on unmet quality criteria. Please note that the reviewer added an F to the sample ID to indicate dissolved metals analysis when necessary. When more than one qualifier is associated with a compound/analyte the validator has chosen the qualifier that best indicates possible bias in the results and flagged the data accordingly. However, information regarding all quality control issues is provided in the body of the report and on the qualification summary page.

VOA

Due to high %D values, in the continuing calibrations, some compounds were qualified as estimated.

Blank contamination was noted in the QC blanks associated with samples in this batch. Qualifications were added to the data.

DRO/GRO

No qualifications were required.

Metals

Blank contamination was noted and qualification was required in the samples in this SDG.

The serial dilution analysis for both the total and dissolved fractions exhibited non-compliant %Ds for the analytes barium and cobalt. All results for barium and cobalt in the metals samples were qualified as estimated J/UJ.

One sample exhibited %Ds between the total and dissolved results that were greater than 20% but less than 50%. These results were qualified as estimated J in both samples.

Specific Evaluation of Data

Data Completeness

The SDG was received complete and intact. Resubmissions were required not required. Clarification questions were asked of the laboratory regarding the metals fraction. A copy of the e-mail correspondence is included in the validation worksheets. Clarification questions were asked of the laboratory regarding the GRO/DRO fraction. A copy of these e-mail correspondences is included in the project file.

Technical Holding Times

According to chain of custody records, sampling was performed on 07/23/08 and samples were received at the laboratory 07/25/08. All sample preparation and analysis was performed within Region II and/or method holding time requirements.

Initial/Continuing Calibration

VOA

Calibration standards exhibited %Ds and RRF values that were non-compliant. A summary of these non-compliances and affected samples are noted in the following table. Sample results are qualified as indicated.

Standard ID	Compound(s)	RRF, %RSD, %D	Samples	Q Flag
CC 07/31/08	iodomethane pentachloroethane bromomethane chloroethane vinyl acetate	34.1% 61.6% 22.3% 28.8% 40.6%	all samples	J/UJ

Blanks

VOA

The associated method and/or QC blanks exhibited contamination as noted in the following table. Compounds for which there was no action required, are not included in the following table. Please note that the laboratory reported non-detect results down to the MDL for this project. Therefore, the blank flagging actions were modified as follows to take this into consideration. Positive results greater than the MDL but less than the CRQL are qualified as U at the reported concentration when affected by blank contamination.

Blank ID	Compound	Concentration	Reporting Limit	Action Level
FB01	2-butanone	0.69J ug/L	10 ug/L	2X RL

Associated samples and required qualifications are noted in the following table.

Sample ID	Compound	Q Flag
74GWVP09B-JP5-Hill	2-butanone	U at reported value

Metals

Associated blanks exhibited contamination as noted in the following table. The laboratory reported non-detect results to the MDL for this project. Therefore, the blank flagging actions were modified to take this into consideration. Please see the Glossary of Qualification Flags and Abbreviations for details.

Blank ID	Analyte	Concentration	Action Level	Q Flag
CCB	antimony	0.092J ug/L	>MDL up to RL	U
FB01	copper	2.1J ug/L	>MDL up to RL	U
	lead	0.38J ug/L	>MDL up to RL	U

Please note, when qualifying samples for CCB contamination, associated samples are those just prior to or just following a CCB. Therefore, not all analytes in all samples are flagged for CCB contamination.

Associated samples and required qualifications are noted in the following table.

Sample ID	Analyte	Q Flag
all samples >MDL up to RL	antimony	U
all samples >MDL up to RL	copper	U
all samples >MDL up to RL	lead	U

Serial Dilution

Metals

The serial dilution submitted in this SDG exhibited non-compliant %Ds for two analyte, requiring qualification in the field samples. A summary of these non-compliances and affected samples are noted in the following table.

SD	Analytes	Samples	%D	Q Flag
74GWVP19B	barium cobalt	all total metals samples	100% 99%	J/UJ
74GWVP19BF	barium cobalt	all dissolved metals samples	15% 13%	J/UJ

Identification/Quantitation

Metals

The total and dissolved metals analysis exhibited %Ds >20% but less than or equal to 50% for one analyte. Elements exhibiting >20% but less than or equal to 50% difference between total and dissolved concentrations were qualified as estimated J based on the Region II guidelines. Specific action is noted in the following table.

Sample ID	Analyte	%D	Q Flag
74GWVP19B, 74GWVP19BF	cobalt	40%	J
	vanadium	33%	J

A summary of qualifications required is provided on the following page. Please do not hesitate to contact DataQual ES with any questions regarding this validation report.

Sincerely,

Laura Maschhoff
President

Jacqueline Cleveland
Vice President

Summary of Data Qualifications

VOA

Sample ID	Compound	Results	Q flag
all samples	iodomethane pentachloroethane bromomethane chloroethane vinyl acetate	+/-	J/UJ
74GWVP09B-JP5-Hill	2-butanone	+	U at reported value

DRO/GRO

Sample ID	Compound	Results	Q flag
No qualifications were required			

Metals

Sample ID	Analyte	Results	Q flag
all samples	antimony	>MDL up to RL	U
all samples	copper	>MDL up to RL	U
all samples	lead	>MDL up to RL	U
all samples	barium cobalt	+/-	J/UJ
74GWVP19B, 74GWVP19BF	cobalt vanadium	+	J

Glossary of Qualification Flags and Abbreviations

Qualification Flags (Q-Flags)

U	not detected above the reported sample quantitation limit
J	estimated value
UJ	reported quantitation limit is qualified as estimated
N	analyte has been tentatively identified
JN	analyte has been tentatively identified, estimated value
R	result is rejected; the presence or absence of the analyte cannot be verified

Method/Preparation/Field QC Blank Qualification Flags (Q-Flags)

Organic Methods

NA	The sample result for the blank contaminant is greater than the RL (2X sample RL for common laboratory contaminants) when the blank value is less than the RL. The sample result for the blank contaminant is not qualified with any blank qualifiers.
U*	The sample result for the blank contaminant is less than the RL (2X sample RL for common laboratory contaminants) but greater than the MDL when the blank value is less than the RL. The sample result for the blank contaminant is qualified as non-detect U at the reported concentration.
RL**	The sample result for the blank contaminant is less than the RL (2X sample RL for common laboratory contaminants) but greater than the MDL when the blank value is less than the RL. The sample result for the blank contaminant is changed to the RL and qualified as non-detect U.

* This guideline is used when the laboratory is reporting non-detects to the MDL. ** This guideline is used when the laboratory is reporting non-detects to the RL.

Inorganic Methods

ICB/CCB/PB Action:

No Action -	The sample result is greater than the RL and greater than ten times (10X) the blank value.
U -	The sample result is greater than or equal to the MDL but less than or equal to the RL, result is reported as non-detect at the reported concentration, when the ICB/CCB/PB result is less or greater than the RL.

Glossary of Qualification Flags and Abbreviations, continued

R -	Sample result is greater than the RL and less than the ICB/CCB/PB value when the ICB/CCB/PB value is greater than the RL.
J -	Sample result is greater than the ICB/CCB/PB value but less than 10X the ICB/CCB/PB value when ICB/CCB/PB value is greater than the RL.
J/UJ -	Sample result is less than 10X RL when blank result is below the negative RL.

Field QC Blank action:

Note – Use field blanks to qualify data only if field blank results are greater than prep blank results.
Do not use rinsate blank associated with soils to qualify water samples and vice versa.

No Action -	The sample result is greater than the RL and greater than ten times (10X) the blank value.
U -	The sample result is greater than or equal to the MDL but less than or equal to the RL, result is reported as non-detect at the reported concentration, when the FB result is less or greater than the RL.
R -	Sample result is greater than the RL and less than the FB value when the FB value is greater than the RL.
J -	Sample result is greater than the FB value but less than 10X the FB value when FB value is greater than the RL.

General Abbreviations

RL	reporting limit
IDL	instrument detection limit
MDL	method detection limit
CRDL	contract required detection limit
CRQL	contract required quantitation limit
+	positive result
-	non-detect result

PUERTO RICAN CHEMIST CERTIFICATIONS

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

PUERTO RICO CERTIFICATION

I Herby certify that I have reviewed the Quality Assurance Data for Project Number **680-36289-2,** and to the best of my knowledge, the results are correct and reliable.

Abraham Ortiz

ESTADO LIBRE ASOCIADO DE PUERTO RICO
A 1202813
Lic. Abraham Ortiz Charriez
Lic. 831
Jun 9, 08
QUIMICO LICENCIADO

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Ortiz Charriez

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Jun 23, 16

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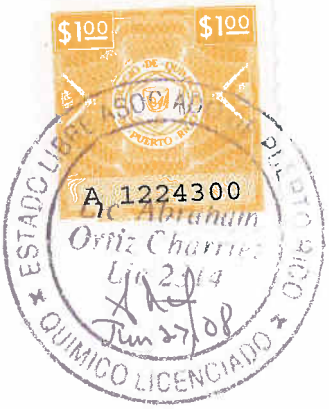
Abraham Ortiz



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Lic Abraham Ortiz Charriez

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Lic. Abraham Ortiz Quiñones

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Lic. Abraham Ortiz Charriez

Lic. 2114

QUIMICO LICENCIADO

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Lic. Abraham Ortiz Charriez

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9/16/08

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Abraham Ortiz

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QUIMICO LICENCIADO

Aug 6, 08

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Abraham Ortiz

$1.00 $1.00

A 1224322

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Lic. Abraham Ortiz Chirriez

Aug 30 08

APPENDIX D
SUPPORTING DATA EVALUATION

PAH/DRO Correlation Plots

Figure D-1
1-Methylnaphthalene and DRO in Soil: Surface and Subsurface Soil Data Set
SWMU 74 - Fuel Pipelines and Hydrant Pits
Phase I of the CMS Investigation
Naval Activity Puerto Rico, Ceiba, Puerto Rico

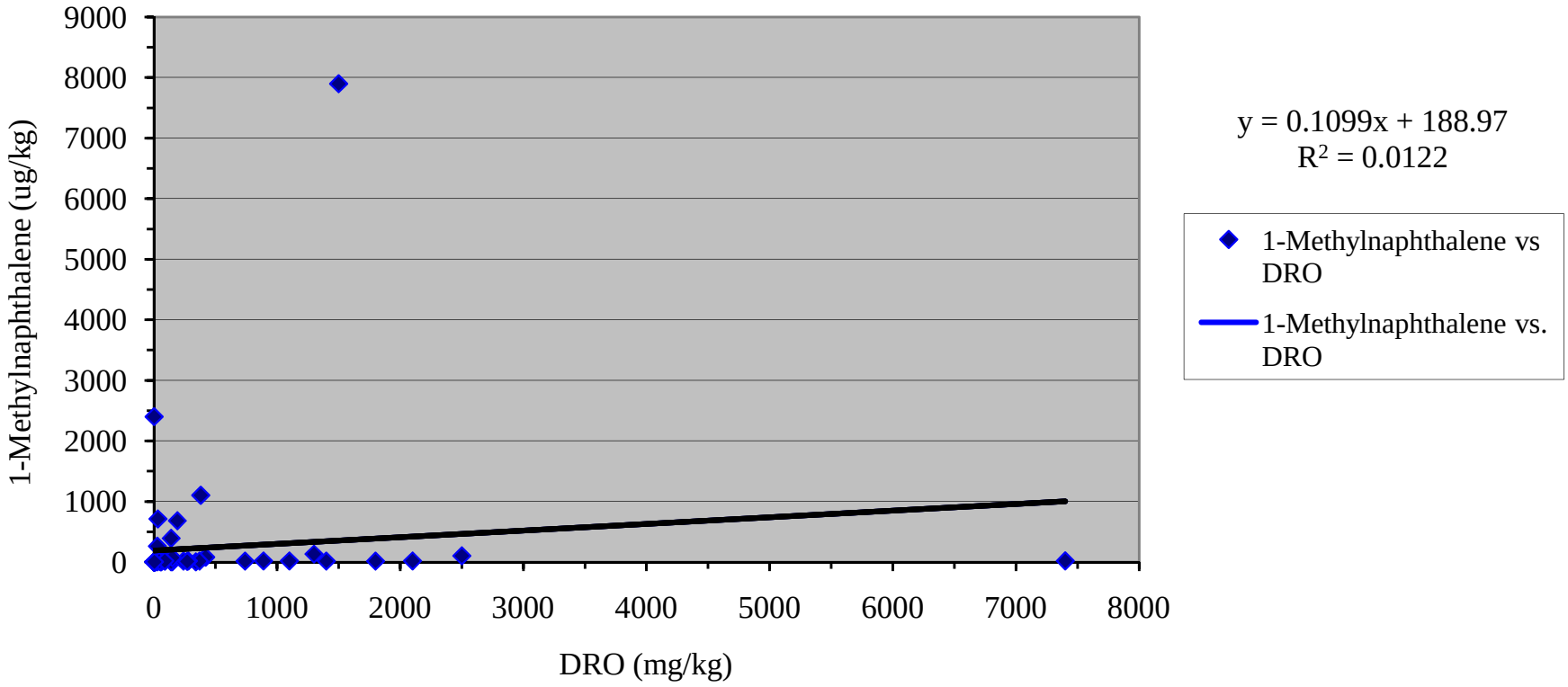


Figure D-2
2-Methylnaphthalene and DRO in Soil: Surface and Subsurface Soil Data Set
SWMU 74 - Fuel Pipelines and Hydrant Pits
Phase I of the CMS Investigation
Naval Activity Puerto Rico, Ceiba, Puerto Rico

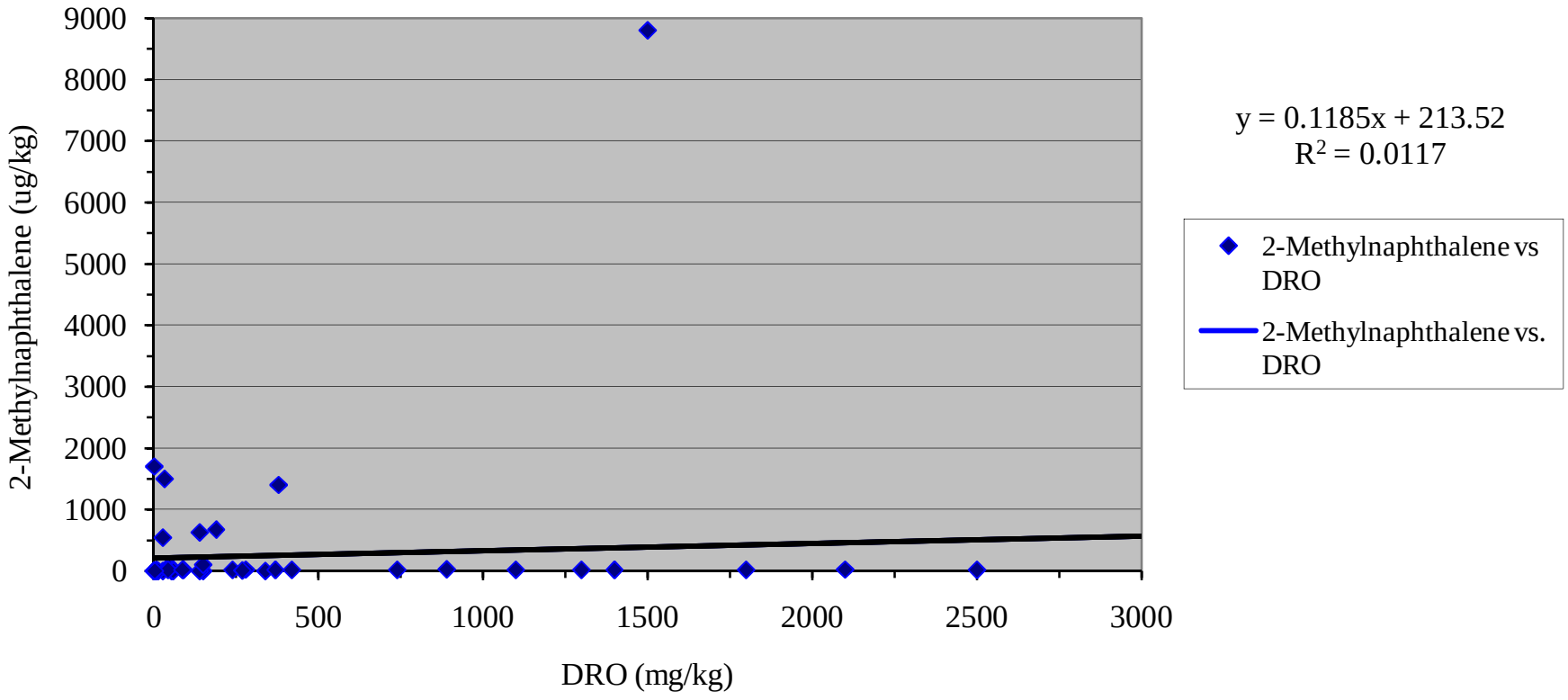


Figure D-3
Acenaphthene and DRO in Soil: Surface and Subsurface Soil Data Set
SWMU 74 - Fuel Pipelines and Hydrant Pits
Phase I of the CMS Investigation
Naval Activity Puerto Rico, Ceiba, Puerto Rico

