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INTERIM MEASURE PERFORMANCE SPECIFICATIONS FOR GROUP 3 SOLID WASTE MANAGEMENT UNIT 14 NS MAYPORT FL

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INTERIM MEASURE PERFORMANCE SPECIFICATIONS
GROUP III SWMU 14

U.S. NAVAL STATION
MAYPORT, FLORIDA

Unit Identification Code: N60201

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September 1997

This document, *Interim Measure Performance Specifications, Group III, Solid Waste Management Unit (SWMU) 14, U.S. Naval Station, Mayport, Florida*, has been prepared under the direction of a Florida Registered Professional Geologist. The work and professional opinions rendered in this report were conducted or developed in accordance with commonly accepted procedures. If conditions are determined to exist that differ from those described, the undersigned geologist should be notified to evaluate the effects of any additional information on the assessment and recommendations in this document. This document was prepared to provide information for evaluating the applicability of the interim measure for SWMU 14 at U.S. Naval Station, Mayport, Florida, and should not be construed to apply for any other purpose or site.

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CERTIFICATION OF TECHNICAL
DATA CONFORMITY (MAY 1987)

The Contractor, ABB Environmental Services, Inc., hereby certifies that, to the best of its knowledge and belief, the technical data delivered herewith under Contract No. N62467-89-D-0317/028 are complete and accurate and comply with all requirements of this contract.

DATE: September 29, 1997

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(DFAR 252.227-7036)

FOREWORD

To meet its mission objectives, the U.S. Navy performs a variety of operations, some requiring the use, handling, storage, or disposal of hazardous materials. Through accidental spills and leaks and conventional methods of past disposal, hazardous materials may have entered the environment in ways unacceptable by today's standards. With growing knowledge of the long-term effects of hazardous materials on the environment, the Department of Defense initiated various programs to investigate and remediate conditions related to suspected past releases of hazardous materials at their facilities.

One of these programs is the Installation Restoration (IR) program. This program complies with the Comprehensive Environmental Response, Compensation, and Liability Act, as amended by the Superfund Amendments and Reauthorization Act. The acts, passed by Congress in 1980 and 1986, respectively, establish the means to assess and clean up hazardous waste sites for both private-sector and Federal facilities. These acts are the basis for what is commonly known as the Superfund Program.

Originally, the Navy's part of this program was called the Naval Assessment and Control of Installation Pollutants (NACIP) program. Early reports reflect the NACIP process and terminology. The Navy eventually adopted the program structure and terminology of the standard IR program.

The IR program is conducted in several stages:

- The Preliminary Assessment (PA) identifies potential sites through record searches and interviews.

- A Site Inspection (SI) then confirms which areas contain contamination, constituting actual "sites." (Together, the PA and SI steps were called the Initial Assessment Study under the NACIP program.)

- Next, the Remedial Investigation and the Feasibility Study (RI/FS) together determine the type and extent of contamination, establish criteria for cleanup, and identify and evaluate any necessary remedial action alternatives and their costs. As part of the RI/FS,

a Risk Assessment identifies potential effects on human health or the environment in order to help evaluate remedial action alternatives.

- The selected alternative is planned and conducted in the Remedial Design and Remedial Action stages. Monitoring then ensures the effectiveness of the effort.

A second program to address present hazardous material management is the Resource Conservation and Recovery Act (RCRA) Corrective Action program. This program is designed to identify and clean up releases of hazardous substances at RCRA-permitted facilities. RCRA ensures that solid and hazardous wastes are managed in an environmentally sound manner. The law applies to facilities generating or handling hazardous waste.

This program is conducted in three stages:

- The RCRA Facility Assessment identifies solid waste management units, evaluates the potential for releases of contaminants, and determines the need for future investigations.

- The RCRA Facility Investigation then determines the nature, extent, and fate of contaminant releases.

- The Corrective Measures Study identifies and recommends measures to correct the release.

The hazardous waste investigations at Naval Station (NAVSTA) Mayport are presently being conducted under the RCRA Corrective Action program. Earlier preliminary investigations had been conducted at Naval Station Mayport under the NACIP program and IR program following Superfund guidelines. In 1988, in coordination with the U.S. Environmental Protection Agency and the Florida Department of Environmental Regulation (FDER), the hazardous waste investigations were formalized under the RCRA program.

Mayport is conducting the cleanup at their facility by working though the Southern Division, Naval Facilities Engineering Command. The U.S. Environmental Protection Agency and the Florida Department of Environmental Protection (formerly FDER) oversee the Navy environmental program at NAVSTA Mayport. All aspects of the program are conducted in compliance with State and Federal regulations, as ensured by the participation of these regulatory agencies.

Questions regarding the RCRA program at NAVSTA Mayport should be addressed to Mr. David Driggers, Code 1852, at (803) 820-5501.

EXECUTIVE SUMMARY

ABB Environmental Services, Inc. (ABB-ES), has been contracted by the Department of the Navy, Southern Division, Naval Facilities Engineering Command to conduct a Resource Conservation and Recovery Act Facility Investigation (RFI) for Solid Waste Management Units (SWMUs) at U.S. Naval Station Mayport, Florida. The RFI is being conducted in accordance with the Hazardous and Solid Waste Amendment permit No. FL9 170 024 260, issued by the U.S. Environmental Protection Agency on March 25, 1988, and revised and reissued on June 15, 1993.

The Interim Measure (IM) Performance Specifications report presents findings and conclusions of existing and additional field activities conducted in the vicinity of the Fleet Training Center firefighting training area (SWMU 14). Additionally, the report presents IM activities proposed to mitigate possible adverse risk to human or ecological receptors, if any, posed by the detected chemicals. Current and future use of the former firefighting training area is anticipated to remain industrial for the foreseeable future. Below is a summary of the findings and recommendations for the firefighting training area and drainage ditch at SWMU 14.

Firefighting Training Area. Comparison of the field screening and analytical results to regulatory screening criteria suggest soil beneath the north and south firefighting training mockup and detention pond potentially contain petroleum and related organic chemicals at concentrations that may present a threat to groundwater. However, total recoverable petroleum hydrocarbons were not detected in groundwater samples at concentrations that exceeded Florida Department of Environmental Protection (FDEP) guidance concentrations. The concrete surface at the location of the three sites serves as an institutional (engineering) control; therefore, there is no exposure by human or ecological receptors. No further action, with the condition that the existing engineering control remain in place, is recommended.

Exposures associated with chemicals in surface and subsurface soil to terrestrial receptors were not evaluated for the former firefighting training area. Terrestrial ecological receptors are not expected to occur in the vicinity of these structures because the majority of the site is located in an industrialized area.

Groundwater beneath the northern firefighting training mockup did not contain petroleum-related organic chemicals at concentrations that exceed FDEP Groundwater Guidance Concentrations. Groundwater beneath the southern firefighting training mockup and detention pond potentially contain petroleum-related organic chemicals at concentrations that exceed FDEP Groundwater Guidance concentrations. The monitoring of natural attenuation is recommended as an IM. Shallow groundwater is not currently used as a water supply. In addition, there are no plans by the Navy to use the shallow groundwater as a water supply. Computer simulation of the migration of the petroleum hydrocarbons in the surficial aquifer and analytical data support that it is unlikely that these chemicals will reach the St. Johns River.

Drainage Ditch. An IM was recommended in the Group III RFI (ABB-ES, 1996) for sediment at a drainage ditch that formerly received runoff from the detention pond at SWMU 14. Capping with concrete is preferred for the IM over the excavation of sediment to minimize physical damage from excavation activities to the

environment. Coastal grassland and sand dunes are present in the immediate vicinity of the ditch and retention basin.

Should usage of the SWMU 14 change from industrial, the site conditions should be evaluated to assess whether or not the usage is compatible with the chemicals detected and IM activities that are proposed to be conducted.

TABLE OF CONTENTS

Interim Measure Performance Specifications
Group III SWMU 14
U.S. Naval Station
Mayport, Florida

Chapter	Title	Page No.
1.0	INTRODUCTION	1-1
1.1	BACKGROUND	1-1
1.2	REPORT CONTENTS	1-1
2.0	SOIL SAMPLING AND ANALYTICAL PROGRAM	2-1
2.1	SOIL SAMPLING	2-1
2.2	INSTALLATION OF TEMPORARY MONITORING WELLS	2-4
2.3	GROUNDWATER SAMPLING	2-4
2.4	ANALYTICAL PROGRAM AND DATA MANAGEMENT	2-6
3.0	FINDINGS	3-1
3.1	SOIL SAMPLING	3-1
3.1.1	Field Screening Results	3-1
3.1.2	Laboratory Analytical Results	3-12
3.2	GROUNDWATER SAMPLING	3-33
3.2.1	North Firefighting Training Mockup	3-49
3.2.2	South Firefighting Training Mockup	3-49
3.2.3	Detention Pond	3-57
4.0	IM PERFORMANCE SPECIFICATIONS	4-1
4.1	FIREFIGHTING TRAINING AREA	4-1
4.1.1	Soil IM	4-1
4.1.2	Groundwater IM	4-3
4.2	DRAINAGE DITCH	4-5
5.0	SUMMARY AND RECOMMENDATIONS	5-1
5.1	FIREFIGHTING TRAINING AREA	5-1
5.1.1	Soil IM	5-1
5.1.2	Groundwater IM	5-1
5.2	DRAINAGE DITCH	5-2

REFERENCES

APPENDICES

Appendix A: Analytical Results
Appendix B: Data Validation Summaries
Appendix C: Photographs
Appendix D: Natural Attenuation Decision Support Computer Simulation
Appendix E: Technical Literature, Oxygen Release Compound®
Appendix F: Response to Regulatory Comments

LIST OF FIGURES

Interim Measure Performance Specifications
Group III SWMU 14
U.S. Naval Station
Mayport, Florida

Figure	Title	Page No.
1-1	Facility Location Map	1-2
1-2	Solid Waste Management Unit (SWMU) 14 Location	1-3
2-1	TerraProbe℠ Sample Locations	2-2
2-2	Surface and Subsurface Soil Sampling Locations	2-3
2-3	Location of Monitoring Wells	2-5
3-1	Organic Vapor Detected in Subsurface Soil by Organic Vapor Analysis Flame Ionization Detector 0 to 1 Foot Below Land Surface	3-8
3-2	Organic Vapor Detected in Subsurface Soil by Organic Vapor Analysis Flame Ionization Detector 1 to 2 Feet Below Land Surface	3-9
3-3	Organic Vapor Detected in Subsurface Soil by Organic Vapor Analysis Flame Ionization Detector 2 to 3 Feet Below Land Surface	3-10
3-4	Organic Vapor Detected in Subsurface Soil by Organic Vapor Analysis Flame Ionization Detector 3 to 4 Feet Below Land Surface	3-11
3-5	Potentiometric Surface Map, March 3, 1997	3-45

LIST OF TABLES

Interim Measure Performance Specifications
Group III SWMU 14
U.S. Naval Station
Mayport, Florida

Table	Title	Page No.
3-1	Field Screening Measurements for the North and South Firefighting Mockups and Detention Pond	3-2
3-2	Total Recoverable Petroleum Hydrocarbons Detected in Surface and Subsurface Soil Samples	3-13
3-3	Organic and Inorganic Analytes Detected in Surface Soil Samples Collected at the Fleet Training Center Northern Burn Area	3-15
3-4	Organic and Inorganic Analytes Detected in Subsurface Soil Samples Collected at the Fleet Training Center Northern Burn Area	3-17
3-5	Summary of Chemicals Detected in Surface Soil Samples Collected at the Fleet Training Center Northern Burn Area	3-19
3-6	Summary of Chemicals Detected in Subsurface Soil Samples Collected at the Fleet Training Center Northern Burn Area	3-22
3-7	Organic and Inorganic Analytes Detected in Surface Soil Samples Collected at the Fleet Training Center Southern Burn Area	3-24
3-8	Organic and Inorganic Analytes Detected in Subsurface Soil Samples Collected at the Fleet Training Center Southern Burn Area	3-26
3-9	Summary of Chemicals Detected in Surface Soil Samples Collected at the Fleet Training Center Northern Burn Area	3-28
3-10	Summary of Chemicals Detected in Subsurface Soil Samples Collected at the Fleet Training Center Southern Burn Area	3-31
3-11	Organic and Inorganic Analytes Detected in Surface Soil Samples Collected at the Fleet Training Center Detention Pond	3-34
3-12	Organic and Inorganic Analytes Detected in Subsurface Soil Samples Collected at the Fleet Training Center Detention Pond	3-36
3-13	Summary of Chemicals Detected in Surface Soil Samples Collected at the Fleet Training Center Detention Pond	3-38
3-14	Summary of Chemicals Detected in Subsurface Soil Samples Collected at the Fleet Training Center Detention Pond	3-40
3-15	Summary Water-Level Measurements at SWMU 14	3-43
3-16	Purge Water Parameters Measured During Groundwater Sampling Events at the Fleet Training Center, SWMU 14	3-46
3-17	Purge Water Parameters Measured During Groundwater Sampling Events at the Fleet Training Center, SWMU 14	3-47
3-18	Total Recoverable Petroleum Hydrocarbons and Oil and Grease Detected in Groundwater Samples	3-50
3-19	Organic and Inorganic Analytes Detected in Groundwater Samples Collected at the Fleet Training Center Northern Burn Area	3-51
3-20	Summary of Chemicals Detected in Groundwater Samples Collected at the Fleet Training Center Northern Burn Area	3-52
3-21	Organic and Inorganic Analytes Detected in Groundwater Samples Collected at the Fleet Training Center Southern Burn Area	3-54
3-22	Summary of Chemicals Detected in Groundwater Samples Collected at the Fleet Training Center Southern Burn Area	3-55

LIST OF TABLES (Continued)

Interim Measure Performance Specifications
Group III SWMU 14
U.S. Naval Station
Mayport, Florida

Table	Title	Page No.
3-23	Organic and Inorganic Analytes Detected in Groundwater Samples Collected at the Fleet Training Center Detention Pond	3-58
3-24	Summary of Chemicals Detected in Groundwater Samples Collected at the Fleet Training Center Detention Pond	3-59

GLOSSARY

ABB-ES	ABB Environmental Services, Inc.
bls	below land surface
CFR	Code of Federal Regulations
DQOs	data quality objectives
EC	equivalent carbon number index
FAC	Florida Administrative Code
FDEP	Florida Department of Environmental Protection
GIR	General Information Report
IM	interim measure
LNAPL	light nonaqueous-phase liquid
MCL	maximum contaminant level
mg/kg	milligrams per kilogram
mg/ℓ	milligrams per liter
μg/ℓ	micrograms per liter
NAVSTA	Naval Station
NEESA	Naval Energy and Environmental Support Activity
OD	outside diameter
OVA	organic vapor analyzer
PCB	polychlorinated biphenyl
ppm	part per million
RCRA	Resource Conservation and Recovery Act
RFI	Resource Conservation and Recovery Act Facility Investigation
SCTL	soil cleanup target levels
SVOC	semivolatile organic compound
SWMU	Solid Waste Management Unit
TRPH	total recoverable petroleum hydrocarbons
USEPA	U.S. Environmental Protection Agency
VOC	volatile organic compound

1.0 INTRODUCTION

ABB Environmental Services, Inc. (ABB-ES), has been contracted under the Comprehensive Long-term Environmental Action, Navy Contract No. N62467-89-D-0317 by the Department of the Navy, Southern Division, Naval Facilities Engineering Command to conduct a Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) for Solid Waste Management Units (SWMUs) at U.S. Naval Station (NAVSTA) Mayport, Florida (Figure 1-1). The RFI is being conducted in accordance with the Hazardous and Solid Waste Amendment permit No. FL9 170 024 260, issued by the U.S. Environmental Protection Agency (USEPA) on March 25, 1988, and revised and reissued on June 15, 1993.

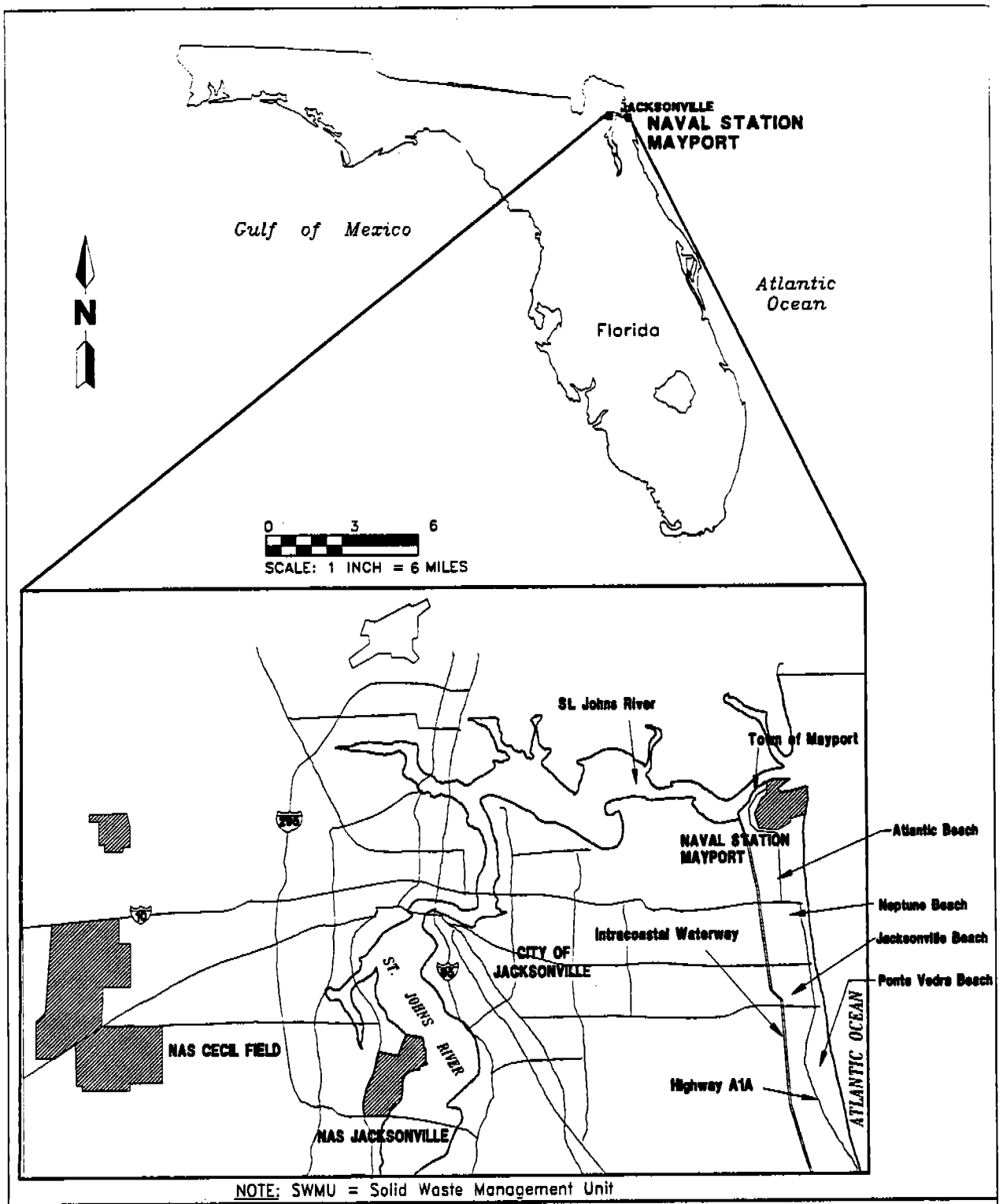
This Interim Measure (IM) Performance Specifications report presents findings and conclusions of existing and additional field activities conducted at facilities associated with firefighting training (SWMU 14) at the Fleet Training Center (Figure 1-2). The facilities include the north and south firefighting training mockups, the firefighting training wastewater and stormwater detention pond, and a drainage ditch that formerly received runoff from the detention pond. Additionally, this report presents the IM activities proposed to mitigate possible adverse risk to human or ecological receptors, if any, posed by the detected chemicals.

Exposures associated with chemicals in surface and subsurface soil and in groundwater discharging to the St. Johns River to terrestrial receptors at the firefighting training mockups and detention pond were not evaluated. Terrestrial ecological receptors are not expected to occur in the vicinity of the these structures because the sites are located in an industrialized area.

Current and future use of SWMU 14 is anticipated to remain industrial for the foreseeable future. Should usage of SWMU 14 change from industrial, the site conditions should be evaluated to assess whether or not the usage is compatible with the chemicals detected and IM activities that are proposed to be conducted.

1.1 BACKGROUND. The Group III RFI for NAVSTA Mayport (ABB-ES, 1996) contained recommendations for conducting additional sampling and evaluating whether or not an IM was required at north and south firefighting mockups and the detention pond and to conduct an IM at the drainage ditch. Additional sampling activities were recommended to assess soil and groundwater beneath the north and south firefighting mockups and the detention pond because they were in use at the time field activities were being conducted for the RFI. IM activities were recommended for the drainage ditch to eliminate semivolatile organic compounds (SVOCs) that were detected at concentrations exceeding the Florida Department of Environmental Protection (FDEP) soil cleanup goals (FDEP, 1995a; FDEP, 1995b; and FDEP, 1996) and sediment quality goals (MacDonald, 1994; Long and Morgan, 1990; and Long et al., 1994).

1.2 REPORT CONTENTS. Chapter 2.0 contains a description of the additional sampling activities at the north and south firefighting mockups and the detention pond. Chapter 3.0 presents findings from the sampling activities at these sites. Chapter 4.0 contains an evaluation of whether or not an IM is warranted at the



NOTE: SWMU = Solid Waste Management Unit

FIGURE 1-1
FACILITY LOCATION MAP

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INTERIM MEASURE
PERFORMANCE SPECIFICATIONS
GROUP III, SWMU 14

U.S. NAVAL STATION
MAYPORT, FLORIDA

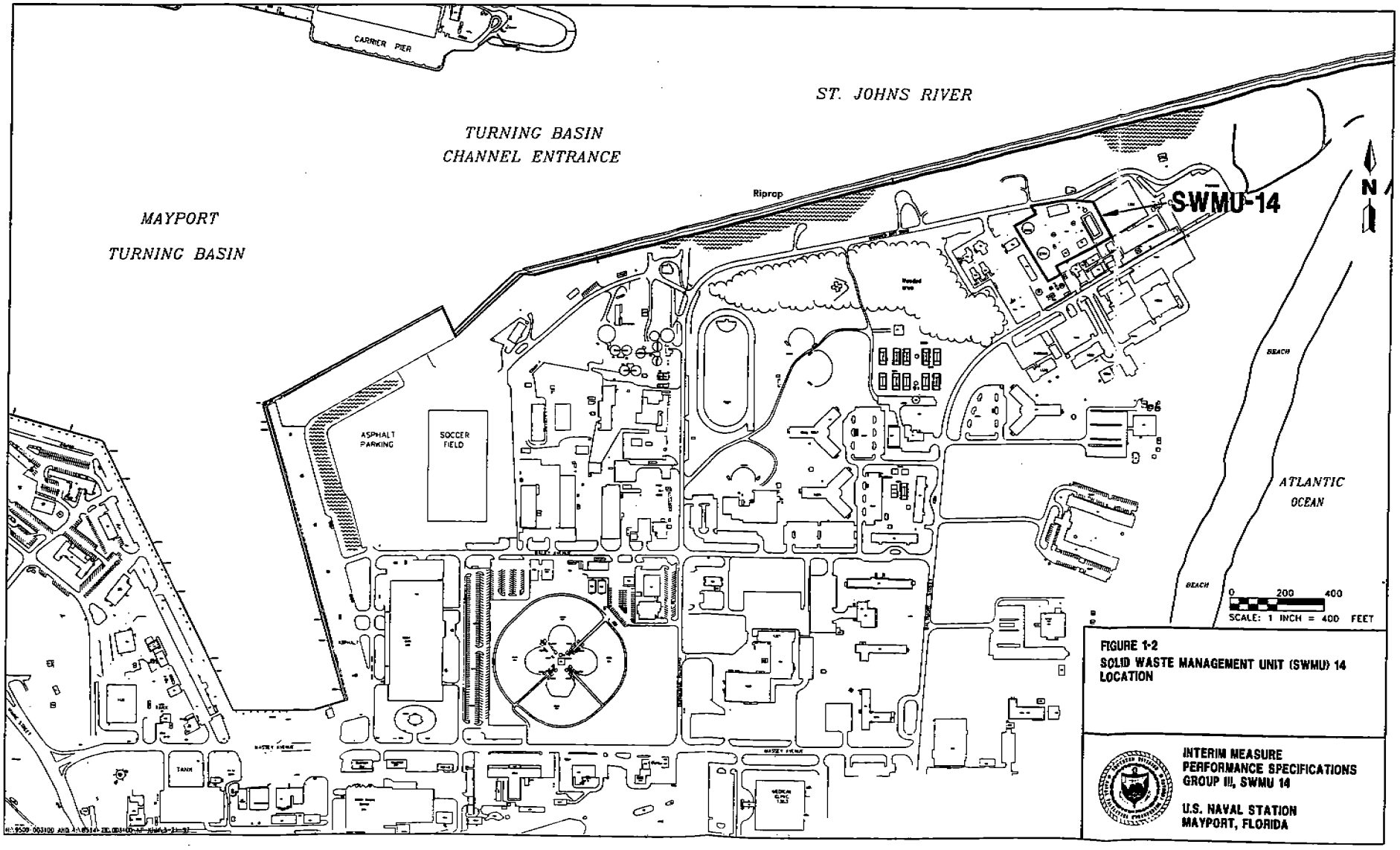


FIGURE 1-2
SOLID WASTE MANAGEMENT UNIT (SWMU) 14 LOCATION

INTERIM MEASURE
PERFORMANCE SPECIFICATIONS
GROUP III, SWMU 14

U.S. NAVAL STATION
MAYPORT, FLORIDA

north and south firefighting mockups and the detention pond. Also included is a brief discussion of applicable remedial alternatives for these sites and the drainage ditch. Chapter 5.0 presents a summary of the findings and evaluation, and recommendations for proposed IM activities.

2.0 SOIL SAMPLING AND ANALYTICAL PROGRAM

Below is a description of temporary monitoring well installation and soil and groundwater sampling activities that were conducted at SWMU 14 for the IM performance specifications, the analytical methodologies, and data management.

2.1 SOIL SAMPLING. Surface and subsurface soil samples were collected from three areas at SWMU 14 including the north and south firefighting mockups and the detention pond. Surface and subsurface soil samples are denoted by the letters "SS" and "BS", respectively, in the sample location identifier. The soil sampling activities were conducted in two phases: the first was a screening phase, and the second was the collection of surface and subsurface soil samples for chemical analysis. Below is a description of the two phases.

Screening Phase. The screening phase was conducted to assess the horizontal and vertical extent of "excessively contaminated soil" as defined under Florida Administrative Code (FAC) Chapter 62-770, "State Underground Petroleum Environmental Response." The field screening program used a direct push technology (TerraProbe℠) and a hand auger to collect soil samples in the vicinity of the north and south firefighting mockups and in the detention pond. The screening program consisted of 42 samples from 14 sample locations at the north firefighting training mockup, 57 samples from 17 sample locations at the south firefighting training mockup, and 64 samples from 25 sample locations at the detention pond (Figure 2-1).

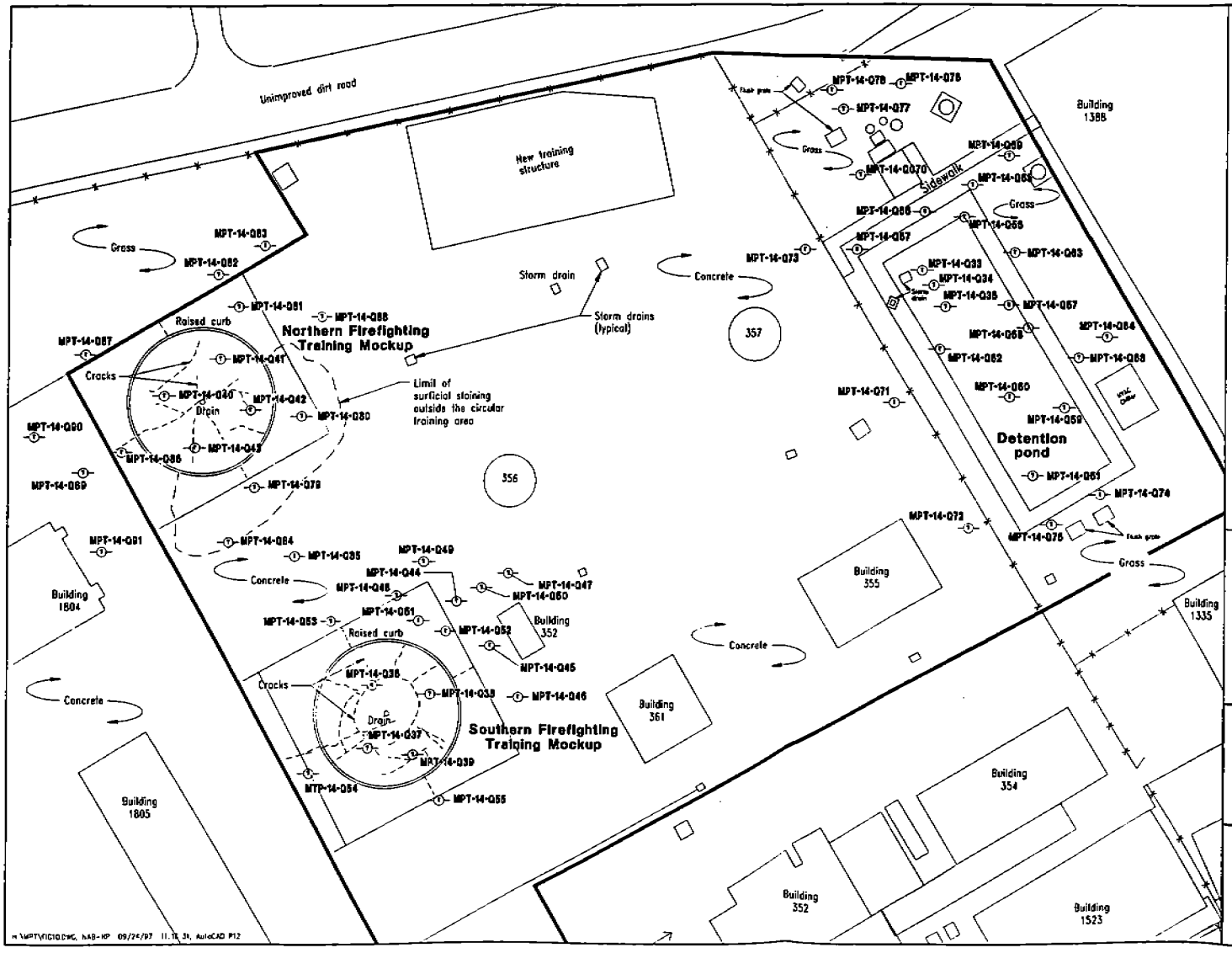
Soil samples were collected using a TerraProbe℠ system or hand auger from beneath the concrete surface or land surface at 1-foot intervals to the water table. A TerraProbe℠ system was used to drive a threaded 1-inch outside diameter (OD) hollow steel rod assembly attached to a threaded 1-inch OD hollow stainless-steel sampler (ABB-ES, 1995). The hand auger was a 3-inch-diameter stainless-steel hand auger.

Sampling equipment decontamination was conducted as described in the NAVSTA Mayport General Information Report (GIR) (ABB-ES, 1995).

Onsite analyses of the field screening samples was performed using flame and photo organic vapor ionization detectors (ABB-ES, 1995; and FDEP 1994a). The organic vapor analyzers were calibrated using a 0 part per million (ppm) pure air standard and a 100 ppm methane standard.

Collecting Surface and Subsurface Soil Samples for Chemical Analysis. The results of the field screening analysis were used to select locations to collect surface and subsurface soil samples. The soil samples were collected to represent the range of organic vapor concentrations detected in soil samples collected above or just below the water table at each of the three areas sampled (Figure 2-2).

Surface soil samples represent a 1-foot interval from the land surface to a depth of 1 foot or where concrete is present at a 1-foot interval beneath the bottom of the concrete surface. Subsurface soil samples represent a 1-foot interval that was sampled beneath the surface soil samples to or just below the water table.



LEGEND

MPT-14-Q71	TerraProbe℠ sample location and designation
	Cracks in concrete pavement
	SWMU boundary
	Fence
SWMU	Solid waste management unit

FIGURE 2-1
TERRAPROBE℠ SAMPLE LOCATIONS

INTERIM MEASURE PERFORMANCE SPECIFICATIONS GROUP III, SWMU 14

U.S. NAVAL STATION MAYPORT, FLORIDA

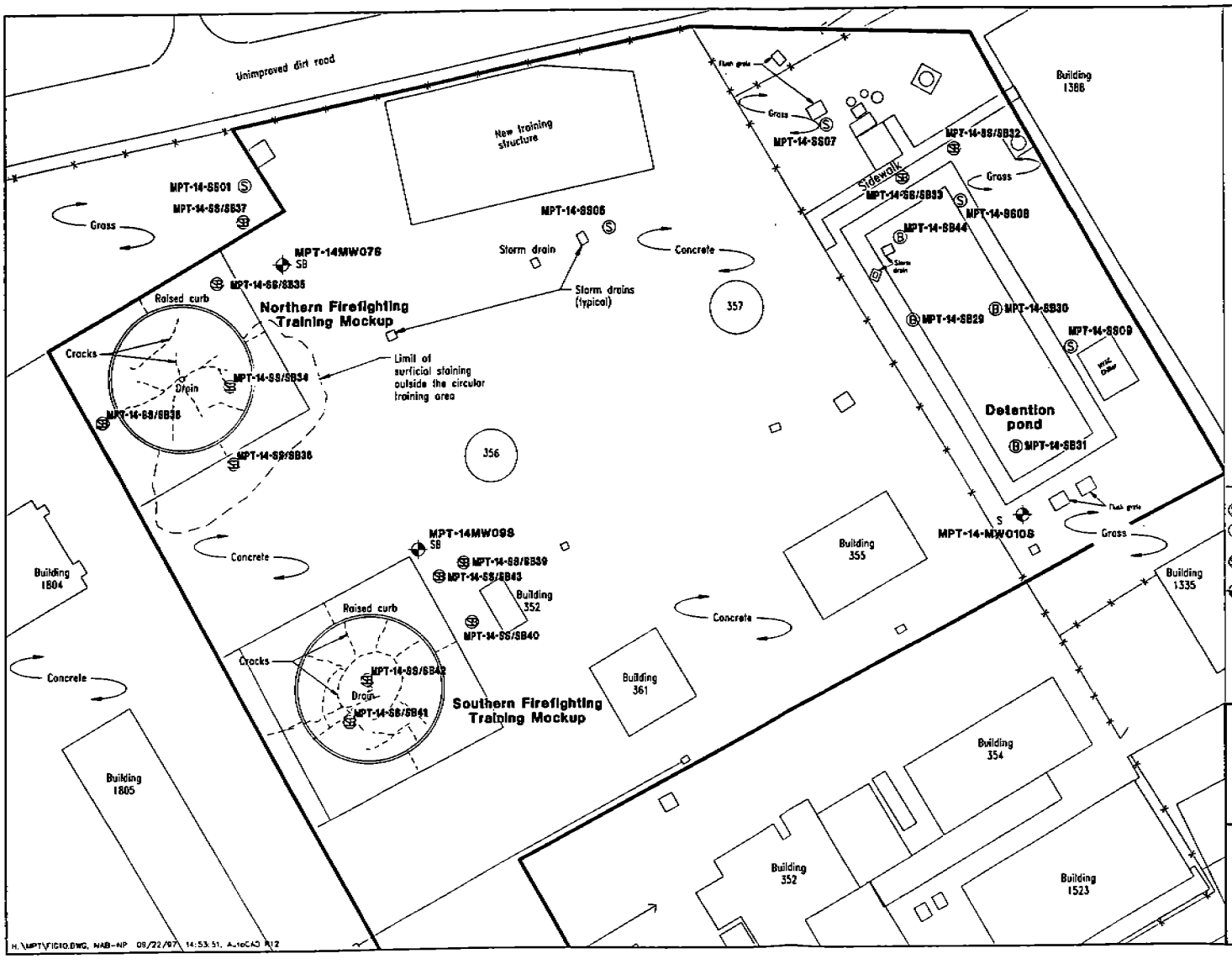


FIGURE 2-2
SURFACE AND SUBSURFACE SOIL SAMPLING LOCATIONS

INTERIM MEASURE PERFORMANCE SPECIFICATIONS GROUP III, SWMU 14

U.S. NAVAL STATION MAYPORT, FLORIDA

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Surface and subsurface soil samples were collected using a decontaminated stainless-steel hand auger. The aliquot for analysis of volatile organic compounds (VOCs) (USEPA Method 8240) was transferred directly from the hand auger to a sample container with a Teflon™ lid to reduce the potential for volatilization. The soil remaining in the hand auger was transferred to a glass bowl using a stainless-steel spoon. Aliquots of the sample for analysis of SVOCs (USEPA Method 8270), inorganics (USEPA Methods 6000, 7000, and 9000), and total recoverable petroleum hydrocarbons (TRPH) (USEPA Method 418.1) were then homogenized and transferred to appropriate sample containers. Samples were placed in coolers, refrigerated with ice, and sent overnight under chain-of-custody protocol to an off-site laboratory for analysis by USEPA SW-846 methods.

The previous analytical data collected for the Group III RFI suggest that pesticides and polychlorinated biphenyls (PCBs) were not present in surface and subsurface soil samples collected at SWMU 14. Therefore, analysis of pesticides and PCBs (USEPA Method 8080) was not conducted on surface and subsurface soil samples collected during this sampling event.

2.2 INSTALLATION OF TEMPORARY MONITORING WELLS. Temporary monitoring wells were installed at the detention pond (MPT-14-MW15S), the north firefighting training mockup (MPT-14-MW16S), and the south firefighting training mockup (MPT-14-MW17S and MPT-14-MW18S) to assess whether or not light nonaqueous-phase liquids (LNAPL) were present on the water table and to collect groundwater samples (Figure 2-3). The temporary monitoring wells at the north and south firefighting training area were installed in hand-auger borings and also required the use of jetting to install the well to the target depth. The temporary monitoring well at the detention pond was installed in a hand-auger boring. Natural formation materials collapsed around the well screens. Silica sand was used to fill the annular space above the collapsed material to within 1 foot of the land surface. Six inches of bentonite were placed in the annular space above the sand backfill and 6 inches of concrete were placed in the annular space above the bentonite to the land surface. The temporary monitoring wells were developed by overpumping and surging upon completion.

2.3 GROUNDWATER SAMPLING. Groundwater samples were collected from the temporary monitoring wells to assess whether or not dissolved hydrocarbons and related chemicals had migrated to the shallow aquifer. Groundwater sampling was accomplished as described in Paragraph 2.1.4.2 of the NAVSTA Mayport GIR (ABB-ES, 1995). In addition, groundwater-level measurements have been made on a periodic basis to monitor for the presence of LNAPLs.

The groundwater sample collection method was low-flow sampling. Prior to groundwater sample collection, the monitoring well was purged using a peristaltic pump to remove stagnant water from the top of the water column without causing the suspension of silts and clays. Purging was complete when a minimum of three well volumes of water were removed, and the seven selected groundwater parameters (temperature, pH, specific conductance, salinity, dissolved oxygen, oxidation potential, and turbidity) were considered stable (within 10 percent of previous three measurements). This process ensured good conductance between the well and the surrounding matrix. Purging continued until a turbidity of 10 nephelometric turbidity units or less was achieved.

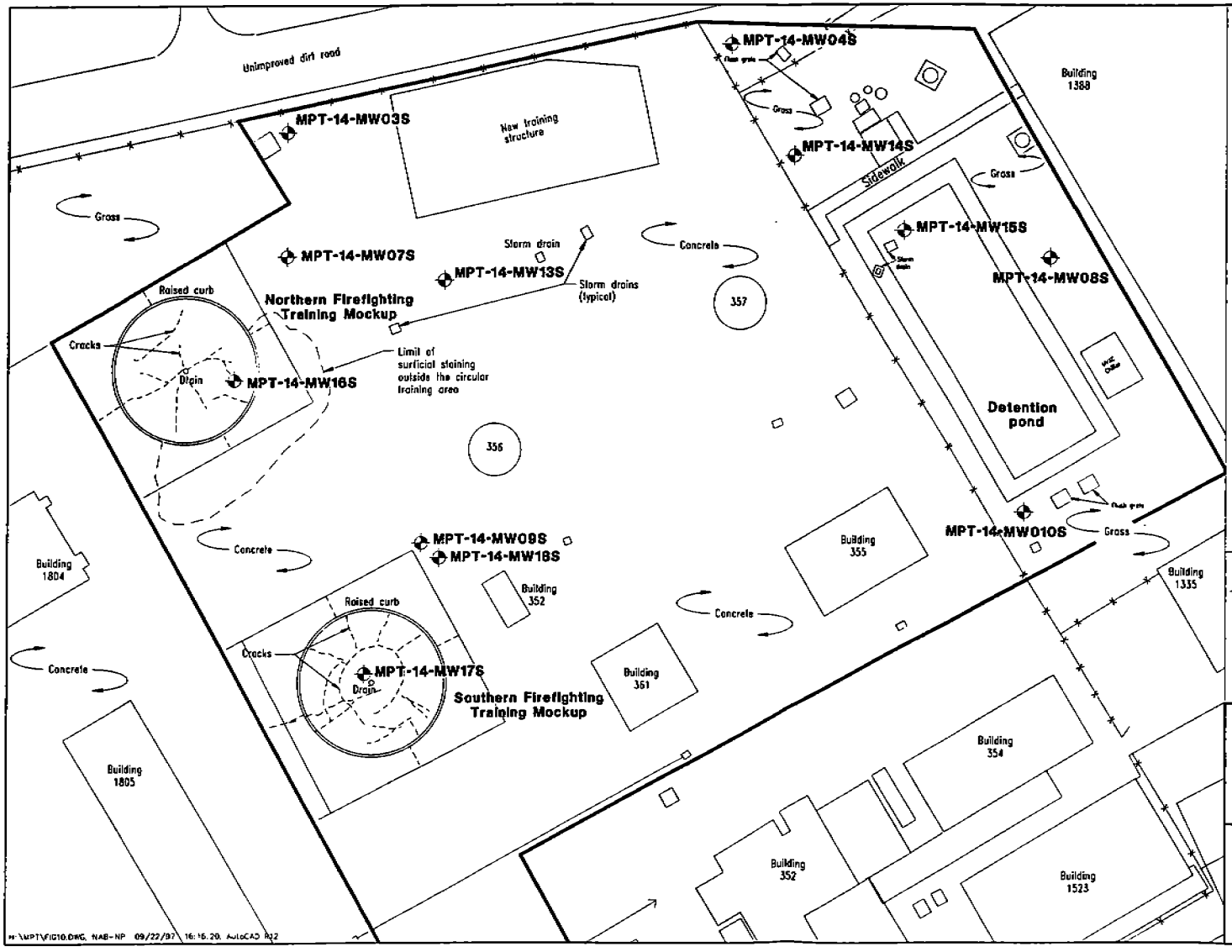


FIGURE 2-3
LOCATION OF MONITORING WELLS

INTERIM MEASURE
PERFORMANCE SPECIFICATIONS
GROUP III, SWMU 14

U.S. NAVAL STATION
MAYPORT, FLORIDA

The groundwater samples were collected using a peristaltic pump and disposable Teflon™ tubing. The samples were collected before they contacted the peristaltic pump. The samples were collected by pumping water at less than 1 liter per minute from the middle of the well screen interval. Samples for inorganic analyte and SVOC were collected first. VOCs were collected last with the sampler preventing agitation of the water in the monitoring well by slowly pulling the Teflon™ tubing out of the well and carefully transferring the contents of the tube to a VOC vial with a Teflon™ septa cap for shipment to the off-site laboratory. Groundwater samples were placed in a cooler, refrigerated with ice, and sent overnight under chain-of-custody protocol to an off-site laboratory for analysis.

The previous analytical data collected for the Group III RFI suggest that pesticides and PCBs were not present in groundwater samples collected at SWMU 14. Therefore, analysis of pesticides and PCBs (USEPA Method 8080) was not conducted on groundwater samples collected during this sampling event.

Laboratory Analysis. Soil and groundwater samples were analyzed for target analytes selected from the Groundwater Monitoring List contained in Appendix IX, 40 Code of Federal Regulations (CFR), Part 264, and USEPA Contract Laboratory program target compound list and target analyte list parameters, including VOCs, SVOCs, pesticides, PCBs, metals, and cyanide. These target analytes are described in Chapter 2.0, Analytical Program. The analysis was conducted using methods contained in Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, USEPA SW-846 (USEPA, 1986). In addition, the groundwater samples were analyzed for water quality parameters (total dissolved solids, chloride, alkalinity, hardness, sulfate, sulfide, total Kjeldahl nitrogen, ammonia, nitrate/nitrite, phosphorus, total organic carbon, color, and pH). The duplicate groundwater sample was not analyzed for water quality parameters.

2.4 ANALYTICAL PROGRAM AND DATA MANAGEMENT. Below is a description of the analytical program and data management for the sampling event.

Analytical Program. The environmental samples were collected and analyzed by an off-site laboratory using SW-846 methodology (USEPA, 1986) for analysis of VOCs, SVOCs, inorganics, and TRPH. The laboratory analytical program is described in more detail in Section 2.2 of the NAVSTA Mayport General Information Report (GIR) (ABB-ES, 1995). Analytical results obtained for the environmental samples were submitted as Naval Energy and Environmental Support Activity (NEESA) Level C (USEPA Level III) analytical packages for SVOCs and metals. The deliverable for TRPH was NEESA Level E. A summary of the analytical results is provided in Appendix A.

Individual analytical results in the analytical packages were reviewed relative to the following criteria:

- Data quality objectives (DQOs) and the Quality Assurance Plan in the NAVSTA Mayport RFI Workplan (ABB-ES, 1991)
- NEESA guidance document 20.2-047B, *Sampling and Chemical Analysis Quality Assurance Requirements for the Navy Installation Program* (NEESA, 1988)
- *Laboratory Data Validation Functional Guidelines for Evaluating Inorganic Analyses* (USEPA, 1988)

- *National Functional Guidelines for Organic Data Review* (USEPA, 1990)

The data validation process is described in Section 2.3 of the NAVSTA Mayport GIR (ABB-ES, 1995).

Data validation summaries are provided in Appendix B. Overall, the data generated during the sampling event meet established DQOs and are acceptable for use in site characterization, risk assessment, and evaluation of corrective measures.

Data Management. Subsets of the complete analytical data set were used to evaluate analytes detected at each SWMU. The following process was used to develop the final data sets:

1. The validated Group III data were compiled in electronic form.

2. Any detection was included in the data set, including estimated concentrations ("J" qualifiers) below the contract-required quantitation limits for organics, contract-required detection limits for inorganics, and the method detection limits.

3. Sample records rejected by the validators (i.e., "R" qualifiers) were not included in the final data set.

4. Quality control samples were not included in the final data set.

5. Some samples were reanalyzed by the laboratory. However, based on validator recommendations, the appropriate results were used in the final data set.

6. In cases where samples were diluted to quantify specific compounds (DL suffix on sample identification), the dilution recommended by the data validator was used in the final data set.

Minimum concentrations, maximum concentrations, average concentrations, frequencies of detection, and 95 percent upper confidence intervals were calculated for detected analytes using standard statistical methods. However, because environmental and associated duplicate samples represent only one sampling location, duplicate results were averaged before these statistics were calculated. The following guidelines were used to calculate average values for the environmental and duplicate sample pairs:

- For target analytes detected in both the environmental and associated duplicate sample (i.e., "nonqualified positive detection" or "J" qualifier), the detected values were used to calculate the average value.

- For target analytes detected only in either the environmental or duplicate sample (i.e., one sample with non qualified positive detection or a "J" qualifier and the other a nondetection with a "U" or "UJ" qualifier), the average was calculated by using the detected value, and one-half the value of the "U" or "UJ" qualified sample.

The analytical data for surface and subsurface soil samples collected during the sampling event for the IM performance specifications and previous data collected during the Group III RFI field investigations and used in this report were

screened against background data (ABB-ES, 1995) and Florida soil cleanup goals (FDEP, 1995a; FDEP, 1995b; and FDEP, 1996) for the purposes of assessing the nature and distribution of a detected chemical. Background screening values and benchmark values for analytes detected in NAVSTA Mayport background samples are presented in the NAVSTA Mayport GIR (ABB-ES, 1995). Groundwater analytical results were compared to Federal maximum contaminant levels (MCLs) (National Primary Drinking Water Regulations 40, CFR, Part 141) and Florida groundwater guidance concentrations (FDEP, 1994b).

The soil analytical data were compared only to the FDEP human health-based screening values because the current use of the site is industrial and the assumption is that this use will not change in the foreseeable future. It is also assumed that because of the industrial setting there will not be an exposure to soil by ecological receptors. The concrete surface at SWMU 14 could be considered an institutional (engineering) control. Therefore, human contact with the chemicals detected in surface and subsurface soil is the only exposure pathway assessed. Chemicals present in the soil samples at concentrations less than the FDEP industrial soil cleanup goals (FDEP, 1995a; FDEP, 1995b; and FDEP, 1996) are assumed to be compatible with the current and future site use.

The groundwater analytical data are compared to Federal and State human health regulatory criteria. Currently, the shallow aquifer is not used as a water supply; therefore, there is no human receptor exposure. Also, there is no future plan(s) by the Navy to use the surficial aquifer as a water supply.

Groundwater analytical results obtained for the Group III RFI (ABB-ES, 1996), suggest that there is not a current exposure by ecological receptors to groundwater discharging to surface water. Hypothetically, future ecological exposure(s) by this pathway is possible, but not likely to occur. This is discussed in Chapter 4.0. Therefore, comparison of groundwater analytical results to surface water quality standards was not conducted.

3.0 FINDINGS

Below are the results of the field screening and laboratory analysis of soil samples and laboratory analysis of groundwater samples for the north and south firefighting training mockups and detention pond at SWMU 14. Photographs of the areas sampled are provided in Appendix C.

3.1 SOIL SAMPLING. Soil sampling activities included field screening activities (Figure 2-1) and collecting surface and subsurface soil samples for chemical analysis (Figure 2-2) (please refer to Section 2.1 of this report). Below are the field screening and laboratory analytical (TRPH, VOCs, SVOC, and inorganics) results of the soil samples collected at the north and south firefighting training mockups and the detention pond.

3.1.1 Field Screening Results Organic vapor analyzer (OVA) results of the field screening soil samples for the north and south firefighting training mockups and detention pond are provided in Table 3-1. Isoconcentration maps of the organic vapor concentrations (unfiltered) were prepared for each of the three areas and are provided on Figures 3-1 through 3-4.

Interpretation of the OVA result suggests that soil beneath the north and south firefighting training mockups and detention pond would be considered excessively contaminated under FAC 62-770.200 (2). Excessively contaminated soil is defined under FAC 62-770.200 (2) as OVA measurements exceeding 50 ppm for the kerosene or mixed analytical groups.

The charcoal filtered results (methane) for some of the samples exceed the unfiltered results (total organic vapors). The charcoal filter may have become saturated with organic vapors or moisture and, therefore, was not effective in capturing organic vapors produced from the volatilization of petroleum. It should also be noted that methane can be present in soil from the natural decay of organic material and from the biodegradation of the petroleum (USEPA, 1997). Because the filtered OVA measurements may not be accurate, the unfiltered OVA measurements were used to construct the isoconcentrations depicted on Figures 3-1 through 3-4.

Below is a discussion of the field screening and laboratory analytical results for the north and south firefighting training mockups and the detention pond.

North Firefighting Training Mockup. The results of the OVA measurements of soil samples collected at the north firefighting training mockup (Table 3-1) suggest that petroleum hydrocarbons have been released to soil in the vadose zone to a depth of 3 feet beneath the concrete. It is likely that the petroleum hydrocarbon entered the subsurface environment through cracks in the concrete pad. Groundwater was encountered at depths ranging from 2.5 to 3.5 feet below land surface (bls).

South Firefighting Training Mockup. The results of the OVA measurements of soil samples collected at the south firefighting training mockup (Table 3-1) suggest that petroleum hydrocarbons have been released to soil in the vadose zone to a depth of 4 feet beneath the concrete. Petroleum was observed in the matrix of a soil sample collected from 1.5 to 2.5 feet bls at location S14Q044. It is likely that the petroleum hydrocarbon entered the subsurface environment through

Table 3-1
Field Screening Measurements for the North and South Firefighting Mockups and Detention Pond

Interim Measure Performance Specifications
Group III SWMU 14
U.S. Naval Station
Mayport, Florida

Sample Location	Date	Sample Depth (ft bls)	Percent of Total Sample Length Recovered	Flame Ionization Detector		Photoionization Detector (ppm)
				Unfiltered (ppm)	Charcoal Filtered (ppm)	
North Firefighting Training Mockup						
MPT-14-Q040	13-Aug-96	0 to 1	NM	200	250	–
MPT-14-Q040	13-Aug-96	1 to 2	NM	14	22	–
MPT-14-Q040	13-Aug-96	2 to 3	NM	60	100	–
MPT-14-Q041	13-Aug-96	0 to 1	NM	100	300	–
MPT-14-Q041	13-Aug-96	1 to 2	NM	100	400	–
MPT-14-Q041	13-Aug-96	2 to 3	NM	200	250	–
MPT-14-Q042	13-Aug-96	0 to 1	60	157	80	157
MPT-14-Q042	13-Aug-96	1 to 2	60	350	470	80
MPT-14-Q042	13-Aug-96	2 to 3	60	20	30	29
MPT-14-Q042	13-Aug-96	3 to 4	60	25	30	80
MPT-14-Q043	21-Aug-96	0 to 1	NM	150	250	–
MPT-14-Q043	21-Aug-96	1 to 2	NM	120	350	–
MPT-14-Q079	20-Aug-96	0 to 1	NM	110	150	–
MPT-14-Q079	20-Aug-96	1 to 2	NM	100	260	–
MPT-14-Q079	20-Aug-96	2 to 3	NM	390	150	–
MPT-14-Q080	20-Aug-96	0 to 1	NM	60	140	–
MPT-14-Q080	20-Aug-96	1 to 2	NM	120	160	–
MPT-14-Q080	20-Aug-96	2 to 3	NM	130	250	–
MPT-14-Q081	20-Aug-96	0 to 1	NM	90	150	–
MPT-14-Q081	20-Aug-96	1 to 2	NM	50	45	–
MPT-14-Q081	20-Aug-96	2 to 3	NM	200	260	–
MPT-14-Q082	20-Aug-96	0 to 1	NM	0	0	–
MPT-14-Q082	20-Aug-96	1 to 2	NM	0	0	–
MPT-14-Q082	20-Aug-96	2 to 3	NM	0	0	–
MPT-14-Q082	20-Aug-96	3 to 4	NM	0	0	–
MPT-14-Q083	20-Aug-96	0 to 1	NM	0	0	–
MPT-14-Q083	20-Aug-96	1 to 2	NM	0	0	–
MPT-14-Q083	20-Aug-96	2 to 3	NM	2	3	–
MPT-14-Q084	20-Aug-96	0 to 1.5	NM	13	12	–
MPT-14-Q084	20-Aug-96	1.5 to 2.5	NM	12	16	–
MPT-14-Q085	20-Aug-96	0 to 1	NM	0	0	–
MPT-14-Q085	20-Aug-96	1 to 2	NM	0	0	–

See notes at end of table.

Table 3-1 (Continued)
Field Screening Measurements for the North and South Firefighting Mockups and Detention Pond

Interim Measure Performance Specifications
Group III SWMU 14
U.S. Naval Station
Mayport, Florida

Sample Location	Date	Sample Depth (ft bls)	Percent of Total Sample Length Recovered	Flame Ionization Detector		Photoionization Detector (ppm)
				Unfiltered (ppm)	Charcoal Filtered (ppm)	
North Firefighting Training Mockup (continued)						
MPT-14-Q085	20-Aug-96	2 to 3	NM	0	0	–
MPT-14-Q086	20-Aug-96	0 to 1	NM	120	350	–
MPT-14-Q086	20-Aug-96	1 to 2	NM	180	240	–
MPT-14-Q086	20-Aug-96	2 to 3	NM	100	230	–
MPT-14-Q087	20-Aug-96	0 to 1	NM	0	0	–
MPT-14-Q087	20-Aug-96	1 to 2	NM	0	0	–
MPT-14-Q087	20-Aug-96	2 to 3	NM	0	0	–
MPT-14-Q088	20-Aug-96	0 to 1	NM	3	8	–
MPT-14-Q088	20-Aug-96	1 to 2	NM	0	0	–
MPT-14-Q088	20-Aug-96	2 to 3	NM	25	50	–
MPT-14-Q089	21-Aug-96	0 to 1	NM	110	100	–
MPT-14-Q089	21-Aug-96	1 to 2	NM	130	90	–
MPT-14-Q089	21-Aug-96	2 to 3	NM	180	270	–
MPT-14-Q089	21-Aug-96	3 to 4	NM	22	28	–
MPT-14-Q090	4-Sept-96	0 to 1	NM	5	0	–
MPT-14-Q090	4-Sept-96	1 to 2	NM	3	8	–
MPT-14-Q090	4-Sept-96	2 to 3	NM	10	25	–
MPT-14-Q090	4-Sept-96	3 to 4	NM	10	5	–
MPT-14-Q091	4-Sept-96	0 to 1	NM	4	4	–
MPT-14-Q091	4-Sept-96	1 to 2	NM	0	0	–
MPT-14-Q091	4-Sept-96	2 to 3	NM	5	5	–
South Firefighting Training Mockup						
MPT-14-Q036	12-Aug-96	0 to 1	60	300	250	–
MPT-14-Q036	12-Aug-96	1 to 2	60	170	145	–
MPT-14-Q036	12-Aug-96	2 to 3	60	1,750	2,000	–
MPT-14-Q036	12-Aug-96	3 to 4	60	75	75	–
MPT-14-Q036	12-Aug-96	4 to 5	90	21	30	–
MPT-14-Q036	12-Aug-96	5 to 6	90	40	36	–
MPT-14-Q037	12-Aug-96	0 to 1	60	125	125	–
MPT-14-Q037	12-Aug-96	1 to 2	60	310	310	–
MPT-14-Q037	12-Aug-96	2 to 3	60	250	250	–
MPT-14-Q037	12-Aug-96	3 to 4	60	150	150	–

See notes at end of table.

Table 3-1 (Continued)
Field Screening Measurements for the North and South Firefighting Mockups and Detention Pond

Interim Measure Performance Specifications
Group III SWMU 14
U.S. Naval Station
Mayport, Florida

Sample Location	Date	Sample Depth (ft bls)	Percent of Total Sample Length Recovered	Flame Ionization Detector		Photoionization Detector (ppm)
				Unfiltered (ppm)	Charcoal Filtered (ppm)	
South Firefighting Training Mockup (continued)						
MPT-14-Q038	13-Aug-96	0 to 1	60	130	90	149
MPT-14-Q038	13-Aug-96	1 to 2	60	180	210	82
MPT-14-Q038	13-Aug-96	2 to 3	70	150	70	120
MPT-14-Q038	13-Aug-96	3 to 4	70	8	11	99
MPT-14-Q039	13-Aug-96	0 to 1	55	80	0	74
MPT-14-Q039	13-Aug-96	1 to 2	55	110	16	104
MPT-14-Q039	13-Aug-96	2 to 3	55	180	160	105
MPT-14-Q039	13-Aug-96	3 to 4	55	10	16	51
MPT-14-Q044	21-Aug-96	0.5 to 1.5	90	100	140	99
MPT-14-Q044[1]	21-Aug-96	1.5 to 2.5	90	1,800	1,400	346
MPT-14-Q044	14-Aug-96	2.5 to 4.5	90	370	420	210
MPT-14-Q045	14-Aug-96	0.5 to 1.5	90	23	19	59
MPT-14-Q045	14-Aug-96	1.5 to 2.5	90	180	100	251
MPT-14-Q045	14-Aug-96	2.5 to 4.5	90	49	7	116
MPT-14-Q046	14-Aug-96	0.5 to 1.5	90	0	0	0
MPT-14-Q046	14-Aug-96	1.5 to 2.5	90	0	0	0
MPT-14-Q046	14-Aug-96	2.5 to 4.5	60	0	0	0
MPT-14-Q047	14-Aug-96	0.5 to 1.5	60	100	100	15
MPT-14-Q047	14-Aug-96	1.5 to 2.5	60	5	3	9
MPT-14-Q047	14-Aug-96	2.5 to 4.5	75	2	2	47
MPT-14-Q048	15-Aug-96	0.5 to 1.5	50	0	0	17
MPT-14-Q048	15-Aug-96	1.5 to 2.5	50	0	0	19
MPT-14-Q048	15-Aug-96	2.5 to 4.5	75	26	26	66
MPT-14-Q049	15-Aug-96	0.5 to 1.5	60	0	0	67
MPT-14-Q049	15-Aug-96	1.5 to 2.5	60	0	0	57
MPT-14-Q049	15-Aug-96	2.5 to 4.5	60	25	8	49
MPT-14-Q050	15-Aug-96	0.5 to 1.5	75	3	0	32
MPT-14-Q050	15-Aug-96	1.5 to 2.5	75	30	7	33
MPT-14-Q050	15-Aug-96	2.5 to 4.5	75	1,285	185	832
MPT-14-Q051	15-Aug-96	0.5 to 1.5	90	7	2	28
MPT-14-Q051	15-Aug-96	1.5 to 2.5	90	120	130	24
MPT-14-Q051	15-Aug-96	2.5 to 4.5	75	80	20	11

See notes at end of table.