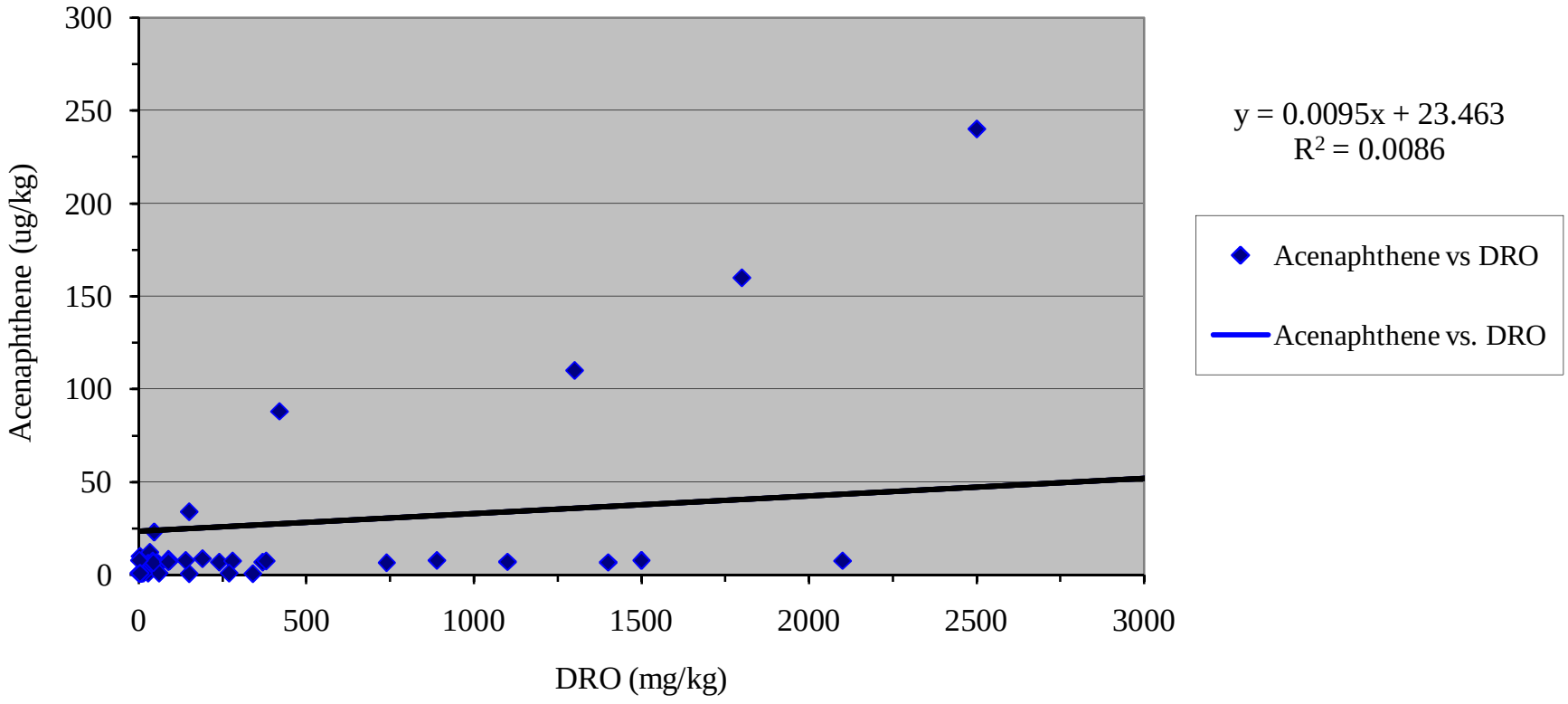


Figure D-4
Acenaphthylene and DRO in Soil: Surface and Subsurface Soil Data Set
SWMU 74 - Fuel Pipelines and Hydrant Pits
Phase I of the CMS Investigation
Naval Activity Puerto Rico, Ceiba, Puerto Rico

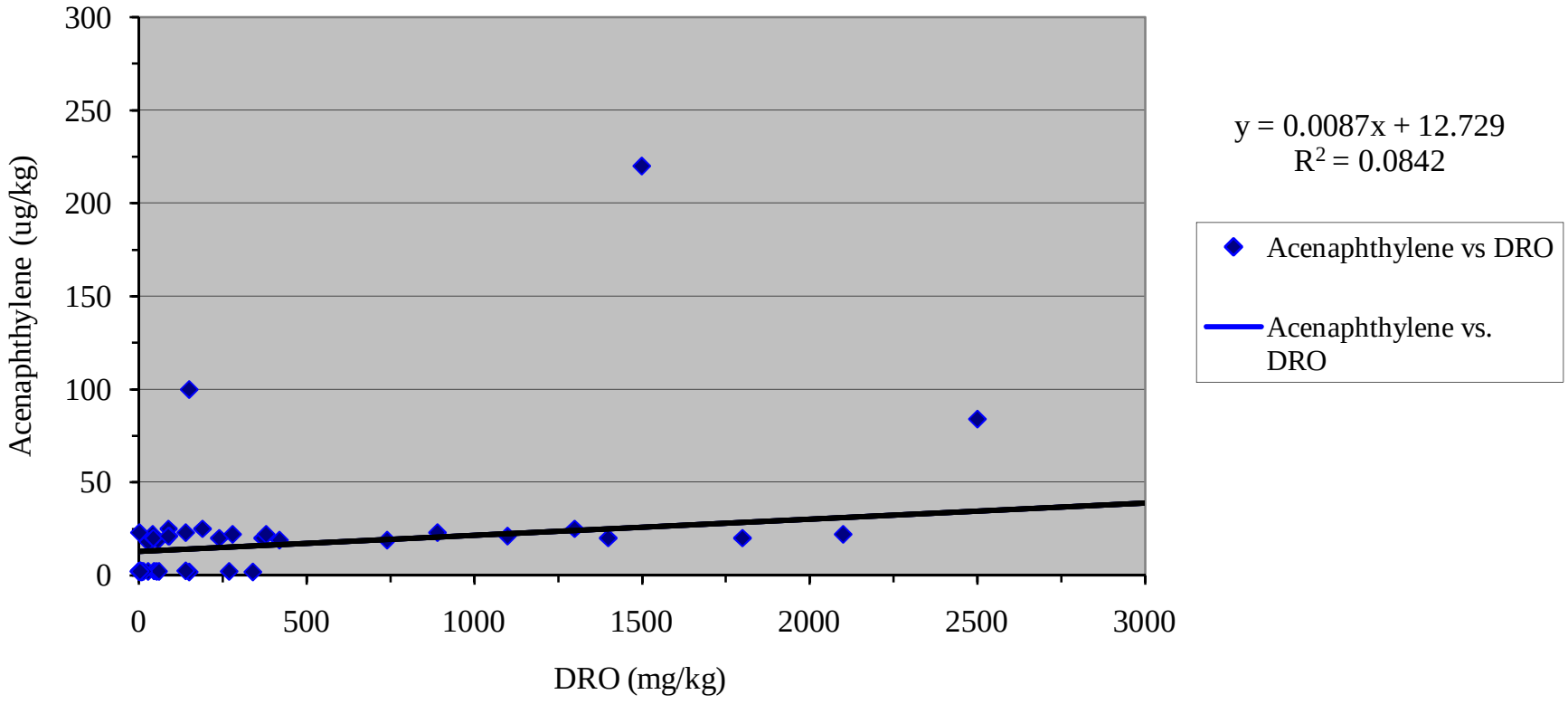


Figure D-5
Anthracene and DRO in Soil: Surface and Subsurface Soil Data Set
SWMU 74 - Fuel Pipelines and Hydrant Pits
Phase I of the CMS Investigation
Naval Activity Puerto Rico, Ceiba, Puerto Rico

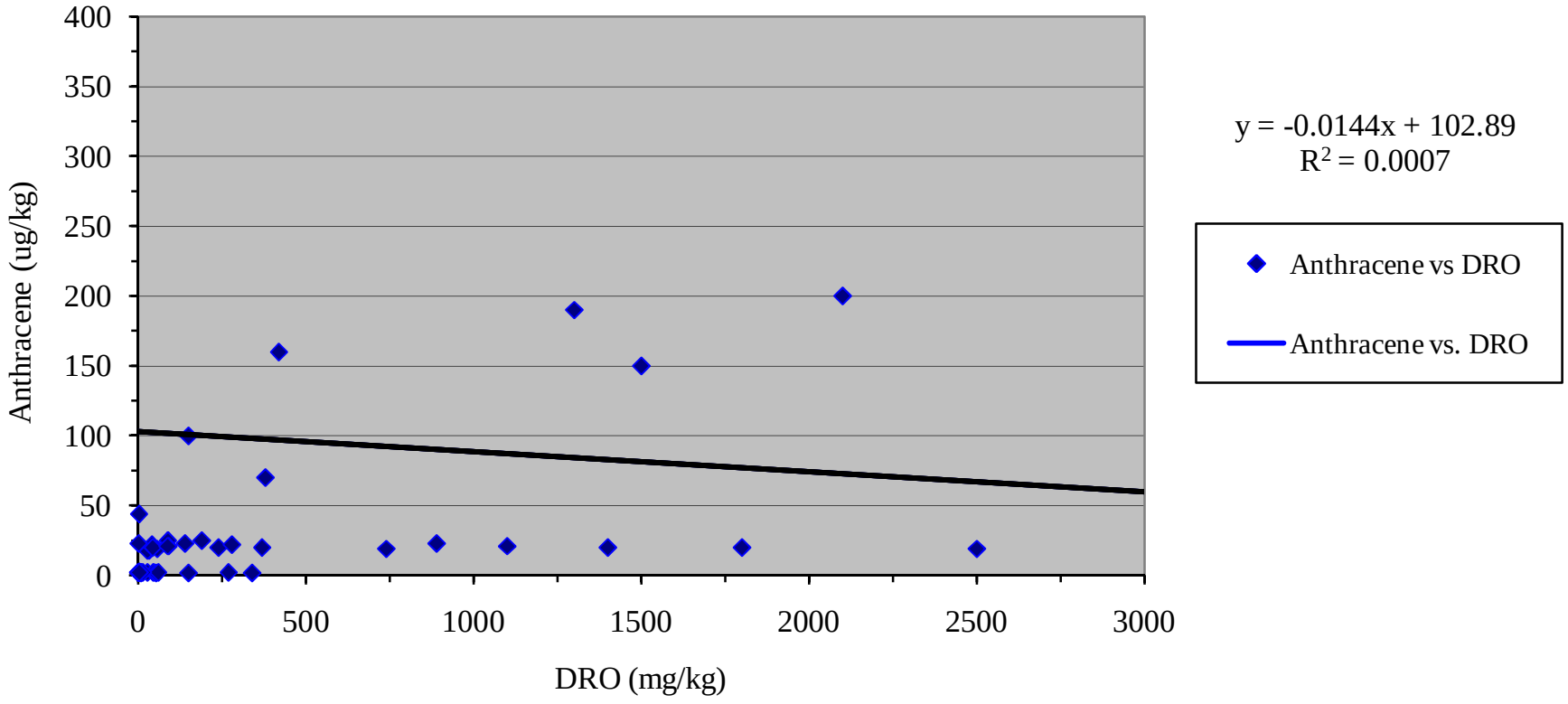


Figure D-6
Benzo(a)anthracene and DRO in Soil: Surface and Subsurface Soil Data Set
SWMU 74 - Fuel Pipelines and Hydrant Pits
Phase I of the CMS Investigation
Naval Activity Puerto Rico, Ceiba, Puerto Rico

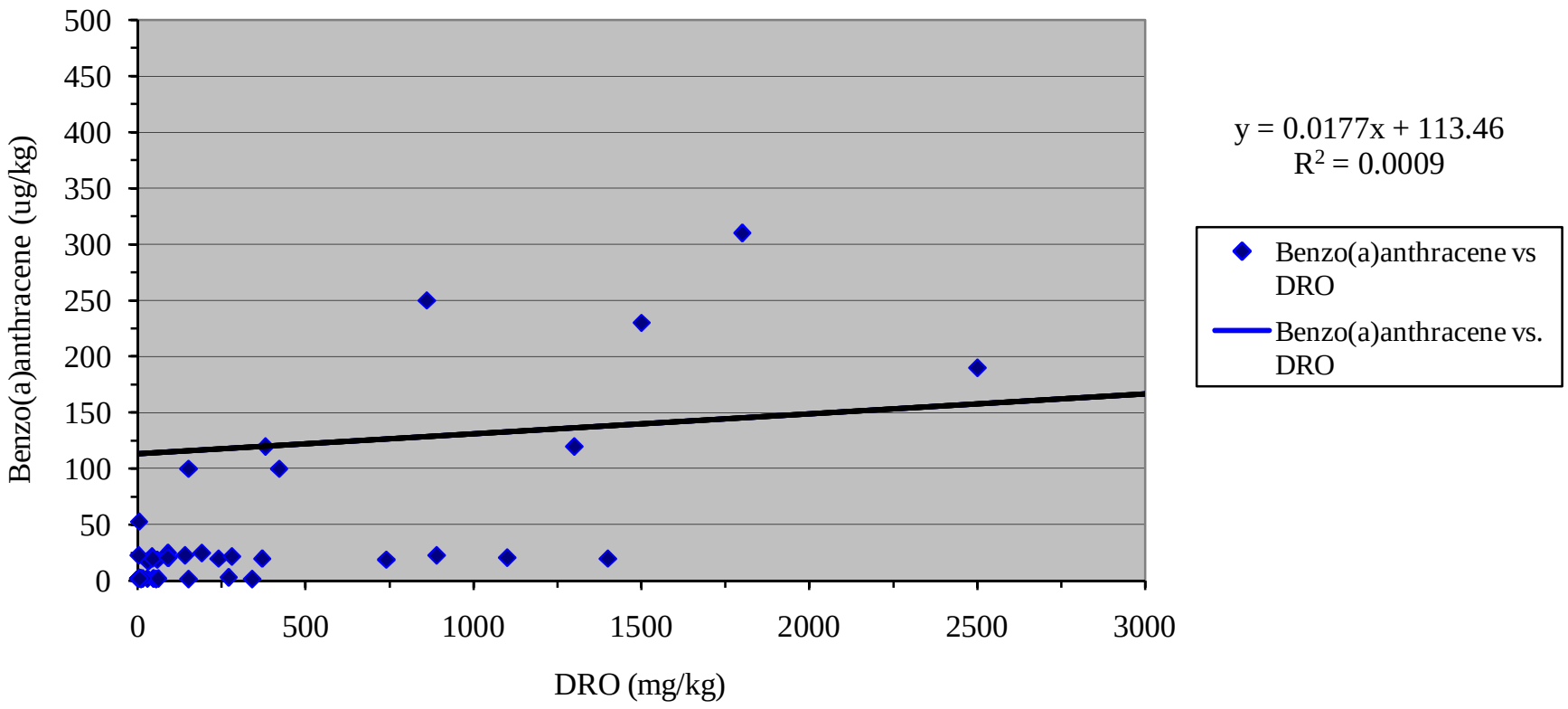


Figure D-7
Benzo(a)pyrene and DRO in Soil: Surface and Subsurface Soil Data Set
SWMU 74 - Fuel Pipelines and Hydrant Pits
Phase I of the CMS Investigation
Naval Activity Puerto Rico, Ceiba, Puerto Rico

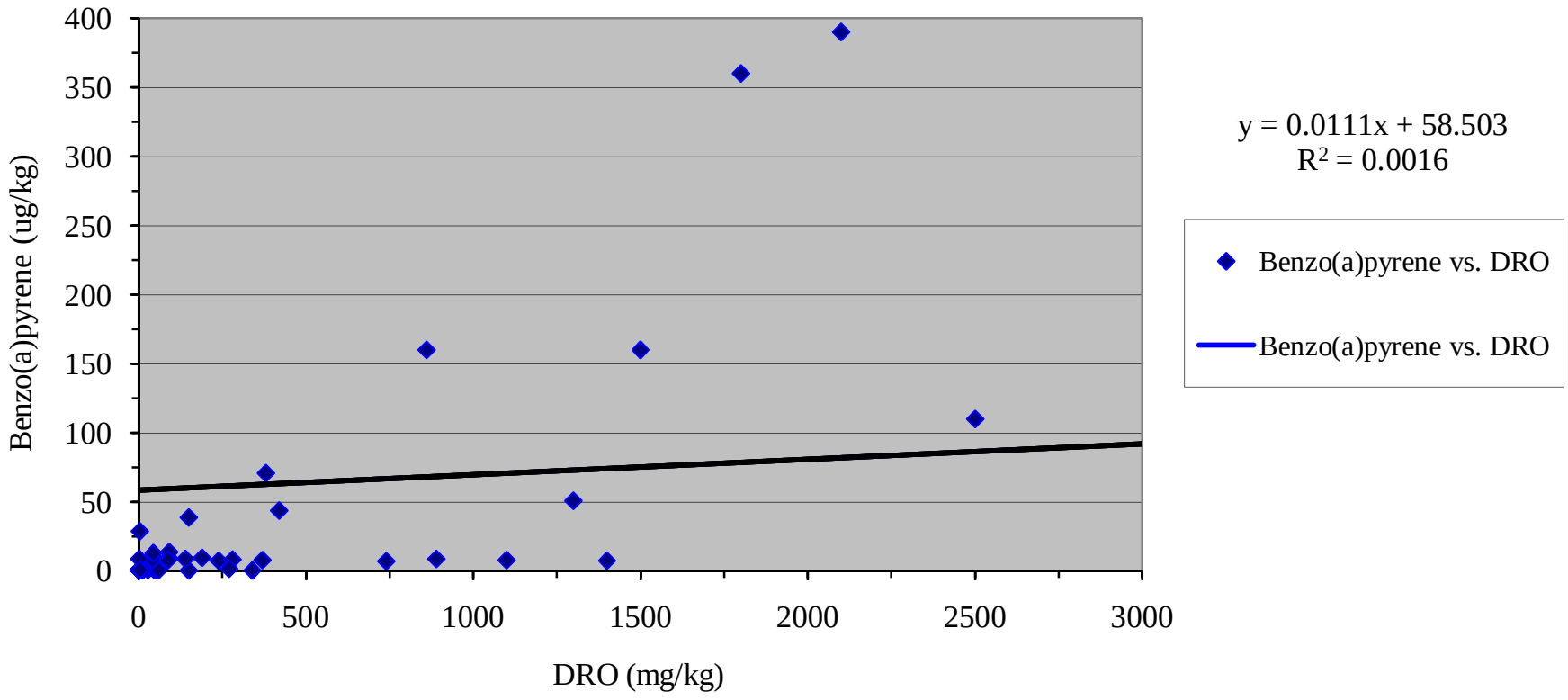


Figure D-8
Benzo(b)fluoranthene and DRO in Soil: Surface and Subsurface Soil Data Set
SWMU 74 - Fuel Pipelines and Hydrant Pits
Phase I of the CMS Investigation
Naval Activity Puerto Rico, Ceiba, Puerto Rico

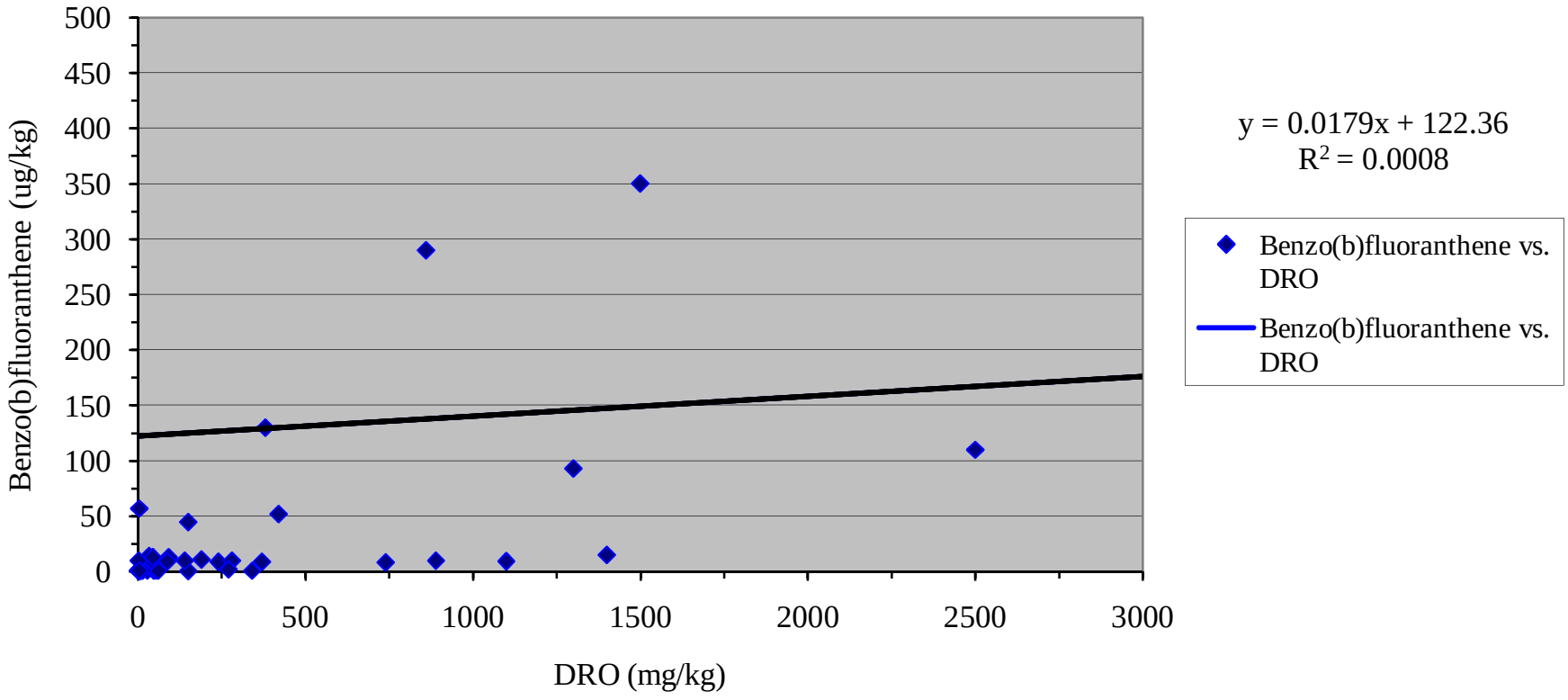


Figure D-9
Benzo(g,h,i)perylene and DRO in Soil: Surface and Subsurface Soil Data Set
SWMU 74 - Fuel Pipelines and Hydrant Pits
Phase I of the CMS Investigation
Naval Activity Puerto Rico, Ceiba, Puerto Rico

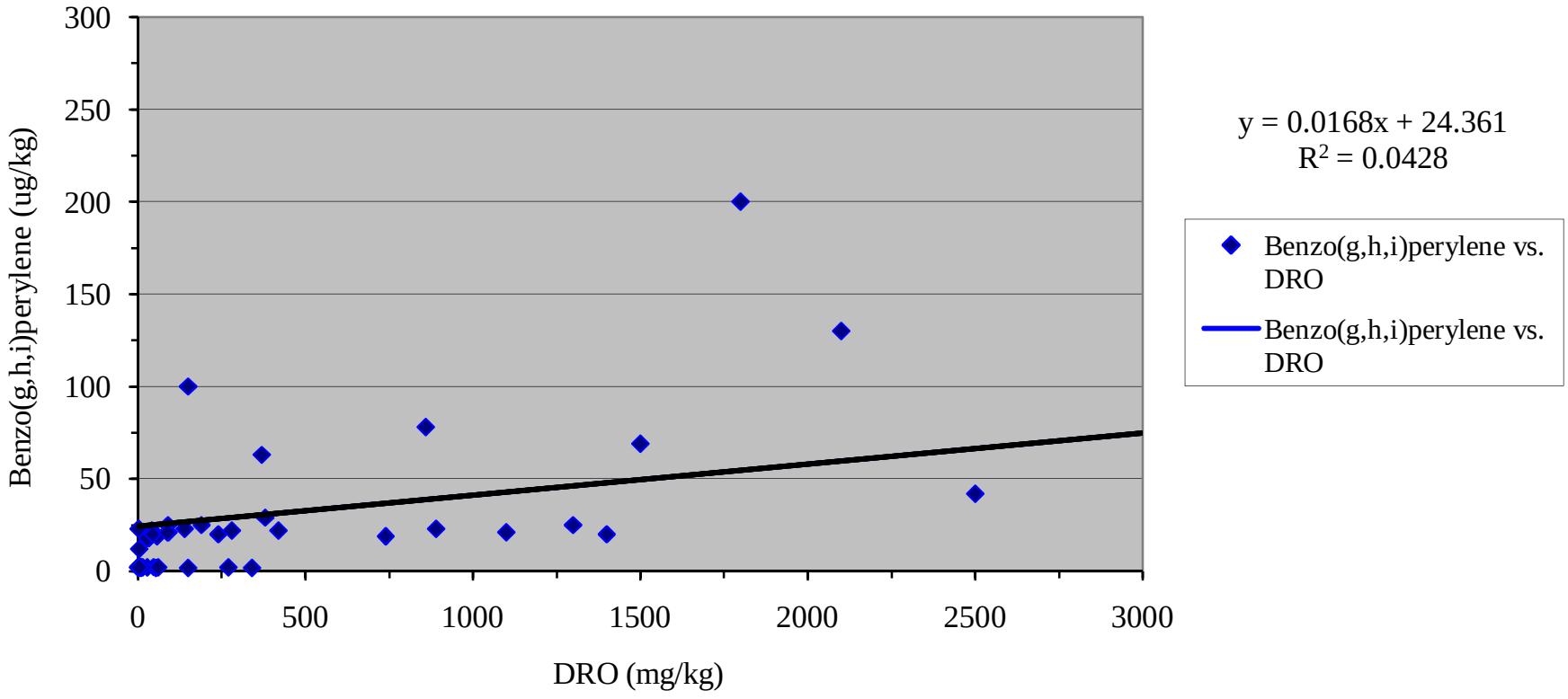


Figure D-10
Benzo(k)fluoranthene and DRO in Soil: Surface and Subsurface Soil Data Set
SWMU 74 - Fuel Pipelines and Hydrant Pits
Phase I of the CMS Investigation
Naval Activity Puerto Rico, Ceiba, Puerto Rico

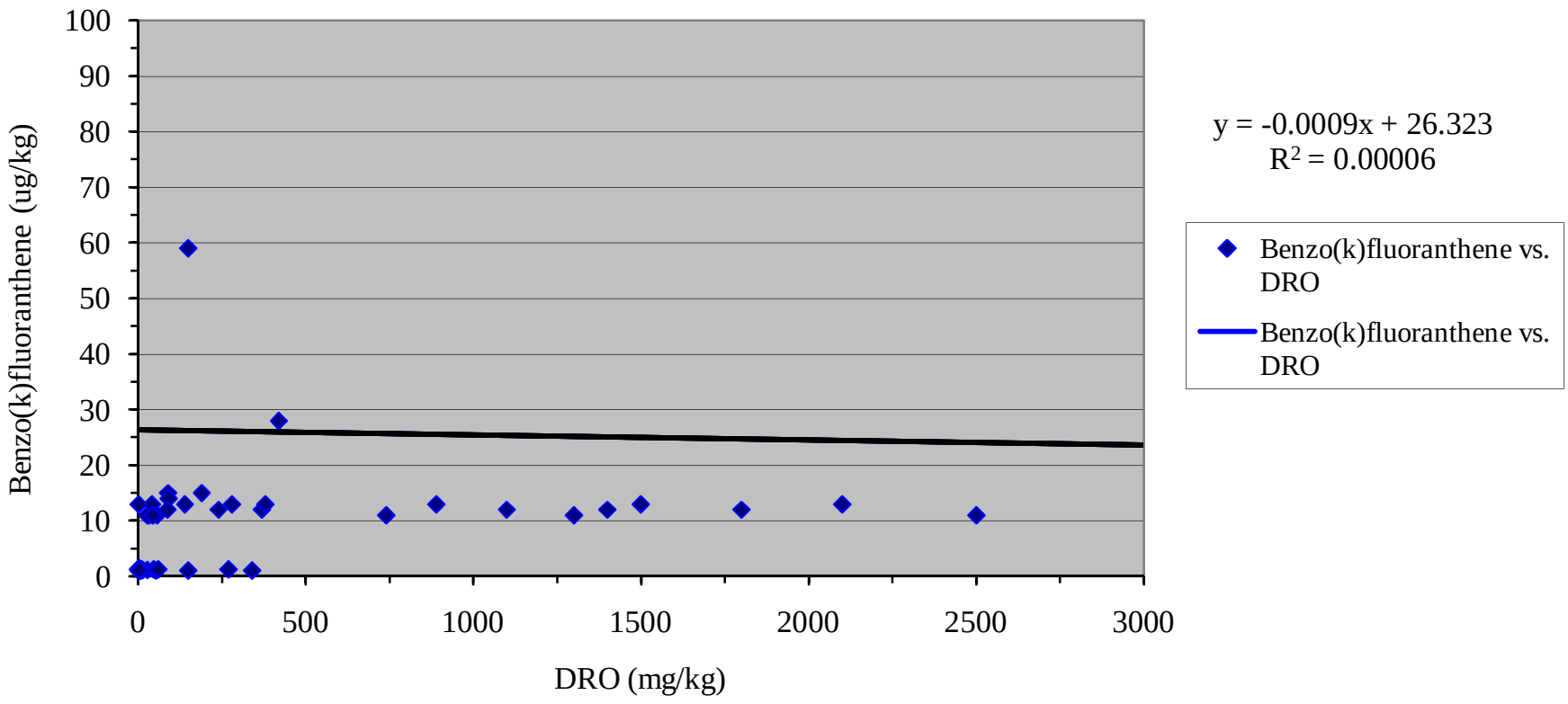


Figure D-11
Chrysene and DRO in Soil: Surface and Subsurface Soil Data Set
SWMU 74 - Fuel Pipelines and Hydrant Pits
Phase I of the CMS Investigation
Naval Activity Puerto Rico, Ceiba, Puerto Rico

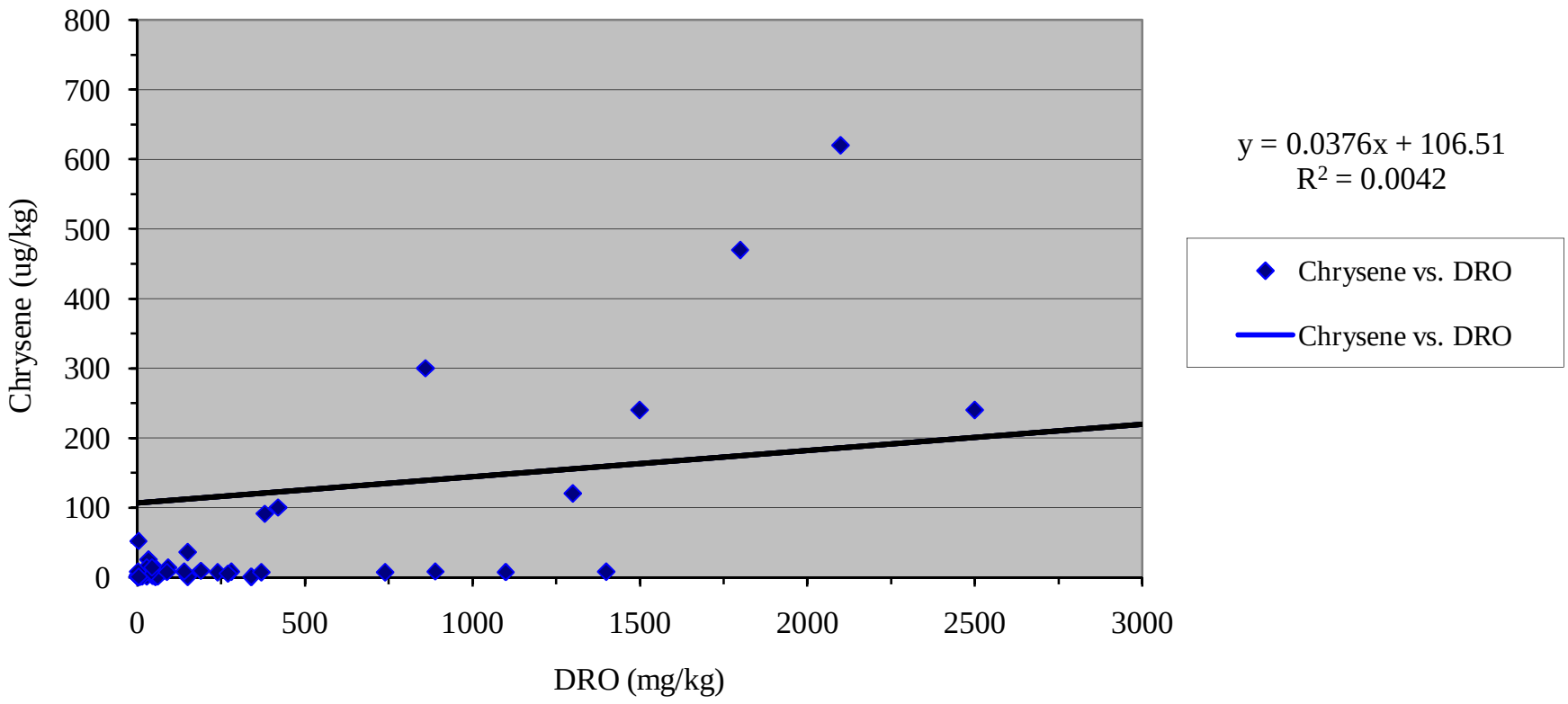


Figure D-12
Dibenz(a,h)anthracene and DRO in Soil: Surface and Subsurface Soil data Set
SWMU 74 - Fuel Pipelines and Hydrant Pits
Phase I of the CMS Investigation
Naval Activity Puerto Rico, Ceiba, Puerto Rico

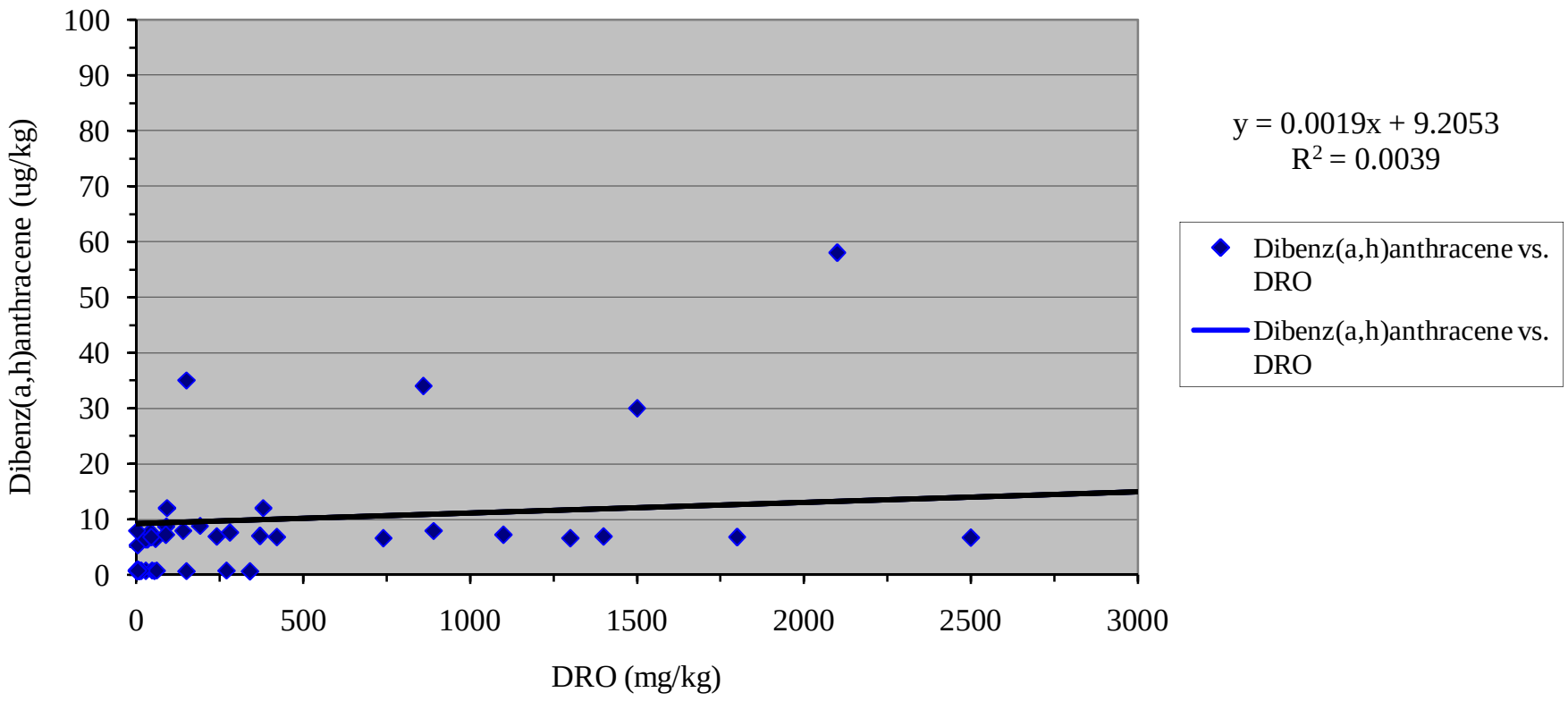


Figure D-13
Fluoranthene and DRO in Soil: Surface and Subsurface Soil Data Set
SWMU 74 - Fuel Pipelines and Hydrant Pits
Phase I of the CMS Investigation
Naval Activity Puerto Rico, Ceiba, Puerto Rico