Table 3-1 (Continued)
Field Screening Measurements for the North and South Firefighting Mockups and Detention Pond

Interim Measure Performance Specifications
Group III SWMU 14
U.S. Naval Station
Mayport, Florida

Sample Location	Date	Sample Depth (ft bls)	Percent of Total Sample Length Recovered	Flame Ionization Detector		Photoionization Detector (ppm)
				Unfiltered (ppm)	Charcoal Filtered (ppm)	
South Firefighting Training Mockup (continued)						
MPT-14-Q052	15-Aug-96	0.5 to 1.5	70	70	10	287
MPT-14-Q052	15-Aug-96	1.5 to 2.5	70	20	30	630
MPT-14-Q052	15-Aug-96	2.5 to 4.5	60	250	100	1,350
MPT-14-Q053	15-Aug-96	0.5 to 1.5	65	0	0	–
MPT-14-Q053	15-Aug-96	1.5 to 2.5	65	5	5	–
MPT-14-Q053	15-Aug-96	2.5 to 4.5	90	20	80	–
MPT-14-Q054	15-Aug-96	0.5 to 1.5	65	26	30	166
MPT-14-Q054	15-Aug-96	1.5 to 2.5	65	3	5	116
MPT-14-Q054	15-Aug-96	2.5 to 4.5	90	71	70	140
MPT-14-Q055	15-Aug-96	0.5 to 1.5	70	0	0	95
MPT-14-Q055	15-Aug-96	1.5 to 2.5	70	0	0	84
MPT-14-Q055	15-Aug-96	2.5 to 4.5	70	0	0	205
Detention Pond						
MPT-14-Q078	20-Aug-96	0 to 1	NM	0	0	–
MPT-14-Q078	20-Aug-96	1 to 2	NM	0	0	–
MPT-14-Q078	20-Aug-96	2 to 3	NM	0	0	–
MPT-14-Q077	20-Aug-96	0 to 1	NM	0	0	–
MPT-14-Q077	20-Aug-96	1 to 2	NM	0	0	–
MPT-14-Q077	20-Aug-96	2 to 3	NM	0	0	–
MPT-14-Q077	20-Aug-96	3 to 4	NM	0	0	–
MPT-14-Q077	20-Aug-96	4 to 5	NM	110	60	–
MPT-14-Q076	20-Aug-96	0 to 1	NM	0	0	–
MPT-14-Q076	20-Aug-96	1 to 2	NM	0	0	–
MPT-14-Q076	20-Aug-96	2 to 3	NM	0	0	–
MPT-14-Q076	20-Aug-96	3 to 4	NM	0	0	–
MPT-14-Q076	20-Aug-96	4 to 5	NM	0	0	–
MPT-14-Q075	20-Aug-96	0 to 1	NM	0	0	–
MPT-14-Q075	20-Aug-96	1 to 2	NM	0	0	–
MPT-14-Q075	20-Aug-96	2 to 3	NM	40	25	–
MPT-14-Q074	20-Aug-96	0 to 1	NM	0	0	–
MPT-14-Q074	20-Aug-96	1 to 2	NM	0	0	–
MPT-14-Q074	20-Aug-96	2 to 3	NM	0	0	–
MPT-14-Q074	20-Aug-96	3 to 4	NM	0	0	–

See notes at end of table.

Table 3-1 (Continued)
Field Screening Measurements for the North and South Firefighting Mockups and Detention Pond

Interim Measure Performance Specifications
Group III SWMU 14
U.S. Naval Station
Mayport, Florida

Sample Location	Date	Sample Depth (ft bls)	Percent of Total Sample Length Recovered	Flame Ionization Detector		Photoionization Detector (ppm)
				Unfiltered (ppm)	Charcoal Filtered (ppm)	
Detention Pond (continued)						
MPT-14-Q073	16-Aug-96	1.5 to 2.5	85	0	0	0
MPT-14-Q073	16-Aug-96	2.5 to 3.5	85	0	0	0
MPT-14-Q072	16-Aug-96	1.5 to 2.5	85	0	0	0
MPT-14-Q072	16-Aug-96	2.5 to 3.5	85	0	0	0
MPT-14-Q071	16-Aug-96	0.5 to 1.5	60	0	0	0
MPT-14-Q071	16-Aug-96	1.5 to 2.5	60	0	0	0
MPT-14-Q071	16-Aug-96	2.5 to 3.5	70	0	0	0
MPT-14-Q071	16-Aug-96	3.5 to 4.5	70	0	0	0
MPT-14-Q070	16-Aug-96	3.0 to 5.0	45	450	220	314
MPT-14-Q069	16-Aug-96	3.0 to 4.0	80	0	0	0
MPT-14-Q069	16-Aug-96	4.0 to 5.0	80	0	0	0
MPT-14-Q068	16-Aug-96	3.0 to 4.0	70	0	0	0
MPT-14-Q068	16-Aug-96	4.0 to 5.0	70	0	0	0
MPT-14-Q067	16-Aug-96	2.0 to 3.0	95	0	0	0
MPT-14-Q067	16-Aug-96	3.0 to 4.0	95	0	0	0
MPT-14-Q066	16-Aug-96	2.0 to 3.0	90	280	280	20
MPT-14-Q066	16-Aug-96	3.0 to 4.0	90	24	28	0
MPT-14-Q065	16-Aug-96	2.0 to 3.0	90	0	0	29
MPT-14-Q065	16-Aug-96	3.0 to 4.0	90	350	60	0
MPT-14-Q064	16-Aug-96	2.0 to 3.0	80	150	150	39
MPT-14-Q064	16-Aug-96	3.0 to 4.0	80	70	90	40
MPT-14-Q063	16-Aug-96	2.0 to 3.0	80	0	0	53
MPT-14-Q063	16-Aug-96	3.0 to 4.0	80	30	60	31
MPT-14-Q063	16-Aug-96	4.0 to 6.0	75	40	80	24
MPT-14-Q062	15-Aug-96	0.5 to 1.5	75	400	375	453
MPT-14-Q062	15-Aug-96	1.5 to 2.5	75	220	280	135
MPT-14-Q061	15-Aug-96	0.5 to 1.5	90	4,500	4,100	150
MPT-14-Q061	15-Aug-96	1.5 to 2.5	90	4,600	3,200	100
MPT-14-Q060	15-Aug-96	0.5 to 1.5	90	350	340	276
MPT-14-Q060	15-Aug-96	1.5 to 2.5	90	180	200	73
MPT-14-Q059	15-Aug-96	0.5 to 1.5	90	1,350	2,500	195
MPT-14-Q059	15-Aug-96	1.5 to 2.5	90	380	325	80

See notes at end of table.

Table 3-1 (Continued)
Field Screening Measurements for the North and South Firefighting Mockups and Detention Pond

Interim Measure Performance Specifications
Group III SWMU 14
U.S. Naval Station
Mayport, Florida

Sample Location	Date	Sample Depth (ft bls)	Percent of Total Sample Length Recovered	Flame Ionization Detector		Photoionization Detector (ppm)
				Unfiltered (ppm)	Charcoal Filtered (ppm)	
Detention Pond (continued)						
MPT-14-Q058	15-Aug-96	0.5 to 1.5	75	180	200	696
MPT-14-Q058	15-Aug-96	1.5 to 2.5	75	160	160	205
MPT-14-Q057	15-Aug-96	0.5 to 1.5	90	900	235	225
MPT-14-Q057	15-Aug-96	1.5 to 2.5	90	85	235	105
MPT-14-Q056	15-Aug-96	0.5 to 1.5	70	330	180	205
MPT-14-Q056	15-Aug-96	1.5 to 2.5	70	75	170	0
MPT-14-Q056	15-Aug-96	2.5 to 4.5	70	10	10	0
MPT-14-Q035	12-Aug-96	0 to 1	60	120	70	64
MPT-14-Q035	12-Aug-96	1 to 2	70	1,400	1,400	23
MPT-14-Q035	12-Aug-96	2 to 3	65	260	180	29
MPT-14-Q034	12-Aug-96	0 to 1	50	1,000	NF	82
MPT-14-Q034	12-Aug-96	1 to 2	50	>5,000	NF	32
MPT-14-Q034	12-Aug-96	2 to 3	50	270	NF	–
MPT-14-Q033	12-Aug-96	0 to 2	50	>5,000	NF	128
MPT-14-Q033	12-Aug-96	2 to 4	75	>5,000	NF	68

[1] Sample matrix was observed to contain petroleum.

Notes: Each of the soil borings was terminated at or just below the depth at which the water table was encountered at the time the borings were being conducted.

SWMU = solid waste management unit.
ft bls = depth in feet beneath the land surface or the bottom of a concrete surface.
ppm = measurement of organic vapor in parts per million.
NM = sample collected with a hand auger, therefore the length of recovery not measured.
– = photoionization detector not used to make organic vapor measurement.
> = greater than.
NF = no filtered measurement made.

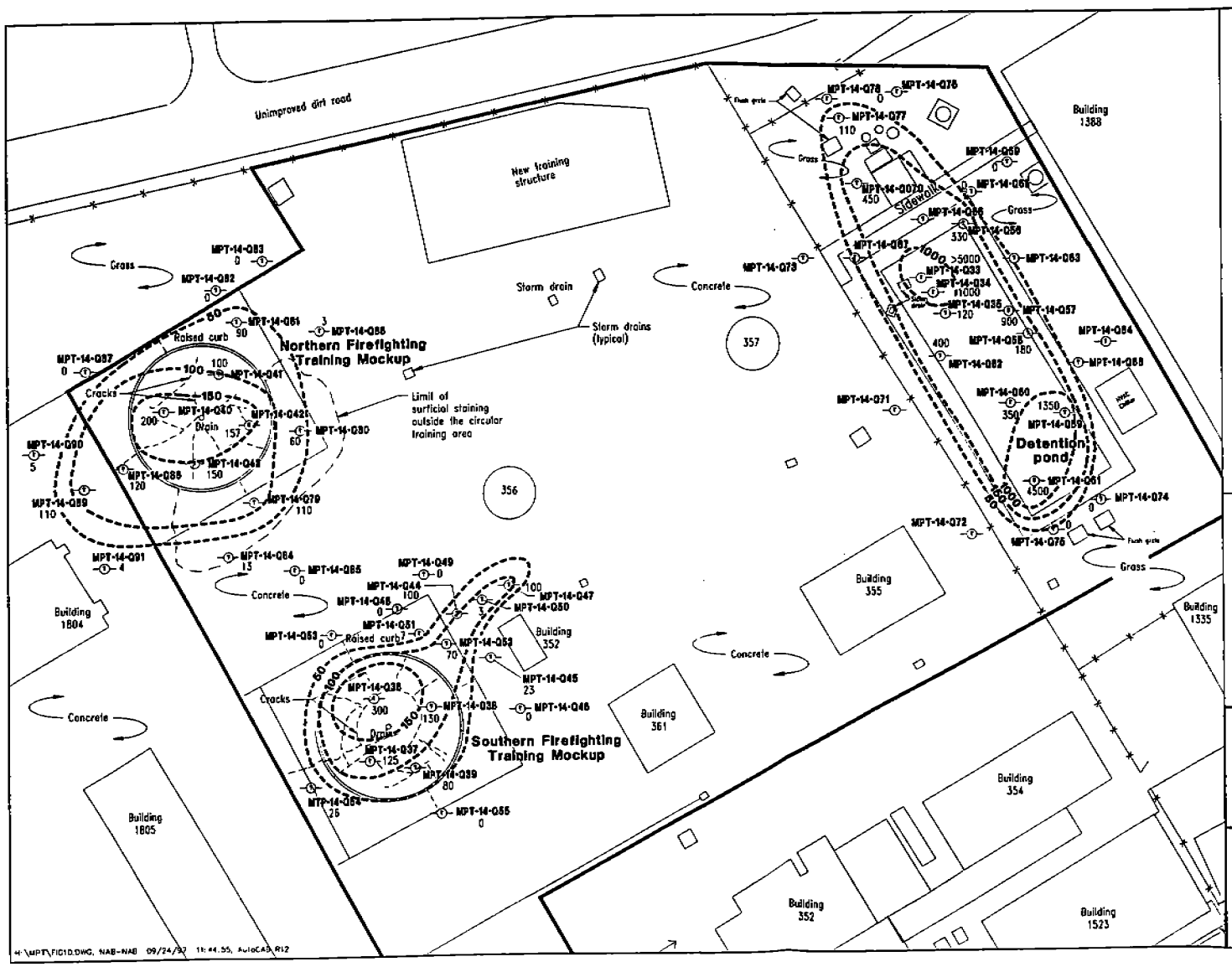


FIGURE 3-1
ORGANIC VAPOR DETECTED IN SUBSURFACE SOIL BY ORGANIC VAPOR ANALYSIS FLAME IONIZATION DETECTOR 0 TO 1 FOOT BELOW LAND SURFACE

INTERIM MEASURE PERFORMANCE SPECIFICATIONS GROUP III, SWMU 14

U.S. NAVAL STATION MAYPORT, FLORIDA

H:\MPT\FIG1D.DWG, NAB-NAB 09/24/92 11:44:55, AutoCAD R12

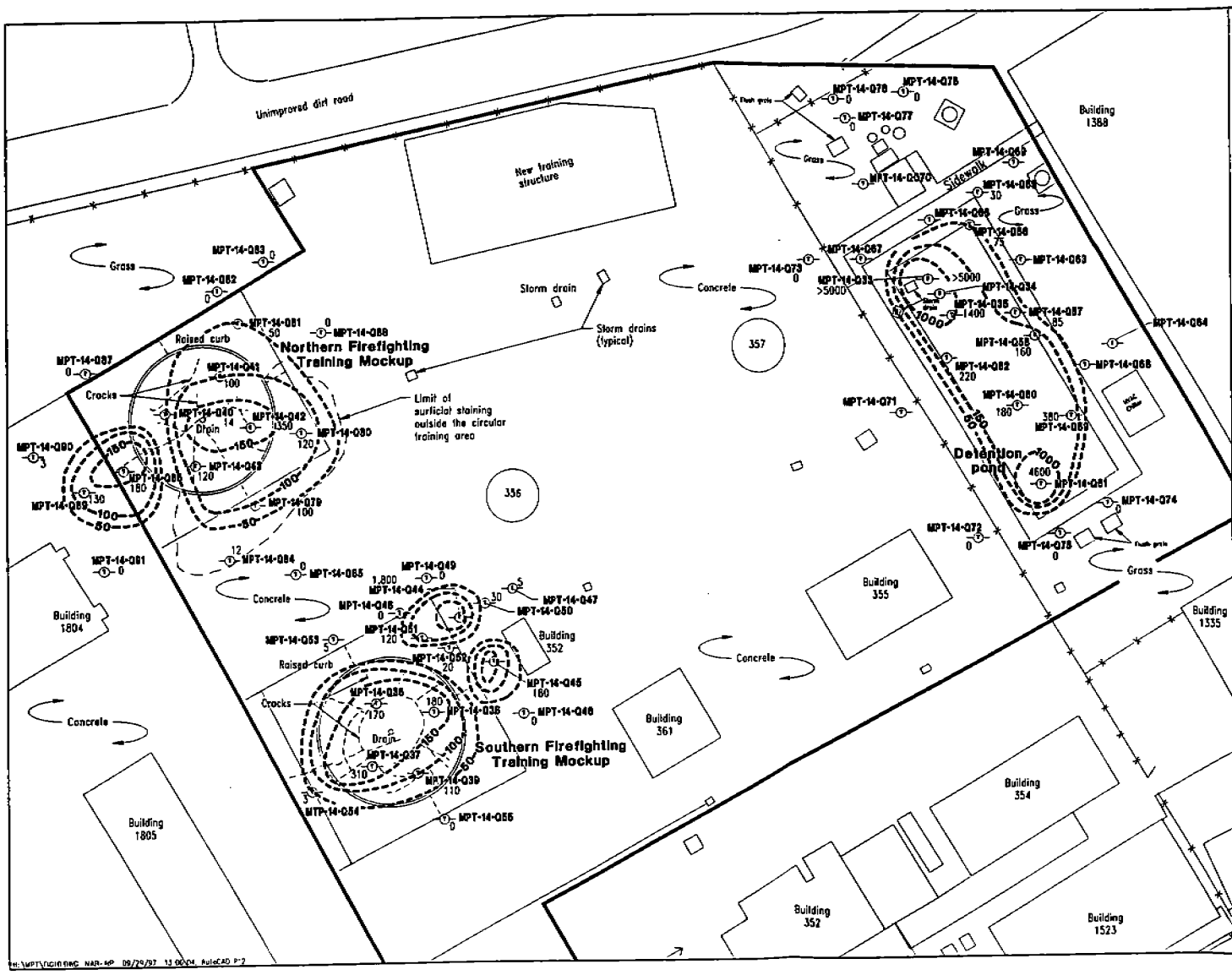


FIGURE 3-2
ORGANIC VAPOR DETECTED IN SUBSURFACE SOIL BY ORGANIC VAPOR ANALYSIS FLAME IONIZATION DETECTOR 1 TO 2 FEET BELOW LAND SURFACE

INTERIM MEASURE PERFORMANCE SPECIFICATIONS GROUP III, SWMU 14

U.S. NAVAL STATION MAYPORT, FLORIDA

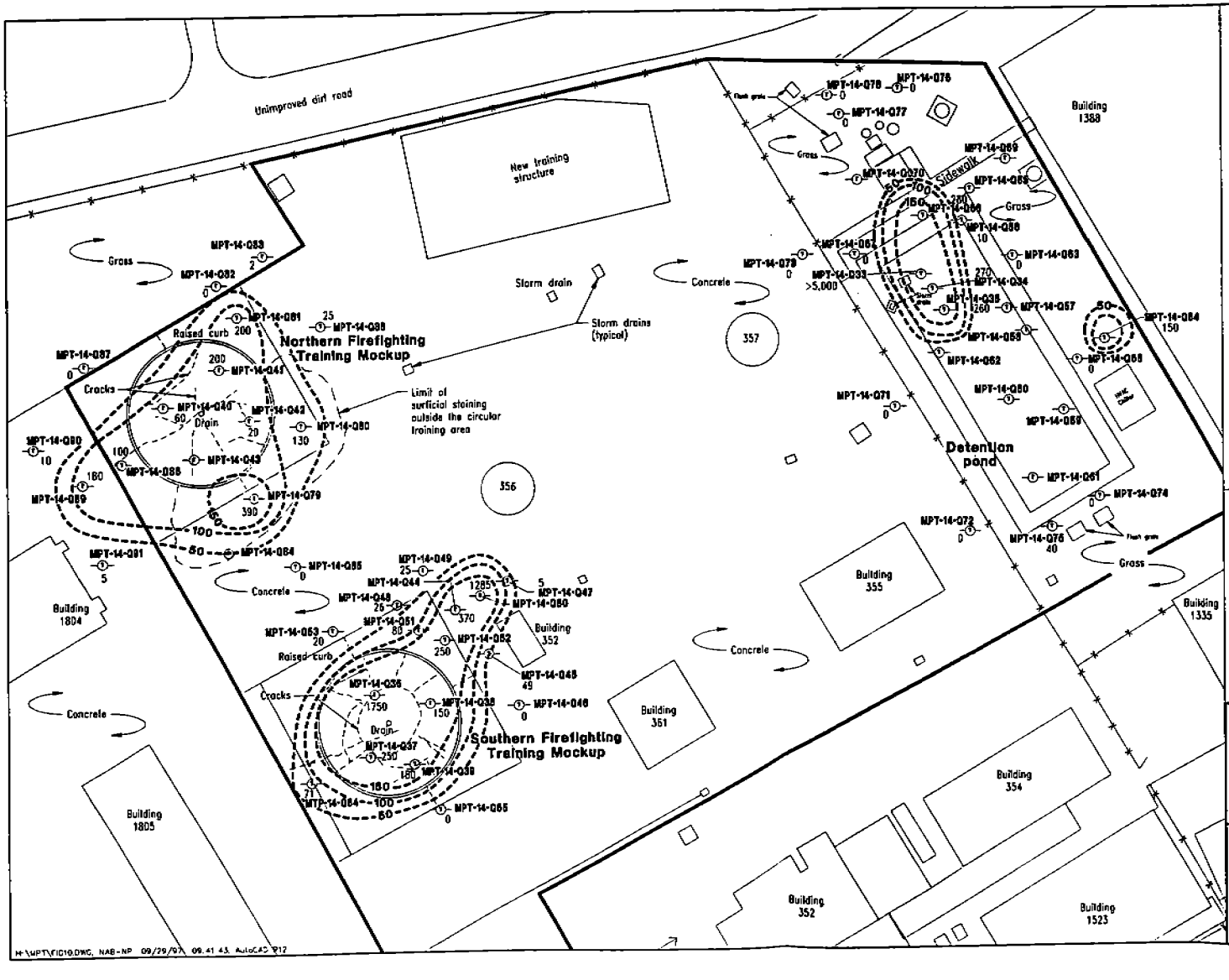


FIGURE 3-3
ORGANIC VAPOR DETECTED IN SUBSURFACE SOIL
BY ORGANIC VAPOR ANALYSIS
FLAME IONIZATION DETECTOR
2 TO 3 FEET BELOW LAND SURFACE

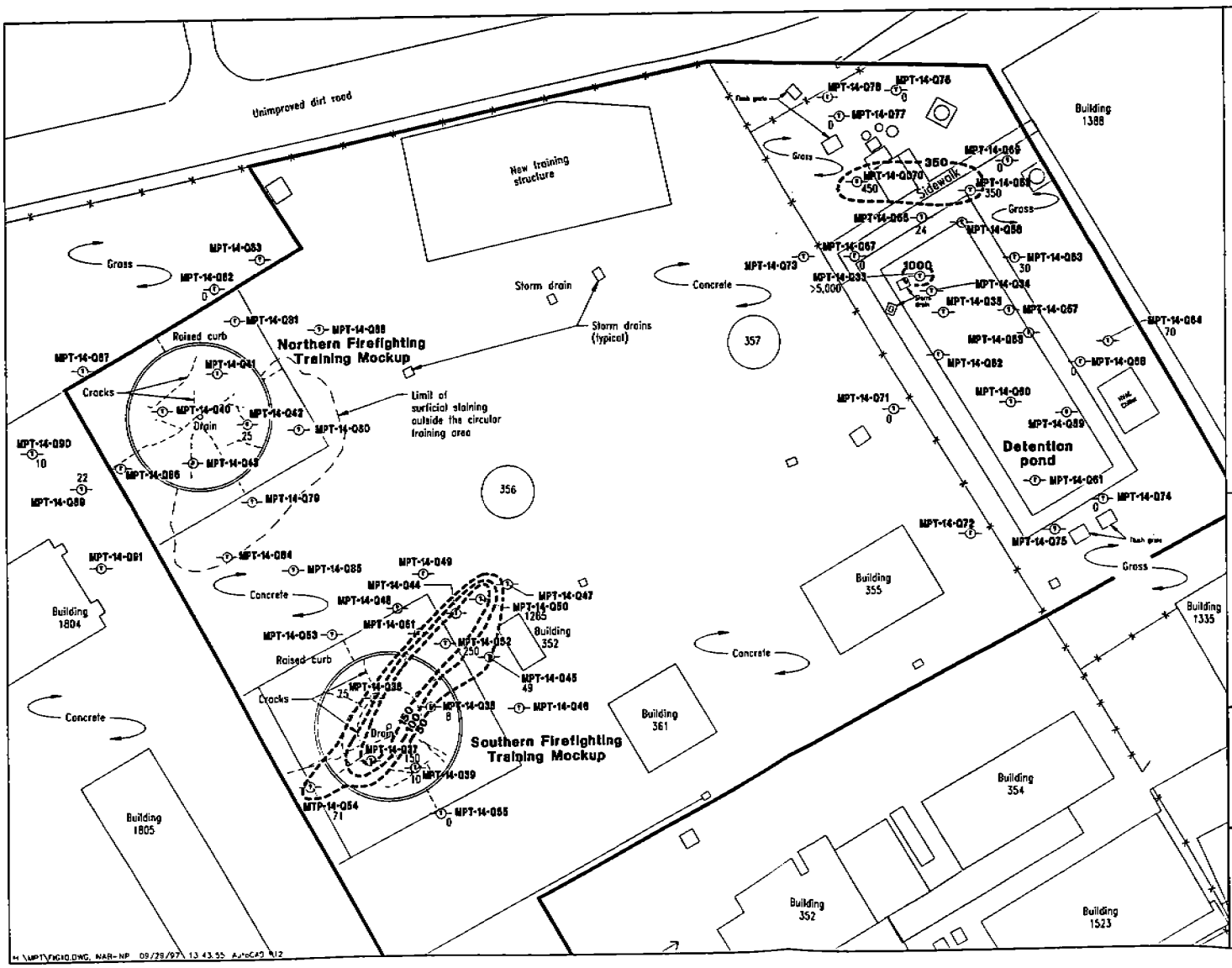


FIGURE 3-4
ORGANIC VAPOR DETECTED IN SUBSURFACE SOIL BY ORGANIC VAPOR ANALYSIS FLAME IONIZATION DETECTOR 3 TO 4 FEET BELOW LAND SURFACE

INTERIM MEASURE PERFORMANCE SPECIFICATIONS GROUP III, SWMU 14

U.S. NAVAL STATION MAYPORT, FLORIDA

H:\MPT\FIGIO.DWG, NAR-NP 09/29/97 13:43:55 AutoCAD R12

cracks in the concrete pad. Groundwater was encountered at depths ranging from 2 to 3 feet bls.

Detention Pond. The results of the OVA measurements of soil samples collected at the detention pond (Table 3-1) suggest that petroleum hydrocarbons have been released to soil in the vadose zone to a depth of 2 feet beneath the concrete. It is likely that the petroleum hydrocarbon entered the subsurface environment through construction joints. Groundwater was encountered at depths ranging from 1.5 to 5 feet bls.

The TerraProbe℠ and hand-augured soil borings were terminated when the water table was encountered. Therefore, the last sampling interval was generally slightly above or just below the water table. Assuming that the water table fluctuates 1 to 2 feet, it is likely that the deeper sample intervals would be above or below the water table at some point in time.

3.1.2 Laboratory Analytical Results Below are laboratory analytical results for surface and subsurface soil samples collected at the north and south firefighting training mockup and the detention pond (Figure 2-2).

North Firefighting Training Mockup. TRPH measurements in the surface and subsurface soil samples ranged from 2.5 to 11,200 milligrams per kilogram (mg/kg) (Table 3-2). The highest values detected in surface and subsurface soil samples were 11,200 and 2,730 mg/kg, respectively. Currently, there is no screening criterion or standard for TRPH in soil under FAC 62-770. The TRPH analytical results of the soil samples suggest that there has been a release of petroleum to soil in the vicinity of the north firefighting training mockup.

VOCs, SVOCs, and inorganics detected in surface and subsurface soil samples are provided in Tables 3-3 and 3-4, respectively. None of the VOCs and SVOCs were detected in the surface and subsurface soil samples (Figure 2-2) at concentrations that exceed FDEP residential or industrial soil cleanup goals (Tables 3-5 and 3-6). Two inorganic chemicals, arsenic and beryllium, were detected in two surface soil samples at concentrations that exceed their respective residential soil cleanup goals, but not their industrial soil cleanup goals.

None of the inorganic chemicals were detected in the subsurface soil samples at concentrations that exceed the FDEP residential or industrial soil cleanup goals.

South Firefighting Training Mockup. TRPH measurements in the surface and subsurface soil samples ranged from 11.1 to 5,220 mg/kg (Table 3-2). The highest values detected in surface and subsurface soil samples were 3,060 and 5,220 mg/kg, respectively. The TRPH analytical results of the soil samples suggest that there has been a release of petroleum to soil in the vicinity of the south firefighting training mockup.

VOCs, SVOCs, and inorganics detected in surface and subsurface soil samples are provided in Tables 3-7 and 3-8, respectively. None of the VOCs and SVOCs were detected in the surface and subsurface soil samples (Figure 2-2) at concentrations that exceed FDEP residential or industrial soil cleanup goals (Tables 3-9 and 3-10). One inorganic chemical, beryllium, was detected in a surface soil sample at a concentration that exceeded the residential soil cleanup goal, but not the industrial soil cleanup goal.

Table 3-2
Total Recoverable Petroleum Hydrocarbons Detected in Surface and Subsurface Soil Samples

Interim Measure Performance Specifications
Group III SWMU 14
U.S. Naval Station
Mayport, Florida

Sample Location	Sample Number	Sample Date	Sample Depth (ft bls)	Result (mg/kg)
North Firefighting Training Mockup				
MPT-14-SS34	14S03401	21-Aug-96	0 to 1	8.7
MPT-14-SB34	14B03403	21-Aug-96	1 to 2	2.5
MPT-14-SS35	14S03501	21-Aug-96	0 to 1	11,200
MPT-14-SB35	14B03503	21-Aug-96	1 to 2	330
MPT-14-SS36	14S03601	22-Aug-96	0 to 1	523
MPT-14-SS36	14S03601D	22-Aug-96	0 to 1	642
MPT-14-SB36	14B03603	22-Aug-96	1 to 2	2,730
MPT-14-SS37	14S03701	22-Aug-96	0 to 1	11.1
MPT-14-SB37	14B03703	22-Aug-96	1 to 2	4.3
MPT-14-SS38	14S03801	22-Aug-96	0 to 1	1,140
MPT-14-SB38	14B03803	22-Aug-96	1 to 2	80.6
South Firefighting Training Mockup				
MPT-14-SS39	14S03901	22-Aug-96	0 to 1	1.7 U
MPT-14-SS39	14S03901D	22-Aug-96	0 to 1	1.7 U
MPT-14-SB39	14B03903	22-Aug-96	1 to 2	1.9 U
MPT-14-SS40	14S04001	22-Aug-96	0 to 1	1,290
MPT-14-SB40	14B04003	22-Aug-96	1 to 2	66.7
MPT-14-SS41	14S04101	22-Aug-96	0 to 1	315
MPT-14-SB41	14B04103	22-Aug-96	1 to 2	69.9
MPT-14-SS42	14S04201	22-Aug-96	0 to 1	3,060
MPT-14-SB42	14B04203	22-Aug-96	1 to 2	5,220
MPT-14-SS43	14S04301	22-Aug-96	0 to 1	97.6
MPT-14-SB43	14B04303	22-Aug-96	1 to 2	11.1
Detention Pond				
MPT-14-SB29	14B02902	20-Aug-96	1 to 2	5,920
MPT-14-SB30	14B03002	20-Aug-96	1 to 2	11,200
MPT-14-SB31	14B03102	20-Aug-96	1 to 2	23,100
MPT-14-SS32	14S03201	21-Aug-96	0 to 1	46.2
MPT-14-SS32	14S03201D	21-Aug-96	0 to 1	80.6
MPT-14-SB32	14B03203	21-Aug-96	2 to 3	9.1
MPT-14-SS33	14S03301	21-Aug-96	0 to 1	62
MPT-14-SB33	14B03303	21-Aug-96	2 to 3	1,140
MPT-14-SB44	14B04402	23-Aug-96	1 to 2	1,410

See notes at end of table.

Table 3-2 (Continued)
Total Recoverable Petroleum Hydrocarbons Detected in Surface and Subsurface Soil Samples

Interim Measure Performance Specifications
Group III SWMU 14
U.S. Naval Station
Mayport, Florida

Sample Location	Sample Number	Sample Date	Sample Depth (ft bls)	Result (mg/kg)
Detention Pond (continued)				
MPT-14-SB44	14B04402D	23-Aug-96	1 to 2	1,340

Notes: SWMU = solid waste management unit.
ft bls = depth in feet beneath the land surface of the bottom of a concrete surface.
mg/kg = milligrams per kilogram.
U = concentration of analyte, if present, was less than the detection limit.

Table 3-3
Organic and Inorganic Analytes Detected in Surface Soil Samples Collected at the Fleet Training Center Northern Burn Area

Interim Measure Performance Specifications
Group III SWMU 14
U.S. Naval Station
Mayport, Florida

Analytical Batch Number:	R9756	R9756	MB6380	MB6380	MB6380	MB6380	MB6380	MB6380
Sample Location:	MPT-14-SS01	MPT-14-MW07S	MPT-14-SS34	MPT-14-SS35	MPT-14-SS36	MPT-14-SS36	MPT-14-SS37	MPT-14-SS38
Sample Number:	14S00101	14S01401	14S03401	14S03501	14S03601	14S03601DUP	14S03701	14S03801
Date Sampled:	09-APR-95	09-APR-95	21-AUG-96	21-AUG-96	22-AUG-96	22-AUG-96	22-AUG-96	22-AUG-96
Sample Depth (ft bls):	0 to 1	0 to 1	0 to 1	0 to 1	0 to 1	0 to 1	0 to 1	0 to 1
Volatile Organic Compounds (µg/kg)								
Methylene chloride	--	--	--	5 J	1 J	2 J	1 J	1 J
Acetone	--	--	--	--	140	200	--	49
2-Butanone	--	--	--	--	35	52	--	--
Benzene	--	--	--	1 J	2 J	2 J	2 J	--
Toluene	2 J	--	--	1 J	1 J	1 J	1 J	--
Ethylbenzene	--	--	--	2 J	--	--	--	--
Xylenes (total)	--	--	--	9	--	--	--	6
Semivolatile Organic Compounds (µg/kg)								
Naphthalene	--	--	--	2,900 J	230 J	200 J	--	--
2-Methylnaphthalene	--	--	--	26,000	1,000 J	920 J	--	1,200 J
Acenaphthene	--	--	--	--	--	140 J	--	190 J
Dibenzofuran	--	--	--	2,200 J	--	--	--	--
Fluorene	--	--	--	6,400 J	360 J	--	--	500 J
N-Nitrosodiphenylamine	--	--	--	4,000 J	--	--	--	--
Phenanthrene	--	--	--	14,000	640 J	660 J	--	960 J
Anthracene	--	--	--	1,000 J	--	--	--	--
Pyrene	--	--	--	1,800 J	150 J	140 J	--	--
Inorganic Analytes (mg/kg)								
Arsenic	1.4 J	0.66 J	--	0.42 J	--	--	1 J	--
Barium	9.2 J	6.4 J	2.4 J	3.7 J	2.9 J	3 J	5.6 J	3.2 J
Beryllium	0.08 J	0.06 J	--	--	--	--	--	--

See notes at end of table.

Table 3-3 (Continued)
Organic and Inorganic Analytes Detected in Surface Soil Samples Collected at the Fleet Training Center Northern Burn Area

Interim Measure Performance Specifications
Group III SWMU 14
U.S. Naval Station
Mayport, Florida

Analytical Batch Number:	R9756	R9756	MB6380	MB6380	MB6380	MB6380	MB6380	MB6380
Sample Location:	MPT-14-SS01	MPT-14-MW07S	MPT-14-SS34	MPT-14-SS35	MPT-14-SS36	MPT-14-SS36	MPT-14-SS37	MPT-14-SS38
Sample Number:	14S00101	14S01401	14S03401	14S03501	14S03601	14S03601DUP	14S03701	14S03801
Date Sampled:	09-APR-95	09-APR-95	21-AUG-96	21-AUG-96	22-AUG-96	22-AUG-96	22-AUG-96	22-AUG-96
Sample Depth (ft bls):	0 to 1	0 to 1	0 to 1	0 to 1	0 to 1	0 to 1	0 to 1	0 to 1
Inorganic Analytes (mg/kg) (continued)								
Cadmium	0.4 J	--	--	--	--	--	--	--
Chromium	6.1	3	2.5	3.8	2.3	2.5	5.5	3.2
Cobalt	0.89 J	0.76 J	--	--	--	--	--	--
Copper	12.5	9.8	--	5.8	--	--	4.5 J	--
Lead	16.2	3.9	1.9 J	1.7 J	2.4 J	2.1 J	13.7 J	1.3 J
Mercury	--	--	--	--	--	--	0.03 J	--
Nickel	3.4 J	1.3	--	--	--	1.5 J	--	--
Selenium	--	--	--	--	--	--	--	0.3 J
Tin	2.2 J	--	19.9	--	--	--	--	--
Vanadium	3.6 J	2.7 J	1.4 J	3.5 J	1.5 J	1.7 J	5.3 J	2.9 J
Zinc	46.2	12.5	5.3	9.2	21	35	24.5	8.6
Cyanide	0.13 J	0.09 J	--	--	--	--	--	--

Notes: SWMU = solid waste management unit.
DUP = Sample number suffix that designates a duplicate to an environmental sample.
ft bls = feet below land surface.
µg/kg = micrograms per kilogram.
-- = concentration of analyte, if present, was less than detection limit.
J = estimated value.
mg/kg = milligrams per kilogram.

Table 3-4
Organic and Inorganic Analytes Detected in Subsurface Soil Samples Collected at the Fleet Training Center Northern Burn Area

Interim Measure Performance Specifications
Group III SWMU 14
U.S. Naval Station
Mayport, Florida

Analytical Batch Number:	M8995	MB6380	MB6380	MB6380	MB6380	MB6380
Sample Location:	MPT-14-MW07S	MPT-14-SB34	MPT-14-SB35	MPT-14-SB36	MPT-14-SB37	MPT-14-SB38
Sample Number:	14B02303	14B03403	14B03503	14B03603	14B03703	14B03803
Date Sampled:	21-MAY-95	21-AUG-96	21-AUG-96	22-AUG-96	22-AUG-96	22-AUG-96
Sample Depth (ft bls):	2 to 3	1 to 2	1 to 2	1 to 2	1 to 2	1 to 2
Volatile Organic Compounds (µg/kg)						
Methylene chloride	--	2 J	2 J	2 J	1 J	--
Acetone	--	--	--	76 J	--	--
Benzene	--	--	2 J	2 J	--	--
Toluene	--	--	--	3 J	1 J	1 J
Ethylbenzene	--	--	--	14 J	--	--
Xylenes (total)	--	--	--	6 J	--	--
Semivolatile Organic Compounds (µg/kg)						
Naphthalene	--	--	--	2,300 J	--	--
2-Methylnaphthalene	--	--	650 J	7,300 J	--	[1]84 J
Acenaphthene	--	--	88 J	--	--	--
Fluorene	--	--	--	1,100 J	--	--
Phenanthrene	--	--	420 J	1,600 J	--	[1]140 J
Butylbenzylphthalate	--	86 J	--	--	--	--
bis(2-Ethylhexyl)phthalate	--	48 J	--	--	--	--
Inorganic Analytes (mg/kg)						
Arsenic	1.1 J	--	--	--	--	--
Barium	2.8 J	2.7 J	3.9 J	2.3 J	2.3 J	2.7 J
Beryllium	0.1 J	--	--	--	--	--

See notes at end of table.

Table 3-4 (Continued)
Organic and Inorganic Analytes Detected in Subsurface Soil Samples Collected at the Fleet Training Center Northern Burn Area

Interim Measure Performance Specifications
Group III, SWMU 14
U. S. Naval Station
Mayport, Florida

Analytical Batch Number:	M8995	MB6380	MB6380	MB6380	MB6380	MB6380
Sample Location:	MPT-14-MW07S	MPT-14-SB34	MPT-14-SB35	MPT-14-SB36	MPT-14-SB37	MPT-14-SB38
Sample Number:	14B02303	14B03403	14B03503	14B03603	14B03703	14B03803
Date Sampled:	22-MAY-95	21-AUG-96	21-AUG-96	22-AUG-96	22-AUG-96	22-AUG-96
Sample Depth (ft bls):	2 to 3	1 to 2	1 to 2	1 to 2	1 to 2	1 to 2
Inorganic Analytes (mg/kg) (continued)						
Chromium	2 J	2.8	1.8 J	2.1 J	2.6	2.1 J
Lead	2.4	1.6 J	1.1 J	1.1 J	1.2 J	1.5 J
Tin	2.6 J	29.1	--	--	--	--
Vanadium	1.9 J	1.8 J	1.7 J	1.3 J	1.8 J	1.1 J
Zinc	--	4.7	5.5	10.2	6.9	4.6

[1] Preferred analytical result from the reanalysis of sample 14B03803.

Notes: SWMU = solid waste management unit.
ft bls = feet below land surface.
µg/kg = micrograms per kilogram.
-- = concentration of analyte, if present, was less than detection limit.
J = estimated value.
mg/kg = milligrams per kilogram.

Table 3-5
Summary of Chemicals Detected in Surface Soil Samples Collected at the Fleet Training Center Northern Burn Area

Interim Measure Performance Specifications
Group III SWMU 14
U.S. Naval Station
Mayport, Florida

Analyte	Frequency of Detection[1]	Reporting Limit Range	Detected Concentration Range	Mean of Detected Concentrations[2]	Background Screening Concentration[3]	Florida Soil Cleanup Goals (Residential)[4]	Frequency Above Residential Soil Cleanup Goals[5]	Florida Soil Cleanup Goals (Industrial)[4]	Frequency Above Industrial Soil Cleanup Goals[5]
Volatile Organic Compounds (µg/kg)									
Methylene Chloride	4/7	5 to 5	[8]1 to 5	2.1	ND	16,000	0/7	23,000	0/7
Acetone	2/7	11 to 28	[8]49 to 170	110	16	260,000	0/7	1,800,000	0/7
2-Butanone	1/7	10 to 11	[8]43.5 to 43.5	23.8	ND	2,200,000	0/7	15,000,000	0/7
Benzene	3/7	5 to 5	[8]1 to 2	1.7	ND	1,400	0/7	4,900	0/7
Toluene	4/7	5 to 5	[8]1 to 2	1.3	ND	520,000	0/7	3,500,000	0/7
Ethylbenzene	1/7	5 to 5	2 to 2	2	ND	1,400,000	0/7	10,000,000	0/7
Xylenes (total)	2/7	5 to 5	6 to 9	7.5	ND	13,000,000	0/7	92,000,000	0/7
Semivolatile Organic Compounds (µg/kg)									
Naphthalene	2/7	340 to 1,800	215 to 2,900	1,558	ND	1,300,000	0/7	12,000,000	0/7
2-Methylnaphthalene	3/7	340 to 720	[8]960 to 26,000	9,387	ND	960,000	0/7	8,800,000	0/7
Acenaphthene	2/7	340 to 7,200	[8]190 to 345	268	ND	670,000	0/7	5,600,000	0/7
Dibenzofuran	1/7	340 to 1,800	2,200 to 2,200	2,200	ND	240,000	0/7	3,500,000	0/7
Fluorene	3/7	340 to 720	[8]455 to 6,400	2,452	ND	2,400,000	0/7	30,000,000	0/7
N-Nitrosodiphenylamine	1/7	340 to 1,800	4,000 to 4,000	4,000	ND	73,000	0/7	130,000	0/7
Phenanthrene	3/7	340 to 720	[8]650 to 14,000	5,203	ND	1,700,000	0/7	21,000,000	0/7
Anthracene	1/7	340 to 1,800	1,000 to 1,000	1,000	ND	20,000,000	0/7	300,000,000	0/7
Pyrene	2/7	340 to 1,800	[8]145 to 1,800	1,548	ND	7,300,000	0/7	140,000,000	0/7

See notes at end of table.

Table 3-5 (Continued)
Summary of Chemicals Detected in Surface Soil Samples Collected at the Fleet Training Center Northern Burn Area

Interim Measure Performance Specifications
Group III SWMU 14
U.S. Naval Station
Mayport, Florida

Analyte	Frequency of Detection[1]	Reporting Limit Range	Detected Concentration Range	Mean of Detected Concentrations[2]	Background Screening Concentration[3]	Florida Soil Cleanup Goals (Residential)[4]	Frequency Above Residential Soil Cleanup Goals[5]	Florida Soil Cleanup Goals (Industrial)[4]	Frequency Above Industrial Soil Cleanup Goals[5]
Inorganic Analytes (mg/kg)									
Arsenic	4/7	0.2 to 0.2	0.42 to 1.4	0.87	ND	[6]0.8	2/7	[6]3.7	0/7
Barium	7/7	NA	[8]2.4 to 9.2	4.8	5.6	5,200	0/7	84,000	0/7
Beryllium	2/7	0.03 to 0.03	0.06 to 0.08	0.07	0.16	0.2	2/7	1	0/7
Cadmium	1/7	0.28 to 0.71	0.4 to 0.4	0.4	2	37	0/7	600	0/7
Chromium	7/7	NA	[8]2.4 to 6.1	3.8	2.6	[7]290	0/7	[7]430	0/7
Cobalt	2/7	0.52 to 0.54	0.76 to 0.89	0.83	ND	4700	0/7	110,000	0/7
Copper	4/7	0.25 to 0.25	4.5 to 12.5	8.2	2.2	[8]2,900	0/7	[8]72,000	0/7
Lead	7/7	NA	1.3 to 16.2	5.9	ND	500	0/7	1,000	0/7
Mercury	1/7	0.03 to 0.03	0.03 to 0.03	0.03	ND	23	0/7	480	0/7
Nickel	3/7	0.6 to 1.2	[8]1.05 to 3.4	1.9	ND	1,500	0/7	26,000	0/7
Selenium	1/7	0.13 to 0.27	0.03 to 0.03	0.03	1.36	390	0/7	9,900	0/7
Tin	2/7	2.1 to 2.5	2.2 to 19.9	11	ND	44,000	0/7	670,000	0/7
Vanadium	7/7	NA	1.4 to 5.3	3	4	490	0/7	4,800	0/7
Zinc	7/7	NA	5.3 to 46.2	19.2	2.6	23,000	0/7	560,000	0/7
Cyanide	2/7	0.09 to 0.09	0.09 to 0.13	0.11	ND	23,000	0/7	560,000	0/7

See notes on following page.

Table 3-5 (Continued)
Summary of Chemicals Detected in Surface Soil Samples Collected at the Fleet Training Center Northern Burn Area

Interim Measure Performance Specifications
Group III SWMU 14
U.S. Naval Station
Mayport, Florida

[1] Frequency of detection is the number of sample locations where the analyte was detected divided by the total number of sample locations analyzed (excluding rejected values, "R" qualifier). Sampling locations MPT-14-SS01, MPT-14-MW07S, MPT-14-SS34, MPT-14-SS35, MPT-14-SS36, MPT-14-SS36DUP, MPT-14-SS37, and MPT-14-SS38 were used to make this table. The detection of an analyte in either sample 14S03601 or duplicate 14S03601DUP was used to represent a value for sampling location MPT-14-SS36.

[2] The mean of detected concentrations is the arithmetic mean of all samples (MPT-14-SS01, MPT-14-MW07S, MPT-14-SS34, MPT-14-SS35, MPT-14-SS36, MPT-14-SS36DUP, MPT-14-SS37, and MPT-14-SS38) in which the analyte was detected. The value for sampling location MPT-14-SS36 is the average of sample 14S03601 and the associated duplicate 14S03601DUP. The mean does not include those samples with "R", "U", or "UJ" validation qualifiers.

[3] The background screening value is twice the average of detected concentrations for inorganic analytes in background samples. The samples included in the background data set are identified in Table D-1-1 of Appendix D-1 to the Resource Conservation and Recovery Act Facility Investigation General Information Report (GIR) (ABB-ES, 1995).

[4] Values are from Florida Department of Environmental Protection (FDEP) memorandum titled, "Soil Cleanup Goals for Florida," dated September 29, 1995.

[5] Frequency of detection is the number of samples in which the analyte was detected at concentrations exceeding the "Soil Cleanup Goals for Florida," dated September 29, 1995. The average concentration for an analyte detected in sample 14S03601 and duplicate 14S03601DUP was used to represent a value for sampling location MPT-14-SS36.

[6] The value is based on arsenic as a carcinogen. The value is from FDEP memorandum titled "Applicability of Soil Cleanup Goals for Florida," dated January 19, 1996.

[7] The value is based on the hexavalent form of chromium.

[8] FDEP, 1995, Memorandum, Ligia Mora-Applegate, Bureau of Waste Cleanup, to Tim Bahr, Bureau of Waste Cleanup, Re: Soil Cleanup Goals for the Military Sites, April 1995.

Notes: SWMU = solid waste management unit.
µg/kg = micrograms per kilogram.
ND = analyte not detected in background surface soil samples (GIR; ABB-ES, 1995).
mg/kg = milligrams per kilogram.
NA = not applicable, analyte detected in each sample.

Table 3-6
Summary of Chemicals Detected in Subsurface Soil Samples Collected at the Fleet Training Center Northern Burn Area

Interim Measure Performance Specifications
Group III SWMU 14
U.S. Naval Station
Mayport, Florida

Analyte	Frequency of Detection[1]	Reporting Limit Range	Detected Concentration Range	Mean of Detected Concentrations[2]	Background Screening Concentration[3]	Florida Soil Cleanup Goals (Residential)[4]	Frequency Above Residential Soil Cleanup Goals[5]	Florida Soil Cleanup Goals (Industrial)[4]	Frequency Above Industrial Soil Cleanup Goals[5]
Volatile Organic Compounds (µg/kg)									
Methylene Chloride	4/6	5 to 9	1 to 2	1.8	ND	16,000	0/6	23,000	0/6
Acetone	1/6	11 to 39	76 to 76	76	16	260,000	0/6	1,800,000	0/6
Benzene	2/6	5 to 6	2 to 2	2	ND	1,400	0/6	4,900	0/6
Toluene	3/6	6 to 6	1 to 3	1.7	ND	520,000	0/6	3,500,000	0/6
Ethylbenzene	1/6	5 to 6	14 to 14	14	ND	1,400,000	0/6	10,000,000	0/6
Xylenes (total)	1/6	5 to 6	6 to 6	6	ND	13,000,000	0/6	92,000,000	0/6
Semivolatile Organic Compounds (µg/kg)									
Naphthalene	1/6	360 to 740	2,300 to 2,300	2,300	ND	1,300,000	0/6	12,000,000	0/6
2-Methylnaphthalene	3/6	370 to 400	84 to 7,300	2,687	ND	960,000	0/6	8,800,000	0/6
Acenaphthene	1/6	360 to 7,500	88 to 88	88	ND	670,000	0/6	5,600,000	0/6
Fluorene	1/6	360 to 740	1,100 to 1,100	1,100	ND	2,400,000	0/6	30,000,000	0/6
Phenanthrene	3/6	370 to 400	140 to 1,600	720	ND	1,700,000	0/6	21,000,000	0/6
Butylbenzylphthalate	1/6	360 to 7,500	86 to 86	86	ND	1,500,000	0/6	310,000,000	0/6
bis(2-Ethylhexyl)phthalate	1/6	360 to 7,500	48 to 48	48	ND	1,700,000	0/6	21,000,000	0/6
Inorganic Analytes (mg/kg)									
Arsenic	1/6	0.2 to 0.22	1.1 to 1.1	1.1	ND	[6]0.8	1/6	[6]3.7	0/6
Barium	6/6	NA	2.3 to 3.9	2.8	5.6	5,200	0/6	84,000	0/6
Beryllium	1/6	0.03 to 0.03	0.1 to 0.1	0.1	0.16	0.2	0/6	1	0/6
Chromium	6/6	NA	1.8 to 2.8	2.2	2.6	[7]290	0/6	[7]430	0/6
Lead	6/6	NA	1.1 to 2.4	1.5	ND	500	0/6	1,000	0/6

See notes at end of table.

Table 3-6 (Continued)
Summary of Chemicals Detected in Subsurface Soil Samples Collected at the Fleet Training Center Northern Burn Area

Interim Measure Performance Specifications
Group III SWMU 14
U.S. Naval Station
Mayport, Florida

Analyte	Frequency of Detection[1]	Reporting Limit Range	Detected Concentration Range	Mean of Detected Concentrations[2]	Background Screening Concentration[3]	Florida Soil Cleanup Goals (Residential)[4]	Frequency Above Residential Soil Cleanup Goals[5]	Florida Soil Cleanup Goals (Industrial)[4]	Frequency Above Industrial Soil Cleanup Goals[5]
Inorganic Analytes (mg/kg) (continued)									
Tin	2/6	2.5 to 2.7	2.6 to 29.1	15.9	ND	44,000	0/6	670,000	0/6
Vanadium	6/6	NA	1.1 to 1.9	1.6	4	490	0/6	4,800	0/6
Zinc	5/6	3.6 to 3.6	4.6 to 10.2	6.4	2.6	23,000	0/6	560,000	0/6

[1] Frequency of detection is the number of sample locations where the analyte was detected divided by the total number of sample locations analyzed (excluding rejected values, "R" qualifier). Sampling locations MPT-14-MW07S, MPT-14-SB34, MPT-14-SB35, MPT-14-SB36, MPT-14-SB37, and MPT-14-SB38 were used to make this table.
[2] The mean of detected concentrations is the arithmetic mean of all samples (MPT-14-MW07S, MPT-14-SB34, MPT-14-SB35, MPT-14-SB36, MPT-14-SB37, and MPT-14-SB38) in which the analyte was detected. The mean does not include those samples with "R", "U", or "UJ" validation qualifiers.
[3] The background screening value is twice the average of detected concentrations for inorganic analytes in background samples. The samples included in the background data set are identified in Table D-1-1 of Appendix D-1 to the Resource Conservation and Recovery Act Facility Investigation General Information Report (GIR) (ABB-ES, 1995).
[4] Values are from Florida Department of Environmental Protection (FDEP) memorandum titled, "Soil Cleanup Goals for Florida," dated September 29, 1995.
[5] Frequency of detection is the number of samples in which the analyte was detected at concentrations exceeding the "Soil Cleanup Goals for Florida," dated September 29, 1995.
[6] The value is based on arsenic as a carcinogen. The value is from FDEP memorandum titled "Applicability of Soil Cleanup Goals for Florida," dated January 19, 1996.
[7] The value is based on the hexavalent form of chromium.

Notes: SWMU = solid waste management unit.
µg/kg = micrograms per kilogram.
ND = analyte not detected in background surface soil samples (GIR; ABB-ES, 1995).
mg/kg = milligrams per kilogram.
NA = not applicable, analyte detected in each sample.

Table 3-7
Organic and Inorganic Analytes Detected in Surface Soil Samples Collected at the Fleet Training Center Southern Burn Area

Interim Measure Performance Specifications
Group III SWMU 14
U.S. Naval Station
Mayport, Florida

Analytical Batch Number:	M8995	MB6470	MB6470	MB6470	MB6470	MB6470	MB6470
Sample Location:	MPT-14-MW09S	MPT-14-SS39	MPT-14-SS39	MPT-14-SS40	MPT-14-SS41	MPT-14-SS42	MPT-14-SS43
Sample Number:	14S02401	14S03901	14S03901DUP	14S04001	14S04101	14S04201	14S04301
Date Sampled:	21-MAY-95	22-AUG-96	22-AUG-96	22-AUG-96	22-AUG-96	22-AUG-96	22-AUG-96
Sample Depth (ft bls):	0 to 1	0 to 1	0 to 1	0 to 1	0 to 1	0 to 1	0 to 1
Volatile Organic Compounds (µg/kg)							
Methylene chloride	--	--	--	1 J	1 J	1 J	1 J
Acetone	--	--	--	50	38	41	43
2-Butanone	--	--	--	8 J	6 J	8 J	7 J
Toluene	--	2 J	1 J	--	--	2 J	1 J
Ethylbenzene	--	--	--	--	--	3 J	--
Xylenes (total)	--	--	--	--	--	10	--
Semivolatile Organic Compounds (µg/kg)							
Naphthalene	--	--	--	--	--	570 J	--
2-Methylnaphthalene	--	--	--	870 J	96 J	3,500	87 J
Fluorene	--	--	--	--	73 J	--	--
Phenanthrene	--	--	--	700 J	170 J	2,000 J	160 J
Di-n-butylphthalate	--	--	--	--	35 J	--	53 J
Inorganic Analytes (mg/kg)							
Arsenic	--	0.48 J	0.35 J	0.35 J	0.47 J	0.5 J	0.53 J
Barium	8.3 J	3 J	5 J	3.5 J	2.4 J	2.3 J	3 J
Beryllium	0.22 J	--	--	--	--	--	--
Chromium	8.7	2.7	4.2	3.8	2.4	2.7	2.8
Cobalt	1.5 J	--	0.66 J	0.72 J	0.58 J	--	--
Copper	1.8 J	--	--	--	--	--	--
Lead	3.1 J	1.6	1.4	2.3	1.7	2.6	2.3
Nickel	2 J	1.2 J	1.7 J	1.9 J	--	1.4 J	--

See notes at end of table.

Table 3-7 (Continued)
Organic and Inorganic Analytes Detected in Surface Soil Samples Collected at the Fleet Training Center Southern Burn Area

Interim Measure Performance Specifications
Group III SWMU 14
U.S. Naval Station
Mayport, Florida

Analytical Batch Number:	M8995	MB6470	MB6470	MB6470	MB6470	MB6470	MB6470
Sample Location:	MPT-14-MW09S	MPT-14-SS39	MPT-14-SS39	MPT-14-SS40	MPT-14-SS41	MPT-14-SS42	MPT-14-SS43
Sample Number:	14S02401	14S03901	14S03901DUP	14S04001	14S04101	14S04201	14S04301
Date Sampled:	21-MAY-95	22-AUG-96	22-AUG-96	22-AUG-96	22-AUG-96	22-AUG-96	22-AUG-96
Sample Depth (ft bls):	0 to 1	0 to 1	0 to 1	0 to 1	0 to 1	0 to 1	0 to 1
Inorganic Analytes (mg/kg) (continued)							
Thallium	--	--	--	--	--	--	0.26 J
Tin	3 J	--	--	--	--	--	--
Vanadium	7.8 J	1.5 J	2.7 J	2.1 J	1.7 J	1.6 J	1.7 J
Zinc	--	5.1	5.8	8.6	4.8	6.5	7.3

Notes: SWMU = solid waste management unit.
DUP = sample number suffix that designates a duplicate to an environmental sample.
ft bls = feet below land surface.
µg/kg = micrograms per kilogram.
-- = concentration of analyte, if present, was less than detection limit.
J = estimated value.
mg/kg = milligrams per kilogram.

Table 3-8
Organic and Inorganic Analytes Detected in Subsurface Soil Samples Collected at the Fleet Training Center Southern Burn Area

Interim Measure Performance Specifications
Group III SWMU 14
U.S. Naval Station
Mayport, Florida

Analytical Batch Number:	M8995	MB6470	MB6470	MB6470	MB6470	MB6470
Sample Location:	MPT-14-MW09S	MPT-14-SB39	MPT-14-SB40	MPT-14-SB41	MPT-14-SB42	MPT-14-SB43
Sample Number:	14B02403	14B03903	14B04003	14B04103	14B04203	14B04303
Date Sampled:	21-MAY-95	22-AUG-96	22-AUG-96	22-AUG-96	22-AUG-96	22-AUG-96
Sample Depth (ft bls):	2 to 3	1 to 2	1 to 2	1 to 2	1 to 2	1 to 2
Volatile Organic Compounds (µg/kg)						
Methylene chloride	--	2 J	2 J	2 J	2 J	1 J
Acetone	--	--	31	32	42 J	41
2-Butanone	--	4 J	5 J	4 J	9 J	8 J
Toluene	--	--	--	--	3 J	1 J
Ethylbenzene	--	--	--	--	1 J	--
Xylenes (total)	[1] 1 J	--	--	--	6 J	--
Isobutyl alcohol	--	--	--	--	400 J	--
Semivolatile Organic Compounds (µg/kg)						
2-Methylnaphthalene	--	--	--	40 J	6,500	--
Fluorene	--	--	--	--	3,800 J	--
Phenanthrene	--	--	48 J	120 J	6,300	56 J
Di-n-butylphthalate	--	41 J	--	--	--	46 J
Pyrene	--	--	--	--	650 J	--
Inorganic Analytes (mg/kg)						
Arsenic	1.3 J	0.52 J	1.9 J	0.4 J	0.41 J	0.36 J
Barium	4.3 J	2.6 J	4.2 J	2.1 J	2.5 J	3 J
Beryllium	0.13 J	--	--	--	--	--
Chromium	3.6	3.3	4.3	2.4	2.8	2.3
Cobalt	1 J	0.81 J	--	--	--	--
Copper	0.43 J	--	--	--	--	--
Lead	1.6	1.2	2.2	0.97	1.6	1.6

See notes at end of table.