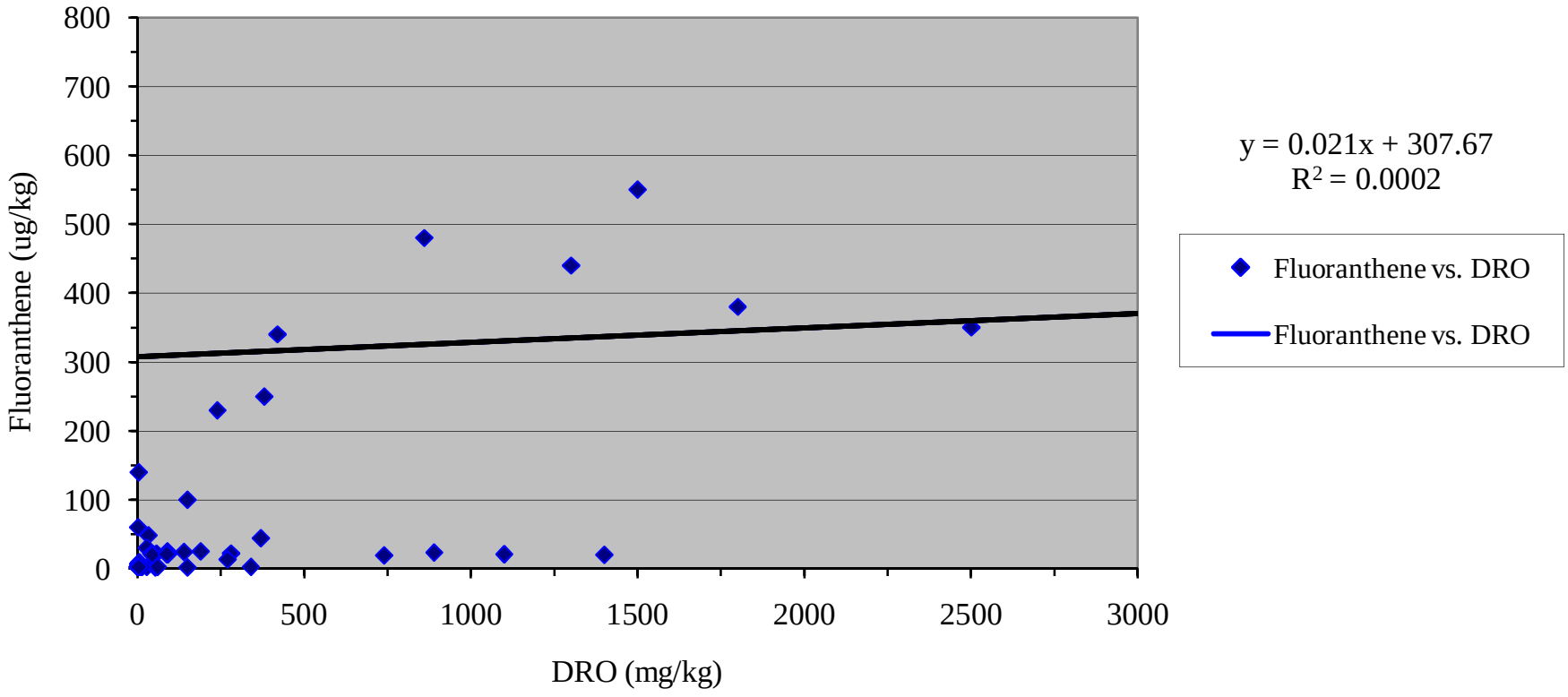


Figure D-14
Fluorene and DRO in Soil: Surface and Subsurface Soil Data Set
SWMU 74 - Fuel Pipelines and Hydrant Pits
Phase I of the CMS Investigation
Naval Activity Puerto Rico, Ceiba, Puerto Rico

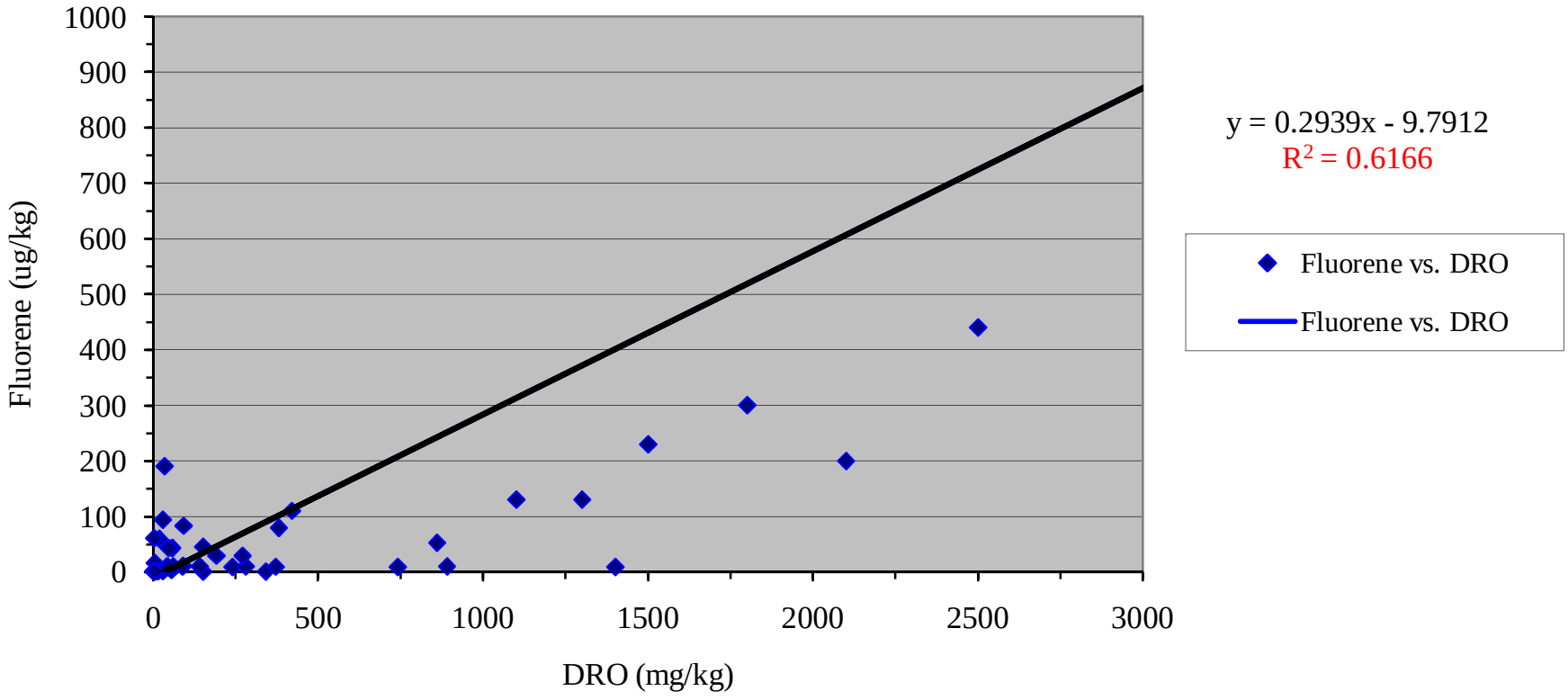


Figure D-15
Indeno(1,2,3-cd)pyrene and DRO in Soil: Surface and Subsurface Soil Data Set
SWMU 74 - Fuel Pipelines and Hydrant Pits
Phase I of the CMS Investigation
Naval Activity Puerto Rico, Ceiba, Puerto Rico

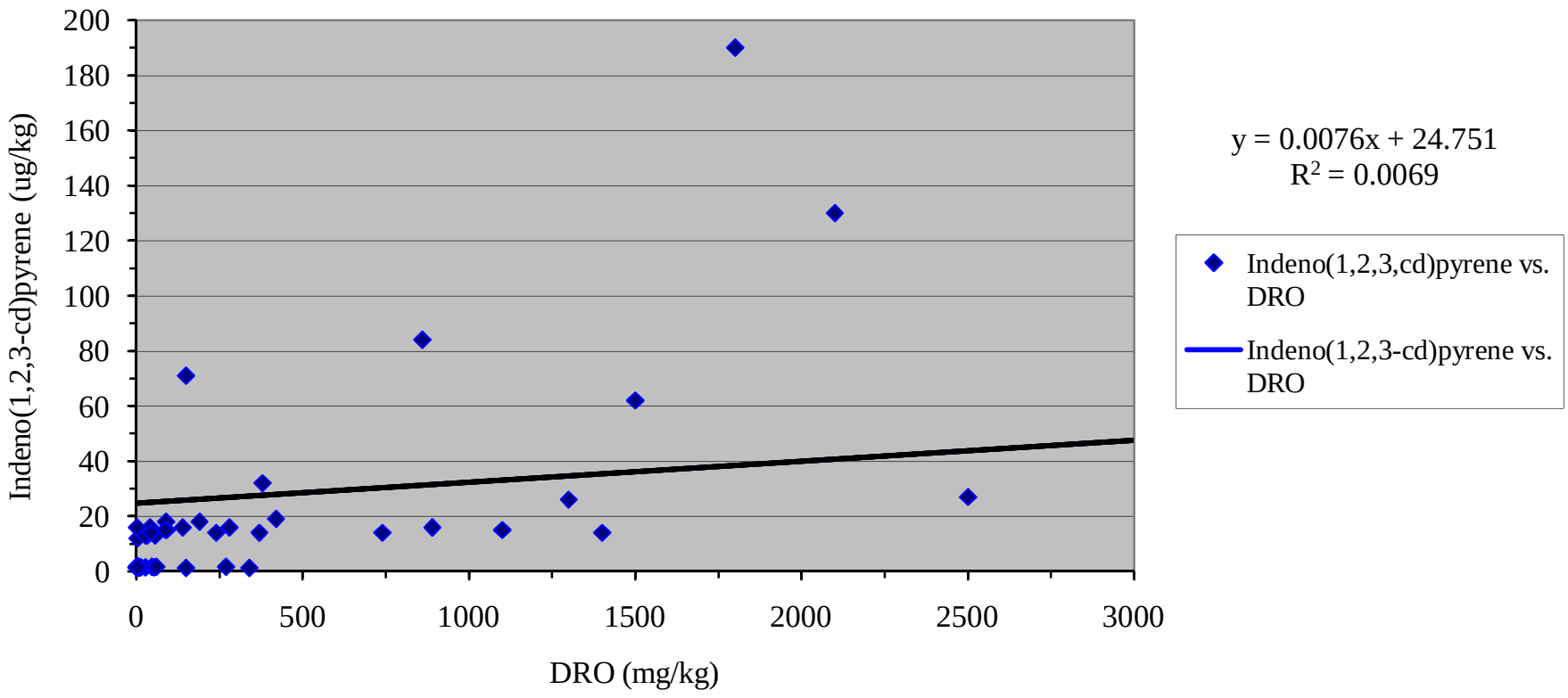


Figure D-16
Naphthalene and DRO in Soil: Surface and Subsurface Soil Data Set
SWMU 74 - Fuel Pipelines and Hydrant Pits
Phase I of the CMS Investigation
Naval Activity Puerto Rico, Ceiba, Puerto Rico

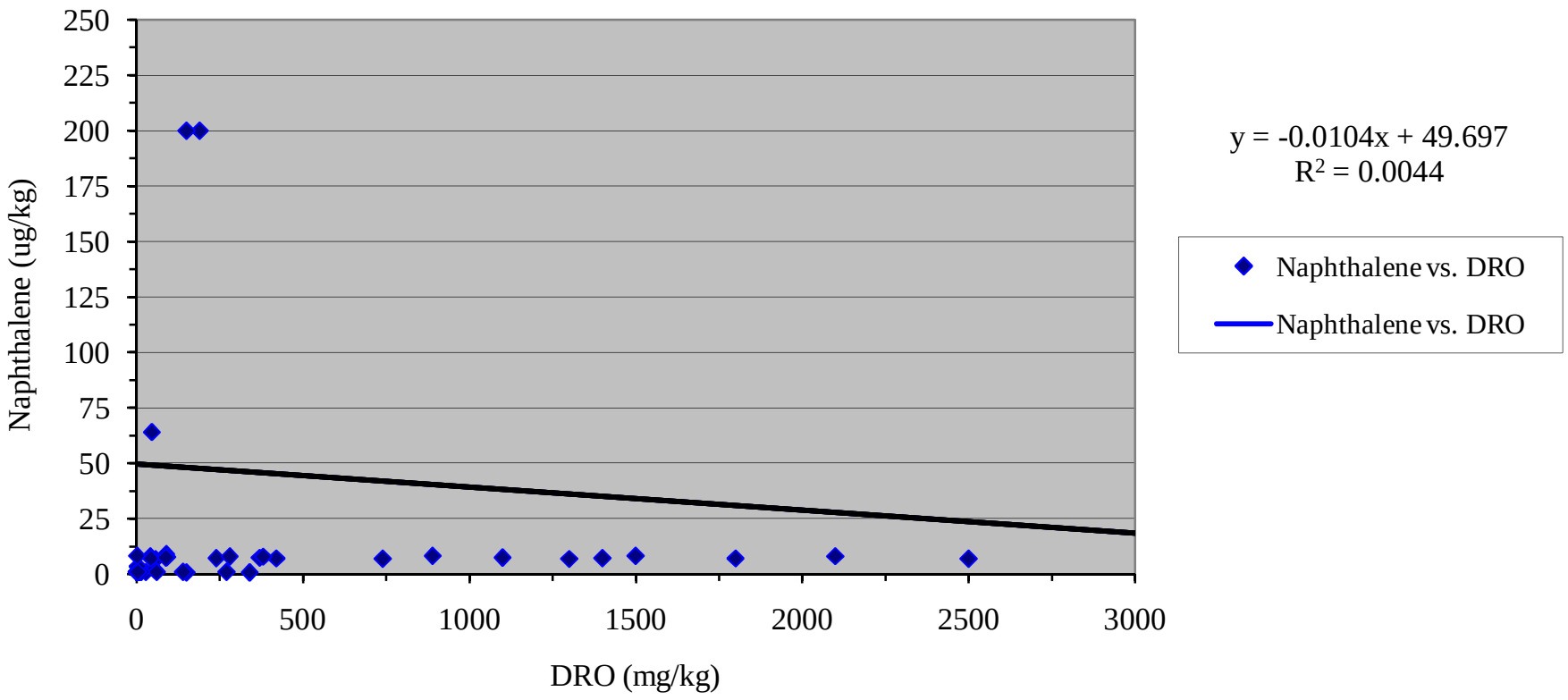


Figure D-17
Phenanthrene and DRO in Soil: Surface and Subsurface Soil Data Set
SWMU 74 - Fuel Pipelines and Hydrant Pits
Phase I of the CMS Investigation
Naval Activity Puerto Rico, Ceiba, Puerto Rico

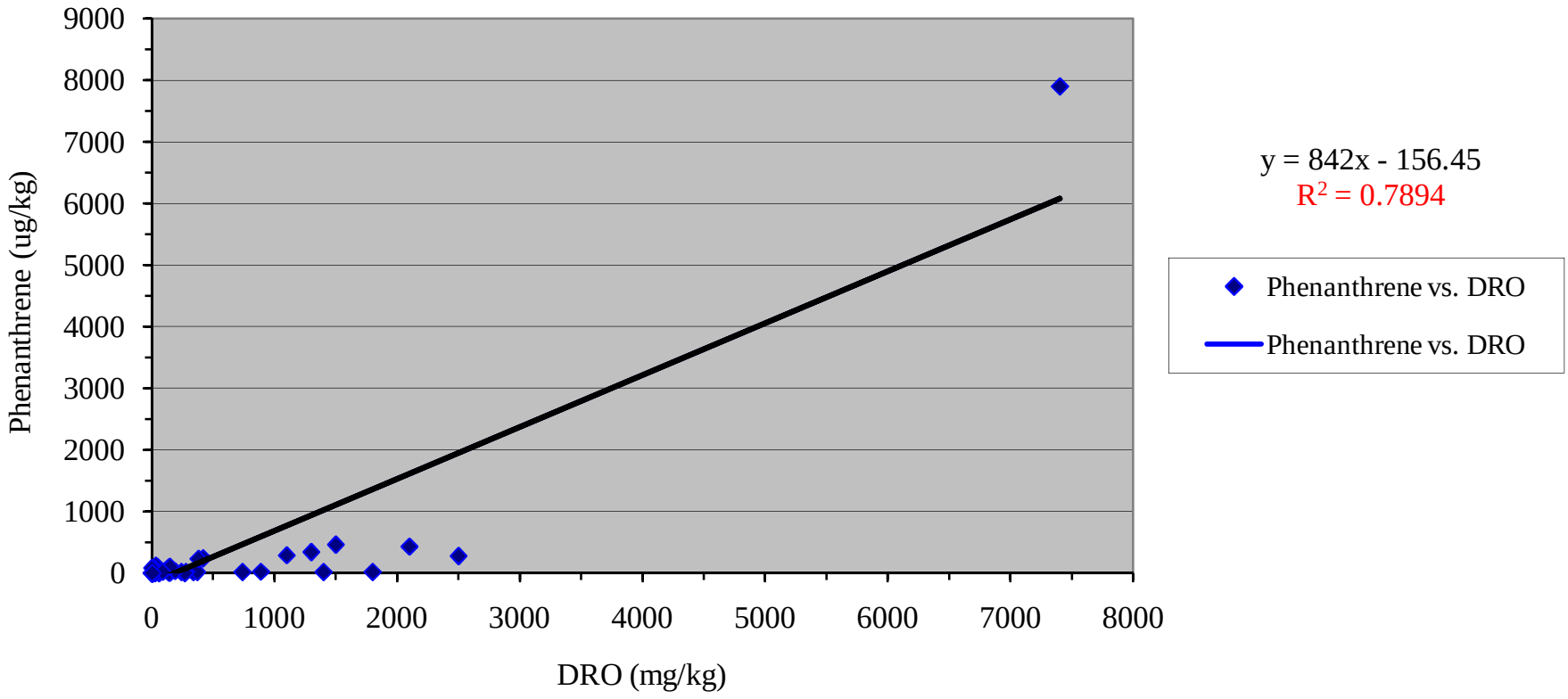


Figure D-17a
Phenanthrene and DRO in Soil: Surface and Subsurface Soil Data Set
SWMU 74 - Fuel Pipelines and Hydrant Pits
Phase I of the CMS Investigation
Naval Activity Puerto Rico, Ceiba, Puerto Rico

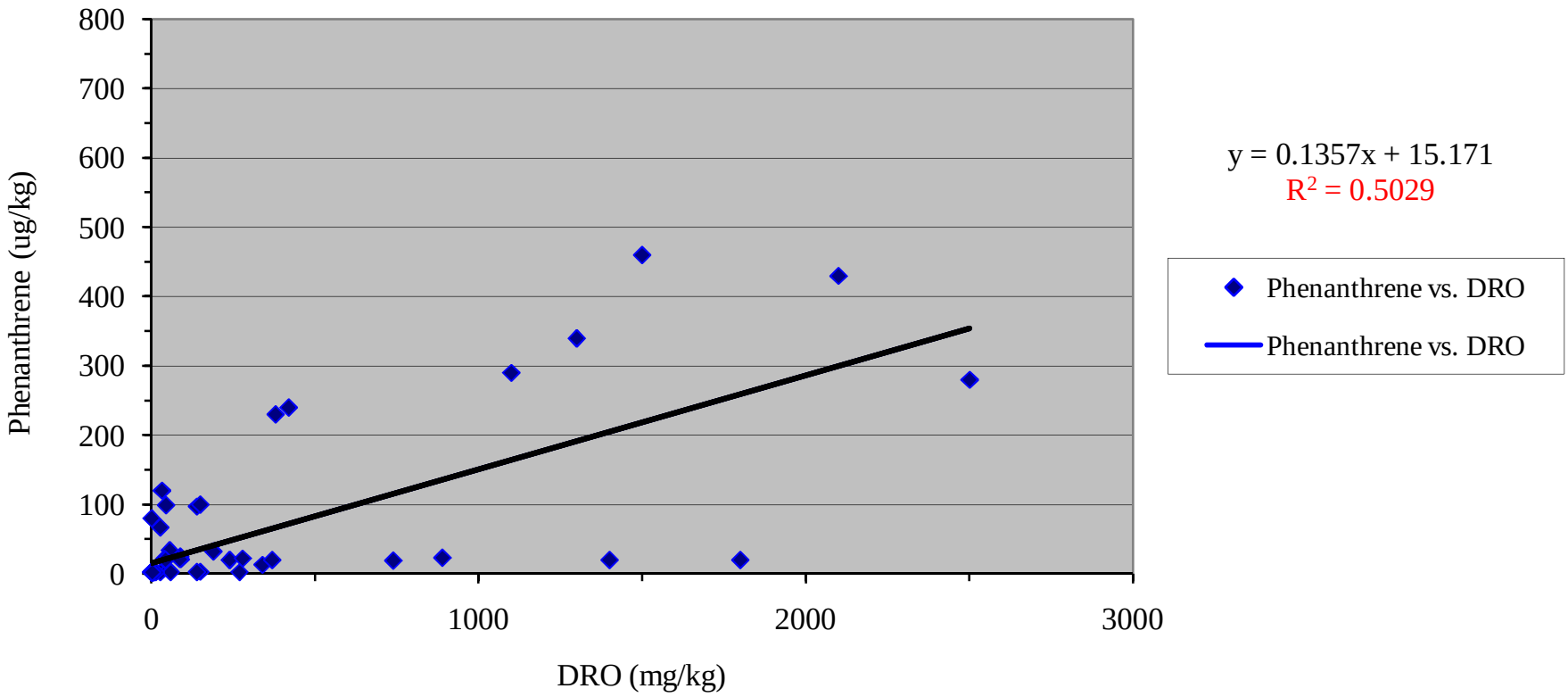
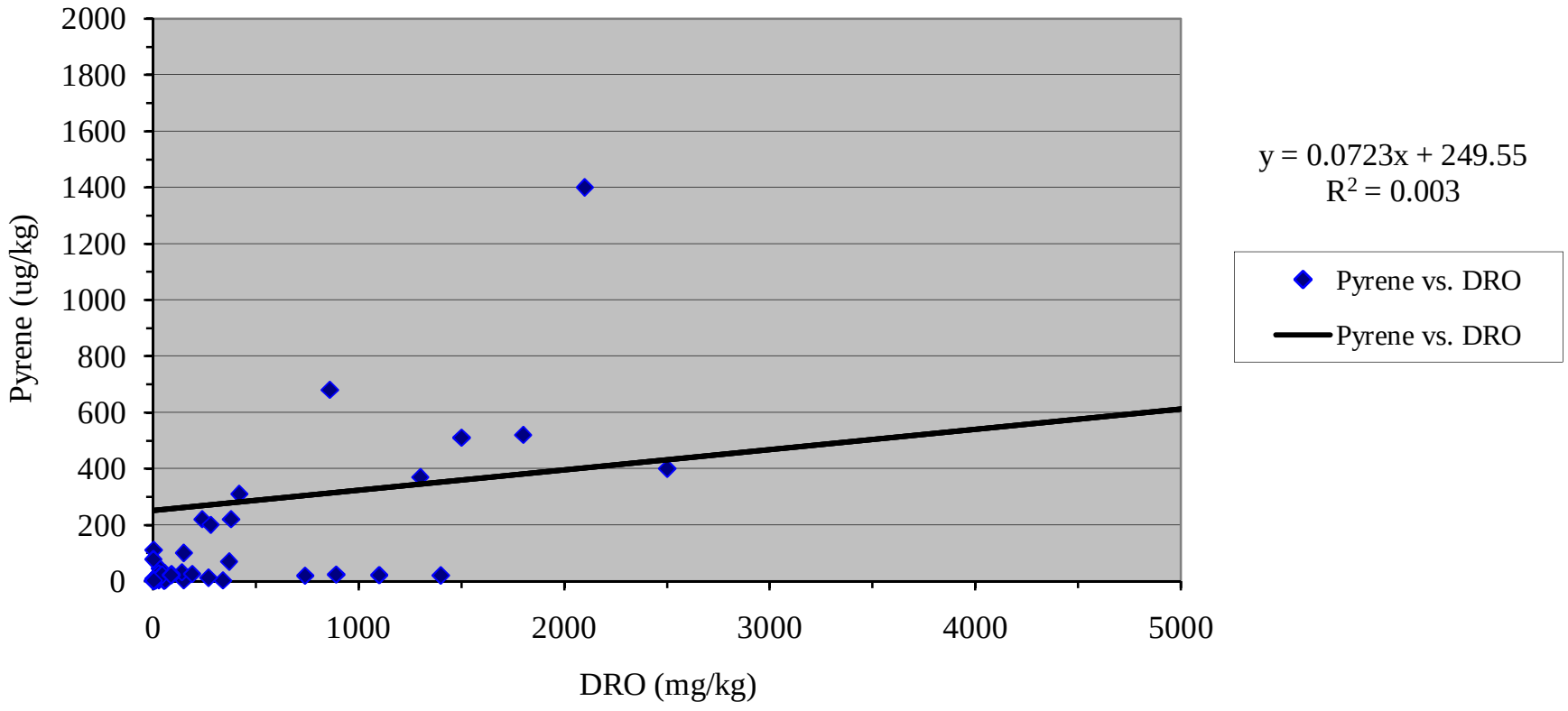


Figure D-18
Pyrene and DRO in Soil: Surface and Subsurface Soil Data Set
SWMU 74 - Fuel Pipelines and Hydrant Pits
Phase I of the CMS Investigation
Naval Activity Puerto Rico, Ceiba, Puerto Rico



Metals/TPH Correlation Plots

Figure D-19
Antimony and TPH in Soil: Surface and Subsurface Soil Data Set
SWMU 74 - Fuel Pipelines and Hydrant Pits
Phase I of the CMS Investigation
Naval Activity Puerto Rico, Ceiba, Puerto Rico

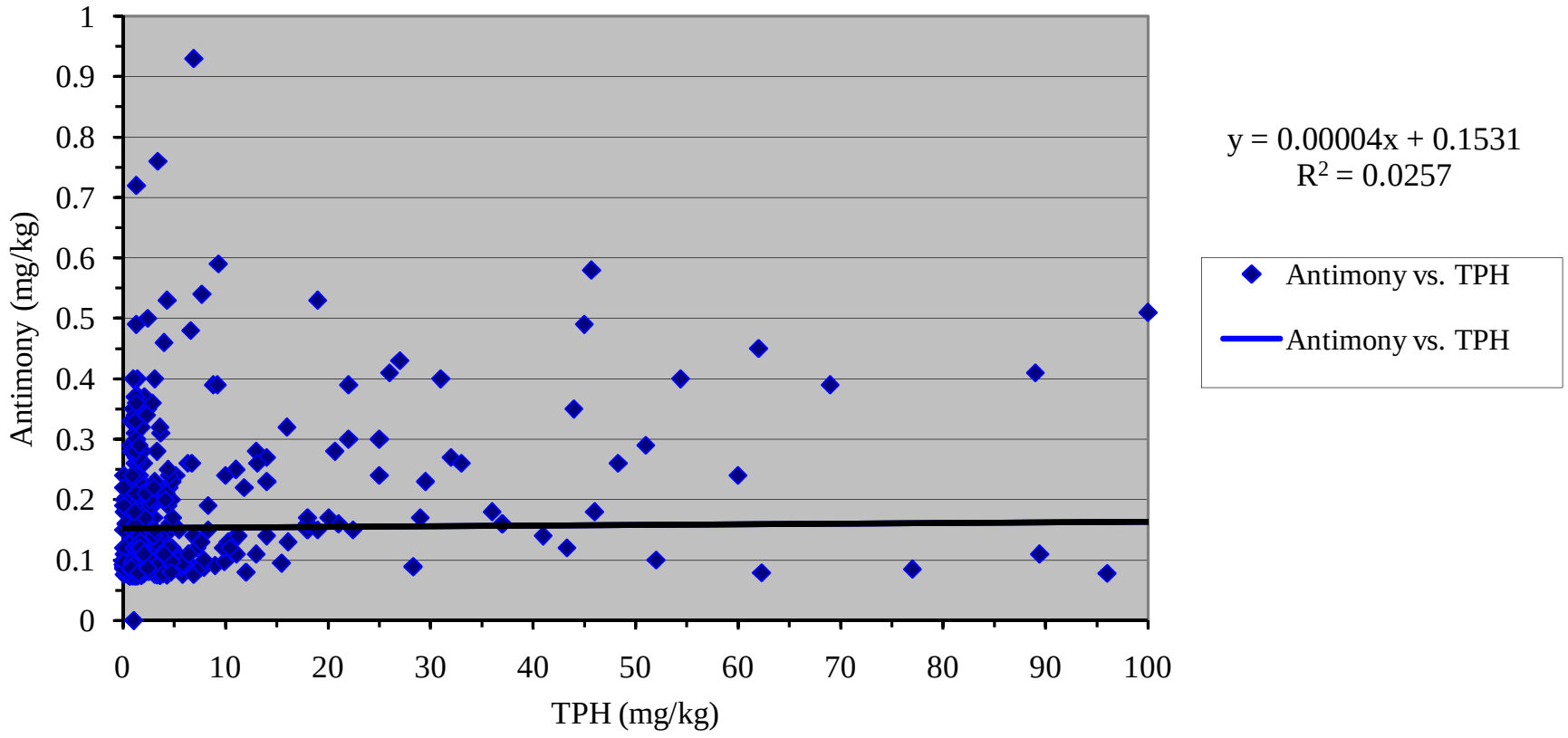


Figure D-20
Arsenic and TPH in Soil: Surface and Subsurface Soil Data Set
SWMU 74 - Fuel Pipelines and Hydrant Pits
Phase I of the CMS Investigation
Naval Activity Puerto Rico, Ceiba, Puerto Rico

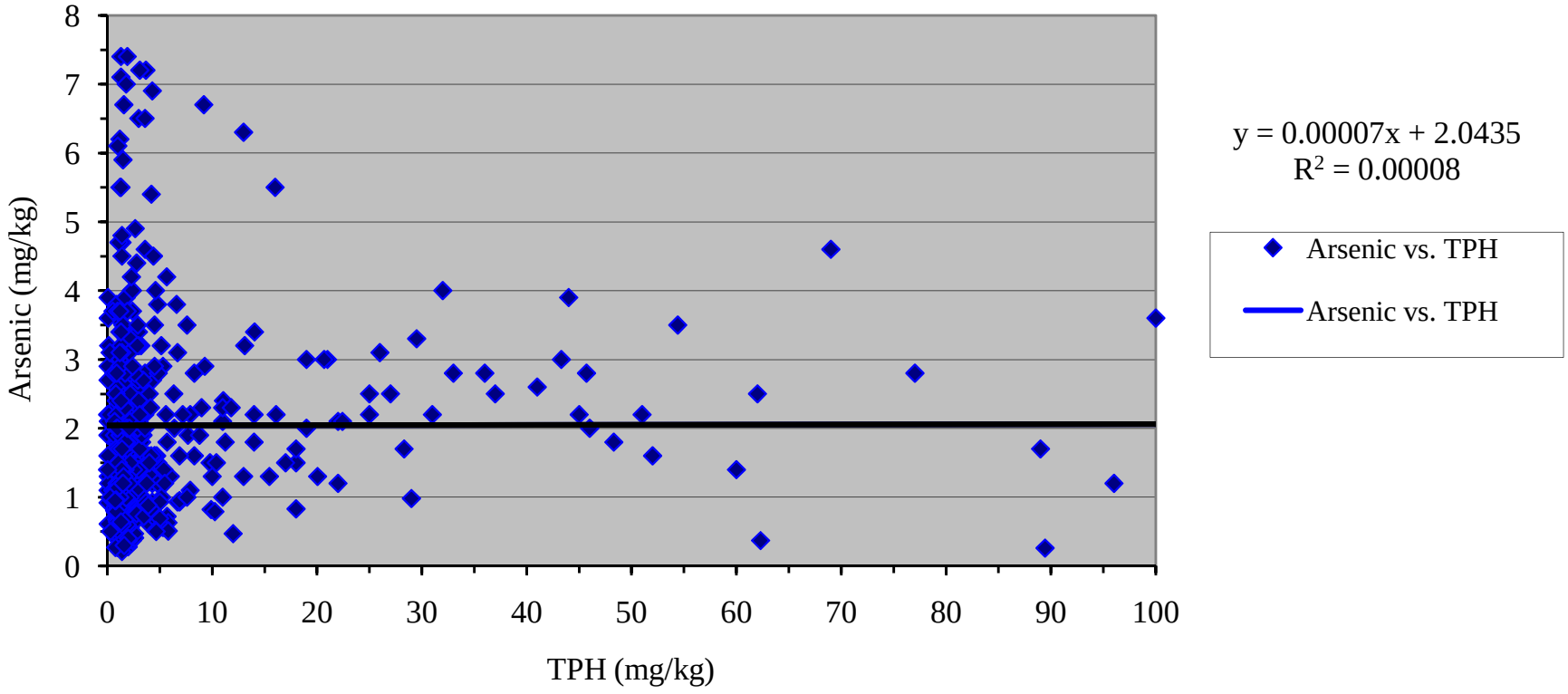


Figure D-21
Barium and TPH in Soil: Surface and Subsurface Soil Data Set
SWMU 74 - Fuel Pipelines and Hydrant Pits
Phase I of the CMS Investigation
Naval Activity Puerto Rico, Ceiba, Puerto Rico

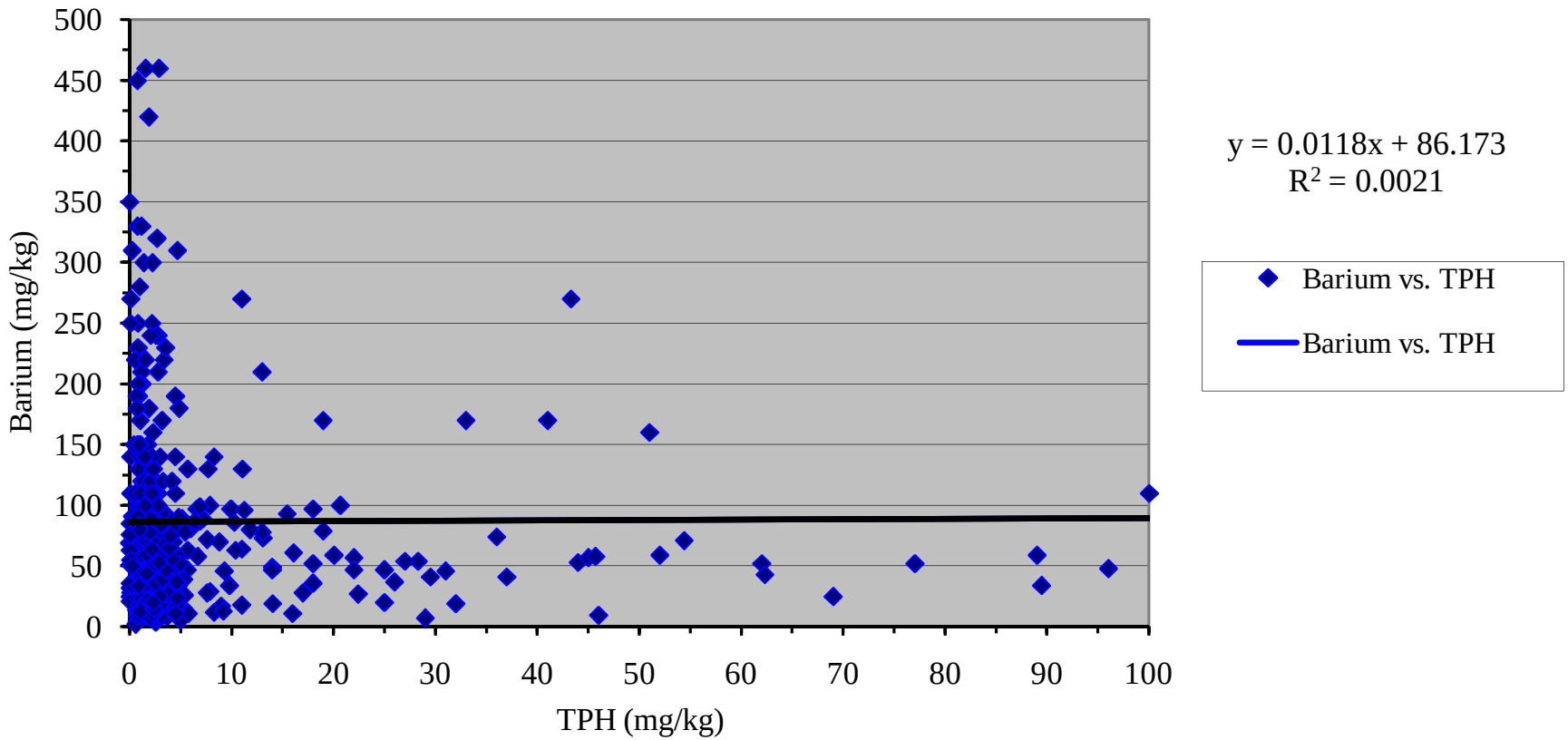


Figure D-22
Beryllium and TPH in Soil: Surface and Subsurface Soil Data Set
SWMU 74 - Fuel Pipelines and Hydrant Pits
Phase I of the CMS Investigation
Naval Activity Puerto Rico, Ceiba, Puerto Rico