Table 3-8 (Continued)
Organic and Inorganic Analytes Detected in Subsurface Soil Samples Collected at the Fleet Training Center Southern Burn Area

Interim Measure Performance Specifications
Group III SWMU 14
U.S. Naval Station
Mayport, Florida

Analytical Batch Number:	M8995	MB6470	MB6470	MB6470	MB6470	MB6470
Sample Location:	MPT-14-MW09S	MPT-14-SB39	MPT-14-SB40	MPT-14-SB41	MPT-14-SB42	MPT-14-SB43
Sample Number:	14B02403	14B03903	14B04003	14B04103	14B04203	14B04303
Date Sampled:	21-MAY-95	22-AUG-96	22-AUG-96	22-AUG-96	22-AUG-96	22-AUG-96
Sample Depth (ft bls):	2 to 3	1 to 2	1 to 2	1 to 2	1 to 2	1 to 2
Inorganic Analytes (mg/kg) (continued)						
Nickel	--	2.2 J	--	1.5 J	--	1.4 J
Thallium	--	--	1.3 J	--	--	--
Tin	5.4 J	2.8 J	--	--	--	--
Vanadium	3.6 J	1.6 J	1.8 J	1.1 J	1.2 J	1.5 J
Zinc	--	5.3	8.6	5.8	10	7.7

[1] The initial volatile organic analyses were rejected because of low internal standard recovery, therefore, the data validator recommended using the reanalyzed sample 14B02403RE2.

Notes: SWMU = solid waste management unit.
ft bls = feet below land surface.
µg/kg = micrograms per kilogram.
-- = concentration of analyte, if present, was less than detection limit.
J = estimated value.
mg/kg = milligrams per kilogram.

Table 3-9
Summary of Chemicals Detected in Surface Soil Samples Collected at the Fleet Training Center Northern Burn Area

Interim Measure Performance Specifications
Group III SWMU 14
U.S. Naval Station
Mayport, Florida

Analyte	Frequency of Detection[1]	Reporting Limit Range	Detected Concentration Range	Mean of Detected Concentrations[2]	Background Screening Concentration[3]	Florida Soil Cleanup Goals (Residential)[4]	Frequency Above Residential Soil Cleanup Goals[5]	Florida Soil Cleanup Goals (Industrial)[4]	Frequency Above Industrial Soil Cleanup Goals[5]
Volatile Organic Compounds (µg/kg)									
Methylene chloride	4/7	5 to 5	[6]1 to 5	2.1	ND	16,000	0/7	23,000	0/7
Acetone	2/7	11 to 28	[6]49 to 170	110	16	260,000	0/7	1,800,000	0/7
2-Butanone	1/7	10 to 11	[6]43.5 to 43.5	23.8	ND	2,200,000	0/7	15,000,000	0/7
Benzene	3/7	5 to 5	[6]1 to 2	1.7	ND	1,400	0/7	4,900	0/7
Toluene	4/7	5 to 5	[6]1 to 2	1.3	ND	520,000	0/7	3,500,000	0/7
Ethylbenzene	1/7	5 to 5	2 to 2	2	ND	1,400,000	0/7	10,000,000	0/7
Xylenes (total)	2/7	5 to 5	6 to 9	7.5	ND	13,000,000	0/7	92,000,000	0/7
Semivolatile Organic Compounds (µg/kg)									
Naphthalene	2/7	340 to 1,800	215 to 2,900	1,558	ND	1,300,000	0/7	12,000,000	0/7
2-Methylnaphthalene	3/7	340 to 720	[6]960 to 26,000	9,387	ND	960,000	0/7	8,800,000	0/7
Acenaphthene	2/7	340 to 7,200	[6]190 to 345	268	ND	670,000	0/7	5,600,000	0/7
Dibenzofuran	1/7	340 to 1,800	2,200 to 2,200	2,200	ND	240,000	0/7	3,500,000	0/7
Fluorene	3/7	340 to 720	[6]455 to 6,400	2,452	ND	2,400,000	0/7	30,000,000	0/7
N-Nitrosodiphenylamine	1/7	340 to 1,800	4,000 to 4,000	4,000	ND	73,000	0/7	130,000	0/7
Phenanthrene	3/7	340 to 720	[6]650 to 14,000	5,203	ND	1,700,000	0/7	21,000,000	0/7
Anthracene	1/7	340 to 1,800	1,000 to 1,000	1,000	ND	20,000,000	0/7	300,000,000	0/7
Pyrene	2/7	340 to 1,800	[6]145 to 1,800	1,548	ND	7,300,000	0/7	140,000,000	0/7

See notes at end of table.

Table 3-9 (Continued)
Summary of Chemicals Detected in Surface Soil Samples Collected at the Fleet Training Center Northern Burn Area

Interim Measure Performance Specifications
Group III SWMU 14
U.S. Naval Station
Mayport, Florida

Analyte	Frequency of Detection[1]	Reporting Limit Range	Detected Concentration Range	Mean of Detected Concentrations[2]	Background Screening Concentration[3]	Florida Soil Cleanup Goals (Residential)[4]	Frequency Above Residential Soil Cleanup Goals[5]	Florida Soil Cleanup Goals (Industrial)[4]	Frequency Above Industrial Soil Cleanup Goals[5]
Inorganic Analytes (mg/kg)									
Arsenic	4/7	0.2 to 0.2	0.42 to 1.4	0.87	ND	[6]0.8	2/7	[6]3.7	0/7
Barium	7/7	NA	[8]2.4 to 9.2	4.8	5.6	5,200	0/7	84,000	0/7
Beryllium	2/7	0.03 to 0.03	0.06 to 0.08	0.07	0.16	0.2	2/7	1	0/7
Cadmium	1/7	0.28 to 0.71	0.4 to 0.4	0.4	2	37	0/7	600	0/7
Chromium	7/7	NA	[8]2.4 to 6.1	3.8	2.6	[7]290	0/7	[7]430	0/7
Cobalt	2/7	0.52 to 0.54	0.76 to 0.89	0.83	ND	4700	0/7	110,000	0/7
Copper	4/7	0.25 to 0.25	4.5 to 12.5	8.2	2.2	[8]2,900	0/7	[8]72,000	0/7
Lead	7/7	NA	1.3 to 16.2	5.9	ND	500	0/7	1,000	0/7
Mercury	1/7	0.03 to 0.03	0.03 to 0.03	0.03	ND	23	0/7	480	0/7
Nickel	3/7	0.6 to 1.2	[8]1.05 to 3.4	1.9	ND	1,500	0/7	26,000	0/7
Selenium	1/7	0.13 to 0.27	0.03 to 0.03	0.03	1.36	390	0/7	9,900	0/7
Tin	2/7	2.1 to 2.5	2.2 to 19.9	11	ND	44,000	0/7	670,000	0/7
Vanadium	7/7	NA	1.4 to 5.3	3	4	490	0/7	4,800	0/7
Zinc	7/7	NA	5.3 to 46.2	19.2	2.6	23,000	0/7	560,000	0/7
Cyanide	2/7	0.09 to 0.09	0.09 to 0.13	0.11	ND	23,000	0/7	560,000	0/7

See notes on following page.

Table 3-9 (Continued)
Summary of Chemicals Detected in Surface Soil Samples Collected at the Fleet Training Center Northern Burn Area

Interim Measure Performance Specifications
Group III SWMU 14
U.S. Naval Station
Mayport, Florida

[1] Frequency of detection is the number of sample locations where the analyte was detected divided by the total number of sample locations analyzed (excluding rejected values, "R" qualifier). Sampling locations MPT-14-SS01, MPT-14-MW07S, MPT-14-SS34, MPT-14-SS35, MPT-14-SS36, MPT-14-SS36DUP, MPT-14-SS37, and MPT-14-SS38 were used to make this table. The detection of an analyte in either sample 14S03601 or duplicate 14S03601DUP was used to represent a value for sampling location MPT-14-SS36.

[2] The mean of detected concentrations is the arithmetic mean of all samples (MPT-14-SS01, MPT-14-MW07S, MPT-14-SS34, MPT-14-SS35, MPT-14-SS36, MPT-14-SS36DUP, MPT-14-SS37, and MPT-14-SS38) in which the analyte was detected. The value for sampling location MPT-14-SS36 is the average of sample 14S03601 and the associated duplicate 14S03601DUP. The mean does not include those samples with "R", "U", or "UJ" validation qualifiers.

[3] The background screening value is twice the average of detected concentrations for inorganic analytes in background samples. The samples included in the background data set are identified in Table D-1-1 of Appendix D-1 to the Resource Conservation and Recovery Act Facility Investigation General Information Report (GIR) (ABB-ES, 1995).

[4] Values are from Florida Department of Environmental Protection (FDEP) memorandum titled, "Soil Cleanup Goals for Florida," dated September 29, 1995.

[5] Frequency of detection is the number of samples in which the analyte was detected at concentrations exceeding the "Soil Cleanup Goals for Florida," dated September 29, 1995. The average concentration for an analyte detected in sample 14S03601 and duplicate 14S03601DUP was used to represent a value for sampling location MPT-14-SS36.

[6] The value is based on arsenic as a carcinogen. The value is from FDEP memorandum titled "Applicability of Soil Cleanup Goals for Florida" dated January 19, 1996.

[7] The value is based on the hexavalent form of chromium.

[8] FDEP, 1995, Memorandum, Ligia Mora-Applegate, Bureau of Waste Cleanup, to Tim Bahr, Bureau of Waste Cleanup, Re: Soil Cleanup Goals for the Military Sites, April, 1995.

Notes: SWMU = solid waste management unit.
µg/kg = micrograms per kilogram.
ND = analyte not detected in background surface soil samples (GIR; ABB-ES, 1995).
mg/kg = milligrams per kilogram.
NA = not applicable, analyte detected in each sample.

Table 3-10
Summary of Chemicals Detected in Subsurface Soil Samples Collected at the Fleet Training Center Southern Burn Area

Interim Measure Performance Specifications
Group III SWMU 14
U.S. Naval Station
Mayport, Florida

Analyte	Frequency of Detection[1]	Reporting Limit Range	Detected Concentration Range	Mean of Detected Concentrations[2]	Background Screening Concentration[3]	Florida Soil Cleanup Goals (Residential)[4]	Frequency Above Residential Soil Cleanup Goals[5]	Florida Soil Cleanup Goals (Industrial)[4]	Frequency Above Industrial Soil Cleanup Goals[5]
Volatile Organic Compounds (µg/kg)									
Methylene Chloride	5/6	NA	1 to 2	1.8	ND	16,000	0/6	23,000	0/6
Acetone	4/6	28 to 28	31 to 42	36.5	16	260,000	0/6	1,800,000	0/6
2-Butanone	5/6	NA	4 to 9	6	ND	2,200,000	0/6	15,000,000	0/6
Toluene	2/6	6 to 6	1 to 3	2	ND	520,000	0/6	3,500,000	0/6
Ethylbenzene	1/6	6 to 6	1 to 1	1	ND	1,400,000	0/6	10,000,000	0/6
Xylenes (total)	1/6	6 to 6	6 to 6	6	ND	13,000,000	0/6	92,000,000	0/6
Isobutyl alcohol	1/6	220 to 230	400 to 400	400	ND	13,000,000	0/6	92,000,000	0/6
Semivolatile Organic Compounds (µg/kg)									
2-Methylnaphthalene	2/6	370 to 400	40 to 6,500	3,270	ND	960,000	0/6	8,800,000	0/6
Fluorene	1/6	370 to 400	3,800 to 3,800	3,800	ND	2,400,000	0/6	30,000,000	0/6
Phenanthrene	4/6	380 to 400	48 to 6,300	1,631	ND	1,700,000	0/6	21,000,000	0/6
Di-n-butylphthalate	2/6	370 to 4,200	41 to 46	43.5	ND	7,300,000	0/6	140,000,000	0/6
Pyrene	1/6	370 to 400	650 to 650	650	ND	7,300,000	0/6	140,000,000	0/6
Inorganic Analytes (mg/kg)									
Arsenic	6/6	NA	0.36 to 1.9	0.82	ND	[6]0.8	2/6	[6]3.7	0/6
Barium	6/6	NA	2.1 to 4.3	3.1	5.6	5,200	0/6	84,000	0/6
Beryllium	1/6	0.03 to 0.03	0.13 to 0.13	0.13	0.16	0.2	1/6	1	0/6
Chromium	6/6	NA	2.3 to 4.3	3.1	2.6	[7]290	0/6	[7]430	0/6
Cobalt	2/6	0.56 to 0.62	0.81 to 1	0.91	ND	4700	0/6	110,000	0/6
Copper	1/6	0.27 to 0.3	0.43 to 0.43	0.43	2.2	[8]2,900	0/6	[8]72,000	0/6
Lead	6/6	NA	0.97 to 2.2	1.5	ND	500	0/6	1,000	0/6

See notes at end of table.

Table 3-10 (Continued)
Summary of Chemicals Detected in Subsurface Soil Samples Collected at the Fleet Training Center Southern Burn Area

Interim Measure Performance Specifications
Group III SWMU 14
U.S. Naval Station
Mayport, Florida

Analyte	Frequency of Detection[1]	Reporting Limit Range	Detected Concentration Range	Mean of Detected Concentrations[2]	Background Screening Concentration[3]	Florida Soil Cleanup Goals (Residential)[4]	Frequency Above Residential Soil Cleanup Goals[5]	Florida Soil Cleanup Goals (Industrial)[4]	Frequency Above Industrial Soil Cleanup Goals[5]
Inorganic Analytes (mg/kg) (continued)									
Nickel	3/6	1.3 to 1.7	1.4 to 2.2	1.7	ND	1,500	0/6	26,000	0/6
Thallium	1/6	0.18 to 0.4	1.3 to 1.3	1.3	1.8	NS	NS	NS	NS
Tin	2/6	2.7 to 3	2.8 to 5.4	4.1	ND	44,000	0/6	670,000	0/6
Vanadium	6/6	NA	1.1 to 3.6	1.8	4	490	0/6	4,800	0/6
Zinc	5/6	3.2 to 3.2	5.3 to 10	7.5	2.6	23,000	0/6	560,000	0/6

[1] Frequency of detection is the number of sample locations where the analyte was detected divided by the total number of sample locations analyzed (excluding rejected values, "R" qualifier). Sampling locations MPT-14-MW09S, MPT-14-SS29, MPT-14-SS39, MPT-14-SS40, MPT-14-SS41, MPT-14-SS42, and MPT-14-SS43 were used to make this table.
[2] The mean of detected concentrations is the arithmetic mean of all samples (MPT-14-MW09S, MPT-14-SS29, MPT-14-SS39, MPT-14-SS40, MPT-14-SS41, MPT-14-SS42, and MPT-14-SS43) in which the analyte was detected. The mean does not include those samples with "R", "U", or "UJ" validation qualifiers.
[3] The background screening value is twice the average of detected concentrations for inorganic analytes in background samples. The samples included in the background data set are identified in Table D-1-1 of Appendix D-1 to the Resource Conservation and Recovery Act Facility Investigation General Information Report (GIR) (ABB-ES, 1995).
[4] Values are from Florida Department of Environmental Protection (FDEP) memorandum titled, "Soil Cleanup Goals for Florida," dated September 29, 1995.
[5] Frequency of detection is the number of samples in which the analyte was detected at concentrations exceeding the "Soil Cleanup Goals for Florida," dated September 29, 1995.
[6] The value is based on arsenic as a carcinogen. The value is from FDEP memorandum titled "Applicability of Soil Cleanup Goals for Florida," dated January 19, 1996.
[7] The value is based on the hexavalent form of chromium.
[8] FDEP, 1995, Memorandum, Ligia Mora-Applegate, Bureau of Waste Cleanup, to Tim Bahr, Bureau of Waste Cleanup, Re: Soil Cleanup Goals for the Military Sites, April 1995.

Notes: SWMU = solid waste management unit.
µg/kg = micrograms per kilogram.
NA = not applicable, analyte detected in each sample.
ND = analyte not detected in background surface soil samples (GIR; ABB-ES, 1995).
mg/kg = milligrams per kilogram.

Two inorganic chemicals, arsenic and beryllium, were detected in subsurface soil samples at concentrations that exceeded their residential soil cleanup goals, but not their industrial soil cleanup goals.

Detention Pond. TRPH measurements in the surface and subsurface soil samples ranged from 9.1 to 23,100 mg/kg (Table 3-2). The highest values detected in surface and subsurface soil samples were 80.6 and 23,100 mg/kg, respectively. The TRPH analytical results of the soil samples suggest that there has been a release of petroleum to soil in the vicinity of the detention pond.

VOCs, SVOCs, and inorganics detected in surface and subsurface soil samples are provided in Tables 3-11 and 3-12, respectively. None of the VOCs and SVOCs were detected in the surface and subsurface soil samples (Figure 2-2) at concentrations that exceed FDEP residential or industrial soil cleanup goals (Tables 3-13 and 3-14). Two inorganic chemicals, arsenic and beryllium, were detected in surface soil samples at concentrations that exceeded their residential soil cleanup goals, but not their industrial soil cleanup goals.

None of the inorganic chemicals were detected in the subsurface soil samples at concentrations that exceed FDEP residential or industrial soil cleanup goals.

3.2 GROUNDWATER SAMPLING. During periodic water-level measurements at SWMU 14, LNAPL was measured in monitoring well MPT-14-MW15S on November 6, 1996 (Table 3-15). LNAPL has not been measured in this or other wells during the other water-level measurement events. Groundwater levels were measured in monitoring wells at SWMU 14 on March 3, 1997, and a potentiometric surface map of the water table zone of the surficial aquifer was constructed. Interpretation of the potentiometric surface flow lines suggests that the apparent groundwater flow direction is generally toward the north (Figure 3-5). The LNAPL measured at MPT-15-MW15S corresponds to the highest water level elevation that has been observed at the site. Excessively contaminated soil (OVA measurements greater than 5,000 ppm) occurs in the vicinity of the monitoring well location (Figures 3-1 through 3-4).

Parameters measured during the purging of monitoring wells MPT-14-MW15S through MPT-14-MW18S (Figures 2-3 and 3-5) prior to sample collection are provided in Table 3-16. The values for temperature, pH, specific conductance, and salinity are similar to those collected in 1995 for the Group III RFI (ABB-ES, 1996) (Table 3-17).

The values for dissolved oxygen measured in groundwater samples are at or below 1 milligram per liter (mg/ℓ). This suggests that the microbial activity has resulted in the depletion of oxygen, resulting in anaerobic conditions (USEPA, 1997). The oxidation potential for MPT-14-MW15S also supports anaerobic conditions at this location; however, the meter malfunctioned and values are not available for the other locations. The values measured in 1995 (Table 3-17) for dissolved oxygen and oxidation potential suggest that aerobic conditions are present in areas adjacent (hydraulically up and downgradient) to the north and south firefighting training mockup and the detention pond.

Values for turbidity (Table 3-16) were less than 10, which suggest that the groundwater sample did not contain a significant amount of sediment that may bias

Table 3-11
Organic and Inorganic Analytes Detected in Surface Soil Samples Collected at the Fleet Training Center Detention Pond

Interim Measure Performance Specifications
Group III SWMU 14
U.S. Naval Station
Mayport, Florida

Analytical Batch Number:	R9756	R9756	R9756	R9756	MB638	MB638	MB638
Sample Location:	MPT-14-SS07	MPT-14-SS08	MPT-14-SS09	MPT-14-MW10S	MPT-14-SS32	MPT-14-SS32	MPT-14-SS33
Sample Number:	14S00701	14S00801	14S00901	14S01001	14S03201	14S03201DUP	14S03301
Date Sampled:	09-APR-95	09-APR-95	09-APR-95	09-APR-95	21-AUG-96	21-AUG-96	21-AUG-96
Sample Depth (ft bls):	0 to 1	0 to 1	0 to 1	0 to 1	0 to 1	0 to 1	0 to 1
Volatile Organic Compounds (µg/kg)							
Methylene chloride	--	--	--	--	2 J	--	--
2-Butanone	--	--	--	4 J	--	--	--
Toluene	2 J	--	--	--	--	--	--
Semivolatile Organic Compounds (µg/kg)							
Pyrene	--	--	--	2,700	--	--	--
Benzo(a)anthracene	--	--	--	120 J	--	--	--
Chrysene	--	--	--	140 J	--	--	--
bis(2-Ethylhexyl)phthalate	--	--	--	--	81 J	190 J	260 J
Inorganic Analytes (mg/kg)							
Arsenic	0.57 J	2.2 J	1.0 J	0.44 J	0.46 J	0.39 J	--
Barium	5.2 J	6.2 J	5.6 J	4.9 J	4.4 J	2.9 J	5.3 J
Beryllium	0.1 J	0.22 J	0.1 J	0.06 J	--	--	--
Chromium	3.1	7.1	2.4	2.5	3.4	2.5	4.6
Cobalt	--	--	--	--	0.81 J	--	--
Copper	5.8	4.6 J	1.9 J	4.7 J	--	--	4.9 J
Lead	6.1	5.1	1.4	3.2	4.0 J	4.8 J	6.4 J
Nickel	--	2.2 J	--	--	--	--	--
Selenium	--	0.18 J	--	--	--	--	--
Vanadium	2.4 J	7.5 J	3.7 J	1.7 J	2.8 J	1.9 J	2.7 J

See notes at end of table.

Table 3-11 (Continued)
Organic and Inorganic Analytes Detected in Surface Soil Samples Collected at the Fleet Training Center Detention Pond

Interim Measure Performance Specifications
Group III SWMU 14
U.S. Naval Station
Mayport, Florida

Analytical Batch Number:	R9756	R9756	R9756	R9756	MB638	MB638	MB638
Sample Location:	MPT-14-SS07	MPT-14-SS08	MPT-14-SS09	MPT-14-MW10S	MPT-14-SS32	MPT-14-SS32	MPT-14-SS33
Sample Number:	14S00701	14S00801	14S00901	14S01001	14S03201	14S03201DUP	14S03301
Date Sampled:	09-APR-95	09-APR-95	09-APR-95	09-APR-95	21-AUG-96	21-AUG-96	21-AUG-96
Sample Depth (ft bls):	0 to 1	0 to 1	0 to 1	0 to 1	0 to 1	0 to 1	0 to 1
Inorganic Analytes (mg/kg) (continued)							
Zinc	26.1	15.5	4.8	20.7	13.8	13.2	22.5
Cyanide	--	0.17 J	0.6 J	--	--	--	--

Notes: SWMU = solid waste management unit.
DUP = sample number suffix that designates a duplicate to an environmental sample.
ft bls = feet below land surface.
µg/kg = micrograms per kilogram.
-- = concentration of analyte, if present, was less than detection limit.
J = estimated value.
mg/kg = milligrams per kilogram.

Table 3-12
Organic and Inorganic Analytes Detected in Subsurface Soil Samples Collected at the Fleet Training Center Detention Pond

Interim Measure Performance Specifications
Group III SWMU 14
U.S. Naval Station
Mayport, Florida

Analytical Batch Number:	MB6240	MB6240	MB6240	MB6240	MB6240	MB6240	MB6240
Sample Location:	MPT-14-SB29	MPT-14-SB30	MPT-14-SB31	MPT-14-SB32	MPT-14-SB33	MPT-14-SB44	MPT-14-SB44
Sample Number:	14B02902	14B03002	14B03102	14B03203	14B03303	14B04402	14B04402DUP
Date Sampled:	20-AUG-96	20-AUG-96	20-AUG-96	21-AUG-96	21-AUG-96	23-AUG-96	23-AUG-96
Sample Depth (ft bls):	1 to 2	1 to 2	1 to 2	2 to 3	2 to 3	1 to 2	1 to 2
Volatile Organic Compounds (µg/kg)							
Methylene chloride	--	--	--	1 J	2 J	2 J	2 J
Acetone	--	53 J	110 J	--	78	53 J	65 J
Carbon disulfide	--	--	2 J	--	--	1 J	1 J
2-Butanone	--	--	24 J	--	--	11 J	14 J
Toluene	1 J	3 J	7 J	--	1 J	3 J	2 J
Ethylbenzene	--	--	3 J	--	--	7 J	6 J
Xylenes (total)	8 J	6 J	30 J	--	--	84 J	77 J
Semivolatile Organic Compounds (µg/kg)							
Naphthalene	350 J	--	3,900 J	--	--	650 J	1,100 J
2-Methylnaphthalene	4,000	6,200 J	30,000	--	--	3,500 J	4,900
Dibenzofuran	--	1,500 J	--	--	--	--	--
Fluorene	1,900 J	--	15,000 J	--	--	--	--
Phenanthrene	3,800	9,100	27,000	--	--	1,800 J	2,700 J
Anthracene	240 J	920 J	1,800 J	--	--	--	--
Pyrene	880 J	2,900	5,400 J	--	--	--	790 J
bis(2-Ethylhexyl)phthalate	330 J	1,500 J	4,200 J	--	120 J	--	--
Benzo(g,h,i)perylene	--	--	--	--	77 J	--	--
4-Aminobiphenyl	820 J	--	--	--	--	--	--

See notes at end of table.

Table 3-12 (Continued)
Organic and Inorganic Analytes Detected in Subsurface Soil Samples Collected at the Fleet Training Center Detention Pond

Interim Measure Performance Specifications
Group III SWMU 14
U.S. Naval Station
Mayport, Florida

Analytical Batch Number:	MB6240	MB6240	MB6240	MB6240	MB6240	MB6240	MB6240
Sample Location:	MPT-14-SB29	MPT-14-SB30	MPT-14-SB31	MPT-14-SB32	MPT-14-SB33	MPT-14-SB44	MPT-14-SB44
Sample Number:	14B02902	14B03002	14B03102	14B03203	14B03303	14B04402	14B04402DUP
Date Sampled:	20-AUG-96	20-AUG-96	20-AUG-96	21-AUG-96	21-AUG-96	23-AUG-96	23-AUG-96
Sample Depth (ft bls):	1 to 2	1 to 2	1 to 2	2 to 3	2 to 3	1 to 2	1 to 2
Inorganic Analytes (mg/kg)							
Antimony	--	1.6 J	1.0 J	--	--	--	--
Arsenic	0.36 J	0.31 J	0.67 J	0.32 J	0.29 J	0.42 J	0.44 J
Barium	3.2 J	4.4 J	3.8 J	2.9 J	15.6 J	5.1 J	5.2 J
Chromium	2.2 J	2.6	5.4	2.9	6.8	2.9	2.8
Cobalt	--	0.6 J	--	--	--	--	0.63 J
Copper	--	--	--	--	19.9	1.7 J	1.0 J
Lead	1.2 J	1.1 J	2.6 J	3.6 J	23.7 J	3.6	3
Mercury	--	--	--	0.03 J	0.05 J	--	--
Nickel	--	--	3.4 J	--	1.6 J	--	1.5 J
Selenium	--	0.32 J	--	--	--	--	--
Tin		8.5 J	--	--	--	--	3.2 J
Vanadium	2.0 J	2.1 J	1.8 J	2.1 J	2.3 J	2.1 J	2.1 J
Zinc	17.1	10	34.9	11.6	60.7	17.2	19.8

Notes: SWMU = solid waste management unit.
DUP = sample number suffix that designates a duplicate to an environmental sample.
ft bls = feet below land surface.
µg/kg = micrograms per kilogram.
-- = concentration of analyte, if present, was less than detection limit.
J = estimated value.
mg/kg = milligrams per kilogram.

Table 3-13
Summary of Chemicals Detected in Surface Soil Samples Collected at the Fleet Training Center Detention Pond

Interim Measure Performance Specifications
Group III SWMU 14
U.S. Naval Station
Mayport, Florida

Analyte	Frequency of Detection[1]	Reporting Limit Range	Detected Concentration Range	Mean of Detected Concentrations[2]	Background Screening Concentration[3]	Florida Soil Cleanup Goals (Residential)[4]	Frequency Above Residential Soil Cleanup Goals[5]	Florida Soil Cleanup Goals (Industrial)[4]	Frequency Above Industrial Soil Cleanup Goals[5]
Volatile Organic Compounds (µg/kg)									
Methylene chloride	1/6	2.5 to 7	[7]2.3	2.3	ND	16,000	0/6	23,000	0/6
2-Butanone	1/6	10 to 13	4	4	ND	2,200,000	0/6	15,000,000	0/6
Toluene	1/6	5 to 7	2	2	ND	520,000	0/6	3,500,000	0/6
Semivolatile Organic Compounds (µg/kg)									
Pyrene	1/6	345 to 750	2,700	2,700	ND	2,200,000	0/6	41,000,000	0/6
Benzo(a)anthracene	1/6	345 to 750	120	120	ND	1,400	0/6	4,900	0/6
Chrysene	1/6	345 to 750	140	140	ND	140,000	0/6	500,000	0/6
bis(2-Ethylhexyl)phthalate	2/6	690 to 750	[7]135.5 to 260	198	ND	48,000	0/6	110,000	0/6
Inorganic Analytes (mg/kg)									
Arsenic	5/6	0.25	[7]0.42 to 2.2	0.93	ND	[6]0.8	2/6	[6]3.7	0/6
Barium	6/6	NA	[7]3.6 to 6.2	5.1	5.6	5,200	0/6	84,000	0/6
Beryllium	4/6	0.03	0.06 to 0.22	0.12	0.16	0.2	1/6	1.0	0/6
Chromium	6/6	NA	2.4 to 7.1	3.8	2.6	[8]290	0/6	[8]430	0/6
Cobalt	1/6	0.25 to 0.66	[7]0.53	0.53	ND	4,700	0/6	110,000	0/6
Copper	5/6	2.5	1.9 to 5.8	4.4	2.2	[9]2,900	0/6	[9]72,000	0/6
Lead	6/6	NA	1.4 to 6.4	4.4	ND	500	0/6	1,000	0/6
Nickel	1/6	1.1 to 1.5	2.2	2.2	ND	1,500	0/6	26,000	0/6
Selenium	1/6	0.13 to 0.33	0.18	0.18	1.36	390	0/6	9,900	0/6
Vanadium	6/6	NA	1.7 to 7.5	3.4	4	490	0/6	4,800	0/6
Zinc	6/6	NA	4.8 to 26.1	17.2	2.6	23,000	0/6	560,000	0/6
Cyanide	2/6	0.05 to 0.12	0.06 to 0.17	0.12	ND	1,600	0/6	40,000	0/6

See notes on following page.

Table 3-13 (Continued)
Summary of Chemicals Detected in Surface Soil Samples Collected at the Fleet Training Center Detention Pond

Interim Measure Performance Specifications
Group III SWMU 14
U.S. Naval Station
Mayport, Florida

[1] Frequency of detection is the number of sample locations where the analyte was detected divided by the total number of sample locations analyzed (excluding rejected values, "R" qualifier). Sampling locations MPT-14-SS07, MPT-14-SS08, MPT-14-SS09, MPT-14-MW10S, MPT-14-SS32, and MPT-14-SS33 were used to make this table. The detection of an analyte in either sample 14S03201 or duplicate 14S03201DUP was used to represent a value for sampling location MPT-14-SS32.
[2] The mean of detected concentrations is the arithmetic mean of all samples (MPT-14-SS07, MPT-14-SS08, MPT-14-SS09, MPT-14-MW10S, MPT-14-SS32, and MPT-14-SS33) in which the analyte was detected. The value used for sampling location MPT-14-SS32 is the average of sample 14S03201 and associated duplicate 14S03201DUP. The mean does not include those samples with "R", "U", or "UJ" validation qualifiers.
[3] The background screening value is twice the average of detected concentrations for inorganic analytes in background samples. The samples included in the background data set are identified in Table D-1-1 of Appendix D-1 to the Resource Conservation and Recovery Act Facility Investigation General Information Report (GIR) (ABB-ES, 1995).
[4] Values are from Florida Department of Environmental Protection (FDEP) memorandum titled, "Soil Cleanup Goals for Florida," dated September 29, 1995.
[5] Frequency of detection is the number of samples in which the analyte was detected at concentrations exceeding the "Soil Cleanup Goals for Florida" dated September 29, 1995. The average concentration for an analyte detected in sample 14S03201 and duplicate 14S03201DUP was used to represent a value for sampling location MPT-14-SS32.
[6] The value is based on arsenic as a carcinogen. The value is from FDEP memorandum titled "Applicability of Soil Cleanup Goals for Florida," dated January 19, 1996.
[7] The value is the average of a sample and its duplicate. For duplicate samples having one nondetect value, one-half of the contract required quantification limit/contract required detection limit is used as a surrogate concentration for the nondetected concentration.
[8] The value is based on the hexavalent form of chromium.
[9] FDEP, 1995, Memorandum, Ligia Mora-Applegate, Bureau of Waste Cleanup, to Tim Bahr, Bureau of Waste Cleanup, Re: Soil Cleanup Goals for the Military Sites, April, 1995.

Notes: SWMU = solid waste management unit
µg/kg = micrograms per kilogram.
ND = analyte not detected in background surface soil samples (GIR; ABB-ES, 1995).
mg/kg = milligrams per kilogram.
NA = not applicable, analyte detected in each sample.

Table 3-14
Summary of Chemicals Detected in Subsurface Soil Samples Collected at the Fleet Training Center Detention Pond

Interim Measure Performance Specifications
Group III SWMU 14
U.S. Naval Station
Mayport, Florida

Analyte	Frequency of Detection[1]	Reporting Limit Range	Detected Concentration Range	Mean of Detected Concentrations[2]	Background Screening Concentration[3]	Florida Soil Cleanup Goals (Residential)[4]	Frequency above Residential Soil Cleanup Goals[5]	Florida Soil Cleanup Goals (Industrial)[4]	Frequency Above Industrial Soil Cleanup Goals[5]
Volatile Organic Compounds (µg/kg)									
Methylene chloride	3/6	5 to 6	1 to 2	1.7	ND	16,000	0/6	23,000	0/6
Acetone	4/6	12 to 29	53 to 110	75	16	260,000	0/6	1,800,000	0/6
Carbon disulfide	2/6	6	[8]1 to 2	1.5	ND	5,200	0/6	34,000	0/6
2-Butanone	2/6	11 to 12	[8]12.5 to 9	18.3	ND	2,200,000	0/6	15,000,000	0/6
Toluene	5/6	6	1 to 7	2.9	ND	520,000	0/6	3,500,000	0/6
Ethylbenzene	2/6	6	3 to [8]6.5	4.8	ND	1,400,000	0/6	10,000,000	0/6
Xylenes (total)	4/6	6	6 to [8]80.5	31.1	ND	13,000,000	0/6	92,000,000	0/6
Semivolatile Organic Compounds (µg/kg)									
Naphthalene	3/6	390 to 7,900	350 to 3,900	1,708	ND	1,300,000	0/6	12,000,000	0/6
2-Methylnaphthalene	4/6	390 to 750	4,000 to 30,000	11,100	ND	960,000	0/6	8,800,000	0/6
Dibenzofuran	1/6	390 to 16,000	1,500	1,500	ND	240,000	0/6	3,500,000	0/6
Fluorene	2/6	390 to 7,900	1,900 to 15,000	8,450	ND	2,400,000	0/6	30,000,000	0/6
Phenanthrene	4/6	390 to 750	[8]2,250 to 27,000	10,538	ND	1,700,000	0/6	21,000,000	0/6
Anthracene	3/6	390 to 3,850	240 to 1,800	987	ND	20,000,000	0/6	300,000,000	0/6
Pyrene	4/6	390 to 1,900	880 to 5,400	2,631	ND	7,300,000	0/6	140,000,000	0/6
bis(2-Ethylhexyl)phthalate	4/6	390 to 3,850	120 to 4,200	1,538	ND	48,000	0/6	110,000	0/6
Benzo(g,h,i)perylene	1/6	390 to 16,000	77	77	ND	14,000	0/6	50,000	0/6
4-Aminobiphenyl	1/6	1,900 to 80,000	820	820	ND	NS	NS	NS	NS
Inorganic Analytes (mg/kg)									
Antimony	2/6	0.57 to 0.61	1 to 1.6	1.3	ND	26	0/6	220	0/6
Arsenic	6/6	NA	0.29 to 0.67	0.4	0.9	[6]0.8	0/6	[6]3.7	0/6

See notes at end of table.

Table 3-14 (Continued)
Summary of Chemicals Detected in Subsurface Soil Samples Collected at the Fleet Training Center Detention Pond

Interim Measure Performance Specifications
Group III SWMU 14
U.S. Naval Station
Mayport, Florida

Analyte	Frequency of Detection[1]	Reporting Limit Range	Detected Concentration Range	Mean of Detected Concentrations[2]	Background Screening Concentration[3]	Florida Soil Cleanup Goals (Residential)[4]	Frequency above Residential Soil Clean-up Goals[5]	Florida Soil Cleanup Goals (Industrial)[4]	Frequency Above Industrial Soil Cleanup Goals[5]
Inorganic Analytes (mg/kg) (continued)									
Barium	6/6	NA	2.9 to 15.6	5.8	7.2	5,200	0/6	84,000	0/6
Chromium	6/6	NA	2.2 to 6.8	3.8	3.4	[7]290	0/6	[7]430	0/6
Cobalt	2/6	0.28 to 0.6	[8]0.46 to 0.6	0.53	1.04	4,700	0/6	110,000	0/6
Copper	2/6	0.28 to 0.34	[8]1.3 to 19.9	10.6	2.2	[8]2,900	0/6	[8]72,000	0/6
Lead	6/6	NA	1.1 to 23.7	5.9	ND	500	0/6	1,000	0/6
Mercury	2/6	0.03	0.03 to 0.05	0.04	0.06	23	0/6	480	0/6
Nickel	3/6	0.65 to 1.3	[8]1.1 to 3.4	2	ND	1,500	0/6	26,000	0/6
Selenium	1/6	0.28 to 0.3	0.32	0.32	ND	390	0/6	9,900	0/6
Tin	2/6	1.3 to 2.9	[8]2.3 to 8.5	5.4	5.4	44,000	0/6	670,000	0/6
Vanadium	6/6	NA	1.8 to 2.3	2.1	4	490	0/6	4,800	0/6
Zinc	6/6	NA	10 to 60.7	25.5	4.8	23,000	0/6	560,000	0/6

See notes on following page.

Table 3-14 (Continued)
Summary of Chemicals Detected in Subsurface Soil Samples Collected at the Fleet Training Center Detention Pond

Interim Measure Performance Specifications
Group III SWMU 14
U.S. Naval Station
Mayport, Florida

[1] Frequency of detection is the number of sample locations where the analyte was detected divided by the total number of sample locations analyzed (excluding rejected values, "R" qualifier). Sampling locations MPT-14-SB29, MPT-14-SB30, MPT-14-SB31, MPT-14-SB32, MPT-14-SB33, and MPT-14-SB44 were used to make this table. The detection of an analyte in either sample 14B04401 or duplicate 14B04401DUP was used to represent a value for sampling location MPT-14-SB44.
[2] The mean of detected concentrations is the arithmetic mean of all samples (MPT-14-SB29, MPT-14-SB30, MPT-14-SB31, MPT-14-SB32, MPT-14-SB33, and MPT-14-SB44) in which the analyte was detected. The value used for sampling location MPT-14-SB44 is the average of sample 14B04401 and associated duplicate 14B04401DUP. The mean does not include those samples with "R", "U", or "UJ" validation qualifiers.
[3] The background screening value is twice the average of detected concentrations for inorganic analytes in background samples. The samples included in the background data set are identified in Table D-1-1 of Appendix D-1 to the Resource Conservation and Recovery Act Facility Investigation General Information Report (GIR) (ABB-ES, 1995).
[4] Values are from Florida Department of Environmental Protection (FDEP) memorandum titled, "Soil Cleanup Goals for Florida," dated September 29, 1995.
[5] Frequency of detection is the number of samples in which the analyte was detected at concentrations exceeding the "Soil Cleanup Goals for Florida," dated September 29, 1995. The average concentration for an analyte detected in sample 14B04401 and duplicate 14B04401DUP was used to represent a value for sampling location MPT-14-SB44.
[6] The value is based on arsenic as a carcinogen. The value is from FDEP memorandum titled "Applicability of Soil Cleanup Goals for Florida," dated January 19, 1996.
[7] The value is based on the hexavalent form of chromium.
[8] FDEP, 1995, Memorandum, Ligia Mora-Applegate, Bureau of Waste Cleanup, to Tim Bahr, Bureau of Waste Cleanup, Re: Soil Cleanup Goals for the Military Sites, April, 1995.

Notes: SWMU = solid waste management unit.
µg/kg = micrograms per kilogram.
ND = analyte not detected in background surface soil samples (GIR; ABB-ES, 1995).
NS = no screening concentration available for the analyte.
mg/kg = milligrams per kilogram.
NA = not applicable, analyte detected in each sample.

Table 3-15
Summary Water-Level Measurements at SWMU 14

Interim Measure Performance Specifications
Group III SWMU 14
U.S. Naval Station
Mayport, Florida

Sample Location	Date	Time (ESDT)	Elevation of TOC (msl)	Measured Depth to Water Below TOC	Measured Depth to LNAPL Below TOC	LNAPL Thickness (feet)	Groundwater Elevation (NGVD)
MPT-14-MW15S	September 24, 1996	13:39	7.14	5.39	–	–	1.75
MPT-14-MW16S	September 24, 1996	NA	8.46	NA	NA	–	NA
MPT-14-MW17S	September 24, 1996	13:30	9.11	5.69	–	–	3.42
MPT-14-MW18S	September 24, 1996	13:34	9.08	5.76	–	–	3.32
MPT-14-MW15S	November 6, 1996	10:28	7.14	3.82	3.73	0.09	3.32
MPT-14-MW16S	November 6, 1996	10:20	8.46	5.13	–	–	3.33
MPT-14-MW17S	November 6, 1996	10:12	9.11	5.38	–	–	3.73
MPT-14-MW18S	November 6, 1996	10:16	9.08	5.76	–	–	3.32
MPT-14-MW15S	December 16, 1996	11:05	7.14	4.28	–	–	2.86
MPT-14-MW16S	December 16, 1996	11:00	8.46	5.57	–	–	2.89
MPT-14-MW17S	December 16, 1996	10:54	9.11	5.97	–	–	3.14
MPT-14-MW18S	December 16, 1996	10:50	9.08	6.02	–	–	3.06
MPT-14-MW15S	February 6, 1997	8:32	7.14	4.71	–	–	2.43
MPT-14-MW16S	February 6, 1997	8:27	8.46	6.12	–	–	2.34
MPT-14-MW17S	February 6, 1997	8:24	9.11	6.50	–	–	2.61
MPT-14-MW18S	February 6, 1997	8:21	9.08	6.56	–	–	2.52
MPT-14-MW01S	March 3, 1997	16:25	7.41	5.97	–	–	1.44
MPT-14-MW02S	March 3, 1997	16:30	8.47	6.88	–	–	1.59
MPT-14-MW03S	March 3, 1997	15:15	6.17	4.24	–	–	1.93
MPT-14-MW04S	March 3, 1997	16:22	6.37	4.52	–	–	1.85
MPT-14-MW05S	March 3, 1997	15:55	7.42	5.72	–	–	1.70
MPT-14-MW06S	March 3, 1997	16:18	5.97	4.58	–	–	1.39
MPT-14-MW07S	March 3, 1997	15:18	5.96	3.83	–	–	2.13
MPT-14-MW08S	March 3, 1997	15:50	6.58	4.48	–	–	2.10
MPT-14-MW09S	March 3, 1997	15:16	6.38	3.94	–	–	2.44
MPT-14-MW10S	March 3, 1997	15:35	5.77	3.30	–	–	2.47
MPT-14-MW11S	March 3, 1997	15:23	6.88	4.14	–	–	2.74
MPT-14-MW12S	March 3, 1997	16:05	9.92	6.79	–	–	3.13
MPT-14-MW13S	March 3, 1997	15:21	5.68	3.52	–	–	2.16
MPT-14-MW14S	March 3, 1997	15:41	6.55	4.52	–	–	2.03
MPT-14-MW15S	March 3, 1997	14:46	7.14	4.80	–	–	2.34
MPT-14-MW16S	March 3, 1997	15:05	8.46	6.21	–	–	2.25
MPT-14-MW17S	March 3, 1997	15:20	9.11	6.55	–	–	2.56
MPT-14-MW18S	March 3, 1997	15:15	9.08	6.62	–	–	2.46
MPT-18-MW01S	March 3, 1997	16:10	7.42	4.63	–	–	2.79

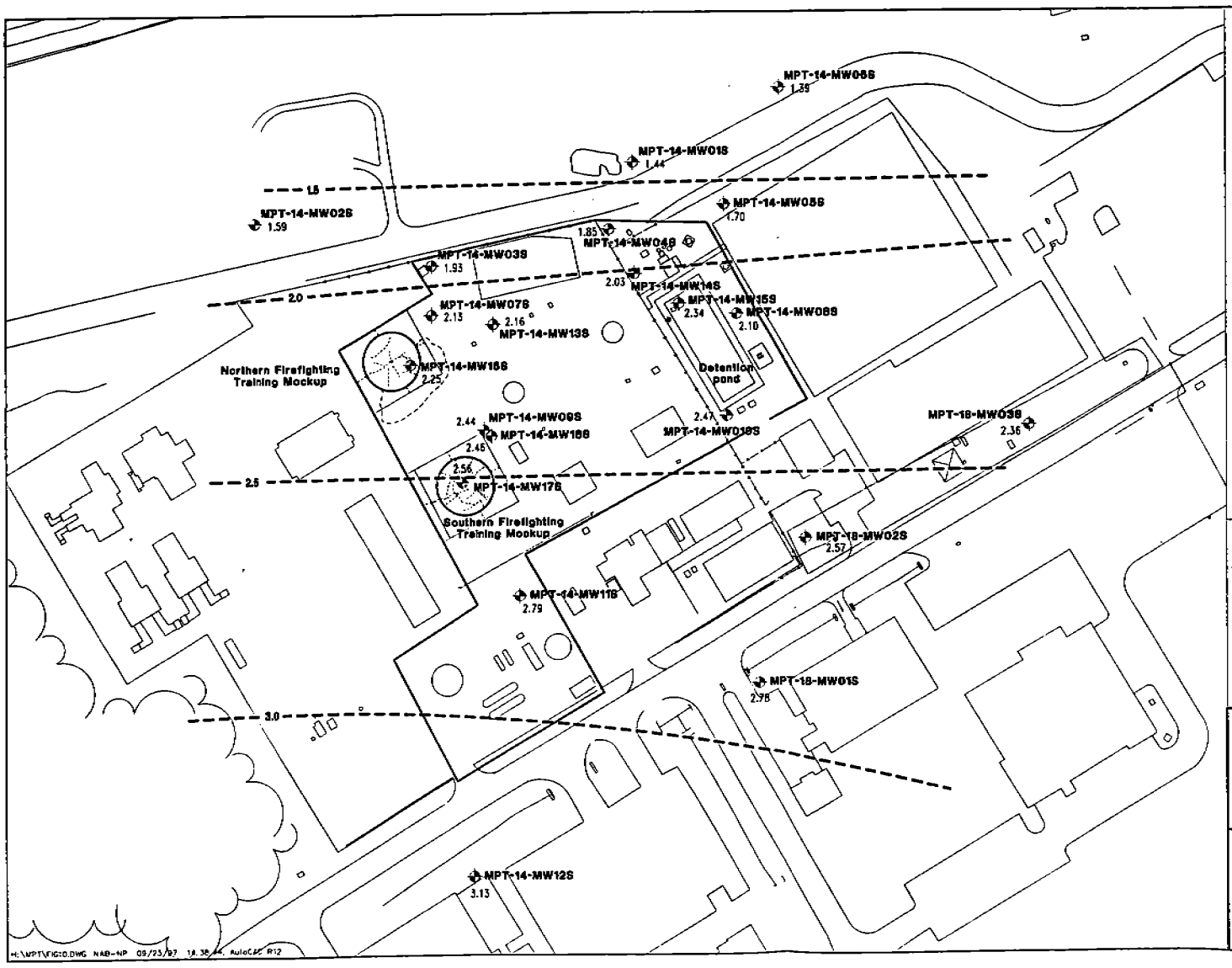
See notes at end of table.

Table 3-15 (Continued)
Summary Water-Level Measurements at SWMU 14

Interim Measure Performance Specifications
Group III SWMU 14
U.S. Naval Station
Mayport, Florida

Sample Location	Date	Time (ESDT)	Elevation of TOC (msl)	Measured Depth to Water Below TOC	Measured Depth to LNAPL Below TOC	LNAPL Thickness (feet)	Groundwater Elevation (NGVD)
MPT-18-MW02S	March 3, 1997	16:00	6.82	4.25	--	--	2.57
MPT-18-MW03S	March 3, 1997	16:14	7.48	5.12	--	--	2.36

Notes: SWMU = solid waste management unit.
ESDT = eastern standard daylight savings time.
TOC = the top of the monitoring well casing was the measuring datum.
msl = mean sea level.
LNAPL = light nonaqueous-phase liquid.
NGVD = National Geodetic Vertical Datum of 1929 (also known as mean sea level).
-- = no measurable LNAPL thickness.
NA = not accessible.
S = shallow monitoring well.



N

0 50 100
SCALE: 1 INCH = 100 FEET

LEGEND

MPT-14-MW15S 2.34	Shallow monitoring well location and designation with potentiometric elevation posted
	SWMU boundary
	Fence
SWMU	Solid waste management unit
	Cracks in concrete pavement
3.0	Potentiometric surface contour

FIGURE 3-5
POTENTIOMETRIC SURFACE MAP
MARCH 3, 1997

INTERIM MEASURE
PERFORMANCE SPECIFICATIONS
GROUP III, SWMU 14

U.S. NAVAL STATION
MAYPORT, FLORIDA

H:\MPT\FIG10.DWG NAB-NP 09/23/97 18:38:44 AutoCAD R12

Table 3-16
Purge Water Parameters Measured During Groundwater Sampling Events at the Fleet Training Center, SWMU 14

Interim Measure Performance Specifications
Group III SWMU 14
U.S. Naval Station
Mayport, Florida

Sample Location:		MPT-14-MW15S	MPT-14-MW16S	MPT-14-MW17S	MPT-14-MW18S
Date Sampled:	Units	27-AUG-96	4-SEP-96	4-SEP-96	4-SEP-96
Purge Water Parameter					
Temperature	(°C)	29.4	29.6	30.3	30.2
pH	Standard Unit	6.8	6.51	6.51	6.35
Specific conductivity	µmho/cm	680	760	550	630
Salinity	Percent	0.02	0.03	0.02	0.02
Dissolved oxygen	mg/ℓ	0.85	1.05	1.02	0.84
Oxidation potential	mV	-152.6	NM1	NM1	NM1
Turbidity	NTU	<10	<10	<10	<10

Notes: SWMU = solid waste management unit.
°C = degrees Celsius.
µmho/cm = micromhos per centimeter.
mg/ℓ = milligrams per liter.
mV = millivolts.
NM1 = oxidation potential not measured, meter malfunctioned.
NTU = nephelometric turbidity unit.
< = less than.

Table 3-17
Purge Water Parameters Measured During Groundwater Sampling Events at the Fleet Training Center, SWMU 14

Interim Measure Performance Specifications
Group III SWMU 14
U.S. Naval Station
Mayport, Florida

Sample Location:		MPT-14-MW01S	MPT-14-MW02S	MPT-14-MW03S	MPT-14-MW04S	MPT-14-MW05S	MPT-14-MW06S	MPT-14-MW07S
Date Sampled:	Units	14-JUN-95	14-JUN-95	15-JUN-95	13-JUN-95	15-JUN-95	15-JUN-95	4-SEP-96
Purge Water Parameter								
Temperature	(°C)	25	27	28	26	25	25	26
pH	Standard Unit	7.4	7.1	7.2	7.4	7.5	7.6	7.2
Specific conductivity	µmho/cm	530	750	700	520	550	500	600
Salinity	Percent	0.0	0.0	0.0	0.0	0.0	0.2	0.0
Dissolved oxygen	mg/ℓ	3.2	2.8	1.8	3.8	0.9	2.3	1.2
Oxidation potential	mV	179.9	18.8	10.3	153.3	-162.3	180.1	538.3
Turbidity	NTU	1.89	1.19	1.5	1.56	1.10	0.67	1.39

See notes at end of table.

Table 3-17 (Continued)
Purge Water Parameters Measured During Groundwater Sampling Events at the Fleet Training Center, SWMU 14

Interim Measure Performance Specifications
Group III SWMU 14
U.S. Naval Station
Mayport, Florida

Sample Location:		MPT-14-MW08S	MPT-14-MW09S	MPT-14-MW10S	MPT-14-MW11S	MPT-14-MW12S	MPT-14-MW13S	MPT-14-MW14S
Date Sampled:	Units	17-JUN-95	17-JUN-95	17-JUN-95	17-JUN-95	15-JUN-95	18-JUN-95	17-JUN-95
Purge Water Parameter								
Temperature	(°C)	27	24	25	25	26	27	26
pH	Standard Unit	7.6	7.1	7.6	7.2	7.4	7.4	7.5
Specific conductivity	µmho/cm	464	620	400	550	750	505	465
Salinity	Percent	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dissolved oxygen	mg/ℓ	0.8	2.4	3.8	1.6	1.1	2.0	4.9
Oxidation potential	mV	-128.2	589.3	434.9	548.1	100.1	477.7	461.1
Turbidity	NTU	1.12	1.3	0.47	1.28	1.05	1.15	1.84

Notes: SWMU = solid waste management unit.
°C = degrees Celsius.
µmho/cm = micromhos per centimeter.
mg/ℓ = milligrams per liter.
mV = millivolts.
NTU = nephelometric turbidity unit.

the analytical results. The groundwater sample results are considered to be representative of dissolved chemicals and/or colloids.

Below are groundwater analytical results for the north and south firefighting training mockups and the detention pond.

3.2.1 North Firefighting Training Mockup Values for TRPH and oil and grease measured in groundwater samples collected from the north and south firefighting training mockups and the detention pond are provided in Table 3-18. Analytical results for the groundwater sample collected in 1996 from monitoring well MPT-14-MW16S and results for groundwater samples collected in 1995 (ABB-ES, 1996) from monitoring wells MPT-14-MW03S, MPT-14-MW07S and MPT-14-MW13S are provided in Table 3-19. The analytical results are summarized in Table 3-20 and compared to Federal MCLs promulgated under National Primary Drinking Water Regulations, 40 CFR Part 141, and Florida groundwater guidance concentrations (FDEP, 1994b).

TRPH was measured in the groundwater sample collected from monitoring well MPT-14-MW16S, but not in the groundwater samples collected in 1995 (Table 3-18). The TRPH was less than the 5 mg/ℓ cleanup criterion under FAC 62-770.730 (e).

VOCs were not detected in the groundwater samples at concentrations exceeding their respective detection limits. None of the SVOCs detected in the groundwater samples were at concentrations that exceed their respective groundwater screening concentrations. Two inorganic chemicals, iron and manganese, were detected at concentrations that exceed their respective Federal and State screening criteria.

Iron is an essential element in the metabolism of animals and plants. The screening criterion is based on iron-forming red oxyhydroxide precipitates that stain laundry and plumbing fixtures and, therefore, are an objectional impurity in domestic and industrial water supplies (Hem, 1992).

Manganese is an essential element in plant metabolism, but is an objectional impurity in water supplies. The screening criterion is based on the tendency for manganese to form black oxide stains (Hem, 1992).

3.2.2 South Firefighting Training Mockup Analytical results for groundwater samples collected in 1996 from monitoring wells MPT-14-MW17S and MPT-14-MW18S and results for a groundwater sample collected in 1995 (ABB-ES, 1996) from monitoring well MPT-14-MW09S are provided in Table 3-21. The analytical results are summarized in Table 3-22 and compared to Federal MCLs promulgated under National Primary Drinking Water Regulations, 40 CFR Part 141, and Florida groundwater guidance concentrations (FDEP, 1994b).

TRPH was measured in groundwater samples collected from monitoring wells MPT-14-MW17S and MPT-14-MW18S but not in the groundwater samples collected in 1995 (Table 3-18). The TRPH was less than the 5 mg/ℓ cleanup criterion under FAC 62-770.730 (e).

VOCs were not detected in the groundwater samples at concentrations exceeding their respective detection limits. Two SVOCs, naphthalene and phenanthrene, were detected at concentrations that exceed the State screening criteria. Two inorganic chemicals, iron and manganese, were detected at concentrations that exceed their respective Federal and State screening criteria.

Table 3-18
Total Recoverable Petroleum Hydrocarbons and Oil and Grease Detected in Groundwater Samples

Interim Measure Performance Specifications
Group III SWMU 14
U.S. Naval Station
Mayport, Florida

Sample Location	Sample Number	Sample Date	Analyte	Result (mg/ℓ)
North Firefighting Training Mockup				
MPT-14-MW03S	14G00301	15-JUN-95	Total petroleum hydrocarbons	0.05 U
MPT-14-MW03S	14G00301	15-JUN-95	Oil and grease	5 U
MPT-14-MW07S	14G00701	18-JUN-95	Total petroleum hydrocarbons	0.05 U
MPT-14-MW07S	14G00701	18-JUN-95	Oil and grease	5 U
MPT-14-MW13S	14G01301	18-JUN-95	Total petroleum hydrocarbons	0.05 U
MPT-14-MW13S	14G01301	18-JUN-95	Oil and grease	5 U
MPT-14-MW16S	14G01601	04-SEP-96	Total petroleum hydrocarbons	0.17
Southern Firefighting Training Mockup				
MPT-14-MW09S	14G00901	17-JUN-95	Total petroleum hydrocarbons	0.05 U
MPT-14-MW09S	14G00901	17-JUN-95	Oil and grease	5 U
MPT-14-MW17S	14G01701	04-SEP-96	Total petroleum hydrocarbons	0.32
MPT-14-MW18S	14G01801	04-SEP-96	Total petroleum hydrocarbons	0.28
Detention Pond				
MPT-14-MW04S	14G00401	15-JUN-95	Oil and grease	5 U
MPT-14-MW08S	14G00801	15-JUN-95	Total petroleum hydrocarbons	0.05 U
MPT-14-MW08S	14G00801	15-JUN-95	Oil and grease	5 U
MPT-14-MW10S	14G01001	17-JUN-95	Oil and grease	5 U
MPT-14-MW10S	14G01001	17-JUN-95	Total petroleum hydrocarbons	0.05 U
MPT-14-MW14S	14G01401	17-JUN-95	Oil and grease	5 U
MPT-14-MW14S	14G01401	17-JUN-95	Total petroleum hydrocarbons	0.05 U
MPT-14-MW15S	14G01501	27-AUG-96	Total petroleum hydrocarbons	0.14
MPT-14-MW15S	14G01501D	27-AUG-96	Total petroleum hydrocarbons	0.11

Notes: SWMU = solid waste management unit.
mg/ℓ = milligrams per liter.
U = concentration of analyte, if present, was less than the detection limit.

Table 3-19
Organic and Inorganic Analytes Detected in Groundwater Samples Collected at the Fleet Training Center Northern Burn Area

Interim Measure Performance Specifications
Group III SWMU 14
U.S. Naval Station
Mayport, Florida

Analytical Batch Number:	RA0240	RA0440	RA0440	MB7470
Sample Location:	MPT-14-MW03S	MPT-14-MW07S	MPT-14-MW13S	MPT-14-MW16S
Location Number:	14G00301	14G00701	14G01301	14G01601
Date Sampled:	15-JUNE-95	18-JUNE-95	18-JUNE-95	4-SEP-96
Semivolatile Organic Compounds (µg/ℓ)				
2,4-Dimethylphenol	–	–	–	1 J
Acenaphthene	–	–	–	2 J
Fluorene	–	4 J	–	2 J
Naphthalene	–	–	–	1 J
bis(2-Ethylhexyl)phthalate	–	2 J	–	–
Inorganic Analytes (mg/ℓ)				
Arsenic	2.1 J	1.4 J	–	29.9
Barium	2.5 J	–	–	12.6 J
Calcium	81,300	97,500	81,400	NA
Iron	1,090	732	264	NA
Lead	0.65	–	–	–
Magnesium	16,500	12,700	16,000	NA
Manganese	64.4	85	27.8	NA
Sodium	19,900	13,800	11,500	NA
Vanadium	4 J	2.4 J	1.8 J	2.6 J

Notes: SWMU = solid waste management unit.
µg/ℓ = micrograms per liter.
– = concentration of analyte, if present, was less than detection limit.
J = estimated value.
mg/ℓ = milligrams per liter.
NA = analysis not requested for analyte in groundwater samples collected in September, 1996.

Table 3-20
Summary of Chemicals Detected in Groundwater Samples Collected at the Fleet Training Center Northern Burn Area

Interim Measure Performance Specifications
Group III SWMU 14
U.S. Naval Station
Mayport, Florida

Analyte	Frequency of Detection[1]	Reporting Limit Range	Detected Concentration Range	Mean of Detected Concentrations[2]	Background Screening Concentration[3]	Federal Maximum Contaminant Levels (MCLs)[4]	Frequency Above Federal MCLs[5]	Florida Groundwater Guidance Concentrations[6]	Frequency Above Florida Groundwater Guidance Concentrations[7]
Semivolatile Organic Compounds (µg/ℓ)									
2,4-Dimethylphenol	1/4	10	1	1	ND	NS	NS	400	0/4
Acenaphthene	1/4	10	2	2	ND	NS	NS	20	0/4
Fluorene	2/4	10	2 to 4	3	ND	NS	NS	280	0/4
Naphthalene	1/4	10	1	1	ND	NS	NS	6.8	0/4
bis(2-Ethylhexyl)phthalate	1/4	10	2	2	6.2	6	0/4	6	0/4
Inorganic Analytes (mg/ℓ)									
Arsenic	3/4	0.6 to 0.6	1.4 to 29.9	11.1	9.8	50	0/4	50	0/4
Barium	2/4	4.2 to 5	5.4 to 12.6	9	39	2,000	0/4	2,000	0/4
Calcium	[8]3/3	NA	81,400 to 105,000	94,633	207,466	NS	NS	NS	NS
Iron	[8]3/3	NA	264 to 732	529	1,728	300	2/4	300	2/4
Lead	1/4	0.4 to 0.75	4.3	4.3	2.6	[9]15	0/4	15	0/4
Magnesium	[8]3/3	NA	12,700 to 16,000	14,233	153,984	NS	NS	NS	NS
Manganese	[8]3/3	NA	27.8 to 85	61.2	210	50	1/4	50	1/4
Sodium	[8]3/3	NA	11,500 to 15,400	13,567	1,519,016	NS	NS	160,000	0/4
Vanadium	4/4	NA	1.8 to 2.6	2.4	9.2	NS	NS	49	0/4

See notes on following page.

Table 3-20 (Continued)
Summary of Chemicals Detected in Groundwater Samples Collected at the Fleet Training Center Northern Burn Area

Interim Measure Performance Specifications
Group III SWMU 14
U.S. Naval Station
Mayport, Florida

[1] Frequency of detection is the number of sample locations where the analyte was detected divided by the total number of sample locations analyzed (excluding rejected values, "R" qualifier). Sampling locations MPT-14-MW03S, MPT-14-MW07S, MPT-14-SS13S, and MPT-14-MW16S were used to make this table.
[2] The mean of detected concentrations is the arithmetic mean of all samples (MPT-14-MW03S, MPT-14-MW07S, MPT-14-SS13S, and MPT-14-MW16S) in which the analyte was detected. The mean does not include those samples with "R", "U", or "UJ" validation qualifiers.
[3] The background screening value is twice the average of detected concentrations for inorganic analytes in background samples. The samples included in the background data set are identified in Table D-1-1 of Appendix D-1 to the Resource Conservation and Recovery Act Facility Investigation General Information Report (GIR) (ABB-ES, 1995). The mean of the detected concentration of organic analytes is provided for information only.
[4] The Federal MCLs are the maximum permissible level of a chemical in water that is delivered to any user of a public water system. The values are from: Drinking Water and Health Advisories, Office of Water, U.S. Environmental Protection Agency, May, 1994.
[5] Frequency of detection is the number of samples in which the analyte was detected at concentrations exceeding the Federal MCLs.
[6] Values are from: groundwater guidance concentrations, Florida Department of Environmental Protection, June, 1994.
[7] Frequency of detection is the number of samples in which the analyte was detected at concentrations exceeding the Florida groundwater guidance concentrations.
[8] Analysis not requested for analyte in groundwater samples collected in September 1996.
[9] Treatment technology action limit in a drinking water distribution system per National Primary Drinking Water Regulations, 40 Code of Federal Regulations, Part 141.

Notes: SWMU = solid waste management unit.
µg/ℓ = micrograms per liter.
ND = analyte not detected in background subsurface soil samples (GIR; ABB-ES, 1995).
NS = screening criteria have not been established for the analyte.
mg/ℓ = milligrams per liter.
NA = not applicable, analyte detected in each sample.

Table 3-21
Organic and Inorganic Analytes Detected in Groundwater Samples Collected at the Fleet Training Center Southern Burn Area

Interim Measure Performance Specifications
Group III SWMU 14
U.S. Naval Station
Mayport, Florida

Analytical Batch Number:	RA0440	MB7470	MB7470
Sample Location:	MPT-14-MW09S	MPT-14-MW17S	MPT-14-MW18S
Location Number:	14G00901	14G01701	14G01801
Date Sampled:	17-JUNE-95	04-SEP-96	4-SEP-96
Semivolatile Organic Compounds (µg/ℓ)			
2-Methylnaphthalene	21	[1]100	[2]88
Acenaphthylene	--	--	1 J
Acenaphthene	--	3 J	2 J
Dibenzofuran	2 J	5 J	6 J
Fluorene	3 J	10	7 J
Naphthalene	4 J	40	53
Phenanthrene	3 J	12	8 J
Inorganic Analytes (mg/ℓ)			
Antimony	--	--	4.7 J
Arsenic	1.8 J	7.4 J	8 J
Barium	--	20.6 J	8.6 J
Calcium	97,700	NA	NA
Cobalt	3.2 J	--	--
Copper	--	3.9 J	6.7 J
Iron	1,480	NA	NA
Magnesium	8,530	NA	NA
Manganese	85.4	NA	NA
Sodium	16,800	NA	NA
Vanadium	2 J	--	2.8 J

[1] Preferred analytical result from dilution of sample 14G01701DL.
[2] Preferred analytical result from dilution of sample 14G01801DL.

Notes: SWMU = solid waste management unit.
µg/ℓ = micrograms per liter.
-- = concentration of analyte, if present, was less than detection limit.
J = estimated value.
mg/ℓ = milligrams per liter.
NA = analysis not requested for analyte in groundwater samples collected in September 1996.

Table 3-22
Summary of Chemicals Detected in Groundwater Samples Collected at the Fleet Training Center Southern Burn Area

Interim Measure Performance Specifications
Group III SWMU 14
U.S. Naval Station
Mayport, Florida

Analyte	Frequency of Detection[1]	Reporting Limit Range	Detected Concentration Range	Mean of Detected Concentrations[2]	Background Screening Concentration[3]	Federal Maximum Contaminant Levels (MCLs)[4]	Frequency Above Federal MCLs[5]	Florida Groundwater Guidance Concentrations[6]	Frequency Above Florida Groundwater Guidance Concentrations[7]
Semivolatile Organic Compounds (µg/ℓ)									
2-Methylnaphthalene	3/3	NA	21 to 100	69.7	ND	NS	NS	400	0/3
Acenaphthene	2/3	2 to 3	10	2.5	ND	NS	NS	20	0/3
Acenaphthylene	1/3	1	10	1	ND	NS	NS	10	0/3
Dibenzofuran	3/3	NA	2 to 6	4.3	ND	NS	NS	NS	NS
Fluorene	3/3	NA	3 to 10	6.7	ND	NS	NS	280	0/3
Naphthalene	3/3	NA	4 to 53	32.3	ND	NS	NS	6.8	2/3
Phenanthrene	3/3	NA	3 to 12	7.7	ND	NS	NS	10	1/3
Inorganic Analytes (mg/ℓ)									
Antimony	1/3	4.7	2.6 to 5	4.7	ND	6	0/3	6	0/3
Arsenic	3/3	NA	1.8 to 8	5.7	9.8	50	0/3	50	0/3
Barium	2/3	7.9	8.6 to 20.6	14.6	39	2,000	0/3	2,000	0/3
Calcium	[8]1/1	NA	97,700	97,700	207,466	NS	NS	NS	NS
Cobalt	1/3	2.5	3.2	3.2	NS	NS	NS	NS	NS
Copper	2/3	1	3.9 to 6.7	5.3	2.8	[9]1,300	0/3	1,000	0/3
Iron	[8]1/1	NA	1,480	1,480	1,728	300	1/1	300	1/1
Magnesium	[8]1/1	NA	8,530	8,530	153,984	NS	NS	NS	NS
Manganese	[8]1/1	NA	85.4	85.4	210	50	1/1	50	1/1
Sodium	[8]1/1	NA	16,800	16,800	1,519,016	NS	NS	160,000	0/1
Vanadium	2/3	1.7	2 to 2.8	2.4	9.2	NS	NS	49	0/3

See notes on following page.

Table 3-22 (Continued)
Summary of Chemicals Detected in Groundwater Samples Collected at the Fleet Training Center Southern Burn Area

Interim Measure Performance Specifications
Group III SWMU 14
U.S. Naval Station
Mayport, Florida

[1] Frequency of detection is the number of sample locations where the analyte was detected divided by the total number of sample locations analyzed (excluding rejected values, "R" qualifier). Sampling locations MPT-14-MW09S, MPT-14-MW17S, and MPT-14-MW18S were used to make this table.
[2] The mean of detected concentrations is the arithmetic mean of all samples (MPT-14-MW09S, MPT-14-MW17S, and MPT-14-MW18S) in which the analyte was detected. The mean does not include those samples with "R", "U", or "UJ" validation qualifiers.
[3] The background screening value is twice the average of detected concentrations for inorganic analytes in background samples. The samples included in the background data set are identified in Table D-1-1 of Appendix D-1 to the Resource Conservation and Recovery Act Facility Investigation General Information Report (GIR) (ABB-ES, 1995). The mean of the detected concentration of organic analytes is provided for information only.
[4] The Federal MCLs are the maximum permissible level of a chemical in water that is delivered to any user of a public water system. The values are from: Drinking Water and Health Advisories, Office of Water, U.S. Environmental Protection Agency, May, 1994.
[5] Frequency of detection is the number of samples in which the analyte was detected at concentrations exceeding the Federal MCLs.
[6] Values are from: groundwater guidance concentrations, Florida Department of Environmental Protection, June, 1994.
[7] Frequency of detection is the number of samples in which the analyte was detected at concentrations exceeding the Florida groundwater guidance concentrations.
[8] Analysis not requested for analyte in groundwater samples collected in September, 1996.
[9] Treatment technology action limit in a drinking water distribution system per National Primary Drinking Water Regulations, 40 Code of Federal Regulations Part 141.

Notes: SWMU = solid waste management unit.
$\mu g/\ell$ = micrograms per liter.
NA = not applicable, analyte detected in each sample.
ND = analyte not detected in background subsurface soil samples (GIR; ABB-ES, 1995).
NS = screening criteria have not been established for the analyte.
mg/ℓ = milligrams per liter.

The screening criterion for naphthalene is based on organoleptic properties, and the criterion for phenanthrene is based on the chemical being a systemic toxicant.

3.2.3 Detention Pond Analytical results for groundwater samples collected in 1996 from monitoring well MPT-14-MW15S, and results for groundwater samples collected in 1995 (ABB-ES, 1996) from monitoring wells MPT-14-MW04S, MPT-14-MW08S, MPT-14-MW10S, MPT-14-MW14S and MPT-14-MW15S, are provided in Table 3-23. The analytical results are summarized in Table 3-24 and compared to Federal MCLs promulgated under National Primary Drinking Water Regulations, 40 CFR Part 141, and Florida groundwater guidance concentrations (FDEP, 1994b).

TRPH was measured in the groundwater sample collected from monitoring well MPT-14-MW15S, but not in the groundwater samples collected in 1995 (Table 3-18). The TRPH was less than the 5 mg/ℓ cleanup criterion under FAC 62-770.730 (e).

VOCs and SVOCs were not detected in the groundwater samples collected in 1995, but were detected in the groundwater sample collected from monitoring well MPT-14-MW15S in 1996. The VOC, xylene, was not detected at a concentration that exceeded Federal or State screening criteria. Three SVOCs, acenaphthene, naphthalene, and phenanthrene, were detected at concentrations that exceed State screening criteria. Two inorganic chemicals, iron and manganese, were detected at concentrations that exceed their respective Federal and State screening criteria.

The screening criterion for acenaphthene is based on organoleptic properties.

Table 3-23
Organic and Inorganic Analytes Detected in Groundwater Samples Collected at the Fleet Training Center Detention Pond

Interim Measure Performance Specifications
Group III SWMU 14
U.S. Naval Station
Mayport, Florida

Analytical Batch Number:	RA0240	RA0240	RA0240	RA0440	RA0440	MB6710	MB6710
Sample Location:	MPT-14-MW04S	MPT-14-MW04S	MPT-14-MW08S	MPT-14-MW10S	MPT-14-MW14S	MPT-14-MW15S	MPT-14-MW15S
Location Number:	14G00401	14G00401DUP	14G00801	14G01001	14G01401	14G01501	14G01501DUP
Date Sampled:	13-JUNE-95	13-JUNE-95	15-JUNE-95	17-JUNE-95	17-JUNE-95	27-AUG-96	27-AUG-96
Volatile Organic Compounds (μg/ℓ)							
Xylene (Total)	--	--	--	--	--	4 J	4 J
Semivolatile Organic Compounds (μg/ℓ)							
2-Methylnaphthalene	--	--	--	--	--	7 J	12 J
Acenaphthene	--	--	--	--	--	5 J	6 J
Fluorene	--	--	--	--	--	6 J	5 J
Naphthalene	--	--	--	--	--	14 J	17 J
Phenanthrene	--	--	--	--	--	5 J	--
Inorganic Analytes (mg/ℓ)							
Arsenic	2.1 J	1.7 J	1.5 J	3.8 J	3.3 J	2.8 J	2.9 J
Barium	5.2 J	5.2 J	4.0 J	10 J	--	119 J	119 J
Calcium	73,600	73,100	78,900	69,700	64,500	NA	NA
Copper	--	--	--	--	--	27.1	10.3 J
Iron	343	343	692	--	279	NA	NA
Lead	--	--	--	--	--	--	2.7 J
Magnesium	12,500	12,600	11,400	8,450	10,700	NA	NA
Manganese	69.4	68.9	66.2	79.8	30	NA	NA
Sodium	14,800	14,900	14,700	16,200	14,300	NA	NA
Vanadium	3.1	2.9	1.8 J	--	2.9 J	--	--

Notes: SWMU = solid waste management unit.
DUP = sample number suffix that designates a duplicate to an environmental sample.
μg/ℓ = micrograms per liter.
-- = concentration of analyte, if present, was less than detection limit.
J = estimated value.
mg/ℓ = milligrams per liter.
NA = analysis not requested for analyte in groundwater samples collected in September 1996.

Table 3-24
Summary of Chemicals Detected in Groundwater Samples Collected at the Fleet Training Center Detention Pond

Interim Measure Performance Specifications
Group III, SWMU 14
U.S. Naval Station
Mayport, Florida

Analyte	Frequency of Detection[1]	Reporting Limit Range	Detected Concentration Range	Mean of Detected Concentrations[2]	Background Screening Concentration[3]	Federal Maximum Contaminant Levels (MCLs)[4]	Frequency Above Federal MCLs[5]	Florida Groundwater Guidance Concentrations[6]	Frequency Above Florida Groundwater Guidance Concentrations[7]
Volatile Organic Compounds (µg/ℓ)									
Xylenes (total)	1/5	5	[8]4	2.8	ND	10,000	0/5	[9]10,000	0/5
Semivolatile Organic Compounds (µg/ℓ)									
2-Methylnaphthalene	1/5	10	[8]9.5	9.5	ND	NS	NS	NS	NS
Acenaphthene	1/5	10	[8]5.5	5.5	ND	NS	NS	2	1/5
Fluorene	1/5	10	[8]5.5	5.5	ND	NS	NS	280	0/5
Naphthalene	1/5	10	[8]15.5	15.5	ND	NS	NS	6.8	1/5
Phenanthrene	1/5	10 to 25	[8]15	15	ND	NS	NS	10	1/5
Inorganic Analytes (mg/ℓ)									
Arsenic	5/5	NA	1.5 to 3.8	2.7	9.8	50	0/5	50	0/5
Barium	4/5	3.9	4 to 119	34.6	39	2,000	0/5	2,000	0/5
Calcium	[10]4/4	NA	64,500 to 78,900	71,613	207,466	NS	NS	NS	NS
Copper	1/5	1	[8]18.7	18.7	2.8	[11]1,300	0/5	1,000	0/5
Iron	[10]3/4	75.9	279 to 692	438	1,728	300	2/4	300	2/4
Lead	1/5	0.37 to 0.7	[8]1.5	1.5	2.6	[11]15	0/5	15	0/5
Magnesium	[10]4/4	NA	8,450 to 12,550	10,775	153,984	NS	NS	NS	NS
Manganese	[10]4/4	NA	30 to 79.8	61.3	210	50	3/4	50	3/4
Sodium	[10]4/4	NA	14,300 to 16,200	15,013	1,519,016	NS	NS	160,000	0/4
Vanadium	3/5	1.2 to 1.7	1.8 to [8]3.0	2.6	9.2	NS	NS	49	0/5

See notes on following page.

Table 3-24 (Continued)
Summary of Chemicals Detected in Groundwater Samples
Collected at the Fleet Training Center Detention Pond

Interim Measure Performance Specifications
Group III SWMU 14
U.S. Naval Station
Mayport, Florida

[1] Frequency of detection is the number of sample locations where the analyte was detected divided by the total number of sample locations analyzed (excluding rejected values, "R" qualifier). Sampling locations MPT-14-MW04S, MPT-14-MW08S, MPT-14-SS10S, MPT-14-MW14S, and MPT-14-MW15S were used to make this table. The detection of analytes in either sample 14G00401 or duplicate 14G00401DUP was used to represent a value for sample location MPT-14-SS04S, and sample 14G01501 or duplicate 14G01501DUP was used to represent a value for sample location MPT-14-SS15S.
[2] The mean of detected concentrations is the arithmetic mean of all samples (MPT-14-MW04S, MPT-14-MW08S, MPT-14-SS10S, MPT-14-MW14S, and MPT-14-MW15S) in which the analyte was detected. The mean does not include those samples with "R", "U", or "UJ" validation qualifiers.
[3] The background screening value is twice the average of detected concentrations for inorganic analytes in background samples. The samples included in the background data set are identified in Table D-1-1 of Appendix D-1 to the Resource Conservation and Recovery Act Facility Investigation General Information Report (GIR) (ABB-ES, 1995). The mean of the detected concentration of organic analytes is provided for information only.
[4] The Federal MCLs are the maximum permissible level of a chemical in water that is delivered to any user of a public water system. The values are from: Drinking Water and Health Advisories, Office of Water, U.S. Environmental Protection Agency, May, 1994.
[5] Frequency of detection is the number of samples in which the analyte was detected at concentrations exceeding the Federal MCLs. The average concentration for an analyte detected in sample 14G00401 and duplicate 14G00401DUP was used to represent a value for sample location MPT-14-MW04S, and sample 14G01501 and duplicate 14G001501DUP were used to represent a value for sample location MPT-14-MW15S.
[6] Values are from: groundwater guidance concentrations, Florida Department of Environmental Protection (FDEP), June, 1994.
[7] Frequency of detection is the number of samples in which the analyte was detected at concentrations exceeding the Florida groundwater guidance concentrations.
[8] The value is the average of a sample and its duplicate. For duplicate samples having one nondetect value, one-half of the contract required quantification limit/contract required detection limit is used as a surrogate concentration for the nondetected concentration.
[9] A secondary standard of 20 $\mu g/\ell$ has been established under Florida groundwater guidance concentrations (FDEP, 1994).
[10] Analysis not requested for analyte in groundwater samples collected in September 1996.
[11] Treatment technology action limit in a drinking water distribution system per National Primary Drinking Water Regulations, 40 Code of Federal Regulations Part 141.

Notes: SWMU = solid waste management unit.
$\mu g/\ell$ = micrograms per liter.
ND = analyte not detected in background subsurface soil samples (GIR; ABB-ES, 1995).
NS = screening criteria have not been established for the analyte.
mg/ℓ = milligrams per liter.
NA = not applicable, analyte detected in each sample.

4.0 IM PERFORMANCE SPECIFICATIONS

This chapter provides an evaluation of whether or not an IM is warranted at the north and south firefighting training mockups, the detention pond, and the drainage ditch that formerly received runoff from the detention pond. Also included is a brief discussion of applicable remedial alternatives.

Because of the similarity of the chemicals detected in soil and groundwater samples collected at the north and south firefighting training mockups and the detention pond these sites will be discussed in Section 4.1, Firefighting Training Area. The drainage ditch will be discussed in Section 4.2, Drainage Ditch, because a different medium, sediment, was determined (ABB-ES, 1996) to contain SVOCs at concentrations exceeding the FDEP soil cleanup goals and sediment quality goals.

4.1 FIREFIGHTING TRAINING AREA. Below are subsections that assess whether or not an IM is warranted for the chemicals detected in soil and groundwater samples at the Firefighting Training Area.

4.1.1 Soil IM Interpretation of the results from OVA measurements of soil samples at the north and south firefighting training mockups and the detention pond (Table 3-1) suggests that petroleum is present in soil at concentrations that would be considered as excessively contaminated under FAC 62-770.200 [2]. Additionally, petroleum was observed in the matrix of a soil sample collected from 1.5 to 2.5 feet bls at the southern firefighting training mockup (location S14Q044). The presence of excessively contaminated soil and petroleum observed in the soil matrix at the southern firefighting training mockup suggests that an IM may be warranted.

Currently, there is no screening criterion or standard for TRPH in soil under FAC 62-770. However, human health risk-based soil cleanup target levels (SCTLs) are to be promulgated for TRPH under a revision to FAC 62-770 (Tonner-Navarro and Roberts, 1997). The revision of FAC 62-770 is to be promulgated on September 19, 1997. The SCTLs for hydrocarbons consist of primary and subclassification levels for residential and industrial exposures and leachability. Leachability is considered for sites where TRPH is detected in soil and groundwater. The primary values for aromatic hydrocarbons with an equivalent carbon number index (EC) of 9 are 350, 2,500, and 340 mg/kg for residential, industrial, and leachability SCTLs. Subclassification levels, which are likely more appropriate for the three sites, for aromatic hydrocarbons with an EC of 11 are 720, 5,700, and 520 mg/kg; for an EC of 14 the levels are 1,200, 11,000, and 1,000 mg/kg. Testing to determine the most appropriate hydrocarbon classification has not been conducted.

Applicable future standards for FAC 62-770 that are appropriate to consider for TRPH in soil at the three sites include the current industrial site use and leachability (i.e., TRPH is present in soil and groundwater). Comparison of the TRPH analytical results to the three industrial screening values suggests the following:

- samples collected at each of the three sites exceed the future primary screening value (EC of 9),

- one sample collected at the north firefighting training mockup and three from the detention pond exceed the future subclassification level for an EC of 11, and

- one sample collected at the north firefighting training mockup and two samples from the detention pond exceeded the future subclassification level for an EC of 14.

Comparison of the TRPH analytical results to the three leachability screening values suggests that samples from each of the three areas exceed the future standards.

TRPH was detected in groundwater samples collected from monitoring wells located at each of the three sites, but not in samples collected from monitoring wells located hydraulically downgradient from the sites. TRPH was not detected at concentrations that exceed the FDEP guidance concentration (5 mg/ℓ). This suggests that the TRPH is leaching to groundwater, but not at concentrations that would exceed the FDEP guidance concentration.

Interpretation of this future criterion suggests that an IM may be warranted. However, the concrete surface at each of the three areas could be considered an institutional (engineering) control. Therefore, unless excavation activities were conducted, there would not be a human health exposure to the petroleum in the soil. It should also be noted that the concrete surface at the three sites limits the infiltration of water and prevents exposure to the petroleum-impacted soil by terrestrial ecological receptors.

None of the organic chemicals (VOCs and SVOCs) were detected at concentrations that exceed their respective residential or industrial FDEP soil cleanup goals. Two inorganic chemicals, arsenic and beryllium, were detected at concentrations that exceed residential soil cleanup goals, but not industrial soil cleanup goals. This is consistent with the current and future industrial site use. Also, the revision to FAC 62-770 states that remediation may not be warranted at sites where soil characterized as excessively contaminated does not contain chemicals that exceed the FDEP soil cleanup goals. Additionally, as stated previously, the concrete surface is an institutional (engineering) control that limits the infiltration of water and prevents exposure by human and ecological receptors to the petroleum-impacted soil.

Based on the comparison of the laboratory analytical results for VOCs, SVOCs, and inorganics to the FDEP soil cleanup goals and the presence of an institutional (engineering) control, remediation of the soil may not be warranted. This is consistent with the revisions to rule FAC 62-770.680, No Further Action, that will be promulgated on September 19, 1997. The revised rule, 62-770.680 (2) (c) (3), is applicable to an institutional (engineering) control that limits water infiltration and prevents human exposure. This can be applied at sites where a chemical of concern(s) (i.e., TRPH) will not leach to groundwater at concentrations that exceed applicable groundwater cleanup criteria.

Below are rationales to support no further action.

- Firefighting training activities are no longer being conducted (i.e., the activity that was the source for the petroleum has been discontinued).

- The concrete surface is an institutional (engineering) control that limits the infiltration of water and prevents exposure to the petroleum-impacted soil.

- TRPH appears to be leaching to groundwater, but not at concentrations that exceed the FDEP guidance concentration.

- Organic chemicals (VOCs and SVOCs) were not detected at concentrations that exceed the FDEP residential and industrial soil cleanup goals.

- Two inorganic chemicals, (arsenic and beryllium) were detected at concentrations that exceed the residential soil cleanup goals but not the industrial soil cleanup goal (i.e., current use is industrial).

- The area of the petroleum-impacted soil is limited to areas beneath the north and south firefighting training mockup and the detention pond (Figures 3-1 through 3-4).

- The pH of soil at SWMU 14, 8.27 to 9.13 standard units (ABB-ES, 1996), is within or slightly above the optimal range, 5 to 9 standard units, for biodegradation (U.S. Air Force, 1994).

Performance criterion to be considered for the institutional (engineering) control is to prevent the concentration of TRPH in soil from posing a potential threat to groundwater quality. In addition, should the concrete surface at the sites be removed, the performance criterion should be reviewed and be amended to a criterion appropriate for the site use. This criterion may have to consider human or ecological receptors in an industrial or residential setting.

4.1.2 Groundwater IM Analytical results of groundwater samples collected from monitoring wells installed at the southern firefighting training mockup and detention pond suggest that SVOCs were detected at concentrations exceeding the FDEP groundwater guidance concentrations (FDEP, 1994b). Naphthalene and phenanthrene were detected at concentrations exceeding the FDEP groundwater guidance concentrations at the southern firefighting training mockup. Acenaphthene, naphthalene, and phenanthrene were detected at concentrations exceeding the FDEP groundwater guidance concentrations at the detention pond. Two inorganic chemicals, iron and manganese, were detected at concentrations exceeding Federal and State guidance concentrations at each of the three sites.

The detection of the SVOCs at concentrations exceeding the FDEP groundwater guidance concentrations suggests that an IM is warranted. However, an IM is not warranted for the two inorganic chemicals. The concentration of iron and manganese in the groundwater is not related to a release from the SWMUs and is related to natural conditions at NAVSTA Mayport (ABB-ES, 1996). It also should be noted that iron and manganese are essential nutrients and that the Federal and State screening criteria are based on the effects of staining and scaling and are not human or ecological risk-based criteria.

Computer simulation of the potential for natural attenuation of the petroleum hydrocarbons in the surficial aquifer was conducted to assess whether or not this would be a viable remedial alternative. The computer simulation was conducted using the BIOSCREEN natural attenuation decision support system model developed through a cooperative effort by USEPA, Robert S. Kerr Environmental Research

Center, and Air Force Center for Environmental Excellence (Newell and McLeod, 1996).

Two scenarios were simulated, one with an infinite source (Figures 1 through 5 in Appendix D) and the other with a defined source (Figures 6 through 10 in Appendix D). Parameters used in the BIOSCREEN model included site-specific data for hydrogeology (hydraulic conductivity, hydraulic gradient, and porosity), adsorption (soil bulk density), and biodegradation (oxygen, nitrate, iron, and sulfate) (ABB-ES, 1995; and ABB-ES, 1996). Naphthalene was used for the partition coefficient (Jeng, et al., 1992). The fraction of organic carbon (0.0002) was an estimated value (Mackay, 1990). The value used for solute half-life was the maximum value for the half-life of benzene (Newell and McLeod, 1996). The distribution of organic vapors at the detention pond (Figure 3-1) was used to estimate the modeled area. The saturated thickness was estimated to be 10 feet. The soluble mass used in the defined source was obtained from the infinite source instantaneous reaction simulation. The concentration in the source zone is the total concentration for the maximum detected concentrations of VOCs and SVOCs at the detention pond.

The infinite and defined source simulations for no degradation and first order decay (dilution, dispersion, and advection) indicate that in 5 years a plume may extend approximately 140 to 160 feet from the source area. Firefighting training activities have been conducted at the mockup since early 1970, and the detention pond has been in existence (originally unlined) since 1978. Therefore, it is reasonable to assume that releases from the three areas have been ongoing for a period longer than 5 years (especially at the detention pond). This would suggest that petroleum hydrocarbons and related chemicals may be measured in groundwater samples collected from monitoring wells (MPT-14-MW14S and MPT-14-MW04S) hydraulically downgradient (Figure 3-5) from the detention pond. This is not supported by the analytical results (Table 3-23); therefore, the analytical data do not support the no degradation and first order decay models. Also, the St. Johns River is approximately 300 feet from the northern boundary of SWMU 14. These simulations do not predict that the St. Johns River would be impacted by a release of petroleum hydrocarbons and related chemicals from the north and south firefighting mockup or the detention pond.

The infinite source model for simulation of instantaneous reaction suggests that in 5 years the plume may extend approximately 18 feet from the source and is not present in the defined source model. Based on the concentrations of electron acceptors in the shallow aquifer, the instantaneous reaction simulation is more representative of the biodegradation of petroleum hydrocarbons in the surficial aquifer.

The natural attenuation of petroleum hydrocarbons and related chemicals (VOCs and SVOCs) in the groundwater is appropriate to be considered for the three sites. Natural attenuation is proposed because petroleum hydrocarbons and related chemicals have apparently impacted groundwater at concentrations that potentially present a threat (hypothetical future use) to human receptors. The threat could be considered as a hypothetical future use because the shallow groundwater beneath SWMU 14 is currently not used or planned to be used as a water supply. Below are rationales to support allowing natural attenuation to be considered as a remedial alternative.

- The source of the petroleum hydrocarbons, firefighting training at the mockups, is no longer being conducted.

- The presence of an institutional (engineering) control at the three sites.

- Although LNAPL has been detected once at the detention pond, it is likely to be bound up in the vadose zone soil and present only during brief periods when the water table is high.

- Groundwater beneath SWMU 14 is not currently used as a water supply; therefore, there is no exposure to human receptors through this route.

- Based on data collected for the Group III RFI (ABB-ES, 1996) and the BIOSCREEN Model, the groundwater beneath SWMU 14 appears to contain sufficient electron acceptors, oxygen, iron, sulfate, and nitrate, for aerobic biodegradation to occur (U.S. Air Force, 1994; and Wiedemeier, et al., 1994).

- Groundwater surrounding the three sites is aerobic and at the three sites is anaerobic, suggesting that biodegradation is occurring.

- Based on the current site knowledge and computer simulation (Appendix D), it is not likely that total recoverable petroleum hydrocarbons and related chemicals released at the north and south firefighting training mockup and the detention pond would impact the St. Johns River.

Monitoring would be required to support that natural attenuation is occurring within a reasonable time period (5 years) and to demonstrate when a "no further action" decision would be appropriate. The monitoring data should include measurements of oxygen, carbon dioxide, methane, total organic carbon, and analysis for SVOCs and TRPH. The concentration of iron, sulfate, sulfide, nitrate, and nitrite in the groundwater should also be determined to assess the presence and concentration of electron donors. This information would also be used to estimate the time required for the natural attenuation to occur and when a "no further action" decision could be made.

Performance criteria to be considered for the natural attenuation of total petroleum hydrocarbons in groundwater at SWMU 14 are the FDEP groundwater guidance concentrations for acenaphthene (2 micrograms per liter [$\mu g/\ell$]), naphthalene (6.8 $\mu g/\ell$), and phenanthrene (10 $\mu g/\ell$).

Biodegradation of the TRPH and related chemicals in the groundwater may be expedited by the introduction of oxygen by air sparging, bioslurping, or the chemical introduction of oxygen to groundwater (Bianchi-Mosquera, et al., 1994). One of these options should be considered if it appears that the cleanup objective will not be attained within a 5-year period.

4.2 DRAINAGE DITCH. An IM was recommended in the Group III RFI (ABB-ES, 1996) for sediment at a drainage ditch that formerly received runoff from the detention pond at SWMU 14. Sediment samples MPT-14-SD04 through MPT-14-SD06 were determined to contain SVOCs at concentrations exceeding the FDEP soil cleanup goals (FDEP, 1995a; FDEP, 1995b; and FDEP, 1996) and sediment quality goals (MacDonald et al.,

1994; Long and Morgan, 1990; and Long et al., 1994). Please refer to Tables 6-14, 6-17, and 6-34, and Plate 4 in the Group III RFI report (ABB-ES, 1996). Additionally, sediment samples MPT-14-SD02 and MPT-14-SD03, collected at a small sediment retention basin that precedes the drainage ditch, also contains SVOCs at concentrations exceeding these FDEP screening criteria. Please refer to Tables 6-3, 6-6, and 6-26, and Plate 4 in the Group III RFI report (ABB-ES, 1996). Photographs of the two areas are provided in Appendix C.

Capping with concrete, an institutional control, is suggested for the two areas. However, some sediment may need to be excavated from the detention pond to allow for the concrete cap and adequate sediment retention. The drainage ditch also has some riprap along the sides and in the drainage channel that must be moved to construct the cap.

The cap is preferred over the excavation of sediment to minimize physical damage from excavation activities to the environment. Coastal grassland and sand dunes are present in the immediate vicinity of the ditch and retention basin. It is likely that less environmental damage will result from the capping of the small areas than could occur from excavation activities.

Performance criteria for the drainage ditch that should be considered in the design are hydraulic uplift, wave action, and sufficient strength to withstand maintenance activities (sediment removal) without damage. The design should consider either using the existing riprap on the ditch sidewalls or replacing the riprap with a concrete sidewall. The buildup of hydraulic pressure behind the sidewall should be considered if this is incorporated into the design. The concrete used to construct the cap should be a mix design that is compatible with a marine environment.

The sediment retention pond is located on the landward side of sand dunes and should be designed to withstand hydraulic uplift and have sufficient strength to withstand maintenance activities (sediment removal) without damage. The concrete used in the caps for the ditch and sediment retention basin should be a mix design that is compatible with a marine environment. The buildup of hydraulic pressure behind the sidewall should be considered in the design.

Distinct operational areas should be designated for staging, storage, and transport of the excavated sediment and for equipment decontamination. Environmental controls should also be implemented to prevent leaching of chemicals from the excavated material. Fugitive dust emissions are not likely to be a problem unless the sediment is allowed to dry out. Sediment, concrete, or any other debris should be managed under the RCRA Land Disposal Restrictions for Newly Listed Waste and Hazardous Debris (40 CFR part 268.4).

5.0 SUMMARY AND RECOMMENDATIONS

This chapter presents a summary of the findings for each site assessed and recommendations for whether or not an IM activity is warranted for the Firefighting Training Area and Drainage Ditch.

5.1 FIREFIGHTING TRAINING AREA. This section presents a summary of the findings for soil and groundwater at the Firefighting Training Area.

5.1.1 Soil IM Interpretation of the OVA result suggests that soil beneath the north and south firefighting training mockups and the detention pond would be considered excessively contaminated under FAC 62-770.200 (2). A soil sample from the southern firefighting training mockup appeared to contain petroleum hydrocarbons in the sample matrix. TRPH analytical results of the soil samples suggest that there has been a release of petroleum to soil in the vicinity of the three sites. The TRPH results were compared to human health-based risk levels that will be promulgated under FAC 62-770 in September 1997. This comparison suggests that some of the soil samples contained TRPH at concentrations that would exceed the primary and subclassification screening criteria. VOCs and SVOCs were not detected in soil samples collected from the three sites at concentrations that exceed the FDEP residential or industrial soil cleanup goals. Two inorganic chemicals, arsenic and beryllium, were detected in soil samples at concentrations that exceed residential standards, but not the industrial standard. Currently the site is industrial, and the site use is not expected to change in the foreseeable future.

The September 1997 revision to FAC 62-770 stipulates that remediation may not be warranted at sites where soil characterized as excessively contaminated does not contain chemicals that exceed the FDEP soil cleanup goals. It should also be noted that the existing concrete surface at the north and south firefighting training mockups and the detention pond could be considered an institutional (engineering) control.

Because the existing concrete surface is preventing exposure to the chemicals and is acting as a barrier to the infiltration of surface water, no further action with engineering control is recommended.

5.1.2 Groundwater IM Periodic water-level measurements were made at the monitoring wells installed at the north and south firefighting training mockup and the detention pond. LNAPL was measured on one occurrence at the monitoring well installed at the detention pond. A potentiometric map prepared from water-level measurements made on March 3, 1997, suggests that groundwater is flowing toward the north.

The LNAPL measured at MPT-15-MW15S corresponds to the highest water level elevation that has been observed at the site. Excessively contaminated soil (greater than 5,000 ppm) occurs in the vicinity of the monitoring well location (Figures 3-1 through 3-4). Although LNAPL has been detected once at the detention pond, it is likely to be bound up in the vadose zone soil and present only during brief periods when the water table is high.

Measurement of dissolved oxygen during the purging of the monitoring wells prior to collecting groundwater samples suggests that microbial activity has resulted in the depletion of oxygen resulting in anaerobic conditions (USEPA, 1997). Values measured in 1995 (ABB-ES, 1996) for dissolved oxygen and oxidation potential suggest that aerobic conditions are present in areas adjacent to the three sites.

Values of TRPH measured in groundwater samples collected from monitoring wells in 1995 and 1996 were less than the FDEP cleanup criterion of 5 mg/ℓ. VOCs were not detected at concentrations exceeding Federal or State screening criteria. SVOCs were detected at the southern firefighting training mockup (naphthalene and phenanthrene) and the detention pond (acenaphthene, naphthalene, and phenanthrene) at concentrations that exceed the FDEP groundwater guidance concentrations. Two inorganic chemicals (iron and manganese) were detected at concentrations that exceed Federal and State screening criteria. The concentration of iron and manganese in the groundwater is not related to a release from the SWMU and is related to natural conditions at NAVSTA Mayport (ABB-ES, 1996). It should be noted that groundwater beneath SWMU 14 is not currently or proposed to be used as a water supply.

Interpretation of the computer simulation of the organic chemicals in the groundwater at SWMU 14 suggests that natural attenuation is a viable remedial measure. This is supported by the presence of electron acceptors (oxygen, iron, sulfate, and nitrate) in the groundwater. Based on the anaerobic conditions at the three sites, and the aerobic conditions in the surrounding areas, natural attenuation appears to be occurring. Based on the computer simulation and groundwater analytical results, the release of petroleum and related chemicals to groundwater at the three sites are not likely to impact the St. Johns River.

Natural attenuation is suggested as the IM. Natural attenuation is proposed because petroleum hydrocarbons and related chemicals have apparently impacted groundwater at concentrations that potentially present a threat (hypothetical future use) to human receptors. Monitoring would be required to support the assumption that natural attenuation is occurring within a reasonable time period (5 years is proposed in the September 1997 revision to FAC 62-770). The monitoring would also provide data to demonstrate when a "no further action" decision would be appropriate.

5.2 DRAINAGE DITCH An IM was recommended in the Group III RFI (ABB-ES, 1996) for sediment at a drainage ditch that formerly received runoff from the detention pond at SWMU 14. Sediment samples collected from the drainage ditch and a sediment retention pond were determined to contain SVOCs at concentrations exceeding the FDEP soil cleanup goals and sediment quality goals.

Capping with concrete is preferred for the IM over the excavation of sediment to minimize physical damage from excavation activities to the environment. Coastal grassland and sand dunes are present in the immediate vicinity of the ditch and retention basin. It is likely that less environmental damage will result from the capping of the small areas than could occur from excavation activities.

REFERENCES

ABB Environmental Services, Inc. (ABB-ES). 1991. *Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) Workplan, Volumes I, II, and III (Interim Final)*. Prepared for Southern Division, Naval Facilities Engineering Command (SOUTHNAVFACENGCOM), North Charleston, South Carolina (October).

ABB-ES. 1995. *RCRA Corrective Action Program General Information Report, U.S. Naval Station Mayport (Volumes I and II)*. Prepared for SOUTHNAVFACENGCOM, North Charleston, South Carolina (July).

ABB-ES. 1996. *RCRA Facility Investigation, Group III SWMUs, NAVSTA Mayport (Volumes I and II) (Final)*. Prepared for SOUTHNAVFACENGCOM, North Charleston, South Carolina (December).

Bianchi-Mosquera, G., R. Allen-King, and D. Mackay. 1994. "Enhanced Degradation of Dissolved Benzene and Toluene Using a Solid Oxygen-Releasing Compound." *Ground Water Monitoring Review*, Winter, p. 12-128.

Florida Department of Environmental Protection (FDEP). 1994a. *Guidelines for Assessment and Remediation of Petroleum Contaminated Soil*. Division of Waste Management, Bureau of Waste Cleanup, FDEP, Tallahassee, Florida (May).

FDEP. 1994b. *Florida Groundwater Guidance Concentrations*. Division of Water Facilities, Bureau of Groundwater Protection, Tallahassee, Florida (June).

FDEP. 1995a. "Soil Cleanup Goals for the Military Sites in Florida." Memorandum from Ligia Mora-Applegate, Bureau of Waste Cleanup to Tim Bahr, Bureau of Waste Cleanup, Tallahassee, Florida (April 5).

FDEP. 1995b. "Soil Cleanup Goals for Florida." Memorandum from John M. Ruddell, Director, Division of Waste Management, Tallahassee, Florida, to District Directors, Waste Program Administrators (September 29).

FDEP. 1996. "Applicability of Soil Cleanup Goals for Florida." Memorandum from John M. Ruddell, Director, Division of Waste Management, Tallahassee, Florida, to District Directors, Waste Program Administrators (January 19).

Hem, John D. 1992. *Study and Interpretation of the Chemical Characteristics of Natural Water*. 3rd ed. U.S. Geological Water-Supply Paper 2254, United States Government Printing Office, Washington, D.C.

Jeng, C., D. Chen, and C. Yaws. 1992. "Data compilation for soil sorption coefficient." *Pollution Engineering* (June 15).

Long, E.R., and L.G. Morgan. 1990. "The potential for biological effects of sediment-sorbed contaminants tested in the National Status and Trends Program." National Oceanic and Atmospheric Administration (NOAA) Technical Memorandum NOS OMA 52, Seattle, Washington.

REFERENCES (Continued)

Long, E.R., D.D. MacDonald, S.L. Smith, and F.D. Calder. 1994. "Incidence of Adverse biological Effects within Ranges of Chemical Concentrations in marine and Estuarine Sediments." NOAA (September 15).

MacDonald, D.D. 1994. *Development of an Approach to the Assessment of Sediment Quality in Florida Coastal Waters*. Prepared by MacDonald Environmental Sciences, Inc., for the Florida Coastal Management Program, FDEP (November).

Mackay, D.M. 1990. "Characterization of the distribution and behavior of contaminants in the subsurface." In *Ground Water and Soil Contamination Remediation: Toward Compatible Science, Policy, and Public Perception*. Washington, D.C.: National Academy Press.

Naval Energy and Environmental Support Activity. 1988. *Sampling and chemical analysis quality assurance requirements for the Navy Installation Restoration Program*. NEESA 20.2-047B (June).

Newell, Charles, and McLeod Kevin. 1996. BIOSCREEN, natural attenuation decision support system, Version 1.3. EPA/600/R-96/087. National Risk Management Research Laboratory, Office of Research and Development, U.S. Environmental Protection Agency Cincinnati, Ohio (August).

Tonner-Navarro, Lisa, PhD., and Stephen Roberts, PhD. 1977. *Development of Risk-Based Soil Cleanup Target Levels (SCTLs) for Chapter 62-770, Florida Administrative Code*. Prepared by Center for Environmental and Human Toxicology, University of Florida, Gainesville, Florida for the Division of Waste Management, FDEP (June).

U.S. Air Force. 1994. *Bioventing Performance Cost and Summary*. Air Force Center for Environmental Excellence, Brooks Air Force Base, Texas (July).

U.S. Environmental Protection Agency. 1986. *Test Methods for Evaluation of Solid Wastes, USEPA, SW 846*. 3rd ed. (November); and Code of Federal Regulations Title 40 Part 264, Appendix IX.

USEPA. 1988. *Laboratory data validation functional guidelines for evaluating inorganic analyses* (July).

USEPA. 1990. *National functional guidelines for organic data review*. December 1990 (revised June 1991).

USEPA. 1997. *Draft Region 4 Approach to Natural Attenuation of Chlorinated Solvents*. USEPA Region IV, Atlanta, Georgia.

Wiedemeier, Todd H., John T. Wilson, Donald H. Campbell, and Ross N. Miller. 1994. "Proposed Air Force Guidelines for Successfully Supporting the Intrinsic Remediation (Natural Attenuation) Option at Fuel Hydrocarbon Sites." Outdoor Action Conference, Minneapolis, Minnesota (May).

APPENDIX A

ANALYTICAL RESULTS

US Naval Station, Mayport, Florida
Fleet Training Center(SWMU 14) - Northern Burn Area Surface Soil Data

Lab Sample Number:	R9756007				R9756003				MB638008				MB638009			
Site	GROUPIII				GROUPIII				GROUPIII				GROUPIII			
Locator	14S00101				14S01401				14S03401				14S03501			
Collect Date:	09-APR-95				09-APR-95				21-AUG-96				21-AUG-96			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
VOLATILES ug/kg																
Chloromethane	11	U	ug/kg	11	11	U	ug/kg	11	10	U	ug/kg	10	11	U	ug/kg	11
Bromomethane	11	U	ug/kg	11	11	U	ug/kg	11	10	U	ug/kg	10	11	U	ug/kg	11
Vinyl chloride	11	U	ug/kg	11	11	U	ug/kg	11	10	U	ug/kg	10	11	U	ug/kg	11
Chloroethane	11	U	ug/kg	11	11	U	ug/kg	11	10	UJ	ug/kg	10	11	UJ	ug/kg	11
Methylene chloride	5	U	ug/kg	5	5	U	ug/kg	5	5	U	ug/kg	5	5	J	ug/kg	5
Acetone	11	U	ug/kg	11	11	U	ug/kg	11	19	U	ug/kg	19	28	U	ug/kg	28
Carbon disulfide	5	U	ug/kg	5	5	U	ug/kg	5	5	U	ug/kg	5	5	U	ug/kg	5
1,1-Dichloroethane	5	U	ug/kg	5	5	U	ug/kg	5	5	U	ug/kg	5	5	U	ug/kg	5
1,1-Dichloroethene	5	U	ug/kg	5	5	U	ug/kg	5	5	U	ug/kg	5	5	U	ug/kg	5
1,2-Dichloroethene (total)	5	U	ug/kg	5	5	U	ug/kg	5	5	U	ug/kg	5	5	U	ug/kg	5
Chloroform	5	U	ug/kg	5	5	U	ug/kg	5	5	U	ug/kg	5	5	U	ug/kg	5
1,2-Dichloroethane	5	U	ug/kg	5	5	U	ug/kg	5	5	U	ug/kg	5	5	U	ug/kg	5
2-Butanone	11	U	ug/kg	11	11	U	ug/kg	11	10	U	ug/kg	10	11	U	ug/kg	11
1,1,1-Trichloroethane	5	U	ug/kg	5	5	U	ug/kg	5	5	U	ug/kg	5	5	U	ug/kg	5
Carbon tetrachloride	5	U	ug/kg	5	5	U	ug/kg	5	5	U	ug/kg	5	5	U	ug/kg	5
Bromodichloromethane	5	U	ug/kg	5	5	U	ug/kg	5	5	U	ug/kg	5	5	U	ug/kg	5
1,2-Dichloropropane	5	U	ug/kg	5	5	U	ug/kg	5	5	U	ug/kg	5	5	U	ug/kg	5
cis-1,3-Dichloropropene	5	U	ug/kg	5	5	U	ug/kg	5	5	U	ug/kg	5	5	U	ug/kg	5
Trichloroethene	5	U	ug/kg	5	5	U	ug/kg	5	5	U	ug/kg	5	5	U	ug/kg	5
Dibromochloromethane	5	U	ug/kg	5	5	U	ug/kg	5	5	U	ug/kg	5	5	U	ug/kg	5
1,1,2-Trichloroethane	5	U	ug/kg	5	5	U	ug/kg	5	5	U	ug/kg	5	5	U	ug/kg	5
Benzene	5	U	ug/kg	5	5	U	ug/kg	5	5	U	ug/kg	5	1	J	ug/kg	5
trans-1,3-Dichloropropene	5	U	ug/kg	5	5	U	ug/kg	5	5	U	ug/kg	5	5	U	ug/kg	5
Bromoform	5	U	ug/kg	5	5	U	ug/kg	5	5	U	ug/kg	5	5	U	ug/kg	5
4-Methyl-2-pentanone	11	U	ug/kg	11	11	U	ug/kg	11	10	U	ug/kg	10	11	U	ug/kg	11
2-Hexanone	11	U	ug/kg	11	11	U	ug/kg	11	10	U	ug/kg	10	11	U	ug/kg	11
Tetrachloroethene	5	U	ug/kg	5	5	U	ug/kg	5	5	U	ug/kg	5	5	U	ug/kg	5
1,1,2,2-Tetrachloroethane	5	U	ug/kg	5	5	U	ug/kg	5	5	U	ug/kg	5	5	U	ug/kg	5
Toluene	2	J	ug/kg	5	5	U	ug/kg	5	5	U	ug/kg	5	1	J	ug/kg	5
Chlorobenzene	5	U	ug/kg	5	5	U	ug/kg	5	5	U	ug/kg	5	5	U	ug/kg	5
Ethylbenzene	5	U	ug/kg	5	5	U	ug/kg	5	5	U	ug/kg	5	2	J	ug/kg	5
Styrene	5	U	ug/kg	5	5	U	ug/kg	5	5	U	ug/kg	5	5	U	ug/kg	5
Xylenes (total)	5	U	ug/kg	5	5	U	ug/kg	5	5	U	ug/kg	5	9		ug/kg	5
Dichlorodifluoromethane	11	U	ug/kg	11	11	U	ug/kg	11	10	U	ug/kg	10	11	U	ug/kg	11
Trichlorofluoromethane	5	U	ug/kg	5	5	U	ug/kg	5	5	U	ug/kg	5	5	U	ug/kg	5
1,3-Dichlorobenzene	5	U	ug/kg	5	5	U	ug/kg	5	340	U	ug/kg	340	7200	U	ug/kg	7200
Acrolein	110	U	ug/kg	110	110	U	ug/kg	110	100	U	ug/kg	100	110	U	ug/kg	110
Iodomethane	11	U	ug/kg	11	11	U	ug/kg	11	10	U	ug/kg	10	11	UJ	ug/kg	11
1,4-Dichlorobenzene	5	U	ug/kg	5	700	U	ug/kg	700	340	U	ug/kg	340	7200	U	ug/kg	7200
Acrylonitrile	110	U	ug/kg	110	110	U	ug/kg	110	100	U	ug/kg	100	110	U	ug/kg	110
Dibromomethane	5	U	ug/kg	5	5	U	ug/kg	5	5	U	ug/kg	5	5	U	ug/kg	5
1,2-Dichlorobenzene	720	U	ug/kg	720	5	U	ug/kg	5	340	U	ug/kg	340	5	U	ug/kg	5
2-Chloroethylvinyl ether	11	U	ug/kg	11	11	U	ug/kg	11	10	U	ug/kg	10	11	U	ug/kg	11
Ethyl methacrylate	5	U	ug/kg	5	5	U	ug/kg	5	5	U	ug/kg	5	5	U	ug/kg	5
1,2,3-Trichloropropane	5	U	ug/kg	5	5	U	ug/kg	5	5	U	ug/kg	5	5	U	ug/kg	5
trans-1,4-Dichloro-2-butene	5	U	ug/kg	5	5	U	ug/kg	5	5	U	ug/kg	5	5	U	ug/kg	5
Isobutyl alcohol	220	R	ug/kg	220	210	R	ug/kg	210	210	U	ug/kg	210	220	U	ug/kg	220
1,1,1,2-Tetrachloroethane	5	U	ug/kg	5	5	U	ug/kg	5	5	U	ug/kg	5	5	U	ug/kg	5
1,2-Dibromo-3-chloropropane	11	U	ug/kg	11	11	U	ug/kg	11	10	U	ug/kg	10	11	U	ug/kg	11
Ethylene dibromide	5	U	ug/kg	5	5	U	ug/kg	5	5	U	ug/kg	5	5	U	ug/kg	5

US Naval Station, Mayport, Florida
Fleet Training Center(SWMU 14) - Groundwater Quality Data

Lab Sample Number:	RA044012			RA024014			RA044011			RA044009		
Site	GROUPIII			GROUPIII			GROUPIII			GROUPIII		
Locator	14G00701			14G00801			14G00901			14G01001		
Collect Date:	18-JUN-95			15-JUN-95			17-JUN-95			17-JUN-95		
	VALUE	QUAL UNITS	DL	VALUE	QUAL UNITS	DL	VALUE	QUAL UNITS	DL	VALUE	QUAL UNITS	DL
GROUND WATER QUALITY mg/l												
Alkalinity as CaCO3	300	mg/l	2	228	mg/l	2	287	mg/l	2	182	mg/l	2
Ammonia-N	1.2	mg/l	.3	.6	mg/l	.3	2.2	mg/l	.3	.3 U	mg/l	.3
Chloride	20.8	mg/l	10	23.3	mg/l	10	27	mg/l	10	25.2	mg/l	10
Hardness as CaCO3	311	mg/l	3	251	mg/l	3	289	mg/l	6	169	mg/l	3
Nitrate/Nitrite-N	-	mg/l		-	mg/l		-	mg/l		-	mg/l	
Oil and Grease	5 U	mg/l	5	5 U	mg/l	5	5 U	mg/l	5	5 U	mg/l	5
Phosphorous-P, Total	.26	mg/l	.1	.46	mg/l	.1	.37	mg/l	.1	.31	mg/l	.1
Sulfate	12.1	mg/l	1	15	mg/l	1	22.9	mg/l	1	35.8	mg/l	1
Sulfide	1 U	mg/l	1	1 U	mg/l	1	1 U	mg/l	1	1 U	mg/l	1
Total Dissolved Solids	380	mg/l	10	320	mg/l	10	382	mg/l	10	275	mg/l	10
Total Kjeldahl Nitrogen	1.5	mg/l	.3	1	mg/l	.3	2.5	mg/l	.3	.3	mg/l	.3
Total Organic Carbon	20.6	mg/l	1	13.8	mg/l	1	12.7	mg/l	1	3.8	mg/l	1
Total petroleum hydrocarbons	.05 U	mg/l	.05	.05 U	mg/l	.05	.05 U	mg/l	.05	.05 U	mg/l	.05
Iron	732	ug/l	1.9	692	ug/l	1.9	1480	ug/l	1.9	75.9 UJ	ug/l	75.9
Sodium	13800	ug/l	19.5	14700	ug/l	19.5	16800	ug/l	19.5	16200	ug/l	19.5

U = NOT DETECTED R = RESULT IS REJECTED
J = ESTIMATED VALUE UJ = REPORTED QUANTITATION LIMIT IS ESTIMATED
THE ADDITIONAL LISTINGS OF RESULTS FOR 1,2-; 1,3-; AND 1,4-DICHLOROBENZENE WERE GENERATED FROM THE SVOC (8270) ANALYTICAL RUN.