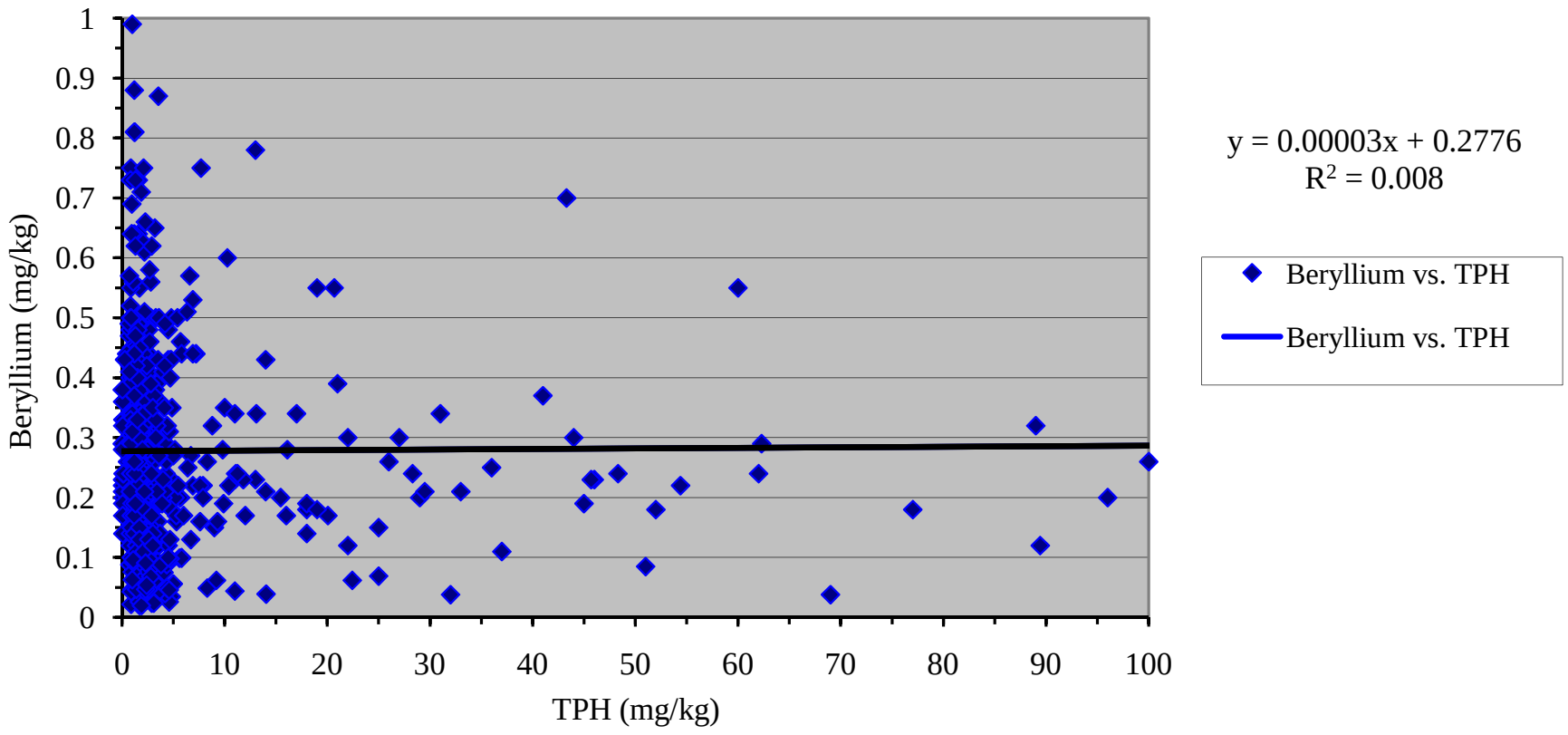


Figure D-23
Cadmium and TPH in Soil: Surface and Subsurface Soil Data Set
SWMU 74 - Fuel Pipelines and Hydrant Pits
Phase I of the CMS Investigation
Naval Activity Puerto Rico, Ceiba, Puerto Rico

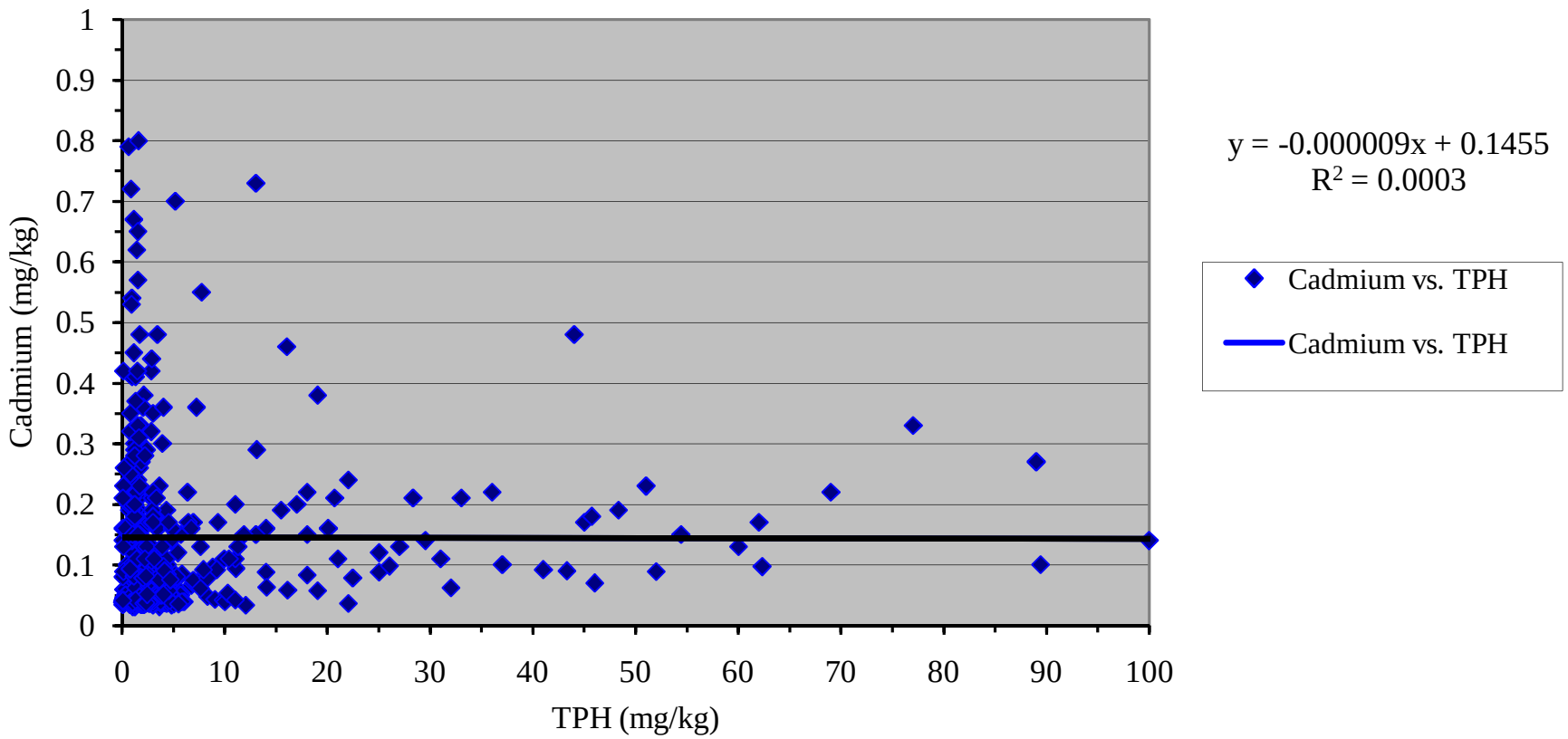


Figure D-24
Chromium and TPH in Soil: Surface and Subsurface Soil Data Set
SWMU 74 - Fuel Pipelines and Hydrant Pits
Phase I of the CMS Investigation
Naval Activity Puerto Rico, Ceiba, Puerto Rico

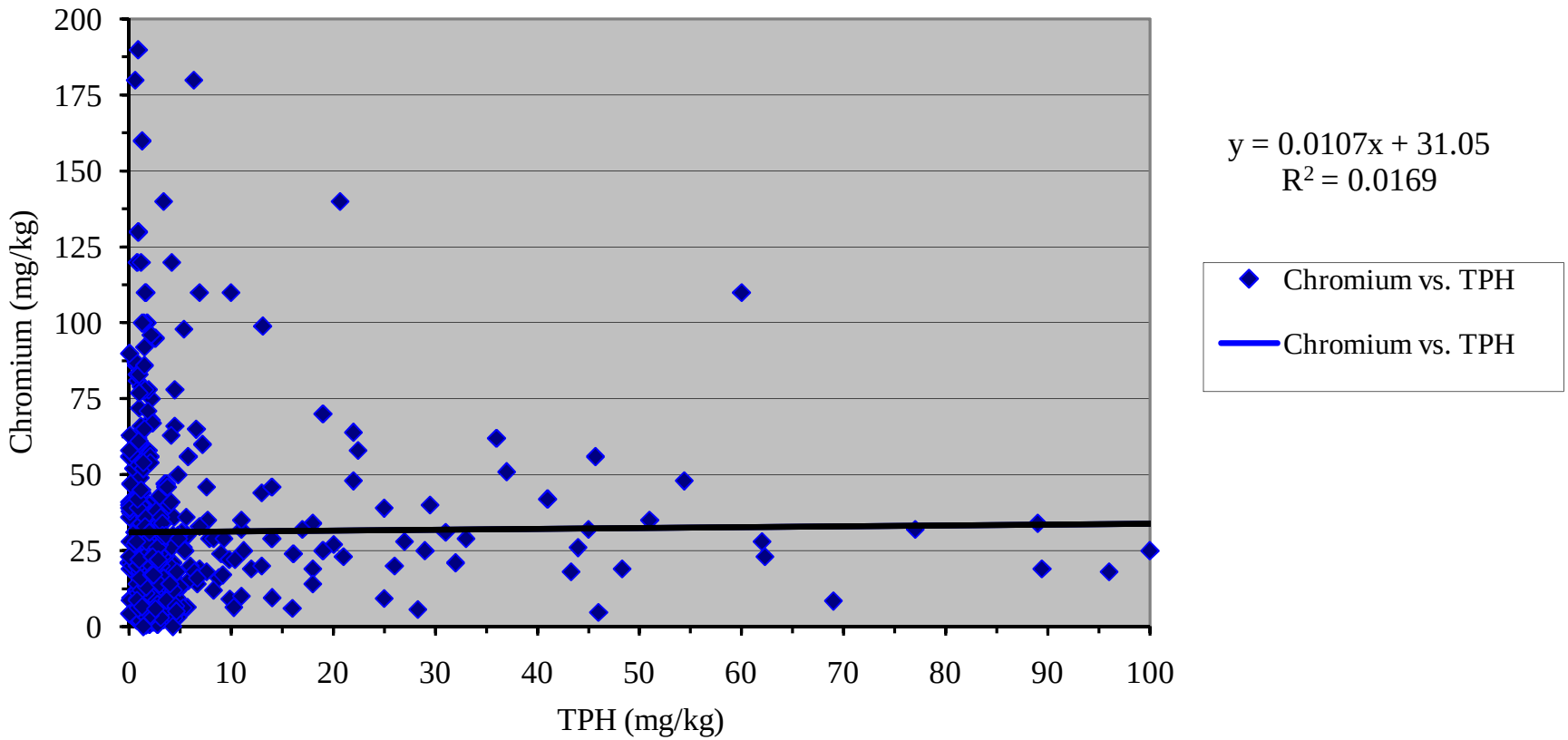


Figure D-25
Cobalt and TPH in Soil: Surface and Subsurface Soil Data Set
SWMU 74 - Fuel Pipelines and Hydrant Pits
Phase I of the CMS Investigation
Naval Activity Puerto Rico, Ceiba, Puerto Rico

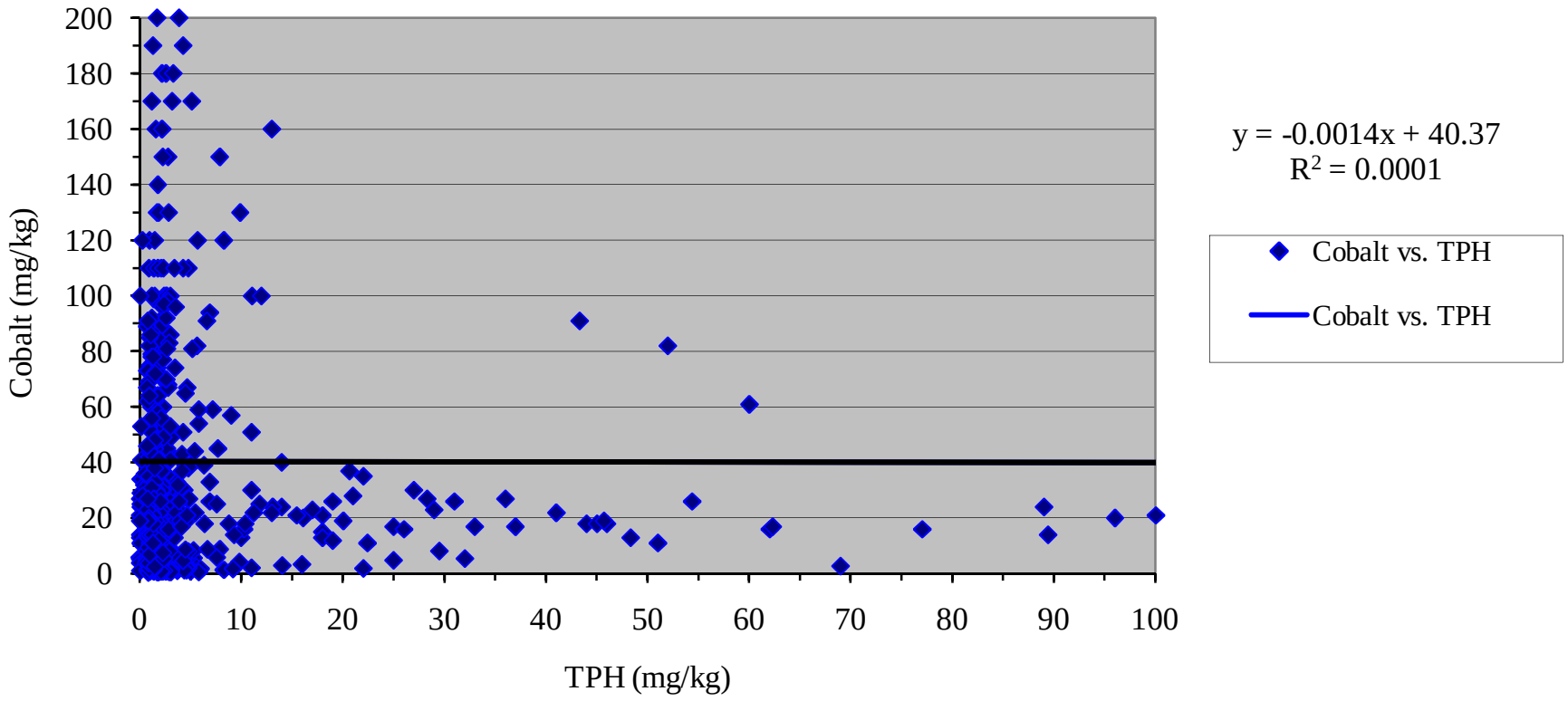


Figure D-26
Copper and TPH in Soil: Surface and Subsurface Soil Data Set
SWMU 74 - Fuel Pipelines and Hydrant Pits
Phase I of the CMS Investigation
Naval Activity Puerto Rico, Ceiba, Puerto Rico

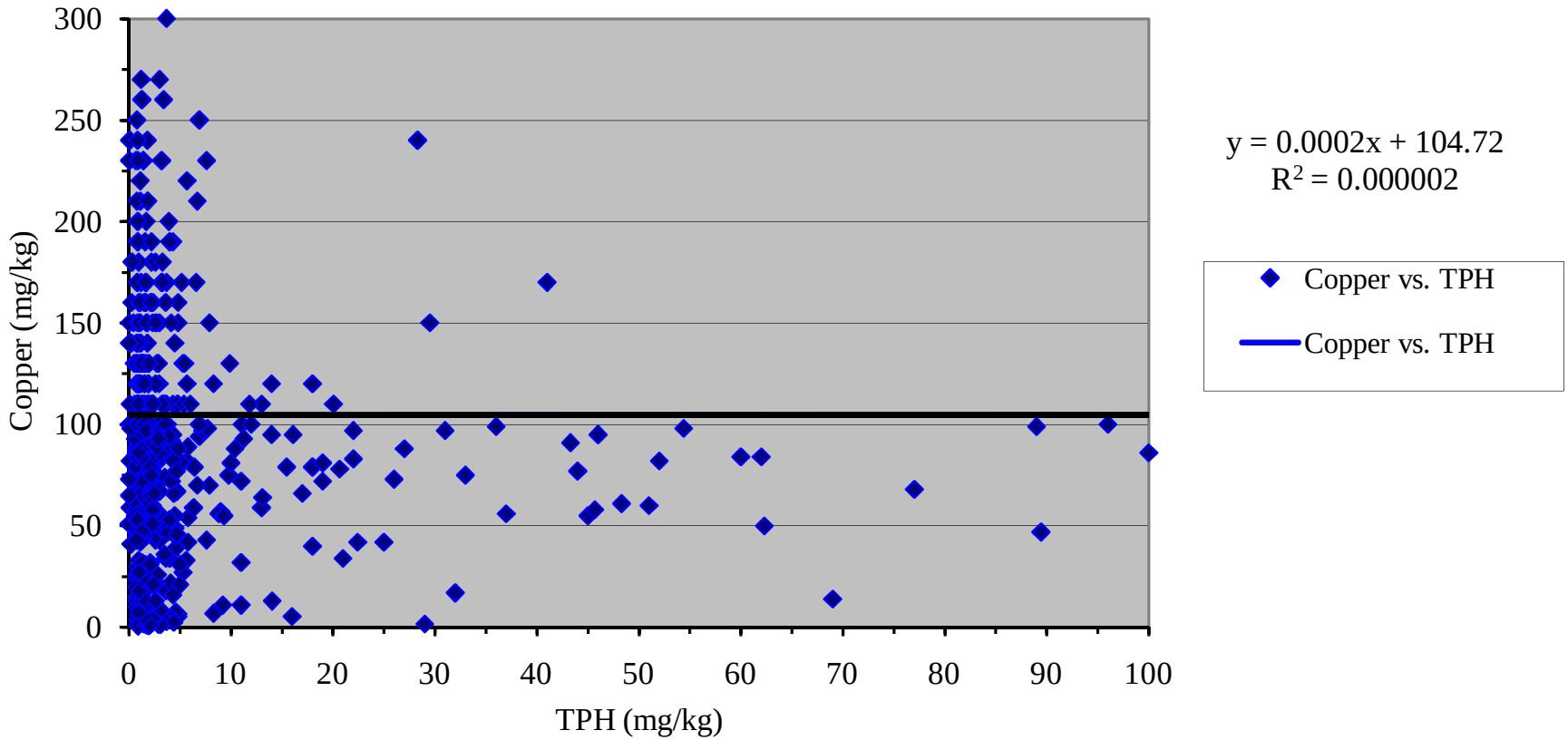


Figure D-27
Lead and TPH in Soil: Surface and Subsurface Soil Data Set
SWMU 74 - Fuel Pipelines and Hydrant Pits
Phase I of the CMS Investigation
Naval Activity Puerto Rico, Ceiba, Puerto Rico