US Naval Station, Mayport, Florida
Fleet Training Center(SWMU 14) - Northern Burn Area Surface Soil Data

Lab Sample Number:	R9756007				R9756003				MB638008				MB638009			
Site	GROUPIII				GROUPIII				GROUPIII				GROUPIII			
Locator	14S00101				14S01401				14S03401				14S03501			
Collect Date:	09-APR-95				09-APR-95				21-AUG-96				21-AUG-96			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
N-Nitrosodiphenylamine	720	U	ug/kg	720	700	U	ug/kg	700	340	U	ug/kg	340	4000	J	ug/kg	7200
1,2-Diphenylhydrazine	720	U	ug/kg	720	700	U	ug/kg	700	340	U	ug/kg	340	7200	U	ug/kg	7200
4-Bromophenyl-phenylether	720	U	ug/kg	720	700	U	ug/kg	700	340	U	ug/kg	340	7200	U	ug/kg	7200
Hexachlorobenzene	720	U	ug/kg	720	700	U	ug/kg	700	340	U	ug/kg	340	7200	U	ug/kg	7200
Pentachlorophenol	3500	U	ug/kg	3500	3400	U	ug/kg	3400	1700	UJ	ug/kg	1700	35000	U	ug/kg	35000
Phenanthrene	720	U	ug/kg	720	700	U	ug/kg	700	340	U	ug/kg	340	14000		ug/kg	7200
Anthracene	720	U	ug/kg	720	700	U	ug/kg	700	340	U	ug/kg	340	1000	J	ug/kg	7200
Di-n-Butylphthalate	720	U	ug/kg	720	700	U	ug/kg	700	340	U	ug/kg	340	7200	U	ug/kg	7200
Fluoranthene	720	U	ug/kg	720	700	U	ug/kg	700	340	U	ug/kg	340	7200	U	ug/kg	7200
Pyrene	720	U	ug/kg	720	700	U	ug/kg	700	340	U	ug/kg	340	1800	J	ug/kg	7200
Butylbenzylphthalate	720	U	ug/kg	720	700	U	ug/kg	700	340	U	ug/kg	340	7200	U	ug/kg	7200
3,3-Dichlorobenzidine	1400	U	ug/kg	1400	1400	U	ug/kg	1400	690	U	ug/kg	690	14000	U	ug/kg	14000
Benzo (a) anthracene	720	U	ug/kg	720	700	U	ug/kg	700	340	U	ug/kg	340	7200	U	ug/kg	7200
Chrysene	720	U	ug/kg	720	700	U	ug/kg	700	340	U	ug/kg	340	7200	U	ug/kg	7200
bis(2-Ethylhexyl) phthalate	720	U	ug/kg	720	700	U	ug/kg	700	340	U	ug/kg	340	7200	U	ug/kg	7200
Di-n-octylphthalate	720	U	ug/kg	720	700	U	ug/kg	700	340	U	ug/kg	340	7200	U	ug/kg	7200
Benzo (b) fluoranthene	720	U	ug/kg	720	700	U	ug/kg	700	340	U	ug/kg	340	7200	U	ug/kg	7200
Benzo (k) fluoranthene	720	U	ug/kg	720	700	U	ug/kg	700	340	U	ug/kg	340	7200	U	ug/kg	7200
Benzo (a) pyrene	720	U	ug/kg	720	700	U	ug/kg	700	340	U	ug/kg	340	7200	U	ug/kg	7200
Indeno (1,2,3-cd) pyrene	720	U	ug/kg	720	700	U	ug/kg	700	340	U	ug/kg	340	7200	U	ug/kg	7200
Dibenzo (a,h) anthracene	720	U	ug/kg	720	700	U	ug/kg	700	340	U	ug/kg	340	7200	U	ug/kg	7200
Benzo (g,h,i) perylene	720	U	ug/kg	720	700	U	ug/kg	700	340	U	ug/kg	340	7200	U	ug/kg	7200
2-Picoline	3500	UJ	ug/kg	3500	3400	UJ	ug/kg	3400	1700	U	ug/kg	1700	35000	U	ug/kg	35000
Methyl methanesulfonate	720	U	ug/kg	720	700	U	ug/kg	700	340	U	ug/kg	340	7200	U	ug/kg	7200
Ethyl methanesulfonate	720	U	ug/kg	720	700	U	ug/kg	700	340	U	ug/kg	340	7200	U	ug/kg	7200
Acetophenone	720	U	ug/kg	720	700	U	ug/kg	700	340	U	ug/kg	340	7200	U	ug/kg	7200
N-Nitrosopiperidine	720	U	ug/kg	720	700	U	ug/kg	700	340	U	ug/kg	340	7200	U	ug/kg	7200
Phenyl-tert-butylamine	3500	U	ug/kg	3500	3400	U	ug/kg	3400	1700	U	ug/kg	1700	35000	UJ	ug/kg	35000
2,6-Dichlorophenol	720	U	ug/kg	720	700	U	ug/kg	700	340	U	ug/kg	340	7200	U	ug/kg	7200
N-Nitroso-di-n-butylamine	720	U	ug/kg	720	700	U	ug/kg	700	340	U	ug/kg	340	7200	U	ug/kg	7200
N-Nitrosodiethylamine	720	U	ug/kg	720	700	U	ug/kg	700	340	U	ug/kg	340	7200	U	ug/kg	7200
N-Nitrosopyrrolidine	720	U	ug/kg	720	700	U	ug/kg	700	340	U	ug/kg	340	7200	U	ug/kg	7200
Benzidine	3500	UJ	ug/kg	3500	3400	UJ	ug/kg	3400	1700	U	ug/kg	1700	35000	U	ug/kg	35000
1,2,4,5-Tetrachlorobenzene	3500	U	ug/kg	3500	3400	U	ug/kg	3400	1700	U	ug/kg	1700	35000	U	ug/kg	35000
Pentachlorobenzene	3500	U	ug/kg	3500	3400	U	ug/kg	3400	1700	U	ug/kg	1700	35000	U	ug/kg	35000
1-Naphthylamine	3500	U	ug/kg	3500	3400	U	ug/kg	3400	1700	U	ug/kg	1700	35000	U	ug/kg	35000
2-Naphthylamine	3500	U	ug/kg	3500	3400	U	ug/kg	3400	1700	U	ug/kg	1700	35000	U	ug/kg	35000
2,3,4,6-Tetrachlorophenol	720	U	ug/kg	720	700	U	ug/kg	700	340	UJ	ug/kg	340	7200	U	ug/kg	7200
Phenacetin	720	UJ	ug/kg	720	700	UJ	ug/kg	700	340	UJ	ug/kg	340	7200	U	ug/kg	7200
4-Aminobiphenyl	3500	U	ug/kg	3500	3400	U	ug/kg	3400	1700	U	ug/kg	1700	35000	U	ug/kg	35000
Pentachloronitrobenzene	3500	U	ug/kg	3500	3400	U	ug/kg	3400	1700	UJ	ug/kg	1700	35000	U	ug/kg	35000
Pronamide	720	U	ug/kg	720	700	U	ug/kg	700	340	U	ug/kg	340	7200	U	ug/kg	7200
p-Dimethylaminoazobenzene	720	U	ug/kg	720	700	U	ug/kg	700	340	U	ug/kg	340	7200	U	ug/kg	7200
7,12-Dimethylbenz(A)Anthracene	720	U	ug/kg	720	700	U	ug/kg	700	340	UJ	ug/kg	340	7200	U	ug/kg	7200
3-Methylcholanthrene	720	U	ug/kg	720	700	U	ug/kg	700	340	U	ug/kg	340	7200	U	ug/kg	7200
Pyridine	3500	UJ	ug/kg	3500	3400	UJ	ug/kg	3400	1700	U	ug/kg	1700	35000	U	ug/kg	35000
N-Nitrosomethylethylamine	720	UJ	ug/kg	720	700	UJ	ug/kg	700	340	U	ug/kg	340	7200	U	ug/kg	7200
N-Nitrosomorpholine	720	U	ug/kg	720	700	U	ug/kg	700	340	U	ug/kg	340	7200	U	ug/kg	7200
o-Toluidine	720	U	ug/kg	720	700	U	ug/kg	700	340	U	ug/kg	340	7200	U	ug/kg	7200
Hexachloropropene	3500	U	ug/kg	3500	3400	U	ug/kg	3400	1700	U	ug/kg	1700	35000	U	ug/kg	35000
p-Phenylenediamine	35000	U	ug/kg	35000	34000	U	ug/kg	34000	17000	UJ	ug/kg	17000	350000	U	ug/kg	350000
Safrole	3500	U	ug/kg	3500	3400	U	ug/kg	3400	1700	U	ug/kg	1700	35000	U	ug/kg	35000

US Naval Station, Mayport, Florida
Fleet Training Center(SWMU 14) - Northern Burn Area Surface Soil Data

Lab Sample Number:	R9756007				R9756003				MB638008				MB638009			
Site	GROUPIII				GROUPIII				GROUPIII				GROUPIII			
Locator	14S00101				14S01401				14S03401				14S03501			
Collect Date:	09-APR-95				09-APR-95				21-AUG-96				21-AUG-96			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
N-Nitrosodiphenylamine	720	U	ug/kg	720	700	U	ug/kg	700	340	U	ug/kg	340	4000	J	ug/kg	7200
1,2-Diphenylhydrazine	720	U	ug/kg	720	700	U	ug/kg	700	340	U	ug/kg	340	7200	U	ug/kg	7200
4-Bromophenyl-phenylether	720	U	ug/kg	720	700	U	ug/kg	700	340	U	ug/kg	340	7200	U	ug/kg	7200
Hexachlorobenzene	720	U	ug/kg	720	700	U	ug/kg	700	340	U	ug/kg	340	7200	U	ug/kg	7200
Pentachlorophenol	3500	U	ug/kg	3500	3400	U	ug/kg	3400	1700	UJ	ug/kg	1700	35000	U	ug/kg	35000
Phenanthrene	720	U	ug/kg	720	700	U	ug/kg	700	340	U	ug/kg	340	14000		ug/kg	7200
Anthracene	720	U	ug/kg	720	700	U	ug/kg	700	340	U	ug/kg	340	1000	J	ug/kg	7200
Di-n-Butylphthalate	720	U	ug/kg	720	700	U	ug/kg	700	340	U	ug/kg	340	7200	U	ug/kg	7200
Fluoranthene	720	U	ug/kg	720	700	U	ug/kg	700	340	U	ug/kg	340	7200	U	ug/kg	7200
Pyrene	720	U	ug/kg	720	700	U	ug/kg	700	340	U	ug/kg	340	1800	J	ug/kg	7200
Butylbenzylphthalate	720	U	ug/kg	720	700	U	ug/kg	700	340	U	ug/kg	340	7200	U	ug/kg	7200
3,3-Dichlorobenzidine	1400	U	ug/kg	1400	1400	U	ug/kg	1400	690	U	ug/kg	690	14000	U	ug/kg	14000
Benzo (a) anthracene	720	U	ug/kg	720	700	U	ug/kg	700	340	U	ug/kg	340	7200	U	ug/kg	7200
Chrysene	720	U	ug/kg	720	700	U	ug/kg	700	340	U	ug/kg	340	7200	U	ug/kg	7200
bis(2-Ethylhexyl) phthalate	720	U	ug/kg	720	700	U	ug/kg	700	340	U	ug/kg	340	7200	U	ug/kg	7200
Di-n-octylphthalate	720	U	ug/kg	720	700	U	ug/kg	700	340	U	ug/kg	340	7200	U	ug/kg	7200
Benzo (b) fluoranthene	720	U	ug/kg	720	700	U	ug/kg	700	340	U	ug/kg	340	7200	U	ug/kg	7200
Benzo (k) fluoranthene	720	U	ug/kg	720	700	U	ug/kg	700	340	U	ug/kg	340	7200	U	ug/kg	7200
Benzo (a) pyrene	720	U	ug/kg	720	700	U	ug/kg	700	340	U	ug/kg	340	7200	U	ug/kg	7200
Indeno (1,2,3-cd) pyrene	720	U	ug/kg	720	700	U	ug/kg	700	340	U	ug/kg	340	7200	U	ug/kg	7200
Dibenzo (a,h) anthracene	720	U	ug/kg	720	700	U	ug/kg	700	340	U	ug/kg	340	7200	U	ug/kg	7200
Benzo (g,h,i) perylene	720	U	ug/kg	720	700	U	ug/kg	700	340	U	ug/kg	340	7200	U	ug/kg	7200
2-Picoline	3500	UJ	ug/kg	3500	3400	UJ	ug/kg	3400	1700	U	ug/kg	1700	35000	U	ug/kg	35000
Methyl methanesulfonate	720	U	ug/kg	720	700	U	ug/kg	700	340	U	ug/kg	340	7200	U	ug/kg	7200
Ethyl methanesulfonate	720	U	ug/kg	720	700	U	ug/kg	700	340	U	ug/kg	340	7200	U	ug/kg	7200
Acetophenone	720	U	ug/kg	720	700	U	ug/kg	700	340	U	ug/kg	340	7200	U	ug/kg	7200
N-Nitrosopiperidine	720	U	ug/kg	720	700	U	ug/kg	700	340	U	ug/kg	340	7200	U	ug/kg	7200
Phenyl-tert-butylamine	3500	U	ug/kg	3500	3400	U	ug/kg	3400	1700	U	ug/kg	1700	35000	UJ	ug/kg	35000
2,6-Dichlorophenol	720	U	ug/kg	720	700	U	ug/kg	700	340	U	ug/kg	340	7200	U	ug/kg	7200
N-Nitroso-di-n-butylamine	720	U	ug/kg	720	700	U	ug/kg	700	340	U	ug/kg	340	7200	U	ug/kg	7200
N-Nitrosodiethylamine	720	U	ug/kg	720	700	U	ug/kg	700	340	U	ug/kg	340	7200	U	ug/kg	7200
N-Nitrosopyrrolidine	720	U	ug/kg	720	700	U	ug/kg	700	340	U	ug/kg	340	7200	U	ug/kg	7200
Benzidine	3500	UJ	ug/kg	3500	3400	UJ	ug/kg	3400	1700	U	ug/kg	1700	35000	U	ug/kg	35000
1,2,4,5-Tetrachlorobenzene	3500	U	ug/kg	3500	3400	U	ug/kg	3400	1700	U	ug/kg	1700	35000	U	ug/kg	35000
Pentachlorobenzene	3500	U	ug/kg	3500	3400	U	ug/kg	3400	1700	U	ug/kg	1700	35000	U	ug/kg	35000
1-Naphthylamine	3500	U	ug/kg	3500	3400	U	ug/kg	3400	1700	U	ug/kg	1700	35000	U	ug/kg	35000
2-Naphthylamine	3500	U	ug/kg	3500	3400	U	ug/kg	3400	1700	U	ug/kg	1700	35000	U	ug/kg	35000
2,3,4,6-Tetrachlorophenol	720	U	ug/kg	720	700	U	ug/kg	700	340	UJ	ug/kg	340	7200	U	ug/kg	7200
Phenacetin	720	UJ	ug/kg	720	700	UJ	ug/kg	700	340	UJ	ug/kg	340	7200	U	ug/kg	7200
4-Aminobiphenyl	3500	U	ug/kg	3500	3400	U	ug/kg	3400	1700	U	ug/kg	1700	35000	U	ug/kg	35000
Pentachloronitrobenzene	3500	U	ug/kg	3500	3400	U	ug/kg	3400	1700	UJ	ug/kg	1700	35000	U	ug/kg	35000
Pronamide	720	U	ug/kg	720	700	U	ug/kg	700	340	U	ug/kg	340	7200	U	ug/kg	7200
p-Dimethylaminoazobenzene	720	U	ug/kg	720	700	U	ug/kg	700	340	U	ug/kg	340	7200	U	ug/kg	7200
7,12-Dimethylbenz(A)Anthracene	720	U	ug/kg	720	700	U	ug/kg	700	340	UJ	ug/kg	340	7200	U	ug/kg	7200
3-Methylcholanthrene	720	U	ug/kg	720	700	U	ug/kg	700	340	U	ug/kg	340	7200	U	ug/kg	7200
Pyridine	3500	UJ	ug/kg	3500	3400	UJ	ug/kg	3400	1700	U	ug/kg	1700	35000	U	ug/kg	35000
N-Nitrosomethylethylamine	720	UJ	ug/kg	720	700	UJ	ug/kg	700	340	U	ug/kg	340	7200	U	ug/kg	7200
N-Nitrosomorpholine	720	U	ug/kg	720	700	U	ug/kg	700	340	U	ug/kg	340	7200	U	ug/kg	7200
o-Toluidine	720	U	ug/kg	720	700	U	ug/kg	700	340	U	ug/kg	340	7200	U	ug/kg	7200
Hexachloropropene	3500	U	ug/kg	3500	3400	U	ug/kg	3400	1700	U	ug/kg	1700	35000	U	ug/kg	35000
p-Phenylenediamine	35000	U	ug/kg	35000	34000	U	ug/kg	34000	17000	UJ	ug/kg	17000	350000	U	ug/kg	350000
Safrole	3500	U	ug/kg	3500	3400	U	ug/kg	3400	1700	U	ug/kg	1700	35000	U	ug/kg	35000

US Naval Station, Mayport, Florida
Fleet Training Center(SWMU 14) - Northern Burn Area Surface Soil Data

Lab Sample Number:		MB638012			MB638013			MB638014			MB638017		
Site		GROUPIII			GROUPIII			GROUPIII			GROUPIII		
Locator		14S03601			14S03601D			14S03701			14S03801		
Collect Date:		22-AUG-96			22-AUG-96			22-AUG-96			22-AUG-96		
		VALUE QUAL	UNITS	DL	VALUE QUAL	UNITS	DL	VALUE QUAL	UNITS	DL	VALUE QUAL	UNITS	DL
VOLATILES	ug/kg												
Chloromethane		11 U	ug/kg	11	11 U	ug/kg	11	10 U	ug/kg	10	11 U	ug/kg	11
Bromomethane		11 U	ug/kg	11	11 U	ug/kg	11	10 U	ug/kg	10	11 UJ	ug/kg	11
Vinyl chloride		11 U	ug/kg	11	11 U	ug/kg	11	10 U	ug/kg	10	11 U	ug/kg	11
Chloroethane		11 UJ	ug/kg	11	11 UJ	ug/kg	11	10 UJ	ug/kg	10	11 UJ	ug/kg	11
Methylene chloride		1 J	ug/kg	5	2 J	ug/kg	5	1 J	ug/kg	5	1 J	ug/kg	5
Acetone		140	ug/kg	11	200	ug/kg	11	14 U	ug/kg	14	49	ug/kg	11
Carbon disulfide		5 U	ug/kg	5	5 U	ug/kg	5	5 U	ug/kg	5	5 U	ug/kg	5
1,1-Dichloroethane		5 U	ug/kg	5	5 U	ug/kg	5	5 U	ug/kg	5	5 U	ug/kg	5
1,1-Dichloroethene		5 U	ug/kg	5	5 U	ug/kg	5	5 U	ug/kg	5	5 U	ug/kg	5
1,2-Dichloroethene (total)		5 U	ug/kg	5	5 U	ug/kg	5	5 U	ug/kg	5	5 U	ug/kg	5
Chloroform		5 U	ug/kg	5	5 U	ug/kg	5	5 U	ug/kg	5	5 U	ug/kg	5
1,2-Dichloroethane		5 U	ug/kg	5	5 U	ug/kg	5	5 U	ug/kg	5	5 U	ug/kg	5
2-Butanone		35	ug/kg	11	52	ug/kg	11	10 U	ug/kg	10	11 U	ug/kg	11
1,1,1-Trichloroethane		5 U	ug/kg	5	5 U	ug/kg	5	5 U	ug/kg	5	5 U	ug/kg	5
Carbon tetrachloride		5 U	ug/kg	5	5 U	ug/kg	5	5 U	ug/kg	5	5 U	ug/kg	5
Bromodichloromethane		5 U	ug/kg	5	5 U	ug/kg	5	5 U	ug/kg	5	5 U	ug/kg	5
1,2-Dichloropropane		5 U	ug/kg	5	5 U	ug/kg	5	5 U	ug/kg	5	5 U	ug/kg	5
cis-1,3-Dichloropropene		5 U	ug/kg	5	5 U	ug/kg	5	5 U	ug/kg	5	5 U	ug/kg	5
Trichloroethene		5 U	ug/kg	5	5 U	ug/kg	5	5 U	ug/kg	5	5 U	ug/kg	5
Dibromochloromethane		5 U	ug/kg	5	5 U	ug/kg	5	5 U	ug/kg	5	5 U	ug/kg	5
1,1,2-Trichloroethane		5 U	ug/kg	5	5 U	ug/kg	5	5 U	ug/kg	5	5 U	ug/kg	5
Benzene		2 J	ug/kg	5	2 J	ug/kg	5	2 J	ug/kg	5	5 U	ug/kg	5
trans-1,3-Dichloropropene		5 U	ug/kg	5	5 U	ug/kg	5	5 U	ug/kg	5	5 U	ug/kg	5
Bromoform		5 U	ug/kg	5	5 U	ug/kg	5	5 U	ug/kg	5	5 U	ug/kg	5
4-Methyl-2-pentanone		11 U	ug/kg	11	11 U	ug/kg	11	10 U	ug/kg	10	11 U	ug/kg	11
2-Hexanone		11 U	ug/kg	11	11 U	ug/kg	11	10 U	ug/kg	10	11 U	ug/kg	11
Tetrachloroethene		5 U	ug/kg	5	5 U	ug/kg	5	5 U	ug/kg	5	5 U	ug/kg	5
1,1,2,2-Tetrachloroethane		5 U	ug/kg	5	5 U	ug/kg	5	5 U	ug/kg	5	5 U	ug/kg	5
Toluene		1 J	ug/kg	5	1 J	ug/kg	5	1 J	ug/kg	5	5 U	ug/kg	5
Chlorobenzene		5 U	ug/kg	5	5 U	ug/kg	5	5 U	ug/kg	5	5 U	ug/kg	5
Ethylbenzene		5 U	ug/kg	5	5 U	ug/kg	5	5 U	ug/kg	5	5 U	ug/kg	5
Styrene		5 U	ug/kg	5	5 U	ug/kg	5	5 U	ug/kg	5	5 U	ug/kg	5
Xylenes (total)		5 U	ug/kg	5	5 U	ug/kg	5	5 U	ug/kg	5	6	ug/kg	5
Dichlorodifluoromethane		11 U	ug/kg	11	11 U	ug/kg	11	10 U	ug/kg	10	11 U	ug/kg	11
Trichlorofluoromethane		5 U	ug/kg	5	5 U	ug/kg	5	5 U	ug/kg	5	5 U	ug/kg	5
1,3-Dichlorobenzene		1100 U	ug/kg	1100	1100 U	ug/kg	1100	340 U	ug/kg	340	1800 U	ug/kg	1800
Acrolein		110 U	ug/kg	110	110 U	ug/kg	110	100 U	ug/kg	100	110 U	ug/kg	110
Iodomethane		11 UJ	ug/kg	11	11 UJ	ug/kg	11	10 UJ	ug/kg	10	11 U	ug/kg	11
1,4-Dichlorobenzene		1100 U	ug/kg	1100	1100 U	ug/kg	1100	5 U	ug/kg	5	5 U	ug/kg	5
Acrylonitrile		110 U	ug/kg	110	110 U	ug/kg	110	100 U	ug/kg	100	110 U	ug/kg	110

US Naval Station, Mayport, Florida
Fleet Training Center(SWMU 14) - Northern Burn Area Surface Soil Data

Lab Sample Number:	R9756007			R9756003			MB638008			MB638009		
Site	GROUPIII			GROUPIII			GROUPIII			GROUPIII		
Locator	14S00101			14S01401			14S03401			14S03501		
Collect Date:	09-APR-95			09-APR-95			21-AUG-96			21-AUG-96		
VOLATILES ug/kg	VALUE QUAL	UNITS	DL	VALUE QUAL	UNITS	DL	VALUE QUAL	UNITS	DL	VALUE QUAL	UNITS	DL
Chloromethane	11 U	ug/kg	11	11 U	ug/kg	11	10 U	ug/kg	10	11 U	ug/kg	11
Bromomethane	11 U	ug/kg	11	11 U	ug/kg	11	10 U	ug/kg	10	11 U	ug/kg	11
Vinyl chloride	11 U	ug/kg	11	11 U	ug/kg	11	10 U	ug/kg	10	11 U	ug/kg	11
Chloroethane	11 U	ug/kg	11	11 U	ug/kg	11	10 UJ	ug/kg	10	11 UJ	ug/kg	11
Methylene chloride	5 U	ug/kg	5	5 U	ug/kg	5	5 U	ug/kg	5	5 J	ug/kg	5
Acetone	11 U	ug/kg	11	11 U	ug/kg	11	19 U	ug/kg	19	28 U	ug/kg	28
Carbon disulfide	5 U	ug/kg	5	5 U	ug/kg	5	5 U	ug/kg	5	5 U	ug/kg	5
1,1-Dichloroethane	5 U	ug/kg	5	5 U	ug/kg	5	5 U	ug/kg	5	5 U	ug/kg	5
1,1-Dichloroethene	5 U	ug/kg	5	5 U	ug/kg	5	5 U	ug/kg	5	5 U	ug/kg	5
1,2-Dichloroethene (total)	5 U	ug/kg	5	5 U	ug/kg	5	5 U	ug/kg	5	5 U	ug/kg	5
Chloroform	5 U	ug/kg	5	5 U	ug/kg	5	5 U	ug/kg	5	5 U	ug/kg	5
1,2-Dichloroethane	5 U	ug/kg	5	5 U	ug/kg	5	5 U	ug/kg	5	5 U	ug/kg	5
2-Butanone	11 U	ug/kg	11	11 U	ug/kg	11	10 U	ug/kg	10	11 U	ug/kg	11
1,1,1-Trichloroethane	5 U	ug/kg	5	5 U	ug/kg	5	5 U	ug/kg	5	5 U	ug/kg	5
Carbon tetrachloride	5 U	ug/kg	5	5 U	ug/kg	5	5 U	ug/kg	5	5 U	ug/kg	5
Bromodichloromethane	5 U	ug/kg	5	5 U	ug/kg	5	5 U	ug/kg	5	5 U	ug/kg	5
1,2-Dichloropropane	5 U	ug/kg	5	5 U	ug/kg	5	5 U	ug/kg	5	5 U	ug/kg	5
cis-1,3-Dichloropropene	5 U	ug/kg	5	5 U	ug/kg	5	5 U	ug/kg	5	5 U	ug/kg	5
Trichloroethene	5 U	ug/kg	5	5 U	ug/kg	5	5 U	ug/kg	5	5 U	ug/kg	5
Dibromochloromethane	5 U	ug/kg	5	5 U	ug/kg	5	5 U	ug/kg	5	5 U	ug/kg	5
1,1,2-Trichloroethane	5 U	ug/kg	5	5 U	ug/kg	5	5 U	ug/kg	5	1 J	ug/kg	5
Benzene	5 U	ug/kg	5	5 U	ug/kg	5	5 U	ug/kg	5	5 U	ug/kg	5
trans-1,3-Dichloropropene	5 U	ug/kg	5	5 U	ug/kg	5	5 U	ug/kg	5	5 U	ug/kg	5
Bromoform	5 U	ug/kg	5	5 U	ug/kg	5	5 U	ug/kg	5	5 U	ug/kg	5
4-Methyl-2-pentanone	11 U	ug/kg	11	11 U	ug/kg	11	10 U	ug/kg	10	11 U	ug/kg	11
2-Hexanone	11 U	ug/kg	11	11 U	ug/kg	11	10 U	ug/kg	10	11 U	ug/kg	11
Tetrachloroethene	5 U	ug/kg	5	5 U	ug/kg	5	5 U	ug/kg	5	5 U	ug/kg	5
1,1,2,2-Tetrachloroethane	5 U	ug/kg	5	5 U	ug/kg	5	5 U	ug/kg	5	5 U	ug/kg	5
Toluene	2 J	ug/kg	5	5 U	ug/kg	5	5 U	ug/kg	5	1 J	ug/kg	5
Chlorobenzene	5 U	ug/kg	5	5 U	ug/kg	5	5 U	ug/kg	5	5 U	ug/kg	5
Ethylbenzene	5 U	ug/kg	5	5 U	ug/kg	5	5 U	ug/kg	5	2 J	ug/kg	5
Styrene	5 U	ug/kg	5	5 U	ug/kg	5	5 U	ug/kg	5	5 U	ug/kg	5
Xylenes (total)	5 U	ug/kg	5	5 U	ug/kg	5	5 U	ug/kg	5	9	ug/kg	5
Dichlorodifluoromethane	11 U	ug/kg	11	11 U	ug/kg	11	10 U	ug/kg	10	11 U	ug/kg	11
Trichlorofluoromethane	5 U	ug/kg	5	5 U	ug/kg	5	5 U	ug/kg	5	5 U	ug/kg	5
1,3-Dichlorobenzene	5 U	ug/kg	5	5 U	ug/kg	5	340 U	ug/kg	340	7200 U	ug/kg	7200
Acrolein	110 U	ug/kg	110	110 U	ug/kg	110	100 U	ug/kg	100	110 U	ug/kg	110
Iodomethane	11 U	ug/kg	11	11 U	ug/kg	11	10 U	ug/kg	10	11 UJ	ug/kg	11
1,4-Dichlorobenzene	5 U	ug/kg	5	700 U	ug/kg	700	340 U	ug/kg	340	7200 U	ug/kg	7200
Acrylonitrile	110 U	ug/kg	110	110 U	ug/kg	110	100 U	ug/kg	100	110 U	ug/kg	110
Dibromomethane	5 U	ug/kg	5	5 U	ug/kg	5	5 U	ug/kg	5	5 U	ug/kg	5
1,2-Dichlorobenzene	720 U	ug/kg	720	5 U	ug/kg	5	340 U	ug/kg	340	5 U	ug/kg	5
2-Chloroethylvinyl ether	11 U	ug/kg	11	11 U	ug/kg	11	10 U	ug/kg	10	11 U	ug/kg	11
Ethyl methacrylate	5 U	ug/kg	5	5 U	ug/kg	5	5 U	ug/kg	5	5 U	ug/kg	5
1,2,3-Trichloropropane	5 U	ug/kg	5	5 U	ug/kg	5	5 U	ug/kg	5	5 U	ug/kg	5
trans-1,4-Dichloro-2-butene	5 U	ug/kg	5	5 U	ug/kg	5	5 U	ug/kg	5	5 U	ug/kg	5
Isobutyl alcohol	220 R	ug/kg	220	210 R	ug/kg	210	210 U	ug/kg	210	220 U	ug/kg	220
1,1,1,2-Tetrachloroethane	5 U	ug/kg	5	5 U	ug/kg	5	5 U	ug/kg	5	5 U	ug/kg	5
1,2-Dibromo-3-chloropropane	11 U	ug/kg	11	11 U	ug/kg	11	10 U	ug/kg	10	11 U	ug/kg	11
Ethylene dibromide	5 U	ug/kg	5	5 U	ug/kg	5	5 U	ug/kg	5	5 U	ug/kg	5

US Naval Station, Mayport, Florida
Fleet Training Center(SWMU 14) - Northern Burn Area Surface Soil Data

Lab Sample Number:	MB638012				MB638013				MB638014				MB638017			
Site	GROUPIII				GROUPIII				GROUPIII				GROUPIII			
Locator	14S03601				14S03601D				14S03701				14S03801			
Collect Date:	22-AUG-96				22-AUG-96				22-AUG-96				22-AUG-96			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
Acenaphthene	1100	U	ug/kg	1100	140	J	ug/kg	1100	340	U	ug/kg	340	190	J	ug/kg	1800
2,4-Dinitrophenol	5300	U	ug/kg	5300	5300	U	ug/kg	5300	1700	U	ug/kg	1700	8900	U	ug/kg	8900
4-Nitrophenol	5300	U	ug/kg	5300	5300	U	ug/kg	5300	1700	U	ug/kg	1700	8900	U	ug/kg	8900
Dibenzofuran	1100	U	ug/kg	1100	1100	U	ug/kg	1100	340	U	ug/kg	340	1800	U	ug/kg	1800
2,4-Dinitrotoluene	1100	U	ug/kg	1100	1100	U	ug/kg	1100	340	U	ug/kg	340	1800	U	ug/kg	1800
Diethylphthalate	1100	U	ug/kg	1100	1100	U	ug/kg	1100	340	U	ug/kg	340	1800	U	ug/kg	1800
4-Chlorophenyl-phenylether	1100	U	ug/kg	1100	1100	U	ug/kg	1100	340	U	ug/kg	340	1800	U	ug/kg	1800
Fluorene	360	J	ug/kg	1100	1100	U	ug/kg	1100	340	U	ug/kg	340	500	J	ug/kg	1800
4-Nitroaniline	5300	U	ug/kg	5300	5300	U	ug/kg	5300	1700	U	ug/kg	1700	8900	U	ug/kg	8900
4,6-Dinitro-2-methylphenol	5300	U	ug/kg	5300	5300	U	ug/kg	5300	1700	U	ug/kg	1700	8900	U	ug/kg	8900
N-Nitrosodiphenylamine	1100	U	ug/kg	1100	1100	U	ug/kg	1100	340	U	ug/kg	340	1800	U	ug/kg	1800
1,2-Diphenylhydrazine	1100	U	ug/kg	1100	1100	U	ug/kg	1100	340	U	ug/kg	340	1800	U	ug/kg	1800
4-Bromophenyl-phenylether	1100	U	ug/kg	1100	1100	U	ug/kg	1100	340	U	ug/kg	340	1800	U	ug/kg	1800
Hexachlorobenzene	1100	U	ug/kg	1100	1100	U	ug/kg	1100	340	U	ug/kg	340	1800	U	ug/kg	1800
Pentachlorophenol	5300	U	ug/kg	5300	5300	U	ug/kg	5300	1700	U	ug/kg	1700	8900	U	ug/kg	8900
Phenanthrene	640	J	ug/kg	1100	660	J	ug/kg	1100	340	U	ug/kg	340	960	J	ug/kg	1800
Anthracene	1100	U	ug/kg	1100	1100	U	ug/kg	1100	340	U	ug/kg	340	1800	U	ug/kg	1800
Di-n-Butylphthalate	1100	U	ug/kg	1100	1100	U	ug/kg	1100	340	U	ug/kg	340	1800	U	ug/kg	1800
Fluoranthene	1100	U	ug/kg	1100	1100	U	ug/kg	1100	340	U	ug/kg	340	1800	U	ug/kg	1800
Pyrene	150	J	ug/kg	1100	140	J	ug/kg	1100	340	U	ug/kg	340	1800	U	ug/kg	1800
Butylbenzylphthalate	1100	U	ug/kg	1100	1100	U	ug/kg	1100	340	U	ug/kg	340	1800	U	ug/kg	1800
3,3-Dichlorobenzidine	2200	U	ug/kg	2200	2200	U	ug/kg	2200	690	U	ug/kg	690	3600	U	ug/kg	3600
Benzo (a) anthracene	1100	U	ug/kg	1100	1100	U	ug/kg	1100	340	U	ug/kg	340	1800	U	ug/kg	1800
Chrysene	1100	U	ug/kg	1100	1100	U	ug/kg	1100	340	U	ug/kg	340	1800	U	ug/kg	1800
bis(2-Ethylhexyl) phthalate	1100	U	ug/kg	1100	1100	U	ug/kg	1100	380	U	ug/kg	380	1800	U	ug/kg	1800
Di-n-octylphthalate	1100	U	ug/kg	1100	1100	U	ug/kg	1100	340	U	ug/kg	340	1800	U	ug/kg	1800
Benzo (b) fluoranthene	1100	U	ug/kg	1100	1100	U	ug/kg	1100	340	U	ug/kg	340	1800	U	ug/kg	1800
Benzo (k) fluoranthene	1100	U	ug/kg	1100	1100	U	ug/kg	1100	340	U	ug/kg	340	1800	U	ug/kg	1800
Benzo (a) pyrene	1100	U	ug/kg	1100	1100	U	ug/kg	1100	340	U	ug/kg	340	1800	U	ug/kg	1800
Indeno (1,2,3-cd) pyrene	1100	U	ug/kg	1100	1100	U	ug/kg	1100	340	U	ug/kg	340	1800	U	ug/kg	1800
Dibenzo (a,h) anthracene	1100	U	ug/kg	1100	1100	U	ug/kg	1100	340	U	ug/kg	340	1800	U	ug/kg	1800
Benzo (g,h,i) perylene	1100	U	ug/kg	1100	1100	U	ug/kg	1100	340	U	ug/kg	340	1800	U	ug/kg	1800
2-Picoline	5300	U	ug/kg	5300	5300	U	ug/kg	5300	1700	U	ug/kg	1700	8900	U	ug/kg	8900
Methyl methanesulfonate	1100	U	ug/kg	1100	1100	U	ug/kg	1100	340	U	ug/kg	340	1800	U	ug/kg	1800
Ethyl methanesulfonate	1100	U	ug/kg	1100	1100	U	ug/kg	1100	340	U	ug/kg	340	1800	U	ug/kg	1800
Acetophenone	1100	U	ug/kg	1100	1100	U	ug/kg	1100	340	U	ug/kg	340	1800	U	ug/kg	1800
N-Nitrosopiperidine	1100	U	ug/kg	1100	1100	U	ug/kg	1100	340	U	ug/kg	340	1800	U	ug/kg	1800
Phenyl-tert-butylamine	5300	UJ	ug/kg	5300	5300	U	ug/kg	5300	1700	U	ug/kg	1700	8900	U	ug/kg	8900
2,6-Dichlorophenol	1100	U	ug/kg	1100	1100	U	ug/kg	1100	340	U	ug/kg	340	1800	U	ug/kg	1800
N-Nitroso-di-n-butylamine	1100	U	ug/kg	1100	1100	U	ug/kg	1100	340	U	ug/kg	340	1800	U	ug/kg	1800
N-Nitrosodiethylamine	1100	U	ug/kg	1100	1100	U	ug/kg	1100	340	U	ug/kg	340	1800	U	ug/kg	1800
N-Nitrosopyrrolidine	1100	U	ug/kg	1100	1100	U	ug/kg	1100	340	U	ug/kg	340	1800	U	ug/kg	1800
Benzidine	5300	U	ug/kg	5300	5300	U	ug/kg	5300	1700	U	ug/kg	1700	8900	U	ug/kg	8900
1,2,4,5-Tetrachlorobenzene	5300	U	ug/kg	5300	5300	U	ug/kg	5300	1700	U	ug/kg	1700	8900	U	ug/kg	8900
Pentachlorobenzene	5300	U	ug/kg	5300	5300	U	ug/kg	5300	1700	U	ug/kg	1700	8900	U	ug/kg	8900
1-Naphthylamine	5300	U	ug/kg	5300	5300	U	ug/kg	5300	1700	U	ug/kg	1700	8900	U	ug/kg	8900
2-Naphthylamine	5300	U	ug/kg	5300	5300	U	ug/kg	5300	1700	U	ug/kg	1700	8900	U	ug/kg	8900
2,3,4,6-Tetrachlorophenol	1100	U	ug/kg	1100	1100	U	ug/kg	1100	340	U	ug/kg	340	1800	U	ug/kg	1800
Phenacetin	1100	U	ug/kg	1100	1100	U	ug/kg	1100	340	U	ug/kg	340	1800	U	ug/kg	1800
4-Aminobiphenyl	5300	U	ug/kg	5300	5300	U	ug/kg	5300	1700	U	ug/kg	1700	8900	U	ug/kg	8900
Pentachloronitrobenzene	5300	U	ug/kg	5300	5300	U	ug/kg	5300	1700	U	ug/kg	1700	8900	U	ug/kg	8900
Pronamide	1100	U	ug/kg	1100	1100	U	ug/kg	1100	340	U	ug/kg	340	1800	U	ug/kg	1800

US Naval Station, Mayport, Florida
Fleet Training Center(SWMU 14) - Northern Burn Area Surface Soil Data

Lab Sample Number:	R9756007			R9756003			MB638008			MB638009		
Site	GROUPIII			GROUPIII			GROUPIII			GROUPIII		
Locator	14S00101			14S01401			14S03401			14S03501		
Collect Date:	09-APR-95			09-APR-95			21-AUG-96			21-AUG-96		
	VALUE QUAL	UNITS	DL	VALUE QUAL	UNITS	DL	VALUE QUAL	UNITS	DL	VALUE QUAL	UNITS	DL
INORGANICS (SOIL) ug/kg												
Antimony	1100 U	ug/kg	1100	1100 U	ug/kg	1100	530 UJ	ug/kg	530	940 UJ	ug/kg	940
Arsenic	1400 J	ug/kg	700	660 J	ug/kg	700	200 UJ	ug/kg	200	420 J	ug/kg	200
Barium	9200 J	ug/kg	87	6400 J	ug/kg	85	2400 J	ug/kg	72	3700 J	ug/kg	75
Beryllium	80 J	ug/kg	43	60 J	ug/kg	42	30 UJ	ug/kg	30	30 UJ	ug/kg	30
Cadmium	400 J	ug/kg	280	280 U	ug/kg	280	680 U	ug/kg	680	710 U	ug/kg	710
Chromium	6100	ug/kg	460	3000	ug/kg	440	2500	ug/kg	450	3800	ug/kg	470
Cobalt	890 J	ug/kg	590	760 J	ug/kg	570	520 U	ug/kg	520	540 U	ug/kg	540
Copper	12500	ug/kg	330	9800	ug/kg	320	250 U	ug/kg	250	5800	ug/kg	260
Cyanide	130 J	ug/kg	1000	90 J	ug/kg	1000	90 U	ug/kg	90	90 U	ug/kg	90
Lead	16200	ug/kg	500	3900	ug/kg	500	1900 J	ug/kg	150	1700 J	ug/kg	160
Mercury	30 U	ug/kg	30	30 U	ug/kg	30	30 U	ug/kg	30	30 U	ug/kg	30
Nickel	3400 J	ug/kg	1100	1300 J	ug/kg	1100	1100 U	ug/kg	1100	1200 U	ug/kg	1200
Selenium	130 U	ug/kg	130	130 U	ug/kg	130	260 U	ug/kg	260	270 U	ug/kg	270
Silver	500 U	ug/kg	500	490 U	ug/kg	490	450 U	ug/kg	450	470 U	ug/kg	470
Thallium	130 U	ug/kg	130	130 U	ug/kg	130	160 UJ	ug/kg	160	170 UJ	ug/kg	170
Tin	2200 J	ug/kg	2100	2100 U	ug/kg	2100	19900	ug/kg	2400	2500 U	ug/kg	2500
Vanadium	3600 J	ug/kg	330	2700 J	ug/kg	320	1400 J	ug/kg	350	3500 J	ug/kg	360
Zinc	46200	ug/kg	260	12500	ug/kg	250	5300	ug/kg	210	9200	ug/kg	210

U = NOT DETECTED R = RESULT IS REJECTED
J = ESTIMATED VALUE UJ = REPORTED QUANTITATION LIMIT IS ESTIMATED
THE ADDITIONAL LISTINGS OF RESULTS FOR 1,2-; 1,3-; AND 1,4-DICHLOROBENZENE WERE GENERATED FROM THE SVOC (8270) ANALYTICAL RUN.

US Naval Station, Mayport, Florida
Fleet Training Center(SWMU 14) - Northern Burn Area Surface Soil Data

Lab Sample Number:		MB638012			MB638013			MB638014			MB638017		
Site		GROUPIII			GROUPIII			GROUPIII			GROUPIII		
Locator		14S03601			14S03601D			14S03701			14S03801		
Collect Date:		22-AUG-96			22-AUG-96			22-AUG-96			22-AUG-96		
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	
VOLATILES	ug/kg												
Chloromethane		11	U	ug/kg	11	11	U	ug/kg	11	10	U	ug/kg	10
Bromomethane		11	U	ug/kg	11	11	U	ug/kg	11	10	U	ug/kg	10
Vinyl chloride		11	U	ug/kg	11	11	U	ug/kg	11	10	U	ug/kg	10
Chloroethane		11	UJ	ug/kg	11	11	UJ	ug/kg	11	10	UJ	ug/kg	10
Methylene chloride		1	J	ug/kg	5	2	J	ug/kg	5	1	J	ug/kg	5
Acetone		140		ug/kg	11	200		ug/kg	11	14	U	ug/kg	14
Carbon disulfide		5	U	ug/kg	5	5	U	ug/kg	5	5	U	ug/kg	5
1,1-Dichloroethane		5	U	ug/kg	5	5	U	ug/kg	5	5	U	ug/kg	5
1,1-Dichloroethene		5	U	ug/kg	5	5	U	ug/kg	5	5	U	ug/kg	5
1,2-Dichloroethene (total)		5	U	ug/kg	5	5	U	ug/kg	5	5	U	ug/kg	5
Chloroform		5	U	ug/kg	5	5	U	ug/kg	5	5	U	ug/kg	5
1,2-Dichloroethane		5	U	ug/kg	5	5	U	ug/kg	5	5	U	ug/kg	5
2-Butanone		35		ug/kg	11	52		ug/kg	11	10	U	ug/kg	10
1,1,1-Trichloroethane		5	U	ug/kg	5	5	U	ug/kg	5	5	U	ug/kg	5
Carbon tetrachloride		5	U	ug/kg	5	5	U	ug/kg	5	5	U	ug/kg	5
Bromodichloromethane		5	U	ug/kg	5	5	U	ug/kg	5	5	U	ug/kg	5
1,2-Dichloropropane		5	U	ug/kg	5	5	U	ug/kg	5	5	U	ug/kg	5
cis-1,3-Dichloropropene		5	U	ug/kg	5	5	U	ug/kg	5	5	U	ug/kg	5
Trichloroethene		5	U	ug/kg	5	5	U	ug/kg	5	5	U	ug/kg	5
Dibromochloromethane		5	U	ug/kg	5	5	U	ug/kg	5	5	U	ug/kg	5
1,1,2-Trichloroethane		5	U	ug/kg	5	5	U	ug/kg	5	5	U	ug/kg	5
Benzene		2	J	ug/kg	5	2	J	ug/kg	5	2	J	ug/kg	5
trans-1,3-Dichloropropene		5	U	ug/kg	5	5	U	ug/kg	5	5	U	ug/kg	5
Bromoform		5	U	ug/kg	5	5	U	ug/kg	5	5	U	ug/kg	5
4-Methyl-2-pentanone		11	U	ug/kg	11	11	U	ug/kg	11	10	U	ug/kg	10
2-Hexanone		11	U	ug/kg	11	11	U	ug/kg	11	10	U	ug/kg	10
Tetrachloroethene		5	U	ug/kg	5	5	U	ug/kg	5	5	U	ug/kg	5
1,1,2,2-Tetrachloroethane		5	U	ug/kg	5	5	U	ug/kg	5	5	U	ug/kg	5
Toluene		1	J	ug/kg	5	1	J	ug/kg	5	1	J	ug/kg	5
Chlorobenzene		5	U	ug/kg	5	5	U	ug/kg	5	5	U	ug/kg	5
Ethylbenzene		5	U	ug/kg	5	5	U	ug/kg	5	5	U	ug/kg	5
Styrene		5	U	ug/kg	5	5	U	ug/kg	5	5	U	ug/kg	5
Xylenes (total)		5	U	ug/kg	5	5	U	ug/kg	5	5	U	ug/kg	5
Dichlorodifluoromethane		11	U	ug/kg	11	11	U	ug/kg	11	10	U	ug/kg	10
Trichlorofluoromethane		5	U	ug/kg	5	5	U	ug/kg	5	5	U	ug/kg	5
1,3-Dichlorobenzene		1100	U	ug/kg	1100	1100	U	ug/kg	1100	340	U	ug/kg	340
Acrolein		110	U	ug/kg	110	110	U	ug/kg	110	100	U	ug/kg	100
Iodomethane		11	UJ	ug/kg	11	11	UJ	ug/kg	11	10	UJ	ug/kg	10
1,4-Dichlorobenzene		1100	U	ug/kg	1100	1100	U	ug/kg	1100	5	U	ug/kg	5
Acrylonitrile		110	U	ug/kg	110	110	U	ug/kg	110	100	U	ug/kg	100

	VALUE	QUAL	UNITS	DL
Chloromethane	11	U	ug/kg	11
Bromomethane	11	U	ug/kg	11
Vinyl chloride	11	UJ	ug/kg	11
Chloroethane	1	J	ug/kg	5
Methylene chloride	49		ug/kg	11
Acetone	5	U	ug/kg	5
Carbon disulfide	5	U	ug/kg	5
1,1-Dichloroethane	5	U	ug/kg	5
1,1-Dichloroethene	5	U	ug/kg	5
1,2-Dichloroethene (total)	5	U	ug/kg	5
Chloroform	5	U	ug/kg	5
1,2-Dichloroethane	11	U	ug/kg	11
2-Butanone	5	U	ug/kg	5
1,1,1-Trichloroethane	5	U	ug/kg	5
Carbon tetrachloride	5	U	ug/kg	5
Bromodichloromethane	5	U	ug/kg	5
1,2-Dichloropropane	5	U	ug/kg	5
cis-1,3-Dichloropropene	5	U	ug/kg	5
Trichloroethene	5	U	ug/kg	5
Dibromochloromethane	5	U	ug/kg	5
1,1,2-Trichloroethane	5	U	ug/kg	5
Benzene	5	U	ug/kg	5
trans-1,3-Dichloropropene	5	U	ug/kg	5
Bromoform	5	U	ug/kg	5
4-Methyl-2-pentanone	11	U	ug/kg	11
2-Hexanone	11	U	ug/kg	11
Tetrachloroethene	5	U	ug/kg	5
1,1,2,2-Tetrachloroethane	5	U	ug/kg	5
Toluene	5	U	ug/kg	5
Chlorobenzene	5	U	ug/kg	5
Ethylbenzene	5	U	ug/kg	5
Styrene	6		ug/kg	5
Xylenes (total)	11	U	ug/kg	11
Dichlorodifluoromethane	5	U	ug/kg	5
Trichlorofluoromethane	1800	U	ug/kg	1800
1,3-Dichlorobenzene	110	U	ug/kg	110
Acrolein	11	U	ug/kg	11
Iodomethane	5	U	ug/kg	5
1,4-Dichlorobenzene	110	U	ug/kg	110
Acrylonitrile				

US Naval Station, Mayport, Florida
Fleet Training Center(SWMU 14) - Northern Burn Area Subsurface Soil Data

Lab Sample Number:		MB995006			MB638010			MB638011			MB638015		
Site		GROUPIII			GROUPIII			GROUPIII			GROUPIII		
Locator		14B02303			14B03403			14B03503			14B03603		
Collect Date:		21-MAY-95			21-AUG-96			21-AUG-96			22-AUG-96		
		VALUE QUAL	UNITS	DL	VALUE QUAL	UNITS	DL	VALUE QUAL	UNITS	DL	VALUE QUAL	UNITS	DL
VOLATILES	ug/kg												
Chloromethane		12 U	ug/kg	12	12 U	ug/kg	12	11 U	ug/kg	11	11 UJ	ug/kg	11
Bromomethane		12 UJ	ug/kg	12	12 U	ug/kg	12	11 U	ug/kg	11	11 UJ	ug/kg	11
Vinyl chloride		12 U	ug/kg	12	12 U	ug/kg	12	11 U	ug/kg	11	11 UJ	ug/kg	11
Chloroethane		12 U	ug/kg	12	12 UJ	ug/kg	12	11 UJ	ug/kg	11	11 UJ	ug/kg	11
Methylene chloride		9 U	ug/kg	9	2 J	ug/kg	6	2 J	ug/kg	6	2 J	ug/kg	6
Acetone		13 U	ug/kg	13	39 U	ug/kg	39	39 U	ug/kg	39	76 J	ug/kg	11
Carbon disulfide		6 U	ug/kg	6	6 U	ug/kg	6	6 U	ug/kg	6	6 UJ	ug/kg	6
1,1-Dichloroethane		6 U	ug/kg	6	6 U	ug/kg	6	6 U	ug/kg	6	6 UJ	ug/kg	6
1,1-Dichloroethene		6 U	ug/kg	6	6 U	ug/kg	6	6 U	ug/kg	6	6 UJ	ug/kg	6
1,2-Dichloroethene (total)		6 U	ug/kg	6	6 U	ug/kg	6	6 U	ug/kg	6	6 UJ	ug/kg	6
Chloroform		6 U	ug/kg	6	6 U	ug/kg	6	6 U	ug/kg	6	6 UJ	ug/kg	6
1,2-Dichloroethane		6 U	ug/kg	6	6 U	ug/kg	6	6 U	ug/kg	6	6 UJ	ug/kg	6
2-Butanone		12 U	ug/kg	12	12 U	ug/kg	12	11 U	ug/kg	11	20 UJ	ug/kg	20
1,1,1-Trichloroethane		6 U	ug/kg	6	6 U	ug/kg	6	6 U	ug/kg	6	6 UJ	ug/kg	6
Carbon tetrachloride		6 U	ug/kg	6	6 U	ug/kg	6	6 U	ug/kg	6	6 UJ	ug/kg	6
Bromodichloromethane		6 U	ug/kg	6	6 U	ug/kg	6	6 U	ug/kg	6	6 UJ	ug/kg	6
1,2-Dichloropropane		6 U	ug/kg	6	6 U	ug/kg	6	6 U	ug/kg	6	6 UJ	ug/kg	6
cis-1,3-Dichloropropene		6 U	ug/kg	6	6 U	ug/kg	6	6 U	ug/kg	6	6 UJ	ug/kg	6
Trichloroethene		6 U	ug/kg	6	6 U	ug/kg	6	6 U	ug/kg	6	6 UJ	ug/kg	6
Dibromochloromethane		6 U	ug/kg	6	6 U	ug/kg	6	6 U	ug/kg	6	6 UJ	ug/kg	6
1,1,2-Trichloroethane		6 U	ug/kg	6	6 U	ug/kg	6	2 J	ug/kg	6	2 J	ug/kg	6
Benzene		6 U	ug/kg	6	6 U	ug/kg	6	6 U	ug/kg	6	6 UJ	ug/kg	6
trans-1,3-Dichloropropene		6 U	ug/kg	6	6 U	ug/kg	6	6 U	ug/kg	6	6 UJ	ug/kg	6
Bromoform		6 U	ug/kg	6	6 U	ug/kg	6	6 U	ug/kg	6	6 UJ	ug/kg	6
4-Methyl-2-pentanone		12 U	ug/kg	12	12 U	ug/kg	12	11 U	ug/kg	11	11 UJ	ug/kg	11
2-Hexanone		12 U	ug/kg	12	12 U	ug/kg	12	11 U	ug/kg	11	11 UJ	ug/kg	11
Tetrachloroethene		6 U	ug/kg	6	6 U	ug/kg	6	6 U	ug/kg	6	6 UJ	ug/kg	6
1,1,2,2-Tetrachloroethane		6 U	ug/kg	6	6 U	ug/kg	6	6 U	ug/kg	6	6 UJ	ug/kg	6
Toluene		6 U	ug/kg	6	6 U	ug/kg	6	6 U	ug/kg	6	3 J	ug/kg	6
Chlorobenzene		6 U	ug/kg	6	6 U	ug/kg	6	6 U	ug/kg	6	6 UJ	ug/kg	6
Ethylbenzene		6 U	ug/kg	6	6 U	ug/kg	6	6 U	ug/kg	6	14 J	ug/kg	6
Styrene		6 U	ug/kg	6	6 U	ug/kg	6	6 U	ug/kg	6	6 UJ	ug/kg	6
Xylenes (total)		6 U	ug/kg	6	6 U	ug/kg	6	6 U	ug/kg	6	6 J	ug/kg	6
Dichlorodifluoromethane		12 UJ	ug/kg	12	12 U	ug/kg	12	11 U	ug/kg	11	11 UJ	ug/kg	11
Trichlorofluoromethane		6 U	ug/kg	6	6 U	ug/kg	6	6 U	ug/kg	6	6 UJ	ug/kg	6
1,3-Dichlorobenzene		6 U	ug/kg	6	6 U	ug/kg	6	740 U	ug/kg	740	7500 U	ug/kg	7500
Acrolein		120 U	ug/kg	120	120 U	ug/kg	120	110 U	ug/kg	110	110 UJ	ug/kg	110
Iodomethane		12 U	ug/kg	12	12 UJ	ug/kg	12	11 UJ	ug/kg	11	11 UJ	ug/kg	11
1,4-Dichlorobenzene		6 U	ug/kg	6	390 U	ug/kg	390	740 U	ug/kg	740	6 UJ	ug/kg	6
Acrylonitrile		120 U	ug/kg	120	120 U	ug/kg	120	110 U	ug/kg	110	110 UJ	ug/kg	110
Dibromomethane		6 U	ug/kg	6	6 U	ug/kg	6	6 U	ug/kg	6	6 UJ	ug/kg	6
1,2-Dichlorobenzene		6 U	ug/kg	6	390 U	ug/kg	390	740 U	ug/kg	740	7500 U	ug/kg	7500
2-Chloroethylvinyl ether		12 U	ug/kg	12	12 U	ug/kg	12	11 U	ug/kg	11	11 UJ	ug/kg	11
Ethyl methacrylate		6 U	ug/kg	6	6 U	ug/kg	6	6 U	ug/kg	6	6 UJ	ug/kg	6
1,2,3-Trichloropropane		6 U	ug/kg	6	6 U	ug/kg	6	6 U	ug/kg	6	6 UJ	ug/kg	6
trans-1,4-Dichloro-2-butene		6 U	ug/kg	6	6 U	ug/kg	6	6 U	ug/kg	6	6 UJ	ug/kg	6
Isobutyl alcohol		240 U	ug/kg	240	230 U	ug/kg	230	220 U	ug/kg	220	220 UJ	ug/kg	220
1,1,1,2-Tetrachloroethane		6 U	ug/kg	6	6 U	ug/kg	6	6 U	ug/kg	6	6 UJ	ug/kg	6
1,2-Dibromo-3-chloropropane		12 U	ug/kg	12	12 U	ug/kg	12	11 U	ug/kg	11	11 UJ	ug/kg	11
Ethylene dibromide		6 U	ug/kg	6	6 U	ug/kg	6	6 U	ug/kg	6	6 UJ	ug/kg	6

US Naval Station, Mayport, Florida
Fleet Training Center(SWMU 14) - Northern Burn Area Surface Soil Data

Lab Sample Number:	MB638012				MB638013				MB638014				MB638017			
Site	GROUPIII				GROUPIII				GROUPIII				GROUPIII			
Locator	14S03601				14S03601D				14S03701				14S03801			
Collect Date:	22-AUG-96				22-AUG-96				22-AUG-96				22-AUG-96			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
Acenaphthene	1100	U	ug/kg	1100	140	J	ug/kg	1100	340	U	ug/kg	340	190	J	ug/kg	1800
2,4-Dinitrophenol	5300	U	ug/kg	5300	5300	U	ug/kg	5300	1700	U	ug/kg	1700	8900	U	ug/kg	8900
4-Nitrophenol	5300	U	ug/kg	5300	5300	U	ug/kg	5300	1700	U	ug/kg	1700	8900	U	ug/kg	8900
Dibenzofuran	1100	U	ug/kg	1100	1100	U	ug/kg	1100	340	U	ug/kg	340	1800	U	ug/kg	1800
2,4-Dinitrotoluene	1100	U	ug/kg	1100	1100	U	ug/kg	1100	340	U	ug/kg	340	1800	U	ug/kg	1800
Diethylphthalate	1100	U	ug/kg	1100	1100	U	ug/kg	1100	340	U	ug/kg	340	1800	U	ug/kg	1800
4-Chlorophenyl-phenylether	1100	U	ug/kg	1100	1100	U	ug/kg	1100	340	U	ug/kg	340	1800	U	ug/kg	1800
Fluorene	360	J	ug/kg	1100	1100	U	ug/kg	1100	340	U	ug/kg	340	500	J	ug/kg	1800
4-Nitroaniline	5300	U	ug/kg	5300	5300	U	ug/kg	5300	1700	U	ug/kg	1700	8900	U	ug/kg	8900
4,6-Dinitro-2-methylphenol	5300	U	ug/kg	5300	5300	U	ug/kg	5300	1700	U	ug/kg	1700	8900	U	ug/kg	8900
N-Nitrosodiphenylamine	1100	U	ug/kg	1100	1100	U	ug/kg	1100	340	U	ug/kg	340	1800	U	ug/kg	1800
1,2-Diphenylhydrazine	1100	U	ug/kg	1100	1100	U	ug/kg	1100	340	U	ug/kg	340	1800	U	ug/kg	1800
4-Bromophenyl-phenylether	1100	U	ug/kg	1100	1100	U	ug/kg	1100	340	U	ug/kg	340	1800	U	ug/kg	1800
Hexachlorobenzene	1100	U	ug/kg	1100	1100	U	ug/kg	1100	340	U	ug/kg	340	1800	U	ug/kg	1800
Pentachlorophenol	5300	U	ug/kg	5300	5300	U	ug/kg	5300	1700	U	ug/kg	1700	8900	U	ug/kg	8900
Phenanthrene	640	J	ug/kg	1100	660	J	ug/kg	1100	340	U	ug/kg	340	960	J	ug/kg	1800
Anthracene	1100	U	ug/kg	1100	1100	U	ug/kg	1100	340	U	ug/kg	340	1800	U	ug/kg	1800
Di-n-Butylphthalate	1100	U	ug/kg	1100	1100	U	ug/kg	1100	340	U	ug/kg	340	1800	U	ug/kg	1800
Fluoranthene	1100	U	ug/kg	1100	1100	U	ug/kg	1100	340	U	ug/kg	340	1800	U	ug/kg	1800
Pyrene	150	J	ug/kg	1100	140	J	ug/kg	1100	340	U	ug/kg	340	1800	U	ug/kg	1800
Butylbenzylphthalate	1100	U	ug/kg	1100	1100	U	ug/kg	1100	340	U	ug/kg	340	1800	U	ug/kg	1800
3,3-Dichlorobenzidine	2200	U	ug/kg	2200	2200	U	ug/kg	2200	690	U	ug/kg	690	3600	U	ug/kg	3600
Benzo (a) anthracene	1100	U	ug/kg	1100	1100	U	ug/kg	1100	340	U	ug/kg	340	1800	U	ug/kg	1800
Chrysene	1100	U	ug/kg	1100	1100	U	ug/kg	1100	340	U	ug/kg	340	1800	U	ug/kg	1800
bis(2-Ethylhexyl) phthalate	1100	U	ug/kg	1100	1100	U	ug/kg	1100	380	U	ug/kg	380	1800	U	ug/kg	1800
Di-n-octylphthalate	1100	U	ug/kg	1100	1100	U	ug/kg	1100	340	U	ug/kg	340	1800	U	ug/kg	1800
Benzo (b) fluoranthene	1100	U	ug/kg	1100	1100	U	ug/kg	1100	340	U	ug/kg	340	1800	U	ug/kg	1800
Benzo (k) fluoranthene	1100	U	ug/kg	1100	1100	U	ug/kg	1100	340	U	ug/kg	340	1800	U	ug/kg	1800
Benzo (a) pyrene	1100	U	ug/kg	1100	1100	U	ug/kg	1100	340	U	ug/kg	340	1800	U	ug/kg	1800
Indeno (1,2,3-cd) pyrene	1100	U	ug/kg	1100	1100	U	ug/kg	1100	340	U	ug/kg	340	1800	U	ug/kg	1800
Dibenzo (a,h) anthracene	1100	U	ug/kg	1100	1100	U	ug/kg	1100	340	U	ug/kg	340	1800	U	ug/kg	1800
Benzo (g,h,i) perylene	1100	U	ug/kg	1100	1100	U	ug/kg	1100	340	U	ug/kg	340	1800	U	ug/kg	1800
2-Picoline	5300	U	ug/kg	5300	5300	U	ug/kg	5300	1700	U	ug/kg	1700	8900	U	ug/kg	8900
Methyl methanesulfonate	1100	U	ug/kg	1100	1100	U	ug/kg	1100	340	U	ug/kg	340	1800	U	ug/kg	1800
Ethyl methanesulfonate	1100	U	ug/kg	1100	1100	U	ug/kg	1100	340	U	ug/kg	340	1800	U	ug/kg	1800
Acetophenone	1100	U	ug/kg	1100	1100	U	ug/kg	1100	340	U	ug/kg	340	1800	U	ug/kg	1800
N-Nitrosopiperidine	1100	U	ug/kg	1100	1100	U	ug/kg	1100	340	U	ug/kg	340	1800	U	ug/kg	1800
Phenyl-tert-butylamine	5300	UJ	ug/kg	5300	5300	U	ug/kg	5300	1700	U	ug/kg	1700	8900	U	ug/kg	8900
2,6-Dichlorophenol	1100	U	ug/kg	1100	1100	U	ug/kg	1100	340	U	ug/kg	340	1800	U	ug/kg	1800
N-Nitroso-di-n-butylamine	1100	U	ug/kg	1100	1100	U	ug/kg	1100	340	U	ug/kg	340	1800	U	ug/kg	1800
N-Nitrosodiethylamine	1100	U	ug/kg	1100	1100	U	ug/kg	1100	340	U	ug/kg	340	1800	U	ug/kg	1800
N-Nitrosopyrrolidine	1100	U	ug/kg	1100	1100	U	ug/kg	1100	340	U	ug/kg	340	1800	U	ug/kg	1800
Benzidine	5300	U	ug/kg	5300	5300	U	ug/kg	5300	1700	U	ug/kg	1700	8900	U	ug/kg	8900
1,2,4,5-Tetrachlorobenzene	5300	U	ug/kg	5300	5300	U	ug/kg	5300	1700	U	ug/kg	1700	8900	U	ug/kg	8900
Pentachlorobenzene	5300	U	ug/kg	5300	5300	U	ug/kg	5300	1700	U	ug/kg	1700	8900	U	ug/kg	8900
1-Naphthylamine	5300	U	ug/kg	5300	5300	U	ug/kg	5300	1700	U	ug/kg	1700	8900	U	ug/kg	8900
2-Naphthylamine	5300	U	ug/kg	5300	5300	U	ug/kg	5300	1700	U	ug/kg	1700	8900	U	ug/kg	8900
2,3,4,6-Tetrachlorophenol	1100	U	ug/kg	1100	1100	U	ug/kg	1100	340	U	ug/kg	340	1800	U	ug/kg	1800
Phenacetin	1100	U	ug/kg	1100	1100	U	ug/kg	1100	340	U	ug/kg	340	1800	U	ug/kg	1800
4-Aminobiphenyl	5300	U	ug/kg	5300	5300	U	ug/kg	5300	1700	U	ug/kg	1700	8900	U	ug/kg	8900
Pentachloronitrobenzene	5300	U	ug/kg	5300	5300	U	ug/kg	5300	1700	U	ug/kg	1700	8900	U	ug/kg	8900
Pronamide	1100	U	ug/kg	1100	1100	U	ug/kg	1100	340	U	ug/kg	340	1800	U	ug/kg	1800