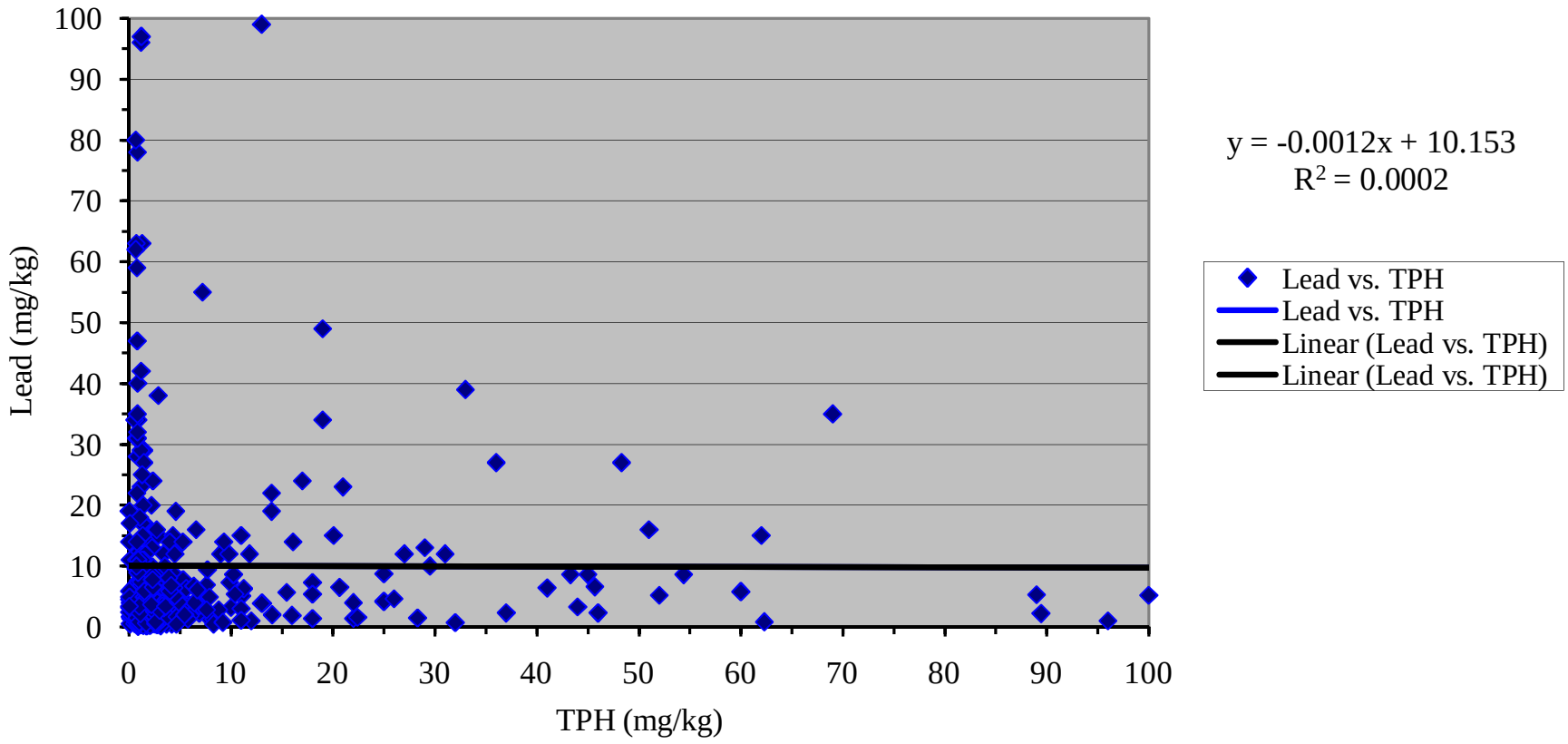


Figure D-28
Mercury and TPH in Soil: Surface and Subsurface Soil Data Set
SWMU 74 - Fuel Pipelines and Hydrant Pits
Phase I of the CMS Investigation
Naval Activity Puerto Rico, Ceiba, Puerto Rico

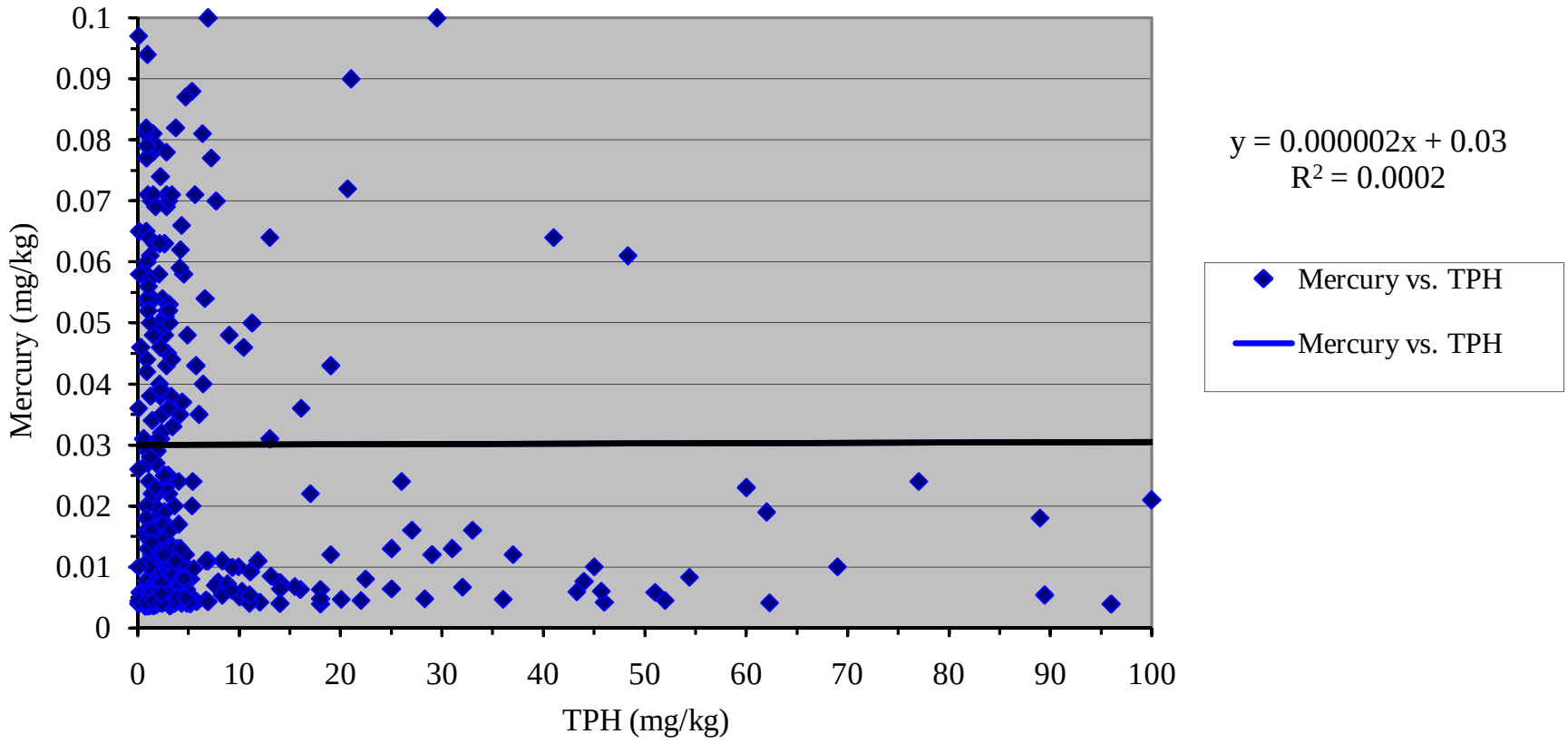


Figure D-29
Nickel and TPH in Soil: Surface and Subsurface Soil Data Set
SWMU 74 - Fuel Pipelines and Hydrant Pits
Phase I of the CMS Investigation
Naval Activity Puerto Rico, Ceiba, Puerto Rico

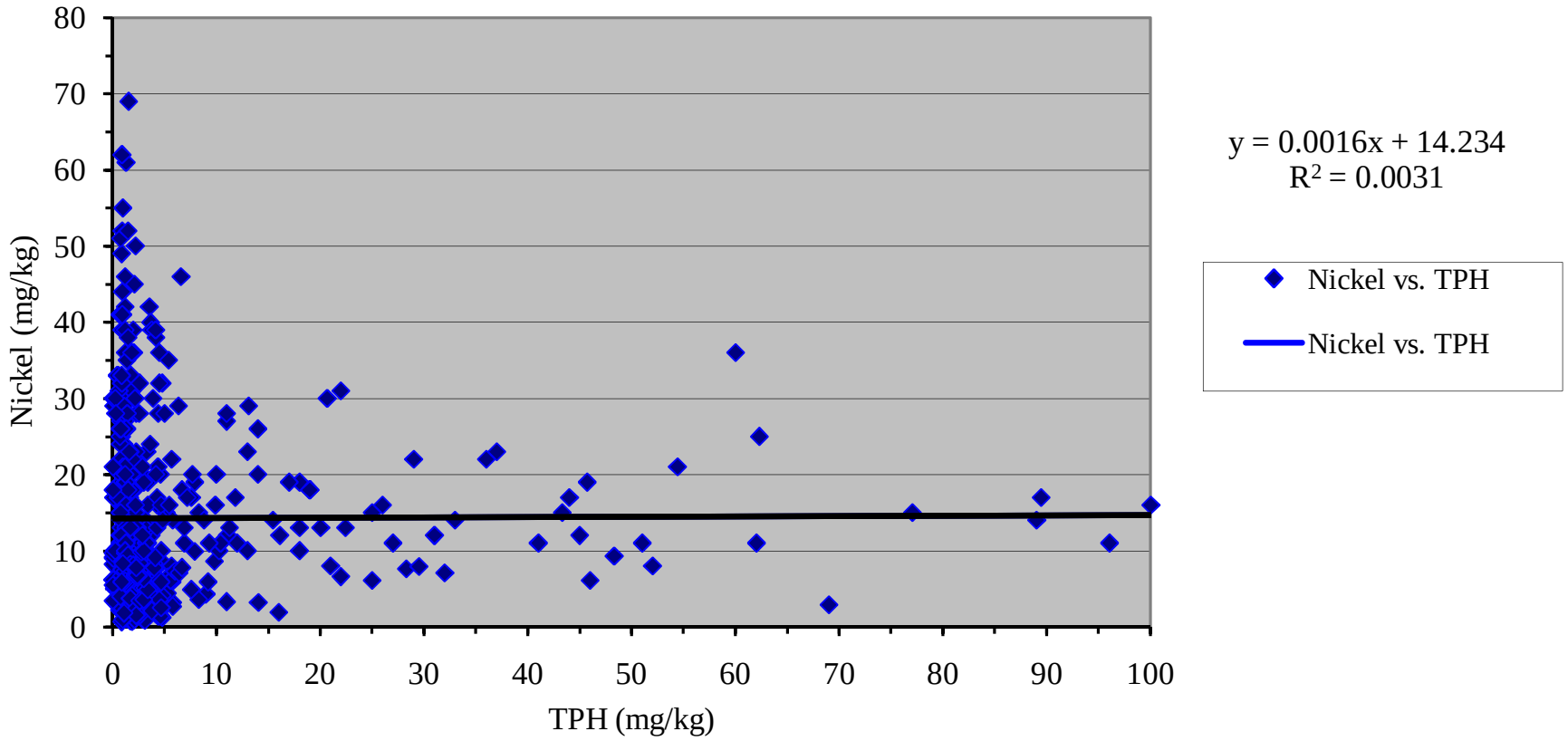


Figure D-30
Selenium and TPH in Soil: Surface and Subsurface Soil Data Set
SWMU 74 - Fuel Pipelines and Hydrant Pits
Phase I of the CMS Investigation
Naval Activity Puerto Rico, Ceiba, Puerto Rico

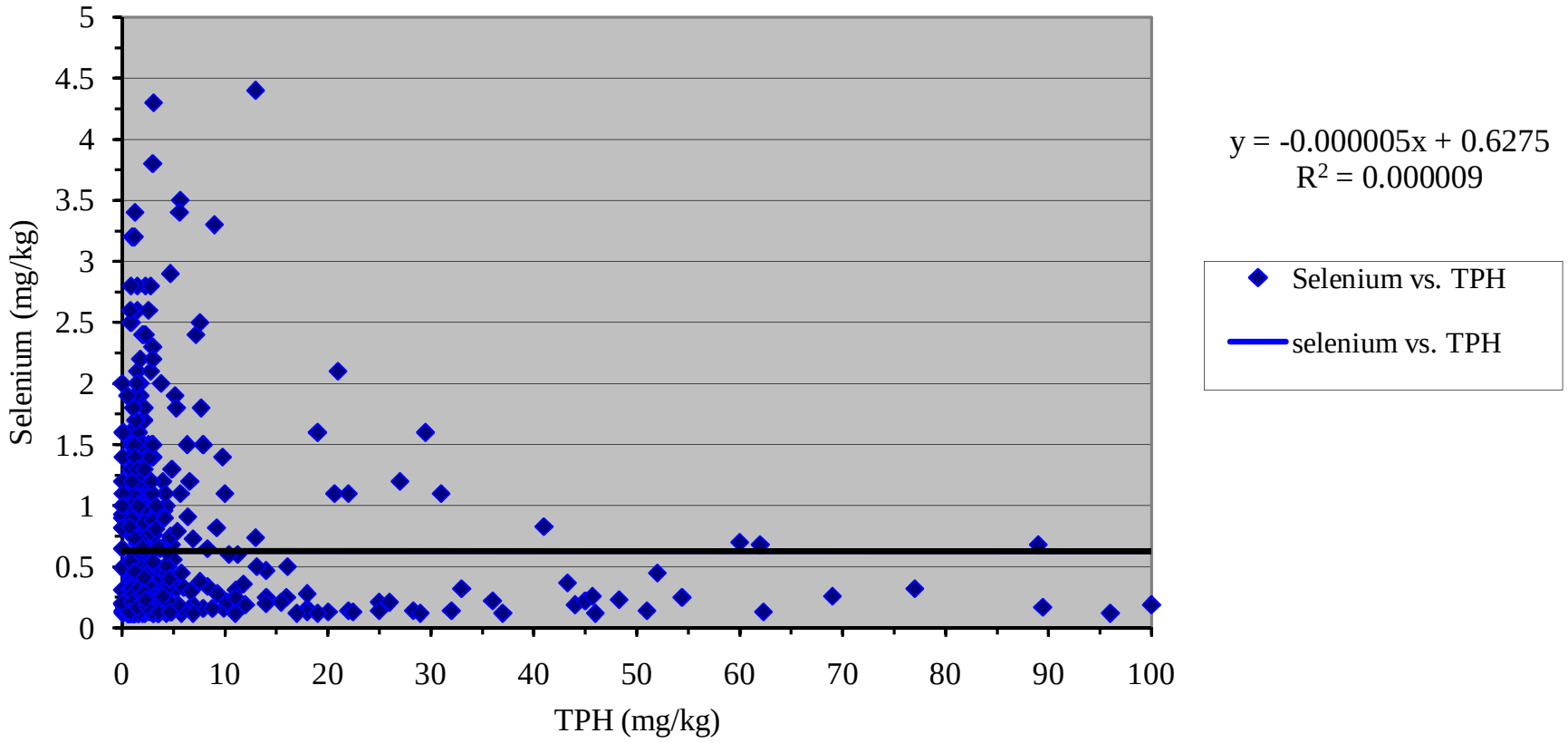


Figure D-31
Silver and TPH in Soil: Surface and Subsurface Soil Data Set
SWMU 74 - Fuel Pipelines and Hydrant Pits
Phase I of the CMS Investigation
Naval Activity Puerto Rico, Ceiba, Puerto Rico