US Naval Station, Mayport, Florida
Fleet Training Center(SWMU 14) - Northern Burn Area Subsurface Soil Data

Lab Sample Number:	MB995006				MB638010				MB638011				MB638015			
Site	GROUPIII				GROUPIII				GROUPIII				GROUPIII			
Locator	14B02303				14B03403				14B03503				14B03603			
Collect Date:	21-MAY-95				21-AUG-96				21-AUG-96				22-AUG-96			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
N-Nitrosodiphenylamine	400	U	ug/kg	400	390	U	ug/kg	390	740	U	ug/kg	740	7500	U	ug/kg	7500
1,2-Diphenylhydrazine	400	U	ug/kg	400	390	U	ug/kg	390	740	U	ug/kg	740	7500	U	ug/kg	7500
4-Bromophenyl-phenylether	400	U	ug/kg	400	390	U	ug/kg	390	740	U	ug/kg	740	7500	U	ug/kg	7500
Hexachlorobenzene	400	U	ug/kg	400	390	U	ug/kg	390	740	U	ug/kg	740	7500	U	ug/kg	7500
Pentachlorophenol	2000	U	ug/kg	2000	1900	UJ	ug/kg	1900	3700	U	ug/kg	3700	37000	U	ug/kg	37000
Phenanthrene	400	U	ug/kg	400	390	U	ug/kg	390	420	J	ug/kg	740	1600	J	ug/kg	7500
Anthracene	400	U	ug/kg	400	390	U	ug/kg	390	740	U	ug/kg	740	7500	U	ug/kg	7500
Di-n-Butylphthalate	400	U	ug/kg	400	390	U	ug/kg	390	740	U	ug/kg	740	7500	U	ug/kg	7500
Fluoranthene	400	U	ug/kg	400	390	U	ug/kg	390	740	U	ug/kg	740	7500	U	ug/kg	7500
Pyrene	400	U	ug/kg	400	390	U	ug/kg	390	740	U	ug/kg	740	7500	U	ug/kg	7500
Butylbenzylphthalate	400	U	ug/kg	400	86	J	ug/kg	390	740	U	ug/kg	740	7500	U	ug/kg	7500
3,3-Dichlorobenzidine	790	U	ug/kg	790	780	U	ug/kg	780	1500	U	ug/kg	1500	15000	U	ug/kg	15000
Benzo (a) anthracene	400	U	ug/kg	400	390	U	ug/kg	390	740	U	ug/kg	740	7500	U	ug/kg	7500
Chrysene	400	U	ug/kg	400	390	U	ug/kg	390	740	U	ug/kg	740	7500	U	ug/kg	7500
bis(2-Ethylhexyl) phthalate	400	U	ug/kg	400	48	J	ug/kg	390	740	U	ug/kg	740	7500	U	ug/kg	7500
Di-n-octylphthalate	400	U	ug/kg	400	390	U	ug/kg	390	740	U	ug/kg	740	7500	U	ug/kg	7500
Benzo (b) fluoranthene	400	U	ug/kg	400	390	U	ug/kg	390	740	U	ug/kg	740	7500	U	ug/kg	7500
Benzo (k) fluoranthene	400	U	ug/kg	400	390	U	ug/kg	390	740	U	ug/kg	740	7500	U	ug/kg	7500
Benzo (a) pyrene	400	U	ug/kg	400	390	U	ug/kg	390	740	U	ug/kg	740	7500	U	ug/kg	7500
Indeno (1,2,3-cd) pyrene	400	U	ug/kg	400	390	U	ug/kg	390	740	U	ug/kg	740	7500	U	ug/kg	7500
Dibenzo (a,h) anthracene	400	U	ug/kg	400	390	U	ug/kg	390	740	U	ug/kg	740	7500	U	ug/kg	7500
Benzo (g,h,i) perylene	400	U	ug/kg	400	390	U	ug/kg	390	740	U	ug/kg	740	7500	U	ug/kg	7500
2-Picoline	2000	U	ug/kg	2000	1900	U	ug/kg	1900	3700	U	ug/kg	3700	37000	U	ug/kg	37000
Methyl methanesulfonate	400	U	ug/kg	400	390	U	ug/kg	390	740	U	ug/kg	740	7500	U	ug/kg	7500
Ethyl methanesulfonate	400	U	ug/kg	400	390	U	ug/kg	390	740	U	ug/kg	740	7500	U	ug/kg	7500
Acetophenone	400	U	ug/kg	400	390	U	ug/kg	390	740	U	ug/kg	740	7500	U	ug/kg	7500
N-Nitrosopiperidine	400	U	ug/kg	400	390	U	ug/kg	390	740	U	ug/kg	740	7500	U	ug/kg	7500
Phenyl-tert-butylamine	2000	U	ug/kg	2000	1900	U	ug/kg	1900	3700	UJ	ug/kg	3700	37000	U	ug/kg	37000
2,6-Dichlorophenol	400	U	ug/kg	400	390	U	ug/kg	390	740	U	ug/kg	740	7500	U	ug/kg	7500
N-Nitroso-di-n-butylamine	400	U	ug/kg	400	390	U	ug/kg	390	740	U	ug/kg	740	7500	U	ug/kg	7500
N-Nitrosodiethylamine	400	U	ug/kg	400	390	U	ug/kg	390	740	U	ug/kg	740	7500	U	ug/kg	7500
N-Nitrosopyrrolidine	400	U	ug/kg	400	390	U	ug/kg	390	740	U	ug/kg	740	7500	U	ug/kg	7500
Benzidine	2000	U	ug/kg	2000	1900	U	ug/kg	1900	3700	U	ug/kg	3700	37000	U	ug/kg	37000
1,2,4,5-Tetrachlorobenzene	2000	U	ug/kg	2000	1900	U	ug/kg	1900	3700	U	ug/kg	3700	37000	U	ug/kg	37000
Pentachlorobenzene	2000	U	ug/kg	2000	1900	U	ug/kg	1900	3700	U	ug/kg	3700	37000	U	ug/kg	37000
1-Naphthylamine	2000	U	ug/kg	2000	1900	U	ug/kg	1900	3700	U	ug/kg	3700	37000	U	ug/kg	37000
2-Naphthylamine	2000	U	ug/kg	2000	1900	U	ug/kg	1900	3700	U	ug/kg	3700	37000	U	ug/kg	37000
2,3,4,6-Tetrachlorophenol	400	U	ug/kg	400	390	UJ	ug/kg	390	740	U	ug/kg	740	7500	U	ug/kg	7500
Phenacetin	400	U	ug/kg	400	390	UJ	ug/kg	390	740	U	ug/kg	740	7500	U	ug/kg	7500
4-Aminobiphenyl	2000	U	ug/kg	2000	1900	U	ug/kg	1900	3700	U	ug/kg	3700	37000	U	ug/kg	37000
Pentachloronitrobenzene	2000	U	ug/kg	2000	1900	UJ	ug/kg	1900	3700	U	ug/kg	3700	37000	U	ug/kg	37000
Pronamide	400	U	ug/kg	400	390	U	ug/kg	390	740	U	ug/kg	740	7500	U	ug/kg	7500
p-Dimethylaminoazobenzene	400	U	ug/kg	400	390	U	ug/kg	390	740	U	ug/kg	740	7500	U	ug/kg	7500
7,12-Dimethylbenz(A)Anthracene	400	U	ug/kg	400	390	UJ	ug/kg	390	740	U	ug/kg	740	7500	U	ug/kg	7500
3-Methylcholanthrene	400	U	ug/kg	400	390	U	ug/kg	390	740	U	ug/kg	740	7500	U	ug/kg	7500
Pyridine	2000	U	ug/kg	2000	1900	U	ug/kg	1900	3700	U	ug/kg	3700	37000	U	ug/kg	37000
N-Nitrosomethylethylamine	400	U	ug/kg	400	390	U	ug/kg	390	740	U	ug/kg	740	7500	U	ug/kg	7500
N-Nitrosomorpholine	400	U	ug/kg	400	390	U	ug/kg	390	740	U	ug/kg	740	7500	U	ug/kg	7500
o-Toluidine	400	U	ug/kg	400	390	U	ug/kg	390	740	U	ug/kg	740	7500	U	ug/kg	7500
Hexachloropropene	2000	U	ug/kg	2000	1900	U	ug/kg	1900	3700	U	ug/kg	3700	37000	U	ug/kg	37000
p-Phenylenediamine	20000	U	ug/kg	20000	19000	UJ	ug/kg	19000	37000	U	ug/kg	37000	370000	U	ug/kg	370000
Safrole	2000	U	ug/kg	2000	1900	U	ug/kg	1900	3700	U	ug/kg	3700	37000	U	ug/kg	37000

US Naval Station, Mayport, Florida
Fleet Training Center(SWMU 14) - Northern Burn Area Surface Soil Data

Lab Sample Number:		R9756007			R9756003			MB638008			MB638009		
Site		GROUPIII			GROUPIII			GROUPIII			GROUPIII		
Locator		14S00101			14S01401			14S03401			14S03501		
Collect Date:		09-APR-95			09-APR-95			21-AUG-96			21-AUG-96		
		VALUE QUAL	UNITS	DL	VALUE QUAL	UNITS	DL	VALUE QUAL	UNITS	DL	VALUE QUAL	UNITS	DL
INORGANICS (SOIL)	ug/kg												
Antimony		1100 U	ug/kg	1100	1100 U	ug/kg	1100	530 UJ	ug/kg	530	940 UJ	ug/kg	940
Arsenic		1400 J	ug/kg	700	660 J	ug/kg	700	200 UJ	ug/kg	200	420 J	ug/kg	200
Barium		9200 J	ug/kg	87	6400 J	ug/kg	85	2400 J	ug/kg	72	3700 J	ug/kg	75
Beryllium		80 J	ug/kg	43	60 J	ug/kg	42	30 UJ	ug/kg	30	30 UJ	ug/kg	30
Cadmium		400 J	ug/kg	280	280 U	ug/kg	280	680 U	ug/kg	680	710 U	ug/kg	710
Chromium		6100	ug/kg	460	3000	ug/kg	440	2500	ug/kg	450	3800	ug/kg	470
Cobalt		890 J	ug/kg	590	760 J	ug/kg	570	520 U	ug/kg	520	540 U	ug/kg	540
Copper		12500	ug/kg	330	9800	ug/kg	320	250 U	ug/kg	250	5800	ug/kg	260
Cyanide		130 J	ug/kg	1000	90 J	ug/kg	1000	90 U	ug/kg	90	90 U	ug/kg	90
Lead		16200	ug/kg	500	3900	ug/kg	500	1900 J	ug/kg	150	1700 J	ug/kg	160
Mercury		30 U	ug/kg	30	30 U	ug/kg	30	30 U	ug/kg	30	30 U	ug/kg	30
Nickel		3400 J	ug/kg	1100	1300 J	ug/kg	1100	1100 U	ug/kg	1100	1200 U	ug/kg	1200
Selenium		130 U	ug/kg	130	130 U	ug/kg	130	260 U	ug/kg	260	270 U	ug/kg	270
Silver		500 U	ug/kg	500	490 U	ug/kg	490	450 U	ug/kg	450	470 U	ug/kg	470
Thallium		130 U	ug/kg	130	130 U	ug/kg	130	160 UJ	ug/kg	160	170 UJ	ug/kg	170
Tin		2200 J	ug/kg	2100	2100 U	ug/kg	2100	19900	ug/kg	2400	2500 U	ug/kg	2500
Vanadium		3600 J	ug/kg	330	2700 J	ug/kg	320	1400 J	ug/kg	350	3500 J	ug/kg	360
Zinc		46200	ug/kg	260	12500	ug/kg	250	5300	ug/kg	210	9200	ug/kg	210

U = NOT DETECTED R = RESULT IS REJECTED
J = ESTIMATED VALUE UJ = REPORTED QUANTITATION LIMIT IS ESTIMATED
THE ADDITIONAL LISTINGS OF RESULTS FOR 1,2-; 1,3-; AND 1,4-DICHLOROBENZENE WERE GENERATED FROM THE SVOC (8270) ANALYTICAL RUN.

US Naval Station, Mayport, Florida
Fleet Training Center(SWMU 14) - Northern Burn Area Subsurface Soil Data

Lab Sample Number:	MB638015R				MB638016				MB638018				MB638018RE			
Site	GROUPIII				GROUPIII				GROUPIII				GROUPIII			
Locator	14B03603RE				14B03703				14B03803				14B03803RE			
Collect Date:	22-AUG-96				22-AUG-96				22-AUG-96				22-AUG-96			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
VOLATILES ug/kg																
Chloromethane	11	R	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	-		ug/kg	
Bromomethane	11	R	ug/kg	11	11	UJ	ug/kg	11	11	UJ	ug/kg	11	-		ug/kg	
Vinyl chloride	11	R	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	-		ug/kg	
Chloroethane	11	R	ug/kg	11	11	UJ	ug/kg	11	11	UJ	ug/kg	11	-		ug/kg	
Methylene chloride	6	R	ug/kg	6	1	J	ug/kg	6	5	U	ug/kg	5	-		ug/kg	
Acetone	120	R	ug/kg	11	11	U	ug/kg	11	25	U	ug/kg	25	-		ug/kg	
Carbon disulfide	6	R	ug/kg	6	6	U	ug/kg	6	5	U	ug/kg	5	-		ug/kg	
1,1-Dichloroethane	6	R	ug/kg	6	6	U	ug/kg	6	5	U	ug/kg	5	-		ug/kg	
1,1-Dichloroethene	6	R	ug/kg	6	6	U	ug/kg	6	5	U	ug/kg	5	-		ug/kg	
1,2-Dichloroethene (total)	6	R	ug/kg	6	6	U	ug/kg	6	5	U	ug/kg	5	-		ug/kg	
Chloroform	6	R	ug/kg	6	6	U	ug/kg	6	5	U	ug/kg	5	-		ug/kg	
1,2-Dichloroethane	6	R	ug/kg	6	6	U	ug/kg	6	5	U	ug/kg	5	-		ug/kg	
2-Butanone	33	R	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	-		ug/kg	
1,1,1-Trichloroethane	6	R	ug/kg	6	6	U	ug/kg	6	5	U	ug/kg	5	-		ug/kg	
Carbon tetrachloride	6	R	ug/kg	6	6	U	ug/kg	6	5	U	ug/kg	5	-		ug/kg	
Bromodichloromethane	6	R	ug/kg	6	6	U	ug/kg	6	5	U	ug/kg	5	-		ug/kg	
1,2-Dichloropropane	6	R	ug/kg	6	6	U	ug/kg	6	5	U	ug/kg	5	-		ug/kg	
cis-1,3-Dichloropropene	6	R	ug/kg	6	6	U	ug/kg	6	5	U	ug/kg	5	-		ug/kg	
Trichloroethene	6	R	ug/kg	6	6	U	ug/kg	6	5	U	ug/kg	5	-		ug/kg	
Dibromochloromethane	6	R	ug/kg	6	6	U	ug/kg	6	5	U	ug/kg	5	-		ug/kg	
1,1,2-Trichloroethane	6	R	ug/kg	6	6	U	ug/kg	6	5	U	ug/kg	5	-		ug/kg	
Benzene	6	R	ug/kg	6	6	U	ug/kg	6	5	U	ug/kg	5	-		ug/kg	
trans-1,3-Dichloropropene	6	R	ug/kg	6	6	U	ug/kg	6	5	U	ug/kg	5	-		ug/kg	
Bromoform	6	R	ug/kg	6	6	U	ug/kg	6	5	U	ug/kg	5	-		ug/kg	
4-Methyl-2-pentanone	11	R	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	-		ug/kg	
2-Hexanone	84	R	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	-		ug/kg	
Tetrachloroethene	6	R	ug/kg	6	6	U	ug/kg	6	5	U	ug/kg	5	-		ug/kg	
1,1,2,2-Tetrachloroethane	6	R	ug/kg	6	6	U	ug/kg	6	5	U	ug/kg	5	-		ug/kg	
Toluene	3	R	ug/kg	6	1	J	ug/kg	6	1	J	ug/kg	5	-		ug/kg	
Chlorobenzene	6	R	ug/kg	6	6	U	ug/kg	6	5	U	ug/kg	5	-		ug/kg	
Ethylbenzene	12	R	ug/kg	6	6	U	ug/kg	6	5	U	ug/kg	5	-		ug/kg	
Styrene	6	R	ug/kg	6	6	U	ug/kg	6	5	U	ug/kg	5	-		ug/kg	
Xylenes (total)	9	R	ug/kg	6	6	U	ug/kg	6	5	U	ug/kg	5	-		ug/kg	
Dichlorodifluoromethane	11	R	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	-		ug/kg	
Trichlorofluoromethane	6	R	ug/kg	6	6	U	ug/kg	6	5	U	ug/kg	5	-		ug/kg	
1,3-Dichlorobenzene	6	R	ug/kg	6	6	U	ug/kg	6	360	R	ug/kg	360	360	UJ	ug/kg	360
Acrolein	110	R	ug/kg	110	110	U	ug/kg	110	110	U	ug/kg	110	-		ug/kg	
Iodomethane	11	R	ug/kg	11	11	UJ	ug/kg	11	11	UJ	ug/kg	11	-		ug/kg	
1,4-Dichlorobenzene	6	R	ug/kg	6	370	U	ug/kg	370	360	R	ug/kg	360	360	UJ	ug/kg	360
Acrylonitrile	110	R	ug/kg	110	110	U	ug/kg	110	110	U	ug/kg	110	-		ug/kg	

US Naval Station, Mayport, Florida
Fleet Training Center(SWMU 14) - Northern Burn Area Subsurface Soil Data

Lab Sample Number:		M8995006			MB638010			MB638011			MB638015		
Site		GROUPIII			GROUPIII			GROUPIII			GROUPIII		
Locator		14B02303			14B03403			14B03503			14B03603		
Collect Date:		21-MAY-95			21-AUG-96			21-AUG-96			22-AUG-96		
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	
VOLATILES	ug/kg												
Chloromethane		12	U	ug/kg	12	12	U	ug/kg	12	11	U	ug/kg	11
Bromomethane		12	UJ	ug/kg	12	12	U	ug/kg	12	11	U	ug/kg	11
Vinyl chloride		12	U	ug/kg	12	12	U	ug/kg	12	11	U	ug/kg	11
Chloroethane		12	U	ug/kg	12	12	UJ	ug/kg	12	11	UJ	ug/kg	11
Methylene chloride		9	U	ug/kg	9	2	J	ug/kg	6	2	J	ug/kg	6
Acetone		13	U	ug/kg	13	39	U	ug/kg	39	39	U	ug/kg	39
Carbon disulfide		6	U	ug/kg	6	6	U	ug/kg	6	6	U	ug/kg	6
1,1-Dichloroethane		6	U	ug/kg	6	6	U	ug/kg	6	6	U	ug/kg	6
1,1-Dichloroethene		6	U	ug/kg	6	6	U	ug/kg	6	6	U	ug/kg	6
1,2-Dichloroethene (total)		6	U	ug/kg	6	6	U	ug/kg	6	6	U	ug/kg	6
Chloroform		6	U	ug/kg	6	6	U	ug/kg	6	6	U	ug/kg	6
1,2-Dichloroethane		6	U	ug/kg	6	6	U	ug/kg	6	6	U	ug/kg	6
2-Butanone		12	U	ug/kg	12	12	U	ug/kg	12	11	U	ug/kg	11
1,1,1-Trichloroethane		6	U	ug/kg	6	6	U	ug/kg	6	6	U	ug/kg	6
Carbon tetrachloride		6	U	ug/kg	6	6	U	ug/kg	6	6	U	ug/kg	6
Bromodichloromethane		6	U	ug/kg	6	6	U	ug/kg	6	6	U	ug/kg	6
1,2-Dichloropropane		6	U	ug/kg	6	6	U	ug/kg	6	6	U	ug/kg	6
cis-1,3-Dichloropropene		6	U	ug/kg	6	6	U	ug/kg	6	6	U	ug/kg	6
Trichloroethene		6	U	ug/kg	6	6	U	ug/kg	6	6	U	ug/kg	6
Dibromochloromethane		6	U	ug/kg	6	6	U	ug/kg	6	6	U	ug/kg	6
1,1,2-Trichloroethane		6	U	ug/kg	6	6	U	ug/kg	6	6	U	ug/kg	6
Benzene		6	U	ug/kg	6	6	U	ug/kg	6	2	J	ug/kg	6
trans-1,3-Dichloropropene		6	U	ug/kg	6	6	U	ug/kg	6	6	U	ug/kg	6
Bromoform		6	U	ug/kg	6	6	U	ug/kg	6	6	U	ug/kg	6
4-Methyl-2-pentanone		12	U	ug/kg	12	12	U	ug/kg	12	11	U	ug/kg	11
2-Hexanone		12	U	ug/kg	12	12	U	ug/kg	12	11	U	ug/kg	11
Tetrachloroethene		6	U	ug/kg	6	6	U	ug/kg	6	6	U	ug/kg	6
1,1,2,2-Tetrachloroethane		6	U	ug/kg	6	6	U	ug/kg	6	6	U	ug/kg	6
Toluene		6	U	ug/kg	6	6	U	ug/kg	6	6	U	ug/kg	6
Chlorobenzene		6	U	ug/kg	6	6	U	ug/kg	6	6	U	ug/kg	6
Ethylbenzene		6	U	ug/kg	6	6	U	ug/kg	6	6	U	ug/kg	6
Styrene		6	U	ug/kg	6	6	U	ug/kg	6	6	U	ug/kg	6
Xylenes (total)		6	U	ug/kg	6	6	U	ug/kg	6	6	U	ug/kg	6
Dichlorodifluoromethane		12	UJ	ug/kg	12	12	U	ug/kg	12	11	U	ug/kg	11
Trichlorofluoromethane		6	U	ug/kg	6	6	U	ug/kg	6	6	U	ug/kg	6
1,3-Dichlorobenzene		6	U	ug/kg	6	6	U	ug/kg	6	740	U	ug/kg	740
Acrolein		120	U	ug/kg	120	120	U	ug/kg	120	110	U	ug/kg	110
Iodomethane		12	U	ug/kg	12	12	UJ	ug/kg	12	11	UJ	ug/kg	11
1,4-Dichlorobenzene		6	U	ug/kg	6	390	U	ug/kg	390	740	U	ug/kg	740
Acrylonitrile		120	U	ug/kg	120	120	U	ug/kg	120	110	U	ug/kg	110
Dibromomethane		6	U	ug/kg	6	6	U	ug/kg	6	6	U	ug/kg	6
1,2-Dichlorobenzene		6	U	ug/kg	6	390	U	ug/kg	390	740	U	ug/kg	740
2-Chloroethylvinyl ether		12	U	ug/kg	12	12	U	ug/kg	12	11	U	ug/kg	11
Ethyl methacrylate		6	U	ug/kg	6	6	U	ug/kg	6	6	U	ug/kg	6
1,2,3-Trichloropropane		6	U	ug/kg	6	6	U	ug/kg	6	6	U	ug/kg	6
trans-1,4-Dichloro-2-butene		6	U	ug/kg	6	6	U	ug/kg	6	6	U	ug/kg	6
Isobutyl alcohol		240	U	ug/kg	240	230	U	ug/kg	230	220	U	ug/kg	220
1,1,1,2-Tetrachloroethane		6	U	ug/kg	6	6	U	ug/kg	6	6	U	ug/kg	6
1,2-Dibromo-3-chloropropane		12	U	ug/kg	12	12	U	ug/kg	12	11	U	ug/kg	11
Ethylene dibromide		6	U	ug/kg	6	6	U	ug/kg	6	6	U	ug/kg	6
										11	UJ	ug/kg	11
										11	UJ	ug/kg	11
										11	UJ	ug/kg	11
										11	UJ	ug/kg	11
										2	J	ug/kg	6
										76	J	ug/kg	11
										6	UJ	ug/kg	6
										6	UJ	ug/kg	6
										6	UJ	ug/kg	6
										6	UJ	ug/kg	6
										6	UJ	ug/kg	6
										6	UJ	ug/kg	6
										20	UJ	ug/kg	20
										6	UJ	ug/kg	6
										6	UJ	ug/kg	6
										6	UJ	ug/kg	6
										6	UJ	ug/kg	6
										6	UJ	ug/kg	6
										6	UJ	ug/kg	6
										6	UJ	ug/kg	6
										6	UJ	ug/kg	6
										6	UJ	ug/kg	6
										2	J	ug/kg	6
										6	UJ	ug/kg	6
										6	UJ	ug/kg	6
										11	UJ	ug/kg	11
										11	UJ	ug/kg	11
										6	UJ	ug/kg	6
										6	UJ	ug/kg	6
										3	J	ug/kg	6
										6	UJ	ug/kg	6
										14	J	ug/kg	6
										6	UJ	ug/kg	6
										6	J	ug/kg	6
										11	UJ	ug/kg	11
										6	UJ	ug/kg	6
										7500	U	ug/kg	7500
										110	UJ	ug/kg	110
										11	UJ	ug/kg	11
										6	UJ	ug/kg	6
										110	UJ	ug/kg	110
										6	UJ	ug/kg	6
										7500	U	ug/kg	7500
										11	UJ	ug/kg	11
										6	UJ	ug/kg	6
										6	UJ	ug/kg	6
										6	UJ	ug/kg	6
										220	UJ	ug/kg	220
										6	UJ	ug/kg	6
										11	UJ	ug/kg	11
										6	UJ	ug/kg	6

US Naval Station, Mayport, Florida
Fleet Training Center(SWMU 14) - Northern Burn Area Subsurface Soil Data

Lab Sample Number:	MB638015R				MB638016				MB638018				MB638018RE			
Site	GROUPIII				GROUPIII				GROUPIII				GROUPIII			
Locator	14B03603RE				14B03703				14B03803				14B03803RE			
Collect Date:	22-AUG-96				22-AUG-96				22-AUG-96				22-AUG-96			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
Acenaphthene	-		ug/kg		370	U	ug/kg	370	360	R	ug/kg	360	360	UJ	ug/kg	360
2,4-Dinitrophenol	-		ug/kg		1800	U	ug/kg	1800	1800	R	ug/kg	1800	1800	UJ	ug/kg	1800
4-Nitrophenol	-		ug/kg		1800	U	ug/kg	1800	1800	R	ug/kg	1800	1800	UJ	ug/kg	1800
Dibenzofuran	-		ug/kg		370	U	ug/kg	370	360	R	ug/kg	360	360	UJ	ug/kg	360
2,4-Dinitrotoluene	-		ug/kg		370	U	ug/kg	370	360	R	ug/kg	360	360	UJ	ug/kg	360
Diethylphthalate	-		ug/kg		370	U	ug/kg	370	360	R	ug/kg	360	360	UJ	ug/kg	360
4-Chlorophenyl-phenylether	-		ug/kg		370	U	ug/kg	370	360	R	ug/kg	360	360	UJ	ug/kg	360
Fluorene	-		ug/kg		370	U	ug/kg	370	360	R	ug/kg	360	360	UJ	ug/kg	360
4-Nitroaniline	-		ug/kg		1800	U	ug/kg	1800	1800	R	ug/kg	1800	1800	UJ	ug/kg	1800
4,6-Dinitro-2-methylphenol	-		ug/kg		1800	U	ug/kg	1800	1800	R	ug/kg	1800	1800	UJ	ug/kg	1800
N-Nitrosodiphenylamine	-		ug/kg		370	U	ug/kg	370	360	R	ug/kg	360	360	UJ	ug/kg	360
1,2-Diphenylhydrazine	-		ug/kg		370	U	ug/kg	370	360	R	ug/kg	360	360	UJ	ug/kg	360
4-Bromophenyl-phenylether	-		ug/kg		370	U	ug/kg	370	360	R	ug/kg	360	360	UJ	ug/kg	360
Hexachlorobenzene	-		ug/kg		370	U	ug/kg	370	360	R	ug/kg	360	360	UJ	ug/kg	360
Pentachlorophenol	-		ug/kg		1800	U	ug/kg	1800	1800	R	ug/kg	1800	1800	UJ	ug/kg	1800
Phenanthrene	-		ug/kg		370	U	ug/kg	370	52	R	ug/kg	360	140	J	ug/kg	360
Anthracene	-		ug/kg		370	U	ug/kg	370	360	R	ug/kg	360	360	UJ	ug/kg	360
Di-n-Butylphthalate	-		ug/kg		370	U	ug/kg	370	360	R	ug/kg	360	360	UJ	ug/kg	360
Fluoranthene	-		ug/kg		370	U	ug/kg	370	360	R	ug/kg	360	360	UJ	ug/kg	360
Pyrene	-		ug/kg		370	U	ug/kg	370	360	R	ug/kg	360	360	UJ	ug/kg	360
Butylbenzylphthalate	-		ug/kg		370	U	ug/kg	370	360	R	ug/kg	360	360	UJ	ug/kg	360
3,3-Dichlorobenzidine	-		ug/kg		740	U	ug/kg	740	720	R	ug/kg	720	720	UJ	ug/kg	720
Benzo (a) anthracene	-		ug/kg		370	U	ug/kg	370	360	R	ug/kg	360	360	UJ	ug/kg	360
Chrysene	-		ug/kg		370	U	ug/kg	370	360	R	ug/kg	360	360	UJ	ug/kg	360
bis(2-Ethylhexyl) phthalate	-		ug/kg		370	U	ug/kg	370	360	R	ug/kg	360	360	UJ	ug/kg	360
Di-n-octylphthalate	-		ug/kg		370	U	ug/kg	370	360	R	ug/kg	360	360	UJ	ug/kg	360
Benzo (b) fluoranthene	-		ug/kg		370	U	ug/kg	370	360	R	ug/kg	360	360	UJ	ug/kg	360
Benzo (k) fluoranthene	-		ug/kg		370	U	ug/kg	370	360	R	ug/kg	360	360	UJ	ug/kg	360
Benzo (a) pyrene	-		ug/kg		370	U	ug/kg	370	360	R	ug/kg	360	360	UJ	ug/kg	360
Indeno (1,2,3-cd) pyrene	-		ug/kg		370	U	ug/kg	370	360	R	ug/kg	360	360	UJ	ug/kg	360
Dibenzo (a,h) anthracene	-		ug/kg		370	U	ug/kg	370	360	R	ug/kg	360	360	UJ	ug/kg	360
Benzo (g,h,i) perylene	-		ug/kg		370	U	ug/kg	370	360	R	ug/kg	360	360	UJ	ug/kg	360
2-Picoline	-		ug/kg		1800	U	ug/kg	1800	1800	R	ug/kg	1800	1800	UJ	ug/kg	1800
Methyl methanesulfonate	-		ug/kg		370	U	ug/kg	370	360	R	ug/kg	360	360	UJ	ug/kg	360
Ethyl methanesulfonate	-		ug/kg		370	U	ug/kg	370	360	R	ug/kg	360	360	UJ	ug/kg	360
Acetophenone	-		ug/kg		370	U	ug/kg	370	360	R	ug/kg	360	360	UJ	ug/kg	360
N-Nitrosopiperidine	-		ug/kg		370	U	ug/kg	370	360	R	ug/kg	360	360	UJ	ug/kg	360
Phenyl-tert-butylamine	-		ug/kg		1800	UJ	ug/kg	1800	1800	R	ug/kg	1800	1800	UJ	ug/kg	1800
2,6-Dichlorophenol	-		ug/kg		370	U	ug/kg	370	360	R	ug/kg	360	360	UJ	ug/kg	360
N-Nitroso-di-n-butylamine	-		ug/kg		370	U	ug/kg	370	360	R	ug/kg	360	360	UJ	ug/kg	360
N-Nitrosodiethylamine	-		ug/kg		370	U	ug/kg	370	360	R	ug/kg	360	360	UJ	ug/kg	360
N-Nitrosopyrrolidine	-		ug/kg		370	U	ug/kg	370	360	R	ug/kg	360	360	UJ	ug/kg	360
Benzidine	-		ug/kg		1800	U	ug/kg	1800	1800	R	ug/kg	1800	1800	UJ	ug/kg	1800
1,2,4,5-Tetrachlorobenzene	-		ug/kg		1800	U	ug/kg	1800	1800	R	ug/kg	1800	1800	UJ	ug/kg	1800
Pentachlorobenzene	-		ug/kg		1800	U	ug/kg	1800	1800	R	ug/kg	1800	1800	UJ	ug/kg	1800
1-Naphthylamine	-		ug/kg		1800	U	ug/kg	1800	1800	R	ug/kg	1800	1800	UJ	ug/kg	1800
2-Naphthylamine	-		ug/kg		1800	U	ug/kg	1800	1800	R	ug/kg	1800	1800	UJ	ug/kg	1800
2,3,4,6-Tetrachlorophenol	-		ug/kg		370	U	ug/kg	370	360	R	ug/kg	360	360	UJ	ug/kg	360
Phenacetin	-		ug/kg		370	U	ug/kg	370	360	R	ug/kg	360	360	UJ	ug/kg	360
4-Aminobiphenyl	-		ug/kg		1800	U	ug/kg	1800	1800	R	ug/kg	1800	1800	UJ	ug/kg	1800
Pentachloronitrobenzene	-		ug/kg		1800	U	ug/kg	1800	1800	R	ug/kg	1800	1800	UJ	ug/kg	1800
Pronamide	-		ug/kg		370	U	ug/kg	370	360	R	ug/kg	360	360	UJ	ug/kg	360

US Naval Station, Mayport, Florida
Fleet Training Center(SWMU 14) - Northern Burn Area Subsurface Soil Data

Lab Sample Number:	M8995006				M8638010				M8638011				M8638015			
Site	GROUPIII				GROUPIII				GROUPIII				GROUPIII			
Locator	14B02303				14B03403				14B03503				14B03603			
Collect Date:	21-MAY-95				21-AUG-96				21-AUG-96				22-AUG-96			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
N-Nitrosodiphenylamine	400	U	ug/kg	400	390	U	ug/kg	390	740	U	ug/kg	740	7500	U	ug/kg	7500
1,2-Diphenylhydrazine	400	U	ug/kg	400	390	U	ug/kg	390	740	U	ug/kg	740	7500	U	ug/kg	7500
4-Bromophenyl-phenylether	400	U	ug/kg	400	390	U	ug/kg	390	740	U	ug/kg	740	7500	U	ug/kg	7500
Hexachlorobenzene	400	U	ug/kg	400	390	U	ug/kg	390	740	U	ug/kg	740	7500	U	ug/kg	7500
Pentachlorophenol	2000	U	ug/kg	2000	1900	UJ	ug/kg	1900	3700	U	ug/kg	3700	37000	U	ug/kg	37000
Phenanthrene	400	U	ug/kg	400	390	U	ug/kg	390	420	J	ug/kg	740	1600	J	ug/kg	7500
Anthracene	400	U	ug/kg	400	390	U	ug/kg	390	740	U	ug/kg	740	7500	U	ug/kg	7500
Di-n-Butylphthalate	400	U	ug/kg	400	390	U	ug/kg	390	740	U	ug/kg	740	7500	U	ug/kg	7500
Fluoranthene	400	U	ug/kg	400	390	U	ug/kg	390	740	U	ug/kg	740	7500	U	ug/kg	7500
Pyrene	400	U	ug/kg	400	390	U	ug/kg	390	740	U	ug/kg	740	7500	U	ug/kg	7500
Butylbenzylphthalate	400	U	ug/kg	400	86	J	ug/kg	390	740	U	ug/kg	740	7500	U	ug/kg	7500
3,3-Dichlorobenzidine	790	U	ug/kg	790	780	U	ug/kg	780	1500	U	ug/kg	1500	15000	U	ug/kg	15000
Benzo (a) anthracene	400	U	ug/kg	400	390	U	ug/kg	390	740	U	ug/kg	740	7500	U	ug/kg	7500
Chrysene	400	U	ug/kg	400	390	U	ug/kg	390	740	U	ug/kg	740	7500	U	ug/kg	7500
bis(2-Ethylhexyl) phthalate	400	U	ug/kg	400	48	J	ug/kg	390	740	U	ug/kg	740	7500	U	ug/kg	7500
Di-n-octylphthalate	400	U	ug/kg	400	390	U	ug/kg	390	740	U	ug/kg	740	7500	U	ug/kg	7500
Benzo (b) fluoranthene	400	U	ug/kg	400	390	U	ug/kg	390	740	U	ug/kg	740	7500	U	ug/kg	7500
Benzo (k) fluoranthene	400	U	ug/kg	400	390	U	ug/kg	390	740	U	ug/kg	740	7500	U	ug/kg	7500
Benzo (a) pyrene	400	U	ug/kg	400	390	U	ug/kg	390	740	U	ug/kg	740	7500	U	ug/kg	7500
Indeno (1,2,3-cd) pyrene	400	U	ug/kg	400	390	U	ug/kg	390	740	U	ug/kg	740	7500	U	ug/kg	7500
Dibenzo (a,h) anthracene	400	U	ug/kg	400	390	U	ug/kg	390	740	U	ug/kg	740	7500	U	ug/kg	7500
Benzo (g,h,i) perylene	400	U	ug/kg	400	390	U	ug/kg	390	740	U	ug/kg	740	7500	U	ug/kg	7500
2-Picoline	2000	U	ug/kg	2000	1900	U	ug/kg	1900	3700	U	ug/kg	3700	37000	U	ug/kg	37000
Methyl methanesulfonate	400	U	ug/kg	400	390	U	ug/kg	390	740	U	ug/kg	740	7500	U	ug/kg	7500
Ethyl methanesulfonate	400	U	ug/kg	400	390	U	ug/kg	390	740	U	ug/kg	740	7500	U	ug/kg	7500
Acetophenone	400	U	ug/kg	400	390	U	ug/kg	390	740	U	ug/kg	740	7500	U	ug/kg	7500
N-Nitrosopiperidine	400	U	ug/kg	400	390	U	ug/kg	390	740	U	ug/kg	740	7500	U	ug/kg	7500
Phenyl-tert-butylamine	2000	U	ug/kg	2000	1900	U	ug/kg	1900	3700	UJ	ug/kg	3700	37000	U	ug/kg	37000
2,6-Dichlorophenol	400	U	ug/kg	400	390	U	ug/kg	390	740	U	ug/kg	740	7500	U	ug/kg	7500
N-Nitroso-di-n-butylamine	400	U	ug/kg	400	390	U	ug/kg	390	740	U	ug/kg	740	7500	U	ug/kg	7500
N-Nitrosodiethylamine	400	U	ug/kg	400	390	U	ug/kg	390	740	U	ug/kg	740	7500	U	ug/kg	7500
N-Nitrosopyrrolidine	400	U	ug/kg	400	390	U	ug/kg	390	740	U	ug/kg	740	7500	U	ug/kg	7500
Benzidine	2000	U	ug/kg	2000	1900	U	ug/kg	1900	3700	U	ug/kg	3700	37000	U	ug/kg	37000
1,2,4,5-Tetrachlorobenzene	2000	U	ug/kg	2000	1900	U	ug/kg	1900	3700	U	ug/kg	3700	37000	U	ug/kg	37000
Pentachlorobenzene	2000	U	ug/kg	2000	1900	U	ug/kg	1900	3700	U	ug/kg	3700	37000	U	ug/kg	37000
1-Naphthylamine	2000	U	ug/kg	2000	1900	U	ug/kg	1900	3700	U	ug/kg	3700	37000	U	ug/kg	37000
2-Naphthylamine	2000	U	ug/kg	2000	1900	U	ug/kg	1900	3700	U	ug/kg	3700	37000	U	ug/kg	37000
2,3,4,6-Tetrachlorophenol	400	U	ug/kg	400	390	UJ	ug/kg	390	740	U	ug/kg	740	7500	U	ug/kg	7500
Phenacetin	400	U	ug/kg	400	390	UJ	ug/kg	390	740	U	ug/kg	740	7500	U	ug/kg	7500
4-Aminobiphenyl	2000	U	ug/kg	2000	1900	U	ug/kg	1900	3700	U	ug/kg	3700	37000	U	ug/kg	37000
Pentachloronitrobenzene	2000	U	ug/kg	2000	1900	UJ	ug/kg	1900	3700	U	ug/kg	3700	37000	U	ug/kg	37000
Pronamide	400	U	ug/kg	400	390	U	ug/kg	390	740	U	ug/kg	740	7500	U	ug/kg	7500
p-Dimethylaminoazobenzene	400	U	ug/kg	400	390	U	ug/kg	390	740	U	ug/kg	740	7500	U	ug/kg	7500
7,12-Dimethylbenz(A)Anthracene	400	U	ug/kg	400	390	UJ	ug/kg	390	740	U	ug/kg	740	7500	U	ug/kg	7500
3-Methylcholanthrene	400	U	ug/kg	400	390	U	ug/kg	390	740	U	ug/kg	740	7500	U	ug/kg	7500
Pyridine	2000	U	ug/kg	2000	1900	U	ug/kg	1900	3700	U	ug/kg	3700	37000	U	ug/kg	37000
N-Nitrosomethylethylamine	400	U	ug/kg	400	390	U	ug/kg	390	740	U	ug/kg	740	7500	U	ug/kg	7500
N-Nitrosomorpholine	400	U	ug/kg	400	390	U	ug/kg	390	740	U	ug/kg	740	7500	U	ug/kg	7500
o-Toluidine	400	U	ug/kg	400	390	U	ug/kg	390	740	U	ug/kg	740	7500	U	ug/kg	7500
Hexachloropropene	2000	U	ug/kg	2000	1900	U	ug/kg	1900	3700	U	ug/kg	3700	37000	U	ug/kg	37000
p-Phenylenediamine	20000	U	ug/kg	20000	19000	UJ	ug/kg	19000	37000	U	ug/kg	37000	370000	U	ug/kg	370000
Safrole	2000	U	ug/kg	2000	1900	U	ug/kg	1900	3700	U	ug/kg	3700	37000	U	ug/kg	37000

US Naval Station, Mayport, Florida
Fleet Training Center(SWMU 14) - Northern Burn Area Subsurface Soil Data

Lab Sample Number:	MB995006				MB638010				MB638011				MB638015			
Site	GROUPIII				GROUPIII				GROUPIII				GROUPIII			
Locator	14B02303				14B03403				14B03503				14B03603			
Collect Date:	21-MAY-95				21-AUG-96				21-AUG-96				22-AUG-96			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
INORGANICS (SOIL) mg/kg																
Antimony	.5	U	mg/kg	.5	.6	UJ	mg/kg	.6	.57	UJ	mg/kg	.57	.57	UJ	mg/kg	.57
Arsenic	1.1	J	mg/kg	.18	.22	UJ	mg/kg	.22	.21	UJ	mg/kg	.21	.21	UJ	mg/kg	.21
Barium	2.8	J	mg/kg	.096	2.7	J	mg/kg	.082	3.9	J	mg/kg	.078	2.3	J	mg/kg	.079
Beryllium	.1	J	mg/kg	.034	.03	UJ	mg/kg	.03	.03	UJ	mg/kg	.03	.03	UJ	mg/kg	.03
Cadmium	.7	U	mg/kg	.7	.77	U	mg/kg	.77	.73	U	mg/kg	.73	.74	U	mg/kg	.74
Chromium	2	J	mg/kg	1.4	2.8		mg/kg	.51	1.8	J	mg/kg	.49	2.1	J	mg/kg	.5
Cobalt	.89	U	mg/kg	.89	.58	U	mg/kg	.58	.55	U	mg/kg	.55	.56	U	mg/kg	.56
Copper	.38	U	mg/kg	.38	.28	U	mg/kg	.28	2.5	UJ	mg/kg	2.5	2	UJ	mg/kg	2
Cyanide	.12	U	mg/kg	.12	.1	U	mg/kg	.1	.1	U	mg/kg	.1	.1	U	mg/kg	.1
Lead	2.4		mg/kg	.26	1.6	J	mg/kg	.18	1.1	J	mg/kg	.17	1.1	J	mg/kg	.17
Mercury	.08	UJ	mg/kg	.08	.03	U	mg/kg	.03	.03	U	mg/kg	.03	.03	U	mg/kg	.03
Nickel	1.7	U	mg/kg	1.7	1.3	U	mg/kg	1.3	1.2	U	mg/kg	1.2	1.2	U	mg/kg	1.2
Selenium	.26	UJ	mg/kg	.26	.29	U	mg/kg	.29	.28	U	mg/kg	.28	.28	U	mg/kg	.28
Silver	.43	U	mg/kg	.43	.51	U	mg/kg	.51	.49	U	mg/kg	.49	.5	U	mg/kg	.5
Thallium	.41	U	mg/kg	.41	.18	UJ	mg/kg	.18	.18	UJ	mg/kg	.18	.18	UJ	mg/kg	.18
Tin	2.6	J	mg/kg	2.2	29.1		mg/kg	2.8	2.6	U	mg/kg	2.6	2.7	U	mg/kg	2.7
Vanadium	1.9	J	mg/kg	.48	1.8	J	mg/kg	.4	1.7	J	mg/kg	.38	1.3	J	mg/kg	.38
Zinc	3.6	UJ	mg/kg	3.6	4.7		mg/kg	.23	5.5		mg/kg	.22	10.2		mg/kg	.23

U = NOT DETECTED R = RESULT IS REJECTED
J = ESTIMATED VALUE UJ = REPORTED QUANTITATION LIMIT IS ESTIMATED
THE ADDITIONAL LISTINGS OF RESULTS FOR 1,2-; 1,3-; AND 1,4-DICHLOROBENZENE WERE GENERATED FROM THE SVOC (8270) ANALYTICAL RUN.

US Naval Station, Mayport, Florida
Fleet Training Center(SWMU 14) - Northern Burn Area Subsurface Soil Data

Lab Sample Number:		MB638015R				MB638016				MB638018				MB638018RE			
Site		GROUPIII				GROUPIII				GROUPIII				GROUPIII			
Locator		14B03603RE				14B03703				14B03803				14B03803RE			
Collect Date:		22-AUG-96				22-AUG-96				22-AUG-96				22-AUG-96			
		VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
VOLATILES	ug/kg																
Chloromethane		11	R	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	-		ug/kg	
Bromomethane		11	R	ug/kg	11	11	UJ	ug/kg	11	11	UJ	ug/kg	11	-		ug/kg	
Vinyl chloride		11	R	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	-		ug/kg	
Chloroethane		11	R	ug/kg	11	11	UJ	ug/kg	11	11	UJ	ug/kg	11	-		ug/kg	
Methylene chloride		6	R	ug/kg	6	1	J	ug/kg	6	5	U	ug/kg	5	-		ug/kg	
Acetone		120	R	ug/kg	11	11	U	ug/kg	11	25	U	ug/kg	25	-		ug/kg	
Carbon disulfide		6	R	ug/kg	6	6	U	ug/kg	6	5	U	ug/kg	5	-		ug/kg	
1,1-Dichloroethane		6	R	ug/kg	6	6	U	ug/kg	6	5	U	ug/kg	5	-		ug/kg	
1,1-Dichloroethene		6	R	ug/kg	6	6	U	ug/kg	6	5	U	ug/kg	5	-		ug/kg	
1,2-Dichloroethene (total)		6	R	ug/kg	6	6	U	ug/kg	6	5	U	ug/kg	5	-		ug/kg	
Chloroform		6	R	ug/kg	6	6	U	ug/kg	6	5	U	ug/kg	5	-		ug/kg	
1,2-Dichloroethane		6	R	ug/kg	6	6	U	ug/kg	6	5	U	ug/kg	5	-		ug/kg	
2-Butanone		33	R	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	-		ug/kg	
1,1,1-Trichloroethane		6	R	ug/kg	6	6	U	ug/kg	6	5	U	ug/kg	5	-		ug/kg	
Carbon tetrachloride		6	R	ug/kg	6	6	U	ug/kg	6	5	U	ug/kg	5	-		ug/kg	
Bromodichloromethane		6	R	ug/kg	6	6	U	ug/kg	6	5	U	ug/kg	5	-		ug/kg	
1,2-Dichloropropane		6	R	ug/kg	6	6	U	ug/kg	6	5	U	ug/kg	5	-		ug/kg	
cis-1,3-Dichloropropene		6	R	ug/kg	6	6	U	ug/kg	6	5	U	ug/kg	5	-		ug/kg	
Trichloroethene		6	R	ug/kg	6	6	U	ug/kg	6	5	U	ug/kg	5	-		ug/kg	
Dibromochloromethane		6	R	ug/kg	6	6	U	ug/kg	6	5	U	ug/kg	5	-		ug/kg	
1,1,2-Trichloroethane		6	R	ug/kg	6	6	U	ug/kg	6	5	U	ug/kg	5	-		ug/kg	
Benzene		6	R	ug/kg	6	6	U	ug/kg	6	5	U	ug/kg	5	-		ug/kg	
trans-1,3-Dichloropropene		6	R	ug/kg	6	6	U	ug/kg	6	5	U	ug/kg	5	-		ug/kg	
Bromoform		6	R	ug/kg	6	6	U	ug/kg	6	5	U	ug/kg	5	-		ug/kg	
4-Methyl-2-pentanone		11	R	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	-		ug/kg	
2-Hexanone		84	R	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	-		ug/kg	
Tetrachloroethene		6	R	ug/kg	6	6	U	ug/kg	6	5	U	ug/kg	5	-		ug/kg	
1,1,2,2-Tetrachloroethane		6	R	ug/kg	6	6	U	ug/kg	6	5	U	ug/kg	5	-		ug/kg	
Toluene		3	R	ug/kg	6	1	J	ug/kg	6	1	J	ug/kg	5	-		ug/kg	
Chlorobenzene		6	R	ug/kg	6	6	U	ug/kg	6	5	U	ug/kg	5	-		ug/kg	
Ethylbenzene		12	R	ug/kg	6	6	U	ug/kg	6	5	U	ug/kg	5	-		ug/kg	
Styrene		6	R	ug/kg	6	6	U	ug/kg	6	5	U	ug/kg	5	-		ug/kg	
Xylenes (total)		9	R	ug/kg	6	6	U	ug/kg	6	5	U	ug/kg	5	-		ug/kg	
Dichlorodifluoromethane		11	R	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	-		ug/kg	
Trichlorofluoromethane		6	R	ug/kg	6	6	U	ug/kg	6	5	U	ug/kg	5	-		ug/kg	
1,3-Dichlorobenzene		6	R	ug/kg	6	6	U	ug/kg	6	360	R	ug/kg	360	360	UJ	ug/kg	360
Acrolein		110	R	ug/kg	110	110	U	ug/kg	110	110	U	ug/kg	110	-		ug/kg	
Iodomethane		11	R	ug/kg	11	11	UJ	ug/kg	11	11	UJ	ug/kg	11	-		ug/kg	
1,4-Dichlorobenzene		6	R	ug/kg	6	370	U	ug/kg	370	360	R	ug/kg	360	360	UJ	ug/kg	360
Acrylonitrile		110	R	ug/kg	110	110	U	ug/kg	110	110	U	ug/kg	110	-		ug/kg	

US Naval Station, Mayport, Florida
Fleet Training Center(SWMU 14) - Northern Burn Area Groundwater Data

Lab Sample Number:		RA024011			RA044012			RA044013			MB747002		
Site		GROUPIII			GROUPIII			GROUPIII			GROUPIII		
Locator		14G00301			14G00701			14G01301			14G01601		
Collect Date:		15-JUN-95			18-JUN-95			18-JUN-95			04-SEP-96		
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	
VOLATILES	ug/l												
Chloromethane		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Bromomethane		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Vinyl chloride		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Chloroethane		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Methylene chloride		5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
Acetone		18	U	ug/l	18	78	U	ug/l	78	10	U	ug/l	10
Carbon disulfide		5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
1,1-Dichloroethane		5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
1,1-Dichloroethene		5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
1,2-Dichloroethene (total)		5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
Chloroform		5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
1,2-Dichloroethane		5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
2-Butanone		10	R	ug/l	10	10	R	ug/l	10	10	R	ug/l	10
1,1,1-Trichloroethane		5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
Carbon tetrachloride		5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
Bromodichloromethane		5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
1,2-Dichloropropane		5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
cis-1,3-Dichloropropene		5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
Trichloroethene		5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
Dibromochloromethane		5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
1,1,2-Trichloroethane		5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
Benzene		5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
trans-1,3-Dichloropropene		5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
Bromoform		5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
4-Methyl-2-pentanone		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
2-Hexanone		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Tetrachloroethene		5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
1,1,2,2-Tetrachloroethane		5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
Toluene		5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
Chlorobenzene		5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
Ethylbenzene		5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
Styrene		5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
Xylenes (total)		5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
Dichlorodifluoromethane		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Trichlorofluoromethane		5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
1,3-Dichlorobenzene		5	U	ug/l	5	10	U	ug/l	10	5	U	ug/l	5
Acrolein		100	U	ug/l	100	100	U	ug/l	100	100	U	ug/l	100
Iodomethane		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
1,4-Dichlorobenzene		10	U	ug/l	10	5	U	ug/l	5	5	U	ug/l	5
Acrylonitrile		100	U	ug/l	100	100	U	ug/l	100	100	U	ug/l	100
Dibromomethane		5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
1,2-Dichlorobenzene		10	U	ug/l	10	10	U	ug/l	10	5	U	ug/l	5
2-Chloroethylvinyl ether		10	U	ug/l	10	10	UJ	ug/l	10	10	UJ	ug/l	10
Ethyl methacrylate		5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
1,2,3-Trichloropropane		5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
trans-1,4-Dichloro-2-butene		5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
Isobutyl alcohol		200	R	ug/l	200	200	R	ug/l	200	200	R	ug/l	200
1,1,1,2-Tetrachloroethane		5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
1,2-Dibromo-3-chloropropane		10	UJ	ug/l	10	10	UJ	ug/l	10	10	UJ	ug/l	10
Ethylene dibromide		5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5

US Naval Station, Mayport, Florida
Fleet Training Center(SWMU 14) - Northern Burn Area Subsurface Soil Data

Lab Sample Number:	MB638015R				MB638016				MB638018				MB638018RE			
Site	GROUPIII				GROUPIII				GROUPIII				GROUPIII			
Locator	14B03603RE				14B03703				14B03803				14B03803RE			
Collect Date:	22-AUG-96				22-AUG-96				22-AUG-96				22-AUG-96			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
Acenaphthene	-		ug/kg		370	U	ug/kg	370	360	R	ug/kg	360	360	UJ	ug/kg	360
2,4-Dinitrophenol	-		ug/kg		1800	U	ug/kg	1800	1800	R	ug/kg	1800	1800	UJ	ug/kg	1800
4-Nitrophenol	-		ug/kg		1800	U	ug/kg	1800	1800	R	ug/kg	1800	1800	UJ	ug/kg	1800
Dibenzofuran	-		ug/kg		370	U	ug/kg	370	360	R	ug/kg	360	360	UJ	ug/kg	360
2,4-Dinitrotoluene	-		ug/kg		370	U	ug/kg	370	360	R	ug/kg	360	360	UJ	ug/kg	360
Diethylphthalate	-		ug/kg		370	U	ug/kg	370	360	R	ug/kg	360	360	UJ	ug/kg	360
4-Chlorophenyl-phenylether	-		ug/kg		370	U	ug/kg	370	360	R	ug/kg	360	360	UJ	ug/kg	360
Fluorene	-		ug/kg		370	U	ug/kg	370	360	R	ug/kg	360	360	UJ	ug/kg	360
4-Nitroaniline	-		ug/kg		1800	U	ug/kg	1800	1800	R	ug/kg	1800	1800	UJ	ug/kg	1800
4,6-Dinitro-2-methylphenol	-		ug/kg		1800	U	ug/kg	1800	1800	R	ug/kg	1800	1800	UJ	ug/kg	1800
N-Nitrosodiphenylamine	-		ug/kg		370	U	ug/kg	370	360	R	ug/kg	360	360	UJ	ug/kg	360
1,2-Diphenylhydrazine	-		ug/kg		370	U	ug/kg	370	360	R	ug/kg	360	360	UJ	ug/kg	360
4-Bromophenyl-phenylether	-		ug/kg		370	U	ug/kg	370	360	R	ug/kg	360	360	UJ	ug/kg	360
Hexachlorobenzene	-		ug/kg		370	U	ug/kg	370	360	R	ug/kg	360	360	UJ	ug/kg	360
Pentachlorophenol	-		ug/kg		1800	U	ug/kg	1800	1800	R	ug/kg	1800	1800	UJ	ug/kg	1800
Phenanthrene	-		ug/kg		370	U	ug/kg	370	52	R	ug/kg	360	140	J	ug/kg	360
Anthracene	-		ug/kg		370	U	ug/kg	370	360	R	ug/kg	360	360	UJ	ug/kg	360
Di-n-Butylphthalate	-		ug/kg		370	U	ug/kg	370	360	R	ug/kg	360	360	UJ	ug/kg	360
Fluoranthene	-		ug/kg		370	U	ug/kg	370	360	R	ug/kg	360	360	UJ	ug/kg	360
Pyrene	-		ug/kg		370	U	ug/kg	370	360	R	ug/kg	360	360	UJ	ug/kg	360
Butylbenzylphthalate	-		ug/kg		370	U	ug/kg	370	360	R	ug/kg	360	360	UJ	ug/kg	360
3,3-Dichlorobenzidine	-		ug/kg		740	U	ug/kg	740	720	R	ug/kg	720	720	UJ	ug/kg	720
Benzo (a) anthracene	-		ug/kg		370	U	ug/kg	370	360	R	ug/kg	360	360	UJ	ug/kg	360
Chrysene	-		ug/kg		370	U	ug/kg	370	360	R	ug/kg	360	360	UJ	ug/kg	360
bis(2-Ethylhexyl) phthalate	-		ug/kg		370	U	ug/kg	370	360	R	ug/kg	360	360	UJ	ug/kg	360
Di-n-octylphthalate	-		ug/kg		370	U	ug/kg	370	360	R	ug/kg	360	360	UJ	ug/kg	360
Benzo (b) fluoranthene	-		ug/kg		370	U	ug/kg	370	360	R	ug/kg	360	360	UJ	ug/kg	360
Benzo (k) fluoranthene	-		ug/kg		370	U	ug/kg	370	360	R	ug/kg	360	360	UJ	ug/kg	360
Benzo (a) pyrene	-		ug/kg		370	U	ug/kg	370	360	R	ug/kg	360	360	UJ	ug/kg	360
Indeno (1,2,3-cd) pyrene	-		ug/kg		370	U	ug/kg	370	360	R	ug/kg	360	360	UJ	ug/kg	360
Dibenzo (a,h) anthracene	-		ug/kg		370	U	ug/kg	370	360	R	ug/kg	360	360	UJ	ug/kg	360
Benzo (g,h,i) perylene	-		ug/kg		1800	U	ug/kg	1800	1800	R	ug/kg	1800	1800	UJ	ug/kg	1800
2-Picoline	-		ug/kg		370	U	ug/kg	370	360	R	ug/kg	360	360	UJ	ug/kg	360
Methyl methanesulfonate	-		ug/kg		370	U	ug/kg	370	360	R	ug/kg	360	360	UJ	ug/kg	360
Ethyl methanesulfonate	-		ug/kg		370	U	ug/kg	370	360	R	ug/kg	360	360	UJ	ug/kg	360
Acetophenone	-		ug/kg		370	U	ug/kg	370	360	R	ug/kg	360	360	UJ	ug/kg	360
N-Nitrosopiperidine	-		ug/kg		1800	UJ	ug/kg	1800	1800	R	ug/kg	1800	1800	UJ	ug/kg	1800
Phenyl-tert-butylamine	-		ug/kg		370	U	ug/kg	370	360	R	ug/kg	360	360	UJ	ug/kg	360
2,6-Dichlorophenol	-		ug/kg		370	U	ug/kg	370	360	R	ug/kg	360	360	UJ	ug/kg	360
N-Nitroso-di-n-butylamine	-		ug/kg		370	U	ug/kg	370	360	R	ug/kg	360	360	UJ	ug/kg	360
N-Nitrosodiethylamine	-		ug/kg		370	U	ug/kg	370	360	R	ug/kg	360	360	UJ	ug/kg	360
N-Nitrosopyrrolidine	-		ug/kg		1800	U	ug/kg	1800	1800	R	ug/kg	1800	1800	UJ	ug/kg	1800
Benzidine	-		ug/kg		1800	U	ug/kg	1800	1800	R	ug/kg	1800	1800	UJ	ug/kg	1800
1,2,4,5-Tetrachlorobenzene	-		ug/kg		1800	U	ug/kg	1800	1800	R	ug/kg	1800	1800	UJ	ug/kg	1800
Pentachlorobenzene	-		ug/kg		1800	U	ug/kg	1800	1800	R	ug/kg	1800	1800	UJ	ug/kg	1800
1-Naphthylamine	-		ug/kg		1800	U	ug/kg	1800	1800	R	ug/kg	1800	1800	UJ	ug/kg	1800
2-Naphthylamine	-		ug/kg		370	U	ug/kg	370	360	R	ug/kg	360	360	UJ	ug/kg	360
2,3,4,6-Tetrachlorophenol	-		ug/kg		370	U	ug/kg	370	360	R	ug/kg	360	360	UJ	ug/kg	360
Phenacetin	-		ug/kg		1800	U	ug/kg	1800	1800	R	ug/kg	1800	1800	UJ	ug/kg	1800
4-Aminobiphenyl	-		ug/kg		1800	U	ug/kg	1800	1800	R	ug/kg	1800	1800	UJ	ug/kg	1800
Pentachloronitrobenzene	-		ug/kg		370	U	ug/kg	370	360	R	ug/kg	360	360	UJ	ug/kg	360
Pronamide	-		ug/kg													

US Naval Station, Mayport, Florida
Fleet Training Center(SWMU 14) - Northern Burn Area Groundwater Data

Lab Sample Number:	RA024011				RA044012				RA044013				MB747002			
Site	GROUPIII				GROUPIII				GROUPIII				GROUPIII			
Locator	14G00301				14G00701				14G01301				14G01601			
Collect Date:	15-JUN-95				18-JUN-95				18-JUN-95				04-SEP-96			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
N-Nitrosodiphenylamine	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
1,2-Diphenylhydrazine	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
4-Bromophenyl-phenylether	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Hexachlorobenzene	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Pentachlorophenol	50	U	ug/l	50	50	U	ug/l	50	50	U	ug/l	50	50	U	ug/l	50
Phenanthrene	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Anthracene	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Di-n-Butylphthalate	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Fluoranthene	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Pyrene	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Butylbenzylphthalate	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
3,3-Dichlorobenzidine	20	U	ug/l	20	20	U	ug/l	20	20	U	ug/l	20	20	U	ug/l	20
Benzo (a) anthracene	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Chrysene	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
bis(2-Ethylhexyl) phthalate	10	U	ug/l	10	2	J	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Di-n-octylphthalate	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Benzo (b) fluoranthene	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Benzo (k) fluoranthene	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Benzo (a) pyrene	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Indeno (1,2,3-cd) pyrene	10	UJ	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Dibenzo (a,h) anthracene	10	UJ	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Benzo (g,h,i) perylene	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
2-Picoline	50	U	ug/l	50	50	U	ug/l	50	50	U	ug/l	50	50	U	ug/l	50
Methyl methanesulfonate	10	UJ	ug/l	10	10	UJ	ug/l	10	10	UJ	ug/l	10	10	U	ug/l	10
Ethyl methanesulfonate	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Acetophenone	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
N-Nitrosopiperidine	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Phenyl-tert-butylamine	50	U	ug/l	50	50	UJ	ug/l	50	50	UJ	ug/l	50	50	U	ug/l	50
2,6-Dichlorophenol	10	UJ	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
N-Nitroso-di-n-butylamine	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
N-Nitrosodiethylamine	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
N-Nitrosopyrrolidine	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Benzidine	50	U	ug/l	50	50	U	ug/l	50	50	U	ug/l	50	50	U	ug/l	50
1,2,4,5-Tetrachlorobenzene	50	U	ug/l	50	50	U	ug/l	50	50	U	ug/l	50	50	U	ug/l	50
Pentachlorobenzene	50	U	ug/l	50	50	U	ug/l	50	50	U	ug/l	50	50	U	ug/l	50
1-Naphthylamine	50	UJ	ug/l	50	50	UJ	ug/l	50	50	UJ	ug/l	50	50	U	ug/l	50
2-Naphthylamine	50	UJ	ug/l	50	50	U	ug/l	50	50	U	ug/l	50	50	U	ug/l	50
2,3,4,6-Tetrachlorophenol	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Phenacetin	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	UJ	ug/l	10
4-Aminobiphenyl	50	UJ	ug/l	50	50	U	ug/l	50	50	U	ug/l	50	50	U	ug/l	50
Pentachloronitrobenzene	50	U	ug/l	50	50	U	ug/l	50	50	U	ug/l	50	50	U	ug/l	50
Pronamide	10	UJ	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
p-Dimethylaminoazobenzene	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
7,12-Dimethylbenz(A)Anthracene	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
3-Methylcholanthrene	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Pyridine	50	U	ug/l	50	50	U	ug/l	50	50	U	ug/l	50	50	U	ug/l	50
N-Nitrosomethylethylamine	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
N-Nitrosomorpholine	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
o-Toluidine	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Hexachloropropene	50	U	ug/l	50	50	UJ	ug/l	50	50	UJ	ug/l	50	50	U	ug/l	50
p-Phenylenediamine	500	UJ	ug/l	500	500	UJ	ug/l	500	500	UJ	ug/l	500	500	UJ	ug/l	500
Safrole	50	UJ	ug/l	50	50	U	ug/l	50	50	U	ug/l	50	50	U	ug/l	50

US Naval Station, Mayport, Florida
Fleet Training Center(SWMU 14) - Northern Burn Area Subsurface Soil Data

Lab Sample Number:		M8995006			MB638010			MB638011			MB638015		
Site		GROUPIII			GROUPIII			GROUPIII			GROUPIII		
Locator		14B02303			14B03403			14B03503			14B03603		
Collect Date:		21-MAY-95			21-AUG-96			21-AUG-96			22-AUG-96		
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	
INORGANICS (SOIL)	mg/kg												
Antimony	.5	U	mg/kg	.5	.6	UJ	mg/kg	.6	.57	UJ	mg/kg	.57	.57 UJ mg/kg .57
Arsenic	1.1	J	mg/kg	.18	.22	UJ	mg/kg	.22	.21	UJ	mg/kg	.21	.21 UJ mg/kg .21
Barium	2.8	J	mg/kg	.096	2.7	J	mg/kg	.082	3.9	J	mg/kg	.078	2.3 J mg/kg .079
Beryllium	.1	J	mg/kg	.034	.03	UJ	mg/kg	.03	.03	UJ	mg/kg	.03	.03 UJ mg/kg .03
Cadmium	.7	U	mg/kg	.7	.77	U	mg/kg	.77	.73	U	mg/kg	.73	.74 U mg/kg .74
Chromium	2	J	mg/kg	1.4	2.8		mg/kg	.51	1.8	J	mg/kg	.49	2.1 J mg/kg .5
Cobalt	.89	U	mg/kg	.89	.58	U	mg/kg	.58	.55	U	mg/kg	.55	.56 U mg/kg .56
Copper	.38	U	mg/kg	.38	.28	U	mg/kg	.28	2.5	UJ	mg/kg	2.5	2 UJ mg/kg 2
Cyanide	.12	U	mg/kg	.12	.1	U	mg/kg	.1	.1	U	mg/kg	.1	.1 U mg/kg .1
Lead	2.4		mg/kg	.26	1.6	J	mg/kg	.18	1.1	J	mg/kg	.17	1.1 J mg/kg .17
Mercury	.08	UJ	mg/kg	.08	.03	U	mg/kg	.03	.03	U	mg/kg	.03	.03 U mg/kg .03
Nickel	1.7	U	mg/kg	1.7	1.3	U	mg/kg	1.3	1.2	U	mg/kg	1.2	1.2 U mg/kg 1.2
Selenium	.26	UJ	mg/kg	.26	.29	U	mg/kg	.29	.28	U	mg/kg	.28	.28 U mg/kg .28
Silver	.43	U	mg/kg	.43	.51	U	mg/kg	.51	.49	U	mg/kg	.49	.5 U mg/kg .5
Thallium	.41	U	mg/kg	.41	.18	UJ	mg/kg	.18	.18	UJ	mg/kg	.18	.18 UJ mg/kg .18
Tin	2.6	J	mg/kg	2.2	29.1		mg/kg	2.8	2.6	U	mg/kg	2.6	2.7 U mg/kg 2.7
Vanadium	1.9	J	mg/kg	.48	1.8	J	mg/kg	.4	1.7	J	mg/kg	.38	1.3 J mg/kg .38
Zinc	3.6	UJ	mg/kg	3.6	4.7		mg/kg	.23	5.5		mg/kg	.22	10.2 mg/kg .23

U = NOT DETECTED R = RESULT IS REJECTED
J = ESTIMATED VALUE UJ = REPORTED QUANTITATION LIMIT IS ESTIMATED
THE ADDITIONAL LISTINGS OF RESULTS FOR 1,2-; 1,3-; AND 1,4-DICHLOROBENZENE WERE GENERATED FROM THE SVOC (8270) ANALYTICAL RUN.

US Naval Station, Mayport, Florida
Fleet Training Center(SWMU 14) - Northern Burn Area Groundwater Data

Lab Sample Number:	RA024011				RA044012				RA044013				MB747002			
Site	GROUPIII				GROUPIII				GROUPIII				GROUPIII			
Locator	14G00301				14G00701				14G01301				14G01601			
Collect Date:	15-JUN-95				18-JUN-95				18-JUN-95				04-SEP-96			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
INORGANICS (WATER) ug/l																
Antimony	5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5	2.6	U	ug/l	2.6
Arsenic	1.9	J	ug/l	.6	1.4	J	ug/l	.6	.6	U	ug/l	.6	29.9		ug/l	2
Barium	5.4	J	ug/l	1.1	5	UJ	ug/l	5	4.2	UJ	ug/l	4.2	12.6	J	ug/l	.35
Beryllium	.3	U	ug/l	.3	.3	U	ug/l	.3	.3	U	ug/l	.3	.13	UJ	ug/l	.13
Cadmium	1.2	U	ug/l	1.2	1.2	U	ug/l	1.2	1.2	U	ug/l	1.2	3.3	U	ug/l	3.3
Calcium	105000		ug/l	34.8	97500		ug/l	34.8	81400		ug/l	34.8	-		ug/l	
Chromium	1.7	U	ug/l	1.7	1.7	U	ug/l	1.7	1.7	U	ug/l	1.7	2.2	U	ug/l	2.2
Cobalt	3.1	U	ug/l	3.1	3.1	U	ug/l	3.1	3.1	U	ug/l	3.1	2.5	U	ug/l	2.5
Copper	1	U	ug/l	1	1	U	ug/l	1	1	U	ug/l	1	1.2	U	ug/l	1.2
Cyanide	1.5	U	ug/l	1.5	1.5	U	ug/l	1.5	1.5	U	ug/l	1.5	.88	U	ug/l	.88
Iron	591		ug/l	1.9	732		ug/l	1.9	264		ug/l	1.9	-		ug/l	
Lead	4.3		ug/l	.4	.7	UJ	ug/l	.7	.4	U	ug/l	.4	.75	U	ug/l	.75
Magnesium	14000		ug/l	19.8	12700		ug/l	19.8	16000		ug/l	19.8	-		ug/l	
Manganese	70.7		ug/l	.5	85		ug/l	.5	27.8		ug/l	.5	-		ug/l	
Mercury	.1	U	ug/l	.1	.1	U	ug/l	.1	.1	U	ug/l	.1	.05	U	ug/l	.05
Nickel	5.7	U	ug/l	5.7	6.1	UJ	ug/l	6.1	6.1	UJ	ug/l	6.1	5.5	U	ug/l	5.5
Selenium	.5	U	ug/l	.5	.5	U	ug/l	.5	.5	U	ug/l	.5	1.5	UJ	ug/l	1.5
Silver	1.4	U	ug/l	1.4	1.4	U	ug/l	1.4	1.4	U	ug/l	1.4	2.2	U	ug/l	2.2
Sodium	15400		ug/l	19.5	13800		ug/l	19.5	11500		ug/l	19.5	-		ug/l	
Thallium	.6	U	ug/l	.6	.6	U	ug/l	.6	.6	U	ug/l	.6	.79	R	ug/l	.79
Tin	13.6	U	ug/l	13.6	13.6	U	ug/l	13.6	13.6	U	ug/l	13.6	11.8	U	ug/l	11.8
Vanadium	2.6	J	ug/l	1.2	2.4	J	ug/l	1.2	1.8	J	ug/l	1.2	2.6	J	ug/l	1.7
Zinc	7.1	UJ	ug/l	7.1	4.6	UJ	ug/l	4.6	4.2	UJ	ug/l	4.2	9.2	UJ	ug/l	9.2

U = NOT DETECTED R = RESULT IS REJECTED
J = ESTIMATED VALUE UJ = REPORTED QUANTITATION LIMIT IS ESTIMATED
THE ADDITIONAL LISTINGS OF RESULTS FOR 1,2-; 1,3-; AND 1,4-DICHLOROBENZENE WERE GENERATED FROM THE SVOC (8270) ANALYTICAL RUN.

US Naval Station, Mayport, Florida
Fleet Training Center(SWMU 14) - Northern Burn Area Groundwater Data

Lab Sample Number:		RA024011			RA044012			RA044013			MB747002		
Site		GROUPIII			GROUPIII			GROUPIII			GROUPIII		
Locator		14G00301			14G00701			14G01301			14G01601		
Collect Date:		15-JUN-95			18-JUN-95			18-JUN-95			04-SEP-96		
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
VOLATILES	ug/l															
Chloromethane		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Bromomethane		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Vinyl chloride		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Chloroethane		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Methylene chloride		5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
Acetone		18	U	ug/l	18	78	U	ug/l	78	10	U	ug/l	10	10	UJ	ug/l	10
Carbon disulfide		5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
1,1-Dichloroethane		5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
1,1-Dichloroethene		5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
1,2-Dichloroethene (total)		5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
Chloroform		5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
1,2-Dichloroethane		5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
2-Butanone		10	R	ug/l	10	10	R	ug/l	10	10	R	ug/l	10	10	U	ug/l	10
1,1,1-Trichloroethane		5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
Carbon tetrachloride		5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
Bromodichloromethane		5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
1,2-Dichloropropane		5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
cis-1,3-Dichloropropene		5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
Trichloroethene		5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
Dibromochloromethane		5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
1,1,2-Trichloroethane		5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
Benzene		5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
trans-1,3-Dichloropropene		5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
Bromoform		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
4-Methyl-2-pentanone		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
2-Hexanone		5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
Tetrachloroethene		5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
1,1,2,2-Tetrachloroethane		5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
Toluene		5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
Chlorobenzene		5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
Ethylbenzene		5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
Styrene		5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
Xylenes (total)		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	UJ	ug/l	10
Dichlorodifluoromethane		5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
Trichlorofluoromethane		5	U	ug/l	5	10	U	ug/l	10	5	U	ug/l	5	5	U	ug/l	5
1,3-Dichlorobenzene		100	U	ug/l	100	100	U	ug/l	100	100	U	ug/l	100	100	U	ug/l	100
Acrolein		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Iodomethane		10	U	ug/l	10	5	U	ug/l	5	5	U	ug/l	5	10	U	ug/l	10
1,4-Dichlorobenzene		100	U	ug/l	100	100	U	ug/l	100	100	U	ug/l	100	100	U	ug/l	100
Acrylonitrile		5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
Dibromomethane		10	U	ug/l	10	10	U	ug/l	10	5	U	ug/l	5	5	U	ug/l	5
1,2-Dichlorobenzene		10	U	ug/l	10	10	UJ	ug/l	10	10	UJ	ug/l	10	10	U	ug/l	10
2-Chloroethylvinyl ether		5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
Ethyl methacrylate		5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
1,2,3-Trichloropropane		5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
trans-1,4-Dichloro-2-butene		200	R	ug/l	200	200	R	ug/l	200	200	R	ug/l	200	200	U	ug/l	200
Isobutyl alcohol		5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
1,1,1,2-Tetrachloroethane		10	UJ	ug/l	10	10	UJ	ug/l	10	10	UJ	ug/l	10	10	U	ug/l	10
1,2-Dibromo-3-chloropropane		5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
Ethylene dibromide																	

US Naval Station, Mayport, Florida
Fleet Training Center(SWMU 14) - Southern Burn Area Surface Soil Data

Lab Sample Number:	MB995007				MB647003				MB647004				MB647005			
Site	GROUPIII				GROUPIII				GROUPIII				GROUPIII			
Locator	14S02401				14S03901				14S03901D				14S04001			
Collect Date:	21-MAY-95				22-AUG-96				22-AUG-96				22-AUG-96			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
1,4-Dioxane	220	R	ug/kg	220	210	R	ug/kg	210	210	R	ug/kg	210	210	R	ug/kg	210
3-Chloropropene	5	U	ug/kg	5	5	U	ug/kg	5	5	U	ug/kg	5	5	U	ug/kg	5
Acetonitrile	110	U	ug/kg	110	110	U	ug/kg	110	110	U	ug/kg	110	100	U	ug/kg	100
Chloroprene	220	U	ug/kg	220	210	U	ug/kg	210	210	U	ug/kg	210	210	U	ug/kg	210
Methacrylonitrile	5	U	ug/kg	5	5	U	ug/kg	5	5	U	ug/kg	5	5	U	ug/kg	5
Methyl methacrylate	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	10	U	ug/kg	10
Pentachloroethane	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	10	U	ug/kg	10
Propionitrile	110	U	ug/kg	110	110	U	ug/kg	110	110	U	ug/kg	110	100	U	ug/kg	100
Vinyl acetate	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	10	U	ug/kg	10
SEMIVOLATILES ug/kg																
N-Nitrosodimethylamine	370	U	ug/kg	370	350	U	ug/kg	350	350	U	ug/kg	350	3500	U	ug/kg	3500
Phenol	370	U	ug/kg	370	350	U	ug/kg	350	350	U	ug/kg	350	3500	U	ug/kg	3500
Aniline	370	U	ug/kg	370	350	U	ug/kg	350	350	U	ug/kg	350	3500	U	ug/kg	3500
bis(2-Chloroethyl) ether	370	U	ug/kg	370	350	U	ug/kg	350	350	U	ug/kg	350	3500	U	ug/kg	3500
Benzyl Alcohol	370	U	ug/kg	370	350	U	ug/kg	350	350	U	ug/kg	350	3500	U	ug/kg	3500
2-Methylphenol	370	U	ug/kg	370	350	U	ug/kg	350	350	U	ug/kg	350	3500	U	ug/kg	3500
bis(2-Chloroisopropyl) ether	370	U	ug/kg	370	350	U	ug/kg	350	350	U	ug/kg	350	3500	U	ug/kg	3500
N-Nitroso-di-n-propylamine	370	U	ug/kg	370	350	U	ug/kg	350	350	U	ug/kg	350	3500	U	ug/kg	3500
Hexachloroethane	370	U	ug/kg	370	350	U	ug/kg	350	350	U	ug/kg	350	3500	U	ug/kg	3500
Nitrobenzene	370	U	ug/kg	370	350	U	ug/kg	350	350	U	ug/kg	350	3500	U	ug/kg	3500
Isophorone	370	U	ug/kg	370	350	U	ug/kg	350	350	U	ug/kg	350	3500	U	ug/kg	3500
2-Nitrophenol	370	U	ug/kg	370	350	U	ug/kg	350	350	U	ug/kg	350	3500	U	ug/kg	3500
2,4-Dimethylphenol	370	U	ug/kg	370	350	U	ug/kg	350	350	U	ug/kg	350	3500	U	ug/kg	3500
Benzoic acid	1800	U	ug/kg	1800	1800	U	ug/kg	1800	1800	U	ug/kg	1800	17000	U	ug/kg	17000
bis(2-Chloroethoxy) methane	370	U	ug/kg	370	350	U	ug/kg	350	350	U	ug/kg	350	3500	U	ug/kg	3500
2,4-Dichlorophenol	370	U	ug/kg	370	350	U	ug/kg	350	350	U	ug/kg	350	3500	U	ug/kg	3500
1,2,4-Trichlorobenzene	370	U	ug/kg	370	350	U	ug/kg	350	350	U	ug/kg	350	3500	U	ug/kg	3500
Naphthalene	370	U	ug/kg	370	350	U	ug/kg	350	350	U	ug/kg	350	3500	U	ug/kg	3500
4-Chloroaniline	370	U	ug/kg	370	350	U	ug/kg	350	350	U	ug/kg	350	3500	U	ug/kg	3500
Hexachlorobutadiene	370	U	ug/kg	370	350	U	ug/kg	350	350	U	ug/kg	350	3500	U	ug/kg	3500
4-Chloro-3-methylphenol	370	U	ug/kg	370	350	U	ug/kg	350	350	U	ug/kg	350	870	J	ug/kg	3500
2-Methylnaphthalene	370	U	ug/kg	370	350	U	ug/kg	350	350	U	ug/kg	350	3500	U	ug/kg	3500
Hexachlorocyclopentadiene	370	U	ug/kg	370	350	U	ug/kg	350	350	U	ug/kg	350	3500	U	ug/kg	3500
2,4,6-Trichlorophenol	370	U	ug/kg	370	350	U	ug/kg	350	350	U	ug/kg	350	3500	U	ug/kg	3500
Dimethylphthalate	370	U	ug/kg	370	350	U	ug/kg	350	350	U	ug/kg	350	3500	U	ug/kg	3500
2,4,5-Trichlorophenol	1800	U	ug/kg	1800	1800	U	ug/kg	1800	1800	U	ug/kg	1800	17000	U	ug/kg	17000
2-Chloronaphthalene	370	U	ug/kg	370	350	U	ug/kg	350	350	U	ug/kg	350	3500	U	ug/kg	3500
2-Nitroaniline	1800	U	ug/kg	1800	1800	U	ug/kg	1800	1800	U	ug/kg	1800	17000	U	ug/kg	17000
Acenaphthylene	370	U	ug/kg	370	350	U	ug/kg	350	350	U	ug/kg	350	3500	U	ug/kg	3500
2,6-Dinitrotoluene	370	U	ug/kg	370	350	U	ug/kg	350	350	U	ug/kg	350	3500	U	ug/kg	3500
3-Nitroaniline	1800	U	ug/kg	1800	1800	U	ug/kg	1800	1800	U	ug/kg	1800	17000	U	ug/kg	17000
Acenaphthene	370	U	ug/kg	370	350	U	ug/kg	350	350	U	ug/kg	350	3500	U	ug/kg	3500
2,4-Dinitrophenol	1800	U	ug/kg	1800	1800	U	ug/kg	1800	1800	U	ug/kg	1800	17000	U	ug/kg	17000
4-Nitrophenol	1800	U	ug/kg	1800	1800	UJ	ug/kg	1800	1800	UJ	ug/kg	1800	17000	UJ	ug/kg	17000
Dibenzofuran	370	U	ug/kg	370	350	U	ug/kg	350	350	U	ug/kg	350	3500	U	ug/kg	3500
2,4-Dinitrotoluene	370	U	ug/kg	370	350	U	ug/kg	350	350	U	ug/kg	350	3500	U	ug/kg	3500
Diethylphthalate	370	U	ug/kg	370	350	U	ug/kg	350	350	U	ug/kg	350	3500	U	ug/kg	3500
4-Chlorophenyl-phenylether	370	U	ug/kg	370	350	U	ug/kg	350	350	U	ug/kg	350	3500	U	ug/kg	3500
Fluorene	370	U	ug/kg	370	350	U	ug/kg	350	350	U	ug/kg	350	3500	U	ug/kg	3500
4-Nitroaniline	1800	U	ug/kg	1800	1800	U	ug/kg	1800	1800	U	ug/kg	1800	17000	U	ug/kg	17000
4,6-Dinitro-2-methylphenol	1800	U	ug/kg	1800	1800	U	ug/kg	1800	1800	U	ug/kg	1800	17000	U	ug/kg	17000

US Naval Station, Mayport, Florida
Fleet Training Center(SWMU 14) - Northern Burn Area Groundwater Data

Lab Sample Number:	RA024011				RA044012				RA044013				MB747002			
Site	GROUPIII				GROUPIII				GROUPIII				GROUPIII			
Locator	14G00301				14G00701				14G01301				14G01601			
Collect Date:	15-JUN-95				18-JUN-95				18-JUN-95				04-SEP-96			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
N-Nitrosodiphenylamine	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
1,2-Diphenylhydrazine	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
4-Bromophenyl-phenylether	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Hexachlorobenzene	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Pentachlorophenol	50	U	ug/l	50	50	U	ug/l	50	50	U	ug/l	50	50	U	ug/l	50
Phenanthrene	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Anthracene	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Di-n-Butylphthalate	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Fluoranthene	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Pyrene	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Butylbenzylphthalate	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
3,3-Dichlorobenzidine	20	U	ug/l	20	20	U	ug/l	20	20	U	ug/l	20	20	U	ug/l	20
Benzo (a) anthracene	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Chrysene	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
bis(2-Ethylhexyl) phthalate	10	U	ug/l	10	2	J	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Di-n-octylphthalate	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Benzo (b) fluoranthene	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Benzo (k) fluoranthene	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Benzo (a) pyrene	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Indeno (1,2,3-cd) pyrene	10	UJ	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Dibenzo (a,h) anthracene	10	UJ	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Benzo (g,h,i) perylene	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
2-Picoline	50	U	ug/l	50	50	U	ug/l	50	50	U	ug/l	50	50	U	ug/l	50
Methyl methanesulfonate	10	UJ	ug/l	10	10	UJ	ug/l	10	10	UJ	ug/l	10	10	U	ug/l	10
Ethyl methanesulfonate	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Acetophenone	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
N-Nitrosopiperidine	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Phenyl-tert-butylamine	50	U	ug/l	50	50	UJ	ug/l	50	50	UJ	ug/l	50	50	U	ug/l	50
2,6-Dichlorophenol	10	UJ	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
N-Nitroso-di-n-butylamine	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
N-Nitrosodiethylamine	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
N-Nitrosopyrrolidine	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Benzidine	50	U	ug/l	50	50	U	ug/l	50	50	U	ug/l	50	50	U	ug/l	50
1,2,4,5-Tetrachlorobenzene	50	U	ug/l	50	50	U	ug/l	50	50	U	ug/l	50	50	U	ug/l	50
Pentachlorobenzene	50	U	ug/l	50	50	U	ug/l	50	50	U	ug/l	50	50	U	ug/l	50
1-Naphthylamine	50	UJ	ug/l	50	50	UJ	ug/l	50	50	UJ	ug/l	50	50	U	ug/l	50
2-Naphthylamine	50	UJ	ug/l	50	50	U	ug/l	50	50	U	ug/l	50	50	U	ug/l	50
2,3,4,6-Tetrachlorophenol	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Phenacetin	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	UJ	ug/l	10
4-Aminobiphenyl	50	UJ	ug/l	50	50	U	ug/l	50	50	U	ug/l	50	50	U	ug/l	50
Pentachloronitrobenzene	50	U	ug/l	50	50	U	ug/l	50	50	U	ug/l	50	50	U	ug/l	50
Pronamide	10	UJ	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
p-Dimethylaminoazobenzene	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
7,12-Dimethylbenz(A)Anthracene	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
3-Methylcholanthrene	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Pyridine	50	U	ug/l	50	50	U	ug/l	50	50	U	ug/l	50	50	U	ug/l	50
N-Nitrosomethylethylamine	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
N-Nitrosomorpholine	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
o-Toluidine	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Hexachloropropene	50	U	ug/l	50	50	UJ	ug/l	50	50	UJ	ug/l	50	50	U	ug/l	50
p-Phenylenediamine	500	UJ	ug/l	500	500	UJ	ug/l	500	500	UJ	ug/l	500	500	UJ	ug/l	500
Safrole	50	UJ	ug/l	50	50	U	ug/l	50	50	U	ug/l	50	50	U	ug/l	50

US Naval Station, Mayport, Florida
Fleet Training Center(SWMU 14) - Southern Burn Area Surface Soil Data

Lab Sample Number:	M8995007				MB647003				MB647004				MB647005			
Site	GROUPIII				GROUPIII				GROUPIII				GROUPIII			
Locator	14S02401				14S03901				14S03901D				14S04001			
Collect Date:	21-MAY-95				22-AUG-96				22-AUG-96				22-AUG-96			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
Isosafrole	1800	U	ug/kg	1800	1800	U	ug/kg	1800	1800	U	ug/kg	1800	17000	U	ug/kg	17000
1,4-Naphthoquinone	37000	U	ug/kg	37000	35000	U	ug/kg	35000	35000	U	ug/kg	35000	350000	U	ug/kg	350000
1,3-Dinitrobenzene	370	U	ug/kg	370	350	U	ug/kg	350	350	U	ug/kg	350	3500	U	ug/kg	3500
5-Nitro-o-toluidine	370	U	ug/kg	370	350	U	ug/kg	350	350	U	ug/kg	350	3500	U	ug/kg	3500
1,3,5-Trinitrobenzene	370	U	ug/kg	370	350	UJ	ug/kg	350	350	UJ	ug/kg	350	3500	UJ	ug/kg	3500
4-Nitroquinoline-1-oxide	18000	R	ug/kg	18000	18000	UJ	ug/kg	18000	18000	UJ	ug/kg	18000	170000	UJ	ug/kg	170000
Methapyrilene	1800	U	ug/kg	1800	1800	UJ	ug/kg	1800	1800	UJ	ug/kg	1800	17000	UJ	ug/kg	17000
3,3-Dimethylbenzidine	370	U	ug/kg	370	350	U	ug/kg	350	350	U	ug/kg	350	3500	U	ug/kg	3500
Hexachlorophene	18000	U	ug/kg	18000	18000	UJ	ug/kg	18000	18000	UJ	ug/kg	18000	170000	UJ	ug/kg	170000
Aramite	1800	U	ug/kg	1800	1800	U	ug/kg	1800	1800	U	ug/kg	1800	17000	U	ug/kg	17000
2-Chlorophenol	370	U	ug/kg	370	350	U	ug/kg	350	350	U	ug/kg	350	3500	U	ug/kg	3500
3- & 4-Methylphenol (2)	370	U	ug/kg	370	350	U	ug/kg	350	350	U	ug/kg	350	3500	U	ug/kg	3500
Hexachloropropene	1800	U	ug/kg	1800	1800	U	ug/kg	1800	1800	U	ug/kg	1800	17000	U	ug/kg	17000
2-Acetylaminofluorene	370	U	ug/kg	370	350	U	ug/kg	350	350	U	ug/kg	350	3500	U	ug/kg	3500
Total petroleum hydrocarbons	-		mg/kg		1.7	U	mg/kg	1.7	1.7	U	mg/kg	1.7	1290		mg/kg	43.5

U = NOT DETECTED R = RESULT IS REJECTED
J = ESTIMATED VALUE UJ = REPORTED QUANTITATION LIMIT IS ESTIMATED
THE ADDITIONAL LISTINGS OF RESULTS FOR 1,2-; 1,3-; AND 1,4-DICHLOROBENZENE WERE GENERATED FROM THE SVOC (8270) ANALYTICAL RUN.

US Naval Station, Mayport, Florida
Fleet Training Center(SWMU 14) - Northern Burn Area Groundwater Data

Lab Sample Number:		RA024011			RA044012			RA044013			MB747002		
Site		GROUPIII			GROUPIII			GROUPIII			GROUPIII		
Locator		14G00301			14G00701			14G01301			14G01601		
Collect Date:		15-JUN-95			18-JUN-95			18-JUN-95			04-SEP-96		
		VALUE QUAL	UNITS	DL	VALUE QUAL	UNITS	DL	VALUE QUAL	UNITS	DL	VALUE QUAL	UNITS	DL
INORGANICS (WATER)	ug/l												
Antimony		5 U	ug/l	5	5 U	ug/l	5	5 U	ug/l	5	2.6 U	ug/l	2.6
Arsenic		1.9 J	ug/l	.6	1.4 J	ug/l	.6	.6 U	ug/l	.6	29.9	ug/l	2
Barium		5.4 J	ug/l	1.1	5 UJ	ug/l	5	4.2 UJ	ug/l	4.2	12.6 J	ug/l	.35
Beryllium		.3 U	ug/l	.3	.3 U	ug/l	.3	.3 U	ug/l	.3	.13 UJ	ug/l	.13
Cadmium		1.2 U	ug/l	1.2	1.2 U	ug/l	1.2	1.2 U	ug/l	1.2	3.3 U	ug/l	3.3
Calcium		105000	ug/l	34.8	97500	ug/l	34.8	81400	ug/l	34.8	-	ug/l	
Chromium		1.7 U	ug/l	1.7	1.7 U	ug/l	1.7	1.7 U	ug/l	1.7	2.2 U	ug/l	2.2
Cobalt		3.1 U	ug/l	3.1	3.1 U	ug/l	3.1	3.1 U	ug/l	3.1	2.5 U	ug/l	2.5
Copper		1 U	ug/l	1	1 U	ug/l	1	1 U	ug/l	1	1.2 U	ug/l	1.2
Cyanide		1.5 U	ug/l	1.5	1.5 U	ug/l	1.5	1.5 U	ug/l	1.5	.88 U	ug/l	.88
Iron		591	ug/l	1.9	732	ug/l	1.9	264	ug/l	1.9	-	ug/l	
Lead		4.3	ug/l	.4	.7 UJ	ug/l	.7	.4 U	ug/l	.4	.75 U	ug/l	.75
Magnesium		14000	ug/l	19.8	12700	ug/l	19.8	16000	ug/l	19.8	-	ug/l	
Manganese		70.7	ug/l	.5	85	ug/l	.5	27.8	ug/l	.5	-	ug/l	
Mercury		.1 U	ug/l	.1	.1 U	ug/l	.1	.1 U	ug/l	.1	.05 U	ug/l	.05
Nickel		5.7 U	ug/l	5.7	6.1 UJ	ug/l	6.1	6.1 UJ	ug/l	6.1	5.5 U	ug/l	5.5
Selenium		.5 U	ug/l	.5	.5 U	ug/l	.5	.5 U	ug/l	.5	1.5 UJ	ug/l	1.5
Silver		1.4 U	ug/l	1.4	1.4 U	ug/l	1.4	1.4 U	ug/l	1.4	2.2 U	ug/l	2.2
Sodium		15400	ug/l	19.5	13800	ug/l	19.5	11500	ug/l	19.5	-	ug/l	
Thallium		.6 U	ug/l	.6	.6 U	ug/l	.6	.6 U	ug/l	.6	.79 R	ug/l	.79
Tin		13.6 U	ug/l	13.6	13.6 U	ug/l	13.6	13.6 U	ug/l	13.6	11.8 U	ug/l	11.8
Vanadium		2.6 J	ug/l	1.2	2.4 J	ug/l	1.2	1.8 J	ug/l	1.2	2.6 J	ug/l	1.7
Zinc		7.1 UJ	ug/l	7.1	4.6 UJ	ug/l	4.6	4.2 UJ	ug/l	4.2	9.2 UJ	ug/l	9.2

U = NOT DETECTED R = RESULT IS REJECTED
J = ESTIMATED VALUE UJ = REPORTED QUANTITATION LIMIT IS ESTIMATED
THE ADDITIONAL LISTINGS OF RESULTS FOR 1,2-; 1,3-; AND 1,4-DICHLOROBENZENE WERE GENERATED FROM THE SVOC (8270) ANALYTICAL RUN.

US Naval Station, Mayport, Florida
Fleet Training Center(SWMU 14) - Southern Burn Area Surface Soil Data

Lab Sample Number:	MB647008				MB647009				MB647009RE				MB647012			
Site	GROUPIII				GROUPIII				GROUPIII				GROUPIII			
Locator	14S04101				14S04201				14S04201RE				14S04301			
Collect Date:	22-AUG-96				22-AUG-96				22-AUG-96				22-AUG-96			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
Dibromomethane	5	U	ug/kg	5	5	U	ug/kg	5	-		ug/kg		5	U	ug/kg	5
1,2-Dichlorobenzene	340	U	ug/kg	340	3400	U	ug/kg	3400	3400	R	ug/kg	3400	350	U	ug/kg	350
2-Chloroethylvinyl ether	10	U	ug/kg	10	10	U	ug/kg	10	-		ug/kg		10	U	ug/kg	10
Ethyl methacrylate	5	U	ug/kg	5	5	U	ug/kg	5	-		ug/kg		5	U	ug/kg	5
1,2,3-Trichloropropane	5	U	ug/kg	5	5	U	ug/kg	5	-		ug/kg		5	U	ug/kg	5
trans-1,4-Dichloro-2-butene	5	U	ug/kg	5	5	U	ug/kg	5	-		ug/kg		5	U	ug/kg	5
Isobutyl alcohol	210	U	ug/kg	210	210	U	ug/kg	210	-		ug/kg		210	U	ug/kg	210
1,1,1,2-Tetrachloroethane	5	U	ug/kg	5	5	U	ug/kg	5	-		ug/kg		5	U	ug/kg	5
1,2-Dibromo-3-chloropropane	10	U	ug/kg	10	10	U	ug/kg	10	-		ug/kg		10	U	ug/kg	10
Ethylene dibromide	5	U	ug/kg	5	5	U	ug/kg	5	-		ug/kg		5	U	ug/kg	5
1,4-Dioxane	210	R	ug/kg	210	210	R	ug/kg	210	-		ug/kg		210	R	ug/kg	210
3-Chloropropene	5	U	ug/kg	5	5	U	ug/kg	5	-		ug/kg		5	U	ug/kg	5
Acetonitrile	100	U	ug/kg	100	100	U	ug/kg	100	-		ug/kg		100	U	ug/kg	100
Chloroprene	210	U	ug/kg	210	210	U	ug/kg	210	-		ug/kg		210	U	ug/kg	210
Methacrylonitrile	5	U	ug/kg	5	5	U	ug/kg	5	-		ug/kg		5	U	ug/kg	5
Methyl methacrylate	10	U	ug/kg	10	10	U	ug/kg	10	-		ug/kg		10	U	ug/kg	10
Pentachloroethane	10	U	ug/kg	10	10	U	ug/kg	10	-		ug/kg		10	U	ug/kg	10
Propionitrile	100	U	ug/kg	100	100	U	ug/kg	100	-		ug/kg		100	U	ug/kg	100
Vinyl acetate	10	U	ug/kg	10	10	U	ug/kg	10	-		ug/kg		10	U	ug/kg	10
SEMIVOLATILES ug/kg																
N-Nitrosodimethylamine	340	U	ug/kg	340	3400	U	ug/kg	3400	3400	R	ug/kg	3400	350	U	ug/kg	350
Phenol	340	U	ug/kg	340	3400	U	ug/kg	3400	3400	R	ug/kg	3400	350	U	ug/kg	350
Aniline	340	U	ug/kg	340	3400	U	ug/kg	3400	3400	R	ug/kg	3400	350	U	ug/kg	350
bis(2-Chloroethyl) ether	340	U	ug/kg	340	3400	U	ug/kg	3400	3400	R	ug/kg	3400	350	U	ug/kg	350
Benzyl Alcohol	340	U	ug/kg	340	3400	U	ug/kg	3400	3400	R	ug/kg	3400	350	U	ug/kg	350
2-Methylphenol	340	U	ug/kg	340	3400	U	ug/kg	3400	3400	R	ug/kg	3400	350	U	ug/kg	350
bis(2-Chloroisopropyl) ether	340	U	ug/kg	340	3400	U	ug/kg	3400	3400	R	ug/kg	3400	350	UJ	ug/kg	350
N-Nitroso-di-n-propylamine	340	U	ug/kg	340	3400	U	ug/kg	3400	3400	R	ug/kg	3400	350	U	ug/kg	350
Hexachloroethane	340	U	ug/kg	340	3400	U	ug/kg	3400	3400	R	ug/kg	3400	350	U	ug/kg	350
Nitrobenzene	340	U	ug/kg	340	3400	U	ug/kg	3400	3400	R	ug/kg	3400	350	U	ug/kg	350
Isophorone	340	U	ug/kg	340	3400	U	ug/kg	3400	3400	R	ug/kg	3400	350	U	ug/kg	350
2-Nitrophenol	340	U	ug/kg	340	3400	U	ug/kg	3400	3400	R	ug/kg	3400	350	U	ug/kg	350
2,4-Dimethylphenol	340	U	ug/kg	340	3400	U	ug/kg	3400	3400	R	ug/kg	3400	350	U	ug/kg	350
Benzoic acid	1700	U	ug/kg	1700	17000	U	ug/kg	17000	17000	R	ug/kg	17000	1700	U	ug/kg	1700
bis(2-Chloroethoxy) methane	340	U	ug/kg	340	3400	U	ug/kg	3400	3400	R	ug/kg	3400	350	U	ug/kg	350
2,4-Dichlorophenol	340	U	ug/kg	340	3400	U	ug/kg	3400	3400	R	ug/kg	3400	350	U	ug/kg	350
1,2,4-Trichlorobenzene	340	U	ug/kg	340	3400	U	ug/kg	3400	3400	R	ug/kg	3400	350	U	ug/kg	350
Naphthalene	340	U	ug/kg	340	570	J	ug/kg	3400	1200	R	ug/kg	3400	350	U	ug/kg	350
4-Chloroaniline	340	U	ug/kg	340	3400	U	ug/kg	3400	3400	R	ug/kg	3400	350	U	ug/kg	350
Hexachlorobutadiene	340	U	ug/kg	340	3400	U	ug/kg	3400	3400	R	ug/kg	3400	350	U	ug/kg	350
4-Chloro-3-methylphenol	340	U	ug/kg	340	3400	U	ug/kg	3400	3400	R	ug/kg	3400	350	U	ug/kg	350
2-Methylnaphthalene	96	J	ug/kg	340	3500		ug/kg	3400	7100	R	ug/kg	3400	87	J	ug/kg	350
Hexachlorocyclopentadiene	340	U	ug/kg	340	3400	U	ug/kg	3400	3400	R	ug/kg	3400	350	U	ug/kg	350
2,4,6-Trichlorophenol	340	U	ug/kg	340	3400	U	ug/kg	3400	3400	R	ug/kg	3400	350	U	ug/kg	350
Dimethylphthalate	340	U	ug/kg	340	3400	U	ug/kg	3400	3400	R	ug/kg	3400	350	U	ug/kg	350
2,4,5-Trichlorophenol	1700	U	ug/kg	1700	17000	U	ug/kg	17000	17000	R	ug/kg	17000	1700	U	ug/kg	1700
2-Chloronaphthalene	340	U	ug/kg	340	3400	U	ug/kg	3400	3400	R	ug/kg	3400	350	U	ug/kg	350
2-Nitroaniline	1700	U	ug/kg	1700	17000	U	ug/kg	17000	17000	R	ug/kg	17000	1700	U	ug/kg	1700
Acenaphthylene	340	U	ug/kg	340	3400	U	ug/kg	3400	3400	R	ug/kg	3400	350	U	ug/kg	350
2,6-Dinitrotoluene	340	U	ug/kg	340	3400	U	ug/kg	3400	3400	R	ug/kg	3400	350	U	ug/kg	350
3-Nitroaniline	1700	U	ug/kg	1700	17000	U	ug/kg	17000	17000	R	ug/kg	17000	1700	U	ug/kg	1700

US Naval Station, Mayport, Florida
Fleet Training Center(SWMU 14) - Southern Burn Area Surface Soil Data

Lab Sample Number:	M8995007				M8647003				M8647004				M8647005			
Site	GROUPIII				GROUPIII				GROUPIII				GROUPIII			
Locator	14S02401				14S03901				14S03901D				14S04001			
Collect Date:	21-MAY-95				22-AUG-96				22-AUG-96				22-AUG-96			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
1,4-Dioxane	220	R	ug/kg	220	210	R	ug/kg	210	210	R	ug/kg	210	210	R	ug/kg	210
3-Chloropropene	5	U	ug/kg	5	5	U	ug/kg	5	5	U	ug/kg	5	5	U	ug/kg	5
Acetonitrile	110	U	ug/kg	110	110	U	ug/kg	110	110	U	ug/kg	110	100	U	ug/kg	100
Chloroprene	220	U	ug/kg	220	210	U	ug/kg	210	210	U	ug/kg	210	210	U	ug/kg	210
Methacrylonitrile	5	U	ug/kg	5	5	U	ug/kg	5	5	U	ug/kg	5	5	U	ug/kg	5
Methyl methacrylate	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	10	U	ug/kg	10
Pentachloroethane	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	10	U	ug/kg	10
Propionitrile	110	U	ug/kg	110	110	U	ug/kg	110	110	U	ug/kg	110	100	U	ug/kg	100
Vinyl acetate	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	10	U	ug/kg	10
SEMIVOLATILES ug/kg																
N-Nitrosodimethylamine	370	U	ug/kg	370	350	U	ug/kg	350	350	U	ug/kg	350	3500	U	ug/kg	3500
Phenol	370	U	ug/kg	370	350	U	ug/kg	350	350	U	ug/kg	350	3500	U	ug/kg	3500
Aniline	370	U	ug/kg	370	350	U	ug/kg	350	350	U	ug/kg	350	3500	U	ug/kg	3500
bis(2-Chloroethyl) ether	370	U	ug/kg	370	350	U	ug/kg	350	350	U	ug/kg	350	3500	U	ug/kg	3500
Benzyl Alcohol	370	U	ug/kg	370	350	U	ug/kg	350	350	U	ug/kg	350	3500	U	ug/kg	3500
2-Methylphenol	370	U	ug/kg	370	350	U	ug/kg	350	350	U	ug/kg	350	3500	U	ug/kg	3500
bis(2-Chloroisopropyl) ether	370	U	ug/kg	370	350	U	ug/kg	350	350	U	ug/kg	350	3500	U	ug/kg	3500
N-Nitroso-di-n-propylamine	370	U	ug/kg	370	350	U	ug/kg	350	350	U	ug/kg	350	3500	U	ug/kg	3500
Hexachloroethane	370	U	ug/kg	370	350	U	ug/kg	350	350	U	ug/kg	350	3500	U	ug/kg	3500
Nitrobenzene	370	U	ug/kg	370	350	U	ug/kg	350	350	U	ug/kg	350	3500	U	ug/kg	3500
Isophorone	370	U	ug/kg	370	350	U	ug/kg	350	350	U	ug/kg	350	3500	U	ug/kg	3500
2-Nitrophenol	370	U	ug/kg	370	350	U	ug/kg	350	350	U	ug/kg	350	3500	U	ug/kg	3500
2,4-Dimethylphenol	370	U	ug/kg	370	350	U	ug/kg	350	350	U	ug/kg	350	3500	U	ug/kg	3500
Benzoic acid	1800	U	ug/kg	1800	1800	U	ug/kg	1800	1800	U	ug/kg	1800	17000	U	ug/kg	17000
bis(2-Chloroethoxy) methane	370	U	ug/kg	370	350	U	ug/kg	350	350	U	ug/kg	350	3500	U	ug/kg	3500
2,4-Dichlorophenol	370	U	ug/kg	370	350	U	ug/kg	350	350	U	ug/kg	350	3500	U	ug/kg	3500
1,2,4-Trichlorobenzene	370	U	ug/kg	370	350	U	ug/kg	350	350	U	ug/kg	350	3500	U	ug/kg	3500
Naphthalene	370	U	ug/kg	370	350	U	ug/kg	350	350	U	ug/kg	350	3500	U	ug/kg	3500
4-Chloroaniline	370	U	ug/kg	370	350	U	ug/kg	350	350	U	ug/kg	350	3500	U	ug/kg	3500
Hexachlorobutadiene	370	U	ug/kg	370	350	U	ug/kg	350	350	U	ug/kg	350	3500	U	ug/kg	3500
4-Chloro-3-methylphenol	370	U	ug/kg	370	350	U	ug/kg	350	350	U	ug/kg	350	870	J	ug/kg	3500
2-Methylnaphthalene	370	U	ug/kg	370	350	U	ug/kg	350	350	U	ug/kg	350	3500	U	ug/kg	3500
Hexachlorocyclopentadiene	370	U	ug/kg	370	350	U	ug/kg	350	350	U	ug/kg	350	3500	U	ug/kg	3500
2,4,6-Trichlorophenol	370	U	ug/kg	370	350	U	ug/kg	350	350	U	ug/kg	350	3500	U	ug/kg	3500
Dimethylphthalate	1800	U	ug/kg	1800	1800	U	ug/kg	1800	1800	U	ug/kg	1800	17000	U	ug/kg	17000
2,4,5-Trichlorophenol	370	U	ug/kg	370	350	U	ug/kg	350	350	U	ug/kg	350	3500	U	ug/kg	3500
2-Chloronaphthalene	1800	U	ug/kg	1800	1800	U	ug/kg	1800	1800	U	ug/kg	1800	17000	U	ug/kg	17000
2-Nitroaniline	370	U	ug/kg	370	350	U	ug/kg	350	350	U	ug/kg	350	3500	U	ug/kg	3500
Acenaphthylene	370	U	ug/kg	370	350	U	ug/kg	350	350	U	ug/kg	350	3500	U	ug/kg	3500
2,6-Dinitrotoluene	1800	U	ug/kg	1800	1800	U	ug/kg	1800	1800	U	ug/kg	1800	17000	U	ug/kg	17000
3-Nitroaniline	370	U	ug/kg	370	350	U	ug/kg	350	350	U	ug/kg	350	3500	U	ug/kg	3500
Acenaphthene	1800	U	ug/kg	1800	1800	U	ug/kg	1800	1800	U	ug/kg	1800	17000	U	ug/kg	17000
2,4-Dinitrophenol	1800	U	ug/kg	1800	1800	UJ	ug/kg	1800	1800	UJ	ug/kg	1800	17000	UJ	ug/kg	17000
4-Nitrophenol	370	U	ug/kg	370	350	U	ug/kg	350	350	U	ug/kg	350	3500	U	ug/kg	3500
Dibenzofuran	370	U	ug/kg	370	350	U	ug/kg	350	350	U	ug/kg	350	3500	U	ug/kg	3500
2,4-Dinitrotoluene	370	U	ug/kg	370	350	U	ug/kg	350	350	U	ug/kg	350	3500	U	ug/kg	3500
Diethylphthalate	370	U	ug/kg	370	350	U	ug/kg	350	350	U	ug/kg	350	3500	U	ug/kg	3500
4-Chlorophenyl-phenylether	370	U	ug/kg	370	350	U	ug/kg	350	350	U	ug/kg	350	3500	U	ug/kg	3500
Fluorene	1800	U	ug/kg	1800	1800	U	ug/kg	1800	1800	U	ug/kg	1800	17000	U	ug/kg	17000
4-Nitroaniline	1800	U	ug/kg	1800	1800	U	ug/kg	1800	1800	U	ug/kg	1800	17000	U	ug/kg	17000
4,6-Dinitro-2-methylphenol																

US Naval Station, Mayport, Florida
Fleet Training Center(SWMU 14) - Southern Burn Area Surface Soil Data

Lab Sample Number:	MB647008				MB647009				MB647009RE				MB647012			
Site	GROUPIII				GROUPIII				GROUPIII				GROUPIII			
Locator	14S04101				14S04201				14S04201RE				14S04301			
Collect Date:	22-AUG-96				22-AUG-96				22-AUG-96				22-AUG-96			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
p-Dimethylaminoazobenzene	340	U	ug/kg	340	3400	U	ug/kg	3400	3400	R	ug/kg	3400	350	U	ug/kg	350
7,12-Dimethylbenz(A)Anthracene	340	U	ug/kg	340	3400	U	ug/kg	3400	3400	R	ug/kg	3400	350	U	ug/kg	350
3-Methylcholanthrene	340	U	ug/kg	340	3400	U	ug/kg	3400	3400	R	ug/kg	3400	350	U	ug/kg	350
Pyridine	1700	U	ug/kg	1700	17000	U	ug/kg	17000	17000	R	ug/kg	17000	1700	U	ug/kg	1700
N-Nitrosomethylethylamine	340	U	ug/kg	340	3400	U	ug/kg	3400	3400	R	ug/kg	3400	350	U	ug/kg	350
N-Nitrosomorpholine	340	U	ug/kg	340	3400	U	ug/kg	3400	3400	R	ug/kg	3400	350	U	ug/kg	350
o-Toluidine	340	U	ug/kg	340	3400	U	ug/kg	3400	3400	R	ug/kg	3400	350	U	ug/kg	350
Hexachloropropene	1700	U	ug/kg	1700	17000	U	ug/kg	17000	17000	R	ug/kg	17000	1700	U	ug/kg	1700
p-Phenylenediamine	17000	U	ug/kg	17000	170000	U	ug/kg	170000	170000	R	ug/kg	170000	17000	UJ	ug/kg	17000
Safrole	1700	U	ug/kg	1700	17000	U	ug/kg	17000	17000	R	ug/kg	17000	1700	U	ug/kg	1700
Isosafrole	1700	U	ug/kg	1700	17000	U	ug/kg	17000	17000	R	ug/kg	17000	1700	U	ug/kg	1700
1,4-Naphthoquinone	34000	U	ug/kg	34000	340000	U	ug/kg	340000	340000	R	ug/kg	340000	35000	U	ug/kg	35000
1,3-Dinitrobenzene	340	U	ug/kg	340	3400	U	ug/kg	3400	3400	R	ug/kg	3400	350	U	ug/kg	350
5-Nitro-o-toluidine	340	U	ug/kg	340	3400	U	ug/kg	3400	3400	R	ug/kg	3400	350	U	ug/kg	350
1,3,5-Trinitrobenzene	340	UJ	ug/kg	340	3400	UJ	ug/kg	3400	3400	R	ug/kg	3400	350	UJ	ug/kg	350
4-Nitroquinoline-1-oxide	17000	UJ	ug/kg	17000	170000	UJ	ug/kg	170000	170000	R	ug/kg	170000	17000	UJ	ug/kg	17000
Methapyrilene	1700	UJ	ug/kg	1700	17000	UJ	ug/kg	17000	17000	R	ug/kg	17000	1700	UJ	ug/kg	1700
3,3-Dimethylbenzidine	340	U	ug/kg	340	3400	U	ug/kg	3400	3400	R	ug/kg	3400	350	U	ug/kg	350
Hexachlorophene	17000	UJ	ug/kg	17000	170000	UJ	ug/kg	170000	170000	R	ug/kg	170000	17000	R	ug/kg	17000
Aramite	1700	U	ug/kg	1700	17000	U	ug/kg	17000	17000	R	ug/kg	17000	1700	U	ug/kg	1700
2-Chlorophenol	340	U	ug/kg	340	3400	U	ug/kg	3400	3400	R	ug/kg	3400	350	U	ug/kg	350
3- & 4-Methylphenol (2)	340	U	ug/kg	340	3400	U	ug/kg	3400	3400	R	ug/kg	3400	350	U	ug/kg	350
Hexachloropropene	1700	U	ug/kg	1700	17000	U	ug/kg	17000	17000	R	ug/kg	17000	1700	U	ug/kg	1700
2-Acetylaminofluorene	340	U	ug/kg	340	3400	U	ug/kg	3400	3400	R	ug/kg	3400	350	U	ug/kg	350
Total petroleum hydrocarbons	315		mg/kg	8.5	3060		mg/kg	85.1			mg/kg		97.6		mg/kg	1.7

U = NOT DETECTED R = RESULT IS REJECTED
J = ESTIMATED VALUE UJ = REPORTED QUANTITATION LIMIT IS ESTIMATED
THE ADDITIONAL LISTINGS OF RESULTS FOR 1,2-; 1,3-; AND 1,4-DICHLOROBENZENE WERE GENERATED FROM THE SVOC (8270) ANALYTICAL RUN.

US Naval Station, Mayport, Florida
Fleet Training Center(SWMU 14) - Southern Burn Area Surface Soil Data

Lab Sample Number:	M8995007				M8647003				M8647004				M8647005			
Site	GROUPIII				GROUPIII				GROUPIII				GROUPIII			
Locator	14S02401				14S03901				14S03901D				14S04001			
Collect Date:	21-MAY-95				22-AUG-96				22-AUG-96				22-AUG-96			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
Isosafrole	1800	U	ug/kg	1800	1800	U	ug/kg	1800	1800	U	ug/kg	1800	17000	U	ug/kg	17000
1,4-Naphthoquinone	37000	U	ug/kg	37000	35000	U	ug/kg	35000	35000	U	ug/kg	35000	350000	U	ug/kg	350000
1,3-Dinitrobenzene	370	U	ug/kg	370	350	U	ug/kg	350	350	U	ug/kg	350	3500	U	ug/kg	3500
5-Nitro-o-toluidine	370	U	ug/kg	370	350	U	ug/kg	350	350	U	ug/kg	350	3500	U	ug/kg	3500
1,3,5-Trinitrobenzene	370	U	ug/kg	370	350	UJ	ug/kg	350	350	UJ	ug/kg	350	3500	UJ	ug/kg	3500
4-Nitroquinoline-1-oxide	18000	R	ug/kg	18000	18000	UJ	ug/kg	18000	18000	UJ	ug/kg	18000	170000	UJ	ug/kg	170000
Methapyrilene	1800	U	ug/kg	1800	1800	UJ	ug/kg	1800	1800	UJ	ug/kg	1800	17000	UJ	ug/kg	17000
3,3-Dimethylbenzidine	370	U	ug/kg	370	350	U	ug/kg	350	350	U	ug/kg	350	3500	U	ug/kg	3500
Hexachlorophene	18000	U	ug/kg	18000	18000	UJ	ug/kg	18000	18000	UJ	ug/kg	18000	170000	UJ	ug/kg	170000
Aramite	1800	U	ug/kg	1800	1800	U	ug/kg	1800	1800	U	ug/kg	1800	17000	U	ug/kg	17000
2-Chlorophenol	370	U	ug/kg	370	350	U	ug/kg	350	350	U	ug/kg	350	3500	U	ug/kg	3500
3- & 4-Methylphenol (2)	370	U	ug/kg	370	350	U	ug/kg	350	350	U	ug/kg	350	3500	U	ug/kg	3500
Hexachloropropene	1800	U	ug/kg	1800	1800	U	ug/kg	1800	1800	U	ug/kg	1800	17000	U	ug/kg	17000
2-Acetylaminofluorene	370	U	ug/kg	370	350	U	ug/kg	350	350	U	ug/kg	350	3500	U	ug/kg	3500
Total petroleum hydrocarbons	-		mg/kg		1.7	U	mg/kg	1.7	1.7	U	mg/kg	1.7	1290		mg/kg	43.5

U = NOT DETECTED R = RESULT IS REJECTED
J = ESTIMATED VALUE UJ = REPORTED QUANTITATION LIMIT IS ESTIMATED
THE ADDITIONAL LISTINGS OF RESULTS FOR 1,2-; 1,3-; AND 1,4-DICHLOROBENZENE WERE GENERATED FROM THE SVOC (8270) ANALYTICAL RUN.

US Naval Station, Mayport, Florida
Fleet Training Center(SWMU 14) - Southern Burn Area Surface Soil Data

Lab Sample Number:	MB647008				MB647009				MB647012			
Site	GROUPIII				GROUPIII				GROUPIII			
Locator	14S04101				14S04201				14S04301			
Collect Date:	22-AUG-96				22-AUG-96				22-AUG-96			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
INORGANICS (SOIL) mg/kg												
Antimony	.52	U	mg/kg	.52	.53	U	mg/kg	.53	.54	U	mg/kg	.54
Arsenic	.47	J	mg/kg	.2	.5	J	mg/kg	.2	.53	J	mg/kg	.2
Barium	2.4	J	mg/kg	.072	2.3	J	mg/kg	.073	3	J	mg/kg	.074
Beryllium	.03	UJ	mg/kg	.03	.03	UJ	mg/kg	.03	.03	UJ	mg/kg	.03
Cadmium	.68	U	mg/kg	.68	.68	U	mg/kg	.68	.69	U	mg/kg	.69
Chromium	2.4		mg/kg	.45	2.7		mg/kg	.46	2.8		mg/kg	.46
Cobalt	.58	J	mg/kg	.51	.52	U	mg/kg	.52	.53	U	mg/kg	.53
Copper	.25	UJ	mg/kg	.25	.25	UJ	mg/kg	.25	.25	UJ	mg/kg	.25
Cyanide	.09	U	mg/kg	.09	.09	U	mg/kg	.09	.09	U	mg/kg	.09
Lead	1.7		mg/kg	.15	2.6		mg/kg	.16	2.3		mg/kg	.16
Mercury	.03	U	mg/kg	.03	.03	U	mg/kg	.03	.03	U	mg/kg	.03
Nickel	1.1	U	mg/kg	1.1	1.4	J	mg/kg	1.1	1.2	U	mg/kg	1.2
Selenium	.26	U	mg/kg	.26	.26	U	mg/kg	.26	.26	U	mg/kg	.26
Silver	.45	U	mg/kg	.45	.46	U	mg/kg	.46	.46	U	mg/kg	.46
Thallium	.16	U	mg/kg	.16	.16	U	mg/kg	.16	.26	J	mg/kg	.17
Tin	2.4	U	mg/kg	2.4	2.4	U	mg/kg	2.4	2.5	U	mg/kg	2.5
Vanadium	1.7	J	mg/kg	.35	1.6	J	mg/kg	.35	1.7	J	mg/kg	.36
Zinc	4.8		mg/kg	.21	6.5		mg/kg	.21	7.3		mg/kg	.21

U = NOT DETECTED R = RESULT IS REJECTED
J = ESTIMATED VALUE UJ = REPORTED QUANTITATION LIMIT IS ESTIMATED
THE ADDITIONAL LISTINGS OF RESULTS FOR 1,2-; 1,3-; AND 1,4-DICHLOROBENZENE WERE GENERATED FROM THE SVOC (8270) ANALYTICAL RUN.