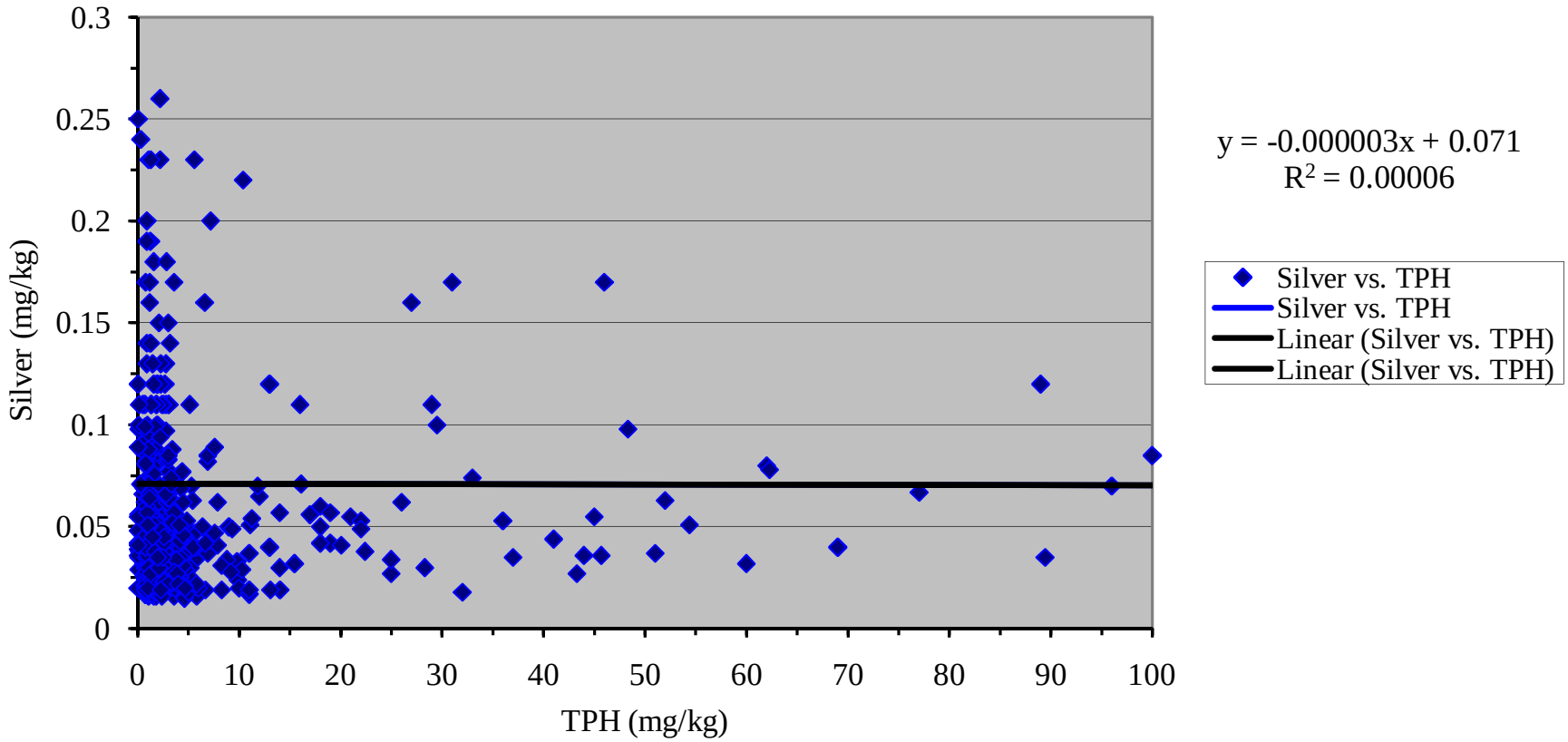


Figure D-32
Thallium and TPH in Soil: Surface and Subsurface Soil Data Set
SWMU 74 - Fuel Pipelines and Hydrant Pits
Phase I of the CMS Investigation
Naval Activity Puerto Rico, Ceiba, Puerto Rico

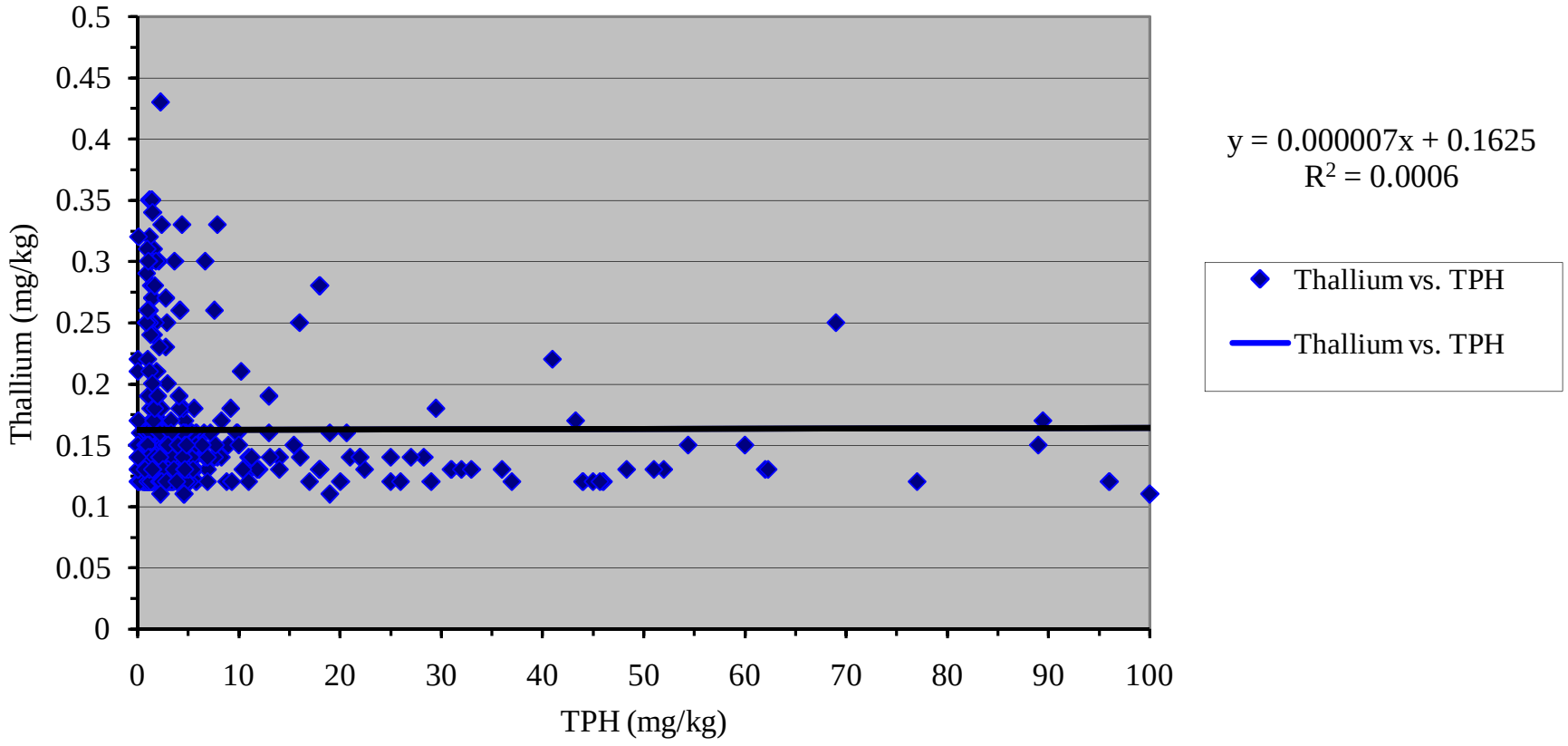


Figure D-33
Tin and TPH in Soil: Surface and Subsurface Soil Data Set
SWMU 74 - Fuel Pipelines and Hydrant Pits
Phase I of the CMS Investigation
Naval Activity Puerto Rico, Ceiba, Puerto Rico

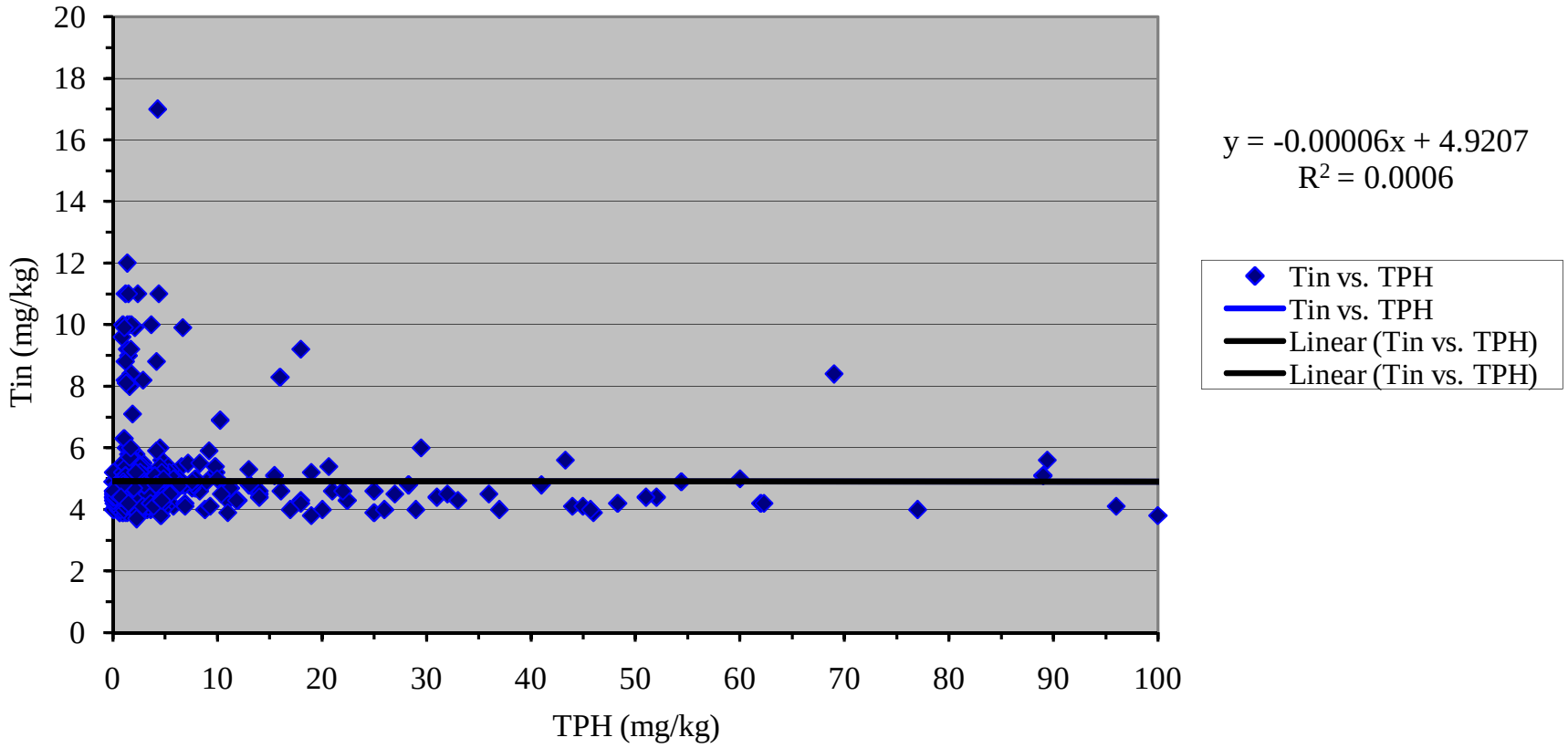


Figure D-34
Vanadium and TPH in Soil: Surface and Subsurface Soil Data Set
SWMU 74 - Fuel Pipelines and Hydrant Pits
Phase I of the CMS Investigation
Naval Activity Puerto Rico, Ceiba, Puerto Rico

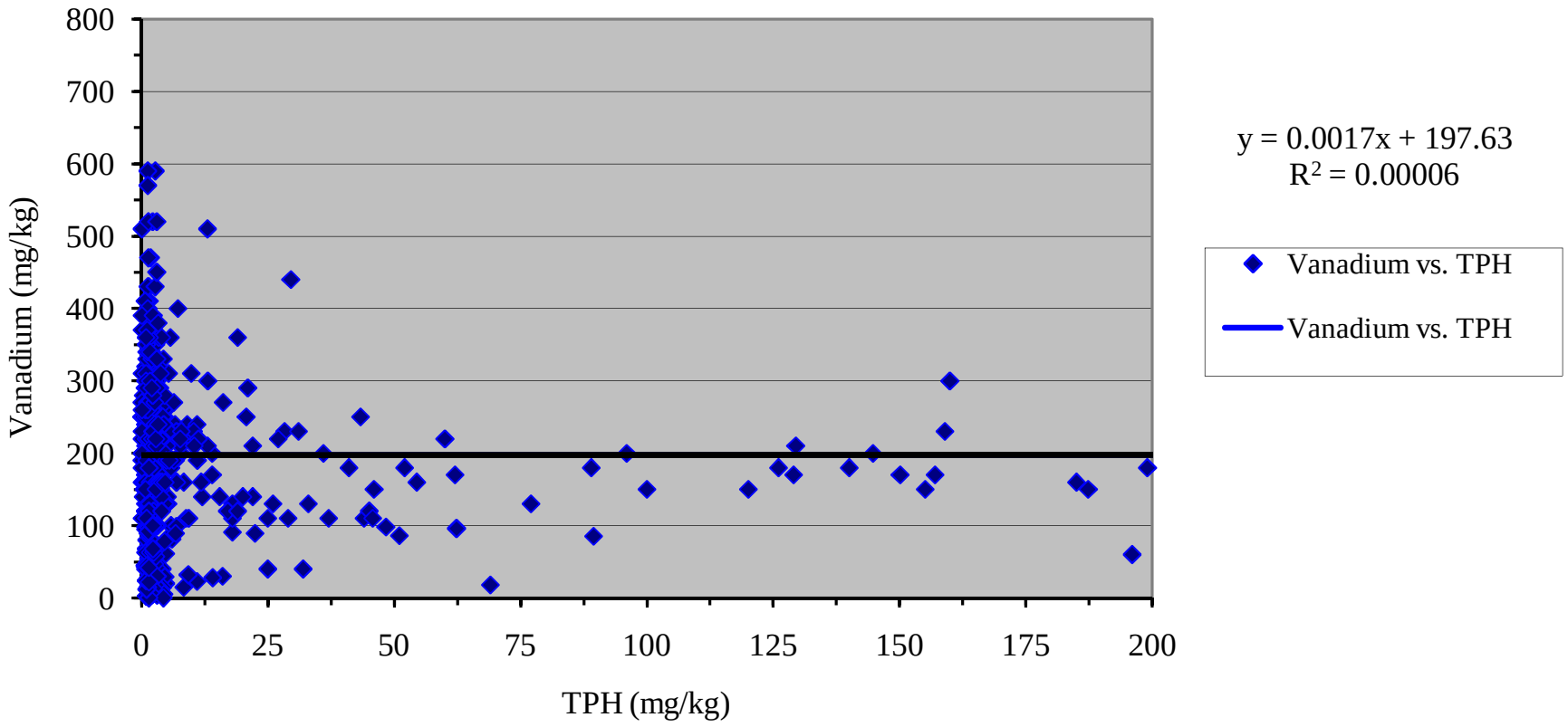
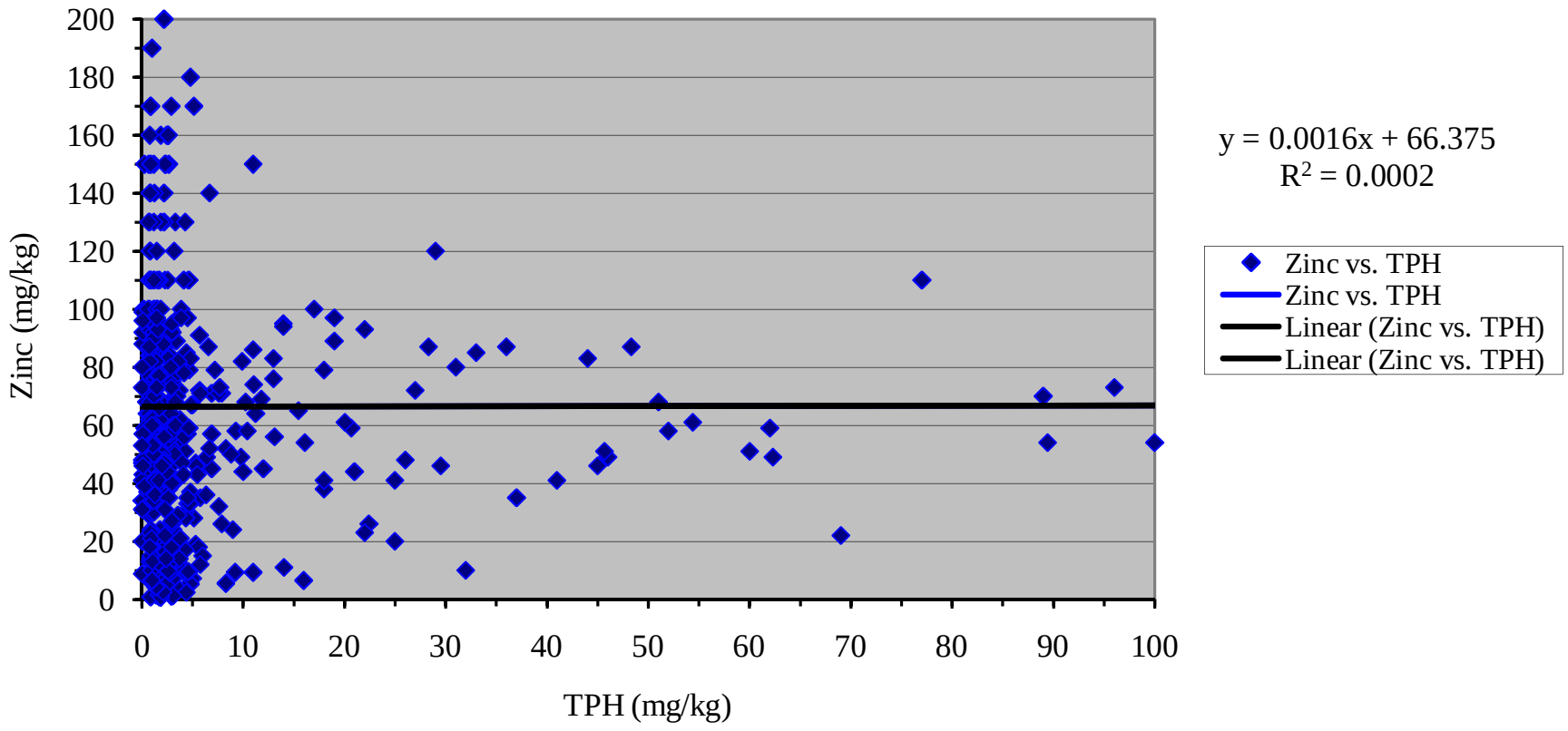



Figure D-35
Zinc and TPH in Subsurface Soil: Surface and Subsurface Soil Data Set
SWMU 74 - Fuel Pipelines and Hydrant Pits
Phase I of the CMS Investigation
Naval Activity Puerto Rico, Ceiba, Puerto Rico