US Naval Station, Mayport, Florida
Fleet Training Center(SWMU 14) - Southern Burn Area Surface Soil Data

Lab Sample Number:	MB647008				MB647009				MB647009RE				MB647012			
Site	GROUPIII				GROUPIII				GROUPIII				GROUPIII			
Locator	14S04101				14S04201				14S04201RE				14S04301			
Collect Date:	22-AUG-96				22-AUG-96				22-AUG-96				22-AUG-96			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
Dibromomethane	5	U	ug/kg	5	5	U	ug/kg	5	-		ug/kg		5	U	ug/kg	5
1,2-Dichlorobenzene	340	U	ug/kg	340	3400	U	ug/kg	3400	3400	R	ug/kg	3400	350	U	ug/kg	350
2-Chloroethylvinyl ether	10	U	ug/kg	10	10	U	ug/kg	10	-		ug/kg		10	U	ug/kg	10
Ethyl methacrylate	5	U	ug/kg	5	5	U	ug/kg	5	-		ug/kg		5	U	ug/kg	5
1,2,3-Trichloropropane	5	U	ug/kg	5	5	U	ug/kg	5	-		ug/kg		5	U	ug/kg	5
trans-1,4-Dichloro-2-butene	5	U	ug/kg	5	5	U	ug/kg	5	-		ug/kg		5	U	ug/kg	5
Isobutyl alcohol	210	U	ug/kg	210	210	U	ug/kg	210	-		ug/kg		210	U	ug/kg	210
1,1,1,2-Tetrachloroethane	5	U	ug/kg	5	5	U	ug/kg	5	-		ug/kg		5	U	ug/kg	5
1,2-Dibromo-3-chloropropane	10	U	ug/kg	10	10	U	ug/kg	10	-		ug/kg		10	U	ug/kg	10
Ethylene dibromide	5	U	ug/kg	5	5	U	ug/kg	5	-		ug/kg		5	U	ug/kg	5
1,4-Dioxane	210	R	ug/kg	210	210	R	ug/kg	210	-		ug/kg		210	R	ug/kg	210
3-Chloropropene	5	U	ug/kg	5	5	U	ug/kg	5	-		ug/kg		5	U	ug/kg	5
Acetonitrile	100	U	ug/kg	100	100	U	ug/kg	100	-		ug/kg		100	U	ug/kg	100
Chloroprene	210	U	ug/kg	210	210	U	ug/kg	210	-		ug/kg		210	U	ug/kg	210
Methacrylonitrile	5	U	ug/kg	5	5	U	ug/kg	5	-		ug/kg		5	U	ug/kg	5
Methyl methacrylate	10	U	ug/kg	10	10	U	ug/kg	10	-		ug/kg		10	U	ug/kg	10
Pentachloroethane	10	U	ug/kg	10	10	U	ug/kg	10	-		ug/kg		10	U	ug/kg	10
Propionitrile	100	U	ug/kg	100	100	U	ug/kg	100	-		ug/kg		100	U	ug/kg	100
Vinyl acetate	10	U	ug/kg	10	10	U	ug/kg	10	-		ug/kg		10	U	ug/kg	10
SEMIVOLATILES ug/kg																
N-Nitrosodimethylamine	340	U	ug/kg	340	3400	U	ug/kg	3400	3400	R	ug/kg	3400	350	U	ug/kg	350
Phenol	340	U	ug/kg	340	3400	U	ug/kg	3400	3400	R	ug/kg	3400	350	U	ug/kg	350
Aniline	340	U	ug/kg	340	3400	U	ug/kg	3400	3400	R	ug/kg	3400	350	U	ug/kg	350
bis(2-Chloroethyl) ether	340	U	ug/kg	340	3400	U	ug/kg	3400	3400	R	ug/kg	3400	350	U	ug/kg	350
Benzyl Alcohol	340	U	ug/kg	340	3400	U	ug/kg	3400	3400	R	ug/kg	3400	350	U	ug/kg	350
2-Methylphenol	340	U	ug/kg	340	3400	U	ug/kg	3400	3400	R	ug/kg	3400	350	U	ug/kg	350
bis(2-Chloroisopropyl) ether	340	U	ug/kg	340	3400	U	ug/kg	3400	3400	R	ug/kg	3400	350	U	ug/kg	350
N-Nitroso-di-n-propylamine	340	U	ug/kg	340	3400	U	ug/kg	3400	3400	R	ug/kg	3400	350	UJ	ug/kg	350
Hexachloroethane	340	U	ug/kg	340	3400	U	ug/kg	3400	3400	R	ug/kg	3400	350	U	ug/kg	350
Nitrobenzene	340	U	ug/kg	340	3400	U	ug/kg	3400	3400	R	ug/kg	3400	350	U	ug/kg	350
Isophorone	340	U	ug/kg	340	3400	U	ug/kg	3400	3400	R	ug/kg	3400	350	U	ug/kg	350
2-Nitrophenol	340	U	ug/kg	340	3400	U	ug/kg	3400	3400	R	ug/kg	3400	350	U	ug/kg	350
2,4-Dimethylphenol	340	U	ug/kg	340	3400	U	ug/kg	3400	3400	R	ug/kg	3400	350	U	ug/kg	350
Benzoic acid	1700	U	ug/kg	1700	17000	U	ug/kg	17000	17000	R	ug/kg	17000	1700	U	ug/kg	1700
bis(2-Chloroethoxy) methane	340	U	ug/kg	340	3400	U	ug/kg	3400	3400	R	ug/kg	3400	350	U	ug/kg	350
2,4-Dichlorophenol	340	U	ug/kg	340	3400	U	ug/kg	3400	3400	R	ug/kg	3400	350	U	ug/kg	350
1,2,4-Trichlorobenzene	340	U	ug/kg	340	3400	U	ug/kg	3400	3400	R	ug/kg	3400	350	U	ug/kg	350
Naphthalene	340	U	ug/kg	340	570	J	ug/kg	3400	1200	R	ug/kg	3400	350	U	ug/kg	350
4-Chloroaniline	340	U	ug/kg	340	3400	U	ug/kg	3400	3400	R	ug/kg	3400	350	U	ug/kg	350
Hexachlorobutadiene	340	U	ug/kg	340	3400	U	ug/kg	3400	3400	R	ug/kg	3400	350	U	ug/kg	350
4-Chloro-3-methylphenol	340	U	ug/kg	340	3400	U	ug/kg	3400	3400	R	ug/kg	3400	350	U	ug/kg	350
2-Methylnaphthalene	96	J	ug/kg	340	3500		ug/kg	3400	7100	R	ug/kg	3400	87	J	ug/kg	350
Hexachlorocyclopentadiene	340	U	ug/kg	340	3400	U	ug/kg	3400	3400	R	ug/kg	3400	350	U	ug/kg	350
2,4,6-Trichlorophenol	340	U	ug/kg	340	3400	U	ug/kg	3400	3400	R	ug/kg	3400	350	U	ug/kg	350
Dimethylphthalate	340	U	ug/kg	340	3400	U	ug/kg	3400	3400	R	ug/kg	3400	350	U	ug/kg	350
2,4,5-Trichlorophenol	1700	U	ug/kg	1700	17000	U	ug/kg	17000	17000	R	ug/kg	17000	1700	U	ug/kg	1700
2-Chloronaphthalene	340	U	ug/kg	340	3400	U	ug/kg	3400	3400	R	ug/kg	3400	350	U	ug/kg	350
2-Nitroaniline	1700	U	ug/kg	1700	17000	U	ug/kg	17000	17000	R	ug/kg	17000	1700	U	ug/kg	1700
Acenaphthylene	340	U	ug/kg	340	3400	U	ug/kg	3400	3400	R	ug/kg	3400	350	U	ug/kg	350
2,6-Dinitrotoluene	340	U	ug/kg	340	3400	U	ug/kg	3400	3400	R	ug/kg	3400	350	U	ug/kg	350
3-Nitroaniline	1700	U	ug/kg	1700	17000	U	ug/kg	17000	17000	R	ug/kg	17000	1700	U	ug/kg	1700

US Naval Station, Mayport, Florida
Fleet Training Center(SWMU 14) - Southern Burn Area Subsurface Soil Data

Lab Sample Number:	M8995006				M8995008				M8647006				M8647007			
Site	GROUPIII				GROUPIII				GROUPIII				GROUPIII			
Locator	14B02303				14B02403				14B03903				14B04003			
Collect Date:	21-MAY-95				21-MAY-95				22-AUG-96				22-AUG-96			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
1,4-Dioxane	240	R	ug/kg	240	240	R	ug/kg	240	230	R	ug/kg	230	220	R	ug/kg	220
3-Chloropropene	6	U	ug/kg	6	6	R	ug/kg	6	6	U	ug/kg	6	6	U	ug/kg	6
Acetonitrile	120	U	ug/kg	120	120	R	ug/kg	120	110	U	ug/kg	110	110	U	ug/kg	110
Chloroprene	240	U	ug/kg	240	240	R	ug/kg	240	230	U	ug/kg	230	220	U	ug/kg	220
Methacrylonitrile	6	U	ug/kg	6	6	R	ug/kg	6	6	U	ug/kg	6	6	U	ug/kg	6
Methyl methacrylate	12	U	ug/kg	12	12	R	ug/kg	12	11	U	ug/kg	11	11	U	ug/kg	11
Pentachloroethane	12	U	ug/kg	12	12	R	ug/kg	12	11	U	ug/kg	11	11	U	ug/kg	11
Propionitrile	120	U	ug/kg	120	120	R	ug/kg	120	110	U	ug/kg	110	110	U	ug/kg	110
Vinyl acetate	12	U	ug/kg	12	12	R	ug/kg	12	11	U	ug/kg	11	11	U	ug/kg	11
SEMIVOLATILES ug/kg																
N-Nitrosodimethylamine	400	U	ug/kg	400	400	U	ug/kg	400	380	U	ug/kg	380	370	U	ug/kg	370
Phenol	400	U	ug/kg	400	400	U	ug/kg	400	380	U	ug/kg	380	370	U	ug/kg	370
Aniline	400	U	ug/kg	400	400	U	ug/kg	400	380	U	ug/kg	380	370	U	ug/kg	370
bis(2-Chloroethyl) ether	400	U	ug/kg	400	400	U	ug/kg	400	380	U	ug/kg	380	370	U	ug/kg	370
Benzyl Alcohol	400	U	ug/kg	400	400	U	ug/kg	400	380	U	ug/kg	380	370	U	ug/kg	370
2-Methylphenol	400	U	ug/kg	400	400	U	ug/kg	400	380	U	ug/kg	380	370	U	ug/kg	370
bis(2-Chloroisopropyl) ether	400	U	ug/kg	400	400	U	ug/kg	400	380	U	ug/kg	380	370	U	ug/kg	370
N-Nitroso-di-n-propylamine	400	U	ug/kg	400	400	U	ug/kg	400	380	U	ug/kg	380	370	U	ug/kg	370
Hexachloroethane	400	U	ug/kg	400	400	U	ug/kg	400	380	U	ug/kg	380	370	U	ug/kg	370
Nitrobenzene	400	U	ug/kg	400	400	U	ug/kg	400	380	U	ug/kg	380	370	U	ug/kg	370
Isophorone	400	U	ug/kg	400	400	U	ug/kg	400	380	U	ug/kg	380	370	U	ug/kg	370
2-Nitrophenol	400	U	ug/kg	400	400	U	ug/kg	400	380	U	ug/kg	380	370	U	ug/kg	370
2,4-Dimethylphenol	400	U	ug/kg	400	400	U	ug/kg	400	380	U	ug/kg	380	370	U	ug/kg	370
Benzoic acid	2000	U	ug/kg	2000	2000	U	ug/kg	2000	1900	U	ug/kg	1900	1800	U	ug/kg	1800
bis(2-Chloroethoxy) methane	400	U	ug/kg	400	400	U	ug/kg	400	380	U	ug/kg	380	370	U	ug/kg	370
2,4-Dichlorophenol	400	U	ug/kg	400	400	U	ug/kg	400	380	U	ug/kg	380	370	U	ug/kg	370
1,2,4-Trichlorobenzene	400	U	ug/kg	400	400	U	ug/kg	400	380	U	ug/kg	380	370	U	ug/kg	370
Naphthalene	400	U	ug/kg	400	400	U	ug/kg	400	380	U	ug/kg	380	370	U	ug/kg	370
4-Chloroaniline	400	U	ug/kg	400	400	U	ug/kg	400	380	U	ug/kg	380	370	U	ug/kg	370
Hexachlorobutadiene	400	U	ug/kg	400	400	U	ug/kg	400	380	U	ug/kg	380	370	U	ug/kg	370
4-Chloro-3-methylphenol	400	U	ug/kg	400	400	U	ug/kg	400	380	U	ug/kg	380	370	U	ug/kg	370
2-Methylnaphthalene	400	U	ug/kg	400	400	U	ug/kg	400	380	U	ug/kg	380	370	U	ug/kg	370
Hexachlorocyclopentadiene	400	U	ug/kg	400	400	U	ug/kg	400	380	U	ug/kg	380	370	U	ug/kg	370
2,4,6-Trichlorophenol	400	U	ug/kg	400	400	U	ug/kg	400	380	U	ug/kg	380	370	U	ug/kg	370
Dimethylphthalate	400	U	ug/kg	400	400	U	ug/kg	400	380	U	ug/kg	380	370	U	ug/kg	370
2,4,5-Trichlorophenol	2000	U	ug/kg	2000	2000	U	ug/kg	2000	1900	U	ug/kg	1900	1800	U	ug/kg	1800
2-Chloronaphthalene	400	U	ug/kg	400	400	U	ug/kg	400	380	U	ug/kg	380	370	U	ug/kg	370
2-Nitroaniline	2000	U	ug/kg	2000	2000	U	ug/kg	2000	1900	U	ug/kg	1900	1800	U	ug/kg	1800
Acenaphthylene	400	U	ug/kg	400	400	U	ug/kg	400	380	U	ug/kg	380	370	U	ug/kg	370
2,6-Dinitrotoluene	400	U	ug/kg	400	400	U	ug/kg	400	380	U	ug/kg	380	370	U	ug/kg	370
3-Nitroaniline	2000	U	ug/kg	2000	2000	U	ug/kg	2000	1900	U	ug/kg	1900	1800	U	ug/kg	1800
Acenaphthene	400	U	ug/kg	400	400	U	ug/kg	400	380	U	ug/kg	380	370	U	ug/kg	370
2,4-Dinitrophenol	2000	U	ug/kg	2000	2000	U	ug/kg	2000	1900	U	ug/kg	1900	1800	U	ug/kg	1800
4-Nitrophenol	2000	U	ug/kg	2000	2000	U	ug/kg	2000	1900	UJ	ug/kg	1900	1800	UJ	ug/kg	1800
Dibenzofuran	400	U	ug/kg	400	400	U	ug/kg	400	380	U	ug/kg	380	370	U	ug/kg	370
2,4-Dinitrotoluene	400	U	ug/kg	400	400	U	ug/kg	400	380	U	ug/kg	380	370	U	ug/kg	370
Diethylphthalate	400	U	ug/kg	400	400	U	ug/kg	400	380	U	ug/kg	380	370	U	ug/kg	370
4-Chlorophenyl-phenylether	400	U	ug/kg	400	400	U	ug/kg	400	380	U	ug/kg	380	370	U	ug/kg	370
Fluorene	400	U	ug/kg	400	400	U	ug/kg	400	380	U	ug/kg	380	370	U	ug/kg	370
4-Nitroaniline	2000	U	ug/kg	2000	2000	U	ug/kg	2000	1900	U	ug/kg	1900	1800	U	ug/kg	1800
4,6-Dinitro-2-methylphenol	2000	U	ug/kg	2000	2000	U	ug/kg	2000	1900	U	ug/kg	1900	1800	U	ug/kg	1800

US Naval Station, Mayport, Florida
Fleet Training Center(SWMU 14) - Southern Burn Area Surface Soil Data

Lab Sample Number:	MB647008				MB647009				MB647009RE				MB647012			
Site	GROUPIII				GROUPIII				GROUPIII				GROUPIII			
Locator	14S04101				14S04201				14S04201RE				14S04301			
Collect Date:	22-AUG-96				22-AUG-96				22-AUG-96				22-AUG-96			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
p-Dimethylaminoazobenzene	340	U	ug/kg	340	3400	U	ug/kg	3400	3400	R	ug/kg	3400	350	U	ug/kg	350
7,12-Dimethylbenz(A)Anthracene	340	U	ug/kg	340	3400	U	ug/kg	3400	3400	R	ug/kg	3400	350	U	ug/kg	350
3-Methylcholanthrene	340	U	ug/kg	340	3400	U	ug/kg	3400	3400	R	ug/kg	3400	350	U	ug/kg	350
Pyridine	1700	U	ug/kg	1700	17000	U	ug/kg	17000	17000	R	ug/kg	17000	1700	U	ug/kg	1700
N-Nitrosomethylethylamine	340	U	ug/kg	340	3400	U	ug/kg	3400	3400	R	ug/kg	3400	350	U	ug/kg	350
N-Nitrosomorpholine	340	U	ug/kg	340	3400	U	ug/kg	3400	3400	R	ug/kg	3400	350	U	ug/kg	350
o-Toluidine	340	U	ug/kg	340	3400	U	ug/kg	3400	3400	R	ug/kg	3400	350	U	ug/kg	350
Hexachloropropene	1700	U	ug/kg	1700	17000	U	ug/kg	17000	17000	R	ug/kg	17000	1700	U	ug/kg	1700
p-Phenylenediamine	17000	U	ug/kg	17000	170000	U	ug/kg	170000	170000	R	ug/kg	170000	17000	UJ	ug/kg	17000
Safrole	1700	U	ug/kg	1700	17000	U	ug/kg	17000	17000	R	ug/kg	17000	1700	U	ug/kg	1700
Isosafrole	1700	U	ug/kg	1700	17000	U	ug/kg	17000	17000	R	ug/kg	17000	1700	U	ug/kg	1700
1,4-Naphthoquinone	34000	U	ug/kg	34000	340000	U	ug/kg	340000	340000	R	ug/kg	340000	35000	U	ug/kg	35000
1,3-Dinitrobenzene	340	U	ug/kg	340	3400	U	ug/kg	3400	3400	R	ug/kg	3400	350	U	ug/kg	350
5-Nitro-o-toluidine	340	U	ug/kg	340	3400	U	ug/kg	3400	3400	R	ug/kg	3400	350	U	ug/kg	350
1,3,5-Trinitrobenzene	340	UJ	ug/kg	340	3400	UJ	ug/kg	3400	3400	R	ug/kg	3400	350	UJ	ug/kg	350
4-Nitroquinoline-1-oxide	17000	UJ	ug/kg	17000	170000	UJ	ug/kg	170000	170000	R	ug/kg	170000	17000	UJ	ug/kg	17000
Methapyrilene	1700	UJ	ug/kg	1700	17000	UJ	ug/kg	17000	17000	R	ug/kg	17000	1700	UJ	ug/kg	1700
3,3-Dimethylbenzidine	340	U	ug/kg	340	3400	U	ug/kg	3400	3400	R	ug/kg	3400	350	U	ug/kg	350
Hexachlorophene	17000	UJ	ug/kg	17000	170000	UJ	ug/kg	170000	170000	R	ug/kg	170000	17000	R	ug/kg	17000
Aramite	1700	U	ug/kg	1700	17000	U	ug/kg	17000	17000	R	ug/kg	17000	1700	U	ug/kg	1700
2-Chlorophenol	340	U	ug/kg	340	3400	U	ug/kg	3400	3400	R	ug/kg	3400	350	U	ug/kg	350
3- & 4-Methylphenol (2)	340	U	ug/kg	340	3400	U	ug/kg	3400	3400	R	ug/kg	3400	350	U	ug/kg	350
Hexachloropropene	1700	U	ug/kg	1700	17000	U	ug/kg	17000	17000	R	ug/kg	17000	1700	U	ug/kg	1700
2-Acetylaminofluorene	340	U	ug/kg	340	3400	U	ug/kg	3400	3400	R	ug/kg	3400	350	U	ug/kg	350
Total petroleum hydrocarbons	315		mg/kg	8.5	3060		mg/kg	85.1	-		mg/kg		97.6		mg/kg	1.7

U = NOT DETECTED R = RESULT IS REJECTED
J = ESTIMATED VALUE UJ = REPORTED QUANTITATION LIMIT IS ESTIMATED
THE ADDITIONAL LISTINGS OF RESULTS FOR 1,2-; 1,3-; AND 1,4-DICHLOROBENZENE WERE GENERATED FROM THE SVOC (8270) ANALYTICAL RUN.

US Naval Station, Mayport, Florida
Fleet Training Center(SWMU 14) - Southern Burn Area Subsurface Soil Data

Lab Sample Number:	M8995006				M8995008				MB647006				MB647007			
Site	GROUPIII				GROUPIII				GROUPIII				GROUPIII			
Locator	14B02303				14B02403				14B03903				14B04003			
Collect Date:	21-MAY-95				21-MAY-95				22-AUG-96				22-AUG-96			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
Isosafrole	2000	U	ug/kg	2000	2000	U	ug/kg	2000	1900	U	ug/kg	1900	1800	U	ug/kg	1800
1,4-Naphthoquinone	40000	U	ug/kg	40000	40000	U	ug/kg	40000	38000	U	ug/kg	38000	37000	U	ug/kg	37000
1,3-Dinitrobenzene	400	U	ug/kg	400	400	U	ug/kg	400	380	U	ug/kg	380	370	U	ug/kg	370
5-Nitro-o-toluidine	400	U	ug/kg	400	400	U	ug/kg	400	380	U	ug/kg	380	370	U	ug/kg	370
1,3,5-Trinitrobenzene	400	U	ug/kg	400	400	U	ug/kg	400	380	UJ	ug/kg	380	370	UJ	ug/kg	370
4-Nitroquinoline-1-oxide	20000	R	ug/kg	20000	20000	R	ug/kg	20000	19000	UJ	ug/kg	19000	18000	UJ	ug/kg	18000
Methapyrilene	2000	U	ug/kg	2000	2000	U	ug/kg	2000	1900	UJ	ug/kg	1900	1800	UJ	ug/kg	1800
3,3-Dimethylbenzidine	400	U	ug/kg	400	400	U	ug/kg	400	380	U	ug/kg	380	370	U	ug/kg	370
Hexachlorophene	20000	U	ug/kg	20000	20000	U	ug/kg	20000	19000	UJ	ug/kg	19000	18000	UJ	ug/kg	18000
Aramite	2000	U	ug/kg	2000	2000	U	ug/kg	2000	1900	U	ug/kg	1900	1800	U	ug/kg	1800
2-Chlorophenol	400	U	ug/kg	400	400	U	ug/kg	400	380	U	ug/kg	380	370	U	ug/kg	370
3- & 4-Methylphenol (2)	400	U	ug/kg	400	400	U	ug/kg	400	380	U	ug/kg	380	370	U	ug/kg	370
Hexachloropropene	2000	U	ug/kg	2000	2000	U	ug/kg	2000	1900	U	ug/kg	1900	1800	U	ug/kg	1800
2-Acetylaminofluorene	400	U	ug/kg	400	400	U	ug/kg	400	380	U	ug/kg	380	370	U	ug/kg	370
Total petroleum hydrocarbons	-		mg/kg		-		mg/kg		1.9	U	mg/kg	1.9	66.7		mg/kg	2

U = NOT DETECTED R = RESULT IS REJECTED
J = ESTIMATED VALUE UJ = REPORTED QUANTITATION LIMIT IS ESTIMATED
THE ADDITIONAL LISTINGS OF RESULTS FOR 1,2-; 1,3-; AND 1,4-DICHLOROBENZENE WERE GENERATED FROM THE SVOC (8270) ANALYTICAL RUN.

US Naval Station, Mayport, Florida
Fleet Training Center(SWMU 14) - Southern Burn Area Surface Soil Data

Lab Sample Number:		MB647008			MB647009			MB647012		
Site		GROUPIII			GROUPIII			GROUPIII		
Locator		14S04101			14S04201			14S04301		
Collect Date:		22-AUG-96			22-AUG-96			22-AUG-96		
		VALUE QUAL	UNITS	DL	VALUE QUAL	UNITS	DL	VALUE QUAL	UNITS	DL
INORGANICS (SOIL)	mg/kg									
Antimony		.52 U	mg/kg	.52	.53 U	mg/kg	.53	.54 U	mg/kg	.54
Arsenic		.47 J	mg/kg	.2	.5 J	mg/kg	.2	.53 J	mg/kg	.2
Barium		2.4 J	mg/kg	.072	2.3 J	mg/kg	.073	3 J	mg/kg	.074
Beryllium		.03 UJ	mg/kg	.03	.03 UJ	mg/kg	.03	.03 UJ	mg/kg	.03
Cadmium		.68 U	mg/kg	.68	.68 U	mg/kg	.68	.69 U	mg/kg	.69
Chromium		2.4	mg/kg	.45	2.7	mg/kg	.46	2.8	mg/kg	.46
Cobalt		.58 J	mg/kg	.51	.52 U	mg/kg	.52	.53 U	mg/kg	.53
Copper		.25 UJ	mg/kg	.25	.25 UJ	mg/kg	.25	.25 UJ	mg/kg	.25
Cyanide		.09 U	mg/kg	.09	.09 U	mg/kg	.09	.09 U	mg/kg	.09
Lead		1.7	mg/kg	.15	2.6	mg/kg	.16	2.3	mg/kg	.16
Mercury		.03 U	mg/kg	.03	.03 U	mg/kg	.03	.03 U	mg/kg	.03
Nickel		1.1 U	mg/kg	1.1	1.4 J	mg/kg	1.1	1.2 U	mg/kg	1.2
Selenium		.26 U	mg/kg	.26	.26 U	mg/kg	.26	.26 U	mg/kg	.26
Silver		.45 U	mg/kg	.45	.46 U	mg/kg	.46	.46 U	mg/kg	.46
Thallium		.16 U	mg/kg	.16	.16 U	mg/kg	.16	.26 J	mg/kg	.17
Tin		2.4 U	mg/kg	2.4	2.4 U	mg/kg	2.4	2.5 U	mg/kg	2.5
Vanadium		1.7 J	mg/kg	.35	1.6 J	mg/kg	.35	1.7 J	mg/kg	.36
Zinc		4.8	mg/kg	.21	6.5	mg/kg	.21	7.3	mg/kg	.21

U = NOT DETECTED R = RESULT IS REJECTED
J = ESTIMATED VALUE UJ = REPORTED QUANTITATION LIMIT IS ESTIMATED
THE ADDITIONAL LISTINGS OF RESULTS FOR 1,2-; 1,3-; AND 1,4-DICHLOROBENZENE WERE GENERATED FROM THE SVOC (8270) ANALYTICAL RUN.

US Naval Station, Mayport, Florida
Fleet Training Center(SWMU 14) - Southern Burn Area Subsurface Soil Data

Lab Sample Number:	MB647010				MB647011				MB647011R				MB647013			
Site	GROUPIII				GROUPIII				GROUPIII				GROUPIII			
Locator	14B04103				14B04203				14B04203RE				14B04303			
Collect Date:	22-AUG-96				22-AUG-96				22-AUG-96				22-AUG-96			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
Dibromomethane	6	U	ug/kg	6	6	U	ug/kg	6	6	R	ug/kg	6	6	U	ug/kg	6
1,2-Dichlorobenzene	380	U	ug/kg	380	6	U	ug/kg	6	6	R	ug/kg	6	6	U	ug/kg	6
2-Chloroethylvinyl ether	11	U	ug/kg	11	12	U	ug/kg	12	12	R	ug/kg	12	11	U	ug/kg	11
Ethyl methacrylate	6	U	ug/kg	6	6	U	ug/kg	6	6	R	ug/kg	6	6	U	ug/kg	6
1,2,3-Trichloropropane	6	U	ug/kg	6	6	U	ug/kg	6	6	R	ug/kg	6	6	U	ug/kg	6
trans-1,4-Dichloro-2-butene	6	U	ug/kg	6	6	U	ug/kg	6	6	R	ug/kg	6	6	U	ug/kg	6
Isobutyl alcohol	230	U	ug/kg	230	400	J	ug/kg	250	120	R	ug/kg	250	220	U	ug/kg	220
1,1,1,2-Tetrachloroethane	6	U	ug/kg	6	6	U	ug/kg	6	6	R	ug/kg	6	6	U	ug/kg	6
1,2-Dibromo-3-chloropropane	11	U	ug/kg	11	12	U	ug/kg	12	12	R	ug/kg	12	11	U	ug/kg	11
Ethylene dibromide	6	U	ug/kg	6	6	U	ug/kg	6	6	R	ug/kg	6	6	U	ug/kg	6
1,4-Dioxane	230	R	ug/kg	230	250	R	ug/kg	250	250	R	ug/kg	250	220	R	ug/kg	220
3-Chloropropene	6	U	ug/kg	6	6	U	ug/kg	6	6	R	ug/kg	6	6	U	ug/kg	6
Acetonitrile	110	U	ug/kg	110	120	U	ug/kg	120	120	R	ug/kg	120	110	U	ug/kg	110
Chloroprene	230	U	ug/kg	230	250	U	ug/kg	250	250	R	ug/kg	250	220	U	ug/kg	220
Methacrylonitrile	6	U	ug/kg	6	6	U	ug/kg	6	6	R	ug/kg	6	6	U	ug/kg	6
Methyl methacrylate	11	U	ug/kg	11	12	U	ug/kg	12	12	R	ug/kg	12	11	U	ug/kg	11
Pentachloroethane	11	U	ug/kg	11	12	U	ug/kg	12	12	R	ug/kg	12	11	U	ug/kg	11
Propionitrile	110	U	ug/kg	110	120	U	ug/kg	120	120	R	ug/kg	120	110	U	ug/kg	110
Vinyl acetate	11	U	ug/kg	11	12	U	ug/kg	12	12	R	ug/kg	12	11	U	ug/kg	11
SEMIVOLATILES ug/kg																
N-Nitrosodimethylamine	380	U	ug/kg	380	4200	U	ug/kg	4200	-		ug/kg		380	U	ug/kg	380
Phenol	380	U	ug/kg	380	4200	U	ug/kg	4200	-		ug/kg		380	U	ug/kg	380
Aniline	380	U	ug/kg	380	4200	U	ug/kg	4200	-		ug/kg		380	U	ug/kg	380
bis(2-Chloroethyl) ether	380	U	ug/kg	380	4200	U	ug/kg	4200	-		ug/kg		380	U	ug/kg	380
Benzyl Alcohol	380	U	ug/kg	380	4200	U	ug/kg	4200	-		ug/kg		380	U	ug/kg	380
2-Methylphenol	380	U	ug/kg	380	4200	U	ug/kg	4200	-		ug/kg		380	U	ug/kg	380
bis(2-Chloroisopropyl) ether	380	U	ug/kg	380	4200	U	ug/kg	4200	-		ug/kg		380	U	ug/kg	380
N-Nitroso-di-n-propylamine	380	U	ug/kg	380	4200	UJ	ug/kg	4200	-		ug/kg		380	U	ug/kg	380
Hexachloroethane	380	U	ug/kg	380	4200	U	ug/kg	4200	-		ug/kg		380	U	ug/kg	380
Nitrobenzene	380	U	ug/kg	380	4200	U	ug/kg	4200	-		ug/kg		380	U	ug/kg	380
Isophorone	380	U	ug/kg	380	4200	U	ug/kg	4200	-		ug/kg		380	U	ug/kg	380
2-Nitrophenol	380	U	ug/kg	380	4200	U	ug/kg	4200	-		ug/kg		380	U	ug/kg	380
2,4-Dimethylphenol	380	U	ug/kg	380	4200	U	ug/kg	4200	-		ug/kg		380	U	ug/kg	380
Benzoic acid	1900	U	ug/kg	1900	21000	U	ug/kg	21000	-		ug/kg		1900	U	ug/kg	1900
bis(2-Chloroethoxy) methane	380	U	ug/kg	380	4200	U	ug/kg	4200	-		ug/kg		380	U	ug/kg	380
2,4-Dichlorophenol	380	U	ug/kg	380	4200	U	ug/kg	4200	-		ug/kg		380	U	ug/kg	380
1,2,4-Trichlorobenzene	380	U	ug/kg	380	4200	U	ug/kg	4200	-		ug/kg		380	U	ug/kg	380
Naphthalene	380	U	ug/kg	380	4200	U	ug/kg	4200	-		ug/kg		380	U	ug/kg	380
4-Chloroaniline	380	U	ug/kg	380	4200	U	ug/kg	4200	-		ug/kg		380	U	ug/kg	380
Hexachlorobutadiene	380	U	ug/kg	380	4200	U	ug/kg	4200	-		ug/kg		380	U	ug/kg	380
4-Chloro-3-methylphenol	380	U	ug/kg	380	4200	U	ug/kg	4200	-		ug/kg		380	U	ug/kg	380
2-Methylnaphthalene	40	J	ug/kg	380	6500		ug/kg	4200	-		ug/kg		380	U	ug/kg	380
Hexachlorocyclopentadiene	380	U	ug/kg	380	4200	U	ug/kg	4200	-		ug/kg		380	U	ug/kg	380
2,4,6-Trichlorophenol	380	U	ug/kg	380	4200	U	ug/kg	4200	-		ug/kg		380	U	ug/kg	380
Dimethylphthalate	380	U	ug/kg	380	4200	U	ug/kg	4200	-		ug/kg		380	U	ug/kg	380
2,4,5-Trichlorophenol	1900	U	ug/kg	1900	21000	U	ug/kg	21000	-		ug/kg		1900	U	ug/kg	1900
2-Chloronaphthalene	380	U	ug/kg	380	4200	U	ug/kg	4200	-		ug/kg		380	U	ug/kg	380
2-Nitroaniline	1900	U	ug/kg	1900	21000	U	ug/kg	21000	-		ug/kg		1900	U	ug/kg	1900
Acenaphthylene	380	U	ug/kg	380	4200	U	ug/kg	4200	-		ug/kg		380	U	ug/kg	380
2,6-Dinitrotoluene	380	U	ug/kg	380	4200	U	ug/kg	4200	-		ug/kg		380	U	ug/kg	380
3-Nitroaniline	1900	U	ug/kg	1900	21000	U	ug/kg	21000	-		ug/kg		1900	U	ug/kg	1900

US Naval Station, Mayport, Florida
Fleet Training Center(SWMU 14) - Southern Burn Area Subsurface Soil Data

Lab Sample Number:	M8995006				M8995008				MB647006				MB647007			
Site	GROUPIII				GROUPIII				GROUPIII				GROUPIII			
Locator	14B02303				14B02403				14B03903				14B04003			
Collect Date:	21-MAY-95				21-MAY-95				22-AUG-96				22-AUG-96			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
1,4-Dioxane	240	R	ug/kg	240	240	R	ug/kg	240	230	R	ug/kg	230	220	R	ug/kg	220
3-Chloropropene	6	U	ug/kg	6	6	R	ug/kg	6	6	U	ug/kg	6	6	U	ug/kg	6
Acetonitrile	120	U	ug/kg	120	120	R	ug/kg	120	110	U	ug/kg	110	110	U	ug/kg	110
Chloroprene	240	U	ug/kg	240	240	R	ug/kg	240	230	U	ug/kg	230	220	U	ug/kg	220
Methacrylonitrile	6	U	ug/kg	6	6	R	ug/kg	6	6	U	ug/kg	6	6	U	ug/kg	6
Methyl methacrylate	12	U	ug/kg	12	12	R	ug/kg	12	11	U	ug/kg	11	11	U	ug/kg	11
Pentachloroethane	12	U	ug/kg	12	12	R	ug/kg	12	11	U	ug/kg	11	11	U	ug/kg	11
Propionitrile	120	U	ug/kg	120	120	R	ug/kg	120	110	U	ug/kg	110	110	U	ug/kg	110
Vinyl acetate	12	U	ug/kg	12	12	R	ug/kg	12	11	U	ug/kg	11	11	U	ug/kg	11
SEMIVOLATILES ug/kg																
N-Nitrosodimethylamine	400	U	ug/kg	400	400	U	ug/kg	400	380	U	ug/kg	380	370	U	ug/kg	370
Phenol	400	U	ug/kg	400	400	U	ug/kg	400	380	U	ug/kg	380	370	U	ug/kg	370
Aniline	400	U	ug/kg	400	400	U	ug/kg	400	380	U	ug/kg	380	370	U	ug/kg	370
bis(2-Chloroethyl) ether	400	U	ug/kg	400	400	U	ug/kg	400	380	U	ug/kg	380	370	U	ug/kg	370
Benzyl Alcohol	400	U	ug/kg	400	400	U	ug/kg	400	380	U	ug/kg	380	370	U	ug/kg	370
2-Methylphenol	400	U	ug/kg	400	400	U	ug/kg	400	380	U	ug/kg	380	370	U	ug/kg	370
bis(2-Chloroisopropyl) ether	400	U	ug/kg	400	400	U	ug/kg	400	380	U	ug/kg	380	370	U	ug/kg	370
N-Nitroso-di-n-propylamine	400	U	ug/kg	400	400	U	ug/kg	400	380	U	ug/kg	380	370	U	ug/kg	370
Hexachloroethane	400	U	ug/kg	400	400	U	ug/kg	400	380	U	ug/kg	380	370	U	ug/kg	370
Nitrobenzene	400	U	ug/kg	400	400	U	ug/kg	400	380	U	ug/kg	380	370	U	ug/kg	370
Isophorone	400	U	ug/kg	400	400	U	ug/kg	400	380	U	ug/kg	380	370	U	ug/kg	370
2-Nitrophenol	400	U	ug/kg	400	400	U	ug/kg	400	380	U	ug/kg	380	370	U	ug/kg	370
2,4-Dimethylphenol	400	U	ug/kg	400	400	U	ug/kg	400	380	U	ug/kg	380	370	U	ug/kg	370
Benzoic acid	2000	U	ug/kg	2000	2000	U	ug/kg	2000	1900	U	ug/kg	1900	1800	U	ug/kg	1800
bis(2-Chloroethoxy) methane	400	U	ug/kg	400	400	U	ug/kg	400	380	U	ug/kg	380	370	U	ug/kg	370
2,4-Dichlorophenol	400	U	ug/kg	400	400	U	ug/kg	400	380	U	ug/kg	380	370	U	ug/kg	370
1,2,4-Trichlorobenzene	400	U	ug/kg	400	400	U	ug/kg	400	380	U	ug/kg	380	370	U	ug/kg	370
Naphthalene	400	U	ug/kg	400	400	U	ug/kg	400	380	U	ug/kg	380	370	U	ug/kg	370
4-Chloroaniline	400	U	ug/kg	400	400	U	ug/kg	400	380	U	ug/kg	380	370	U	ug/kg	370
Hexachlorobutadiene	400	U	ug/kg	400	400	U	ug/kg	400	380	U	ug/kg	380	370	U	ug/kg	370
4-Chloro-3-methylphenol	400	U	ug/kg	400	400	U	ug/kg	400	380	U	ug/kg	380	370	U	ug/kg	370
2-Methylnaphthalene	400	U	ug/kg	400	400	U	ug/kg	400	380	U	ug/kg	380	370	U	ug/kg	370
Hexachlorocyclopentadiene	400	U	ug/kg	400	400	U	ug/kg	400	380	U	ug/kg	380	370	U	ug/kg	370
2,4,6-Trichlorophenol	400	U	ug/kg	400	400	U	ug/kg	400	380	U	ug/kg	380	370	U	ug/kg	370
Dimethylphthalate	400	U	ug/kg	400	400	U	ug/kg	400	380	U	ug/kg	380	370	U	ug/kg	370
2,4,5-Trichlorophenol	2000	U	ug/kg	2000	2000	U	ug/kg	2000	1900	U	ug/kg	1900	1800	U	ug/kg	1800
2-Chloronaphthalene	400	U	ug/kg	400	400	U	ug/kg	400	380	U	ug/kg	380	370	U	ug/kg	370
2-Nitroaniline	2000	U	ug/kg	2000	2000	U	ug/kg	2000	1900	U	ug/kg	1900	1800	U	ug/kg	1800
Acenaphthylene	400	U	ug/kg	400	400	U	ug/kg	400	380	U	ug/kg	380	370	U	ug/kg	370
2,6-Dinitrotoluene	400	U	ug/kg	400	400	U	ug/kg	400	380	U	ug/kg	380	370	U	ug/kg	370
3-Nitroaniline	2000	U	ug/kg	2000	2000	U	ug/kg	2000	1900	U	ug/kg	1900	1800	U	ug/kg	1800
Acenaphthene	400	U	ug/kg	400	400	U	ug/kg	400	380	U	ug/kg	380	370	U	ug/kg	370
2,4-Dinitrophenol	2000	U	ug/kg	2000	2000	U	ug/kg	2000	1900	U	ug/kg	1900	1800	U	ug/kg	1800
4-Nitrophenol	2000	U	ug/kg	2000	2000	U	ug/kg	2000	1900	UJ	ug/kg	1900	1800	UJ	ug/kg	1800
Dibenzofuran	400	U	ug/kg	400	400	U	ug/kg	400	380	U	ug/kg	380	370	U	ug/kg	370
2,4-Dinitrotoluene	400	U	ug/kg	400	400	U	ug/kg	400	380	U	ug/kg	380	370	U	ug/kg	370
Diethylphthalate	400	U	ug/kg	400	400	U	ug/kg	400	380	U	ug/kg	380	370	U	ug/kg	370
4-Chlorophenyl-phenylether	400	U	ug/kg	400	400	U	ug/kg	400	380	U	ug/kg	380	370	U	ug/kg	370
Fluorene	400	U	ug/kg	400	400	U	ug/kg	400	380	U	ug/kg	380	370	U	ug/kg	370
4-Nitroaniline	2000	U	ug/kg	2000	2000	U	ug/kg	2000	1900	U	ug/kg	1900	1800	U	ug/kg	1800
4,6-Dinitro-2-methylphenol	2000	U	ug/kg	2000	2000	U	ug/kg	2000	1900	U	ug/kg	1900	1800	U	ug/kg	1800

US Naval Station, Mayport, Florida
Fleet Training Center(SWMU 14) - Southern Burn Area Subsurface Soil Data

Lab Sample Number:	MB647010				MB647011				MB647011R				MB647013			
Site	GROUPIII				GROUPIII				GROUPIII				GROUPIII			
Locator	14B04103				14B04203				14B04203RE				14B04303			
Collect Date:	22-AUG-96				22-AUG-96				22-AUG-96				22-AUG-96			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
p-Dimethylaminoazobenzene	380	U	ug/kg	380	4200	U	ug/kg	4200	-		ug/kg		380	U	ug/kg	380
7,12-Dimethylbenz(A)Anthracene	380	U	ug/kg	380	4200	U	ug/kg	4200	-		ug/kg		380	U	ug/kg	380
3-Methylcholanthrene	380	U	ug/kg	380	4200	U	ug/kg	4200	-		ug/kg		380	U	ug/kg	380
Pyridine	1900	U	ug/kg	1900	21000	U	ug/kg	21000	-		ug/kg		1900	U	ug/kg	1900
N-Nitrosomethylethylamine	380	U	ug/kg	380	4200	U	ug/kg	4200	-		ug/kg		380	U	ug/kg	380
N-Nitrosomorpholine	380	U	ug/kg	380	4200	U	ug/kg	4200	-		ug/kg		380	U	ug/kg	380
o-Toluidine	380	U	ug/kg	380	4200	U	ug/kg	4200	-		ug/kg		380	U	ug/kg	380
Hexachloropropene	1900	U	ug/kg	1900	21000	U	ug/kg	21000	-		ug/kg		1900	U	ug/kg	1900
p-Phenylenediamine	19000	U	ug/kg	19000	210000	UJ	ug/kg	210000	-		ug/kg		19000	U	ug/kg	19000
Safrole	1900	U	ug/kg	1900	21000	U	ug/kg	21000	-		ug/kg		1900	U	ug/kg	1900
Isosafrole	1900	U	ug/kg	1900	21000	U	ug/kg	21000	-		ug/kg		1900	U	ug/kg	1900
1,4-Naphthoquinone	38000	U	ug/kg	38000	420000	U	ug/kg	420000	-		ug/kg		38000	U	ug/kg	38000
1,3-Dinitrobenzene	380	U	ug/kg	380	4200	U	ug/kg	4200	-		ug/kg		380	U	ug/kg	380
5-Nitro-o-toluidine	380	U	ug/kg	380	4200	U	ug/kg	4200	-		ug/kg		380	U	ug/kg	380
1,3,5-Trinitrobenzene	380	UJ	ug/kg	380	4200	UJ	ug/kg	4200	-		ug/kg		380	UJ	ug/kg	380
4-Nitroquinoline-1-oxide	19000	UJ	ug/kg	19000	210000	UJ	ug/kg	210000	-		ug/kg		19000	UJ	ug/kg	19000
Methapyrilene	1900	UJ	ug/kg	1900	21000	UJ	ug/kg	21000	-		ug/kg		1900	UJ	ug/kg	1900
3,3-Dimethylbenzidine	380	U	ug/kg	380	4200	U	ug/kg	4200	-		ug/kg		380	U	ug/kg	380
Hexachlorophene	19000	UJ	ug/kg	19000	210000	R	ug/kg	210000	-		ug/kg		19000	UJ	ug/kg	19000
Aramite	1900	U	ug/kg	1900	21000	U	ug/kg	21000	-		ug/kg		1900	U	ug/kg	1900
2-Chlorophenol	380	U	ug/kg	380	4200	U	ug/kg	4200	-		ug/kg		380	U	ug/kg	380
3- & 4-Methylphenol (2)	380	U	ug/kg	380	4200	U	ug/kg	4200	-		ug/kg		380	U	ug/kg	380
Hexachloropropene	1900	U	ug/kg	1900	21000	U	ug/kg	21000	-		ug/kg		1900	U	ug/kg	1900
2-Acetylaminofluorene	380	U	ug/kg	380	4200	U	ug/kg	4200	-		ug/kg		380	U	ug/kg	380
Total petroleum hydrocarbons	69.9		mg/kg	1.9	5220		mg/kg	103	-		mg/kg		11.1		mg/kg	1.9

U = NOT DETECTED R = RESULT IS REJECTED
J = ESTIMATED VALUE UJ = REPORTED QUANTITATION LIMIT IS ESTIMATED
THE ADDITIONAL LISTINGS OF RESULTS FOR 1,2-; 1,3-; AND 1,4-DICHLOROBENZENE WERE GENERATED FROM THE SVOC (8270) ANALYTICAL RUN.

US Naval Station, Mayport, Florida
Fleet Training Center(SWMU 14) - Southern Burn Area Subsurface Soil Data

Lab Sample Number:	MB995006				MB995008				MB647006				MB647007			
Site	GROUPIII				GROUPIII				GROUPIII				GROUPIII			
Locator	14B02303				14B02403				14B03903				14B04003			
Collect Date:	21-MAY-95				21-MAY-95				22-AUG-96				22-AUG-96			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
Isosafrole	2000	U	ug/kg	2000	2000	U	ug/kg	2000	1900	U	ug/kg	1900	1800	U	ug/kg	1800
1,4-Naphthoquinone	40000	U	ug/kg	40000	40000	U	ug/kg	40000	38000	U	ug/kg	38000	37000	U	ug/kg	37000
1,3-Dinitrobenzene	400	U	ug/kg	400	400	U	ug/kg	400	380	U	ug/kg	380	370	U	ug/kg	370
5-Nitro-o-toluidine	400	U	ug/kg	400	400	U	ug/kg	400	380	U	ug/kg	380	370	U	ug/kg	370
1,3,5-Trinitrobenzene	400	U	ug/kg	400	400	U	ug/kg	400	380	UJ	ug/kg	380	370	UJ	ug/kg	370
4-Nitroquinoline-1-oxide	20000	R	ug/kg	20000	20000	R	ug/kg	20000	19000	UJ	ug/kg	19000	18000	UJ	ug/kg	18000
Methapyrilene	2000	U	ug/kg	2000	2000	U	ug/kg	2000	1900	UJ	ug/kg	1900	1800	UJ	ug/kg	1800
3,3-Dimethylbenzidine	400	U	ug/kg	400	400	U	ug/kg	400	380	U	ug/kg	380	370	U	ug/kg	370
Hexachlorophene	20000	U	ug/kg	20000	20000	U	ug/kg	20000	19000	UJ	ug/kg	19000	18000	UJ	ug/kg	18000
Aramite	2000	U	ug/kg	2000	2000	U	ug/kg	2000	1900	U	ug/kg	1900	1800	U	ug/kg	1800
2-Chlorophenol	400	U	ug/kg	400	400	U	ug/kg	400	380	U	ug/kg	380	370	U	ug/kg	370
3- & 4-Methylphenol (2)	400	U	ug/kg	400	400	U	ug/kg	400	380	U	ug/kg	380	370	U	ug/kg	370
Hexachloropropene	2000	U	ug/kg	2000	2000	U	ug/kg	2000	1900	U	ug/kg	1900	1800	U	ug/kg	1800
2-Acetylaminofluorene	400	U	ug/kg	400	400	U	ug/kg	400	380	U	ug/kg	380	370	U	ug/kg	370
Total petroleum hydrocarbons	-		mg/kg		-		mg/kg		1.9	U	mg/kg	1.9	66.7		mg/kg	2

U = NOT DETECTED R = RESULT IS REJECTED
J = ESTIMATED VALUE UJ = REPORTED QUANTITATION LIMIT IS ESTIMATED
THE ADDITIONAL LISTINGS OF RESULTS FOR 1,2-; 1,3-; AND 1,4-DICHLOROBENZENE WERE GENERATED FROM THE SVOC (8270) ANALYTICAL RUN.

US Naval Station, Mayport, Florida
Fleet Training Center(SWMU 14) - Southern Burn Area Subsurface Soil Data

Lab Sample Number:	MB647010				MB647011				MB647013			
Site	GROUPIII				GROUPIII				GROUPIII			
Locator	14B04103				14B04203				14B04303			
Collect Date:	22-AUG-96				22-AUG-96				22-AUG-96			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
INORGANICS (SOIL)	mg/kg											
Antimony	.58	U	mg/kg	.58	.64	U	mg/kg	.64	.58	U	mg/kg	.58
Arsenic	.4	J	mg/kg	.22	.41	J	mg/kg	.24	.36	J	mg/kg	.21
Barium	2.1	J	mg/kg	.08	2.5	J	mg/kg	.088	3	J	mg/kg	.079
Beryllium	.03	UJ	mg/kg	.03	.03	UJ	mg/kg	.03	.03	UJ	mg/kg	.03
Cadmium	.75	U	mg/kg	.75	.82	U	mg/kg	.82	.75	U	mg/kg	.75
Chromium	2.4		mg/kg	.5	2.8		mg/kg	.55	2.3		mg/kg	.5
Cobalt	.57	U	mg/kg	.57	.62	U	mg/kg	.62	.56	U	mg/kg	.56
Copper	.27	UJ	mg/kg	.27	.3	UJ	mg/kg	.3	.27	UJ	mg/kg	.27
Cyanide	.1	U	mg/kg	.1	.11	U	mg/kg	.11	.1	U	mg/kg	.1
Lead	.97		mg/kg	.17	1.6		mg/kg	.19	1.6		mg/kg	.17
Mercury	.03	U	mg/kg	.03	.03	U	mg/kg	.03	.03	U	mg/kg	.03
Nickel	1.5	J	mg/kg	1.3	1.4	U	mg/kg	1.4	1.4	J	mg/kg	1.2
Selenium	.29	U	mg/kg	.29	.31	U	mg/kg	.31	.28	U	mg/kg	.28
Silver	.5	U	mg/kg	.5	.55	U	mg/kg	.55	.5	U	mg/kg	.5
Thallium	.18	U	mg/kg	.18	.2	U	mg/kg	.2	.18	U	mg/kg	.18
Tin	2.7	U	mg/kg	2.7	3	U	mg/kg	3	2.7	U	mg/kg	2.7
Vanadium	1.1	J	mg/kg	.39	1.2	J	mg/kg	.43	1.5	J	mg/kg	.38
Zinc	5.8		mg/kg	.23	10		mg/kg	.25	7.7		mg/kg	.23

U = NOT DETECTED R = RESULT IS REJECTED
J = ESTIMATED VALUE UJ = REPORTED QUANTITATION LIMIT IS ESTIMATED
THE ADDITIONAL LISTINGS OF RESULTS FOR 1,2-; 1,3-; AND 1,4-DICHLOROBENZENE WERE GENERATED FROM THE SVOC (8270) ANALYTICAL RUN.

US Naval Station, Mayport, Florida
Fleet Training Center(SWMU 14) - Southern Burn Area Subsurface Soil Data

Lab Sample Number:	MB647010				MB647011				MB647011R				MB647013			
Site	GROUPIII				GROUPIII				GROUPIII				GROUPIII			
Locator	14B04103				14B04203				14B04203RE				14B04303			
Collect Date:	22-AUG-96				22-AUG-96				22-AUG-96				22-AUG-96			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
Dibromomethane	6	U	ug/kg	6	6	U	ug/kg	6	6	R	ug/kg	6	6	U	ug/kg	6
1,2-Dichlorobenzene	380	U	ug/kg	380	6	U	ug/kg	6	6	R	ug/kg	6	6	U	ug/kg	6
2-Chloroethylvinyl ether	11	U	ug/kg	11	12	U	ug/kg	12	12	R	ug/kg	12	11	U	ug/kg	11
Ethyl methacrylate	6	U	ug/kg	6	6	U	ug/kg	6	6	R	ug/kg	6	6	U	ug/kg	6
1,2,3-Trichloropropane	6	U	ug/kg	6	6	U	ug/kg	6	6	R	ug/kg	6	6	U	ug/kg	6
trans-1,4-Dichloro-2-butene	6	U	ug/kg	6	6	U	ug/kg	6	6	R	ug/kg	6	6	U	ug/kg	6
Isobutyl alcohol	230	U	ug/kg	230	400	J	ug/kg	250	120	R	ug/kg	250	220	U	ug/kg	220
1,1,1,2-Tetrachloroethane	6	U	ug/kg	6	6	U	ug/kg	6	6	R	ug/kg	6	6	U	ug/kg	6
1,2-Dibromo-3-chloropropane	11	U	ug/kg	11	12	U	ug/kg	12	12	R	ug/kg	12	11	U	ug/kg	11
Ethylene dibromide	6	U	ug/kg	6	6	U	ug/kg	6	6	R	ug/kg	6	6	U	ug/kg	6
1,4-Dioxane	230	R	ug/kg	230	250	R	ug/kg	250	250	R	ug/kg	250	220	R	ug/kg	220
3-Chloropropene	6	U	ug/kg	6	6	U	ug/kg	6	6	R	ug/kg	6	6	U	ug/kg	6
Acetonitrile	110	U	ug/kg	110	120	U	ug/kg	120	120	R	ug/kg	120	110	U	ug/kg	110
Chloroprene	230	U	ug/kg	230	250	U	ug/kg	250	250	R	ug/kg	250	220	U	ug/kg	220
Methacrylonitrile	6	U	ug/kg	6	6	U	ug/kg	6	6	R	ug/kg	6	6	U	ug/kg	6
Methyl methacrylate	11	U	ug/kg	11	12	U	ug/kg	12	12	R	ug/kg	12	11	U	ug/kg	11
Pentachloroethane	11	U	ug/kg	11	12	U	ug/kg	12	12	R	ug/kg	12	11	U	ug/kg	11
Propionitrile	110	U	ug/kg	110	120	U	ug/kg	120	120	R	ug/kg	120	110	U	ug/kg	110
Vinyl acetate	11	U	ug/kg	11	12	U	ug/kg	12	12	R	ug/kg	12	11	U	ug/kg	11
SEMIVOLATILES ug/kg																
N-Nitrosodimethylamine	380	U	ug/kg	380	4200	U	ug/kg	4200	-		ug/kg		380	U	ug/kg	380
Phenol	380	U	ug/kg	380	4200	U	ug/kg	4200	-		ug/kg		380	U	ug/kg	380
Aniline	380	U	ug/kg	380	4200	U	ug/kg	4200	-		ug/kg		380	U	ug/kg	380
bis(2-Chloroethyl) ether	380	U	ug/kg	380	4200	U	ug/kg	4200	-		ug/kg		380	U	ug/kg	380
Benzyl Alcohol	380	U	ug/kg	380	4200	U	ug/kg	4200	-		ug/kg		380	U	ug/kg	380
2-Methylphenol	380	U	ug/kg	380	4200	U	ug/kg	4200	-		ug/kg		380	U	ug/kg	380
bis(2-Chloroisopropyl) ether	380	U	ug/kg	380	4200	U	ug/kg	4200	-		ug/kg		380	U	ug/kg	380
N-Nitroso-di-n-propylamine	380	U	ug/kg	380	4200	UJ	ug/kg	4200	-		ug/kg		380	U	ug/kg	380
Hexachloroethane	380	U	ug/kg	380	4200	U	ug/kg	4200	-		ug/kg		380	U	ug/kg	380
Nitrobenzene	380	U	ug/kg	380	4200	U	ug/kg	4200	-		ug/kg		380	U	ug/kg	380
Isophorone	380	U	ug/kg	380	4200	U	ug/kg	4200	-		ug/kg		380	U	ug/kg	380
2-Nitrophenol	380	U	ug/kg	380	4200	U	ug/kg	4200	-		ug/kg		380	U	ug/kg	380
2,4-Dimethylphenol	380	U	ug/kg	380	4200	U	ug/kg	4200	-		ug/kg		380	U	ug/kg	380
Benzoic acid	1900	U	ug/kg	1900	21000	U	ug/kg	21000	-		ug/kg		1900	U	ug/kg	1900
bis(2-Chloroethoxy) methane	380	U	ug/kg	380	4200	U	ug/kg	4200	-		ug/kg		380	U	ug/kg	380
2,4-Dichlorophenol	380	U	ug/kg	380	4200	U	ug/kg	4200	-		ug/kg		380	U	ug/kg	380
1,2,4-Trichlorobenzene	380	U	ug/kg	380	4200	U	ug/kg	4200	-		ug/kg		380	U	ug/kg	380
Naphthalene	380	U	ug/kg	380	4200	U	ug/kg	4200	-		ug/kg		380	U	ug/kg	380
4-Chloroaniline	380	U	ug/kg	380	4200	U	ug/kg	4200	-		ug/kg		380	U	ug/kg	380
Hexachlorobutadiene	380	U	ug/kg	380	4200	U	ug/kg	4200	-		ug/kg		380	U	ug/kg	380
4-Chloro-3-methylphenol	380	U	ug/kg	380	4200	U	ug/kg	4200	-		ug/kg		380	U	ug/kg	380
2-Methylnaphthalene	40	J	ug/kg	380	6500		ug/kg	4200	-		ug/kg		380	U	ug/kg	380
Hexachlorocyclopentadiene	380	U	ug/kg	380	4200	U	ug/kg	4200	-		ug/kg		380	U	ug/kg	380
2,4,6-Trichlorophenol	380	U	ug/kg	380	4200	U	ug/kg	4200	-		ug/kg		380	U	ug/kg	380
Dimethylphthalate	380	U	ug/kg	380	4200	U	ug/kg	4200	-		ug/kg		380	U	ug/kg	380
2,4,5-Trichlorophenol	1900	U	ug/kg	1900	21000	U	ug/kg	21000	-		ug/kg		1900	U	ug/kg	1900
2-Chloronaphthalene	380	U	ug/kg	380	4200	U	ug/kg	4200	-		ug/kg		380	U	ug/kg	380
2-Nitroaniline	1900	U	ug/kg	1900	21000	U	ug/kg	21000	-		ug/kg		1900	U	ug/kg	1900
Acenaphthylene	380	U	ug/kg	380	4200	U	ug/kg	4200	-		ug/kg		380	U	ug/kg	380
2,6-Dinitrotoluene	380	U	ug/kg	380	4200	U	ug/kg	4200	-		ug/kg		380	U	ug/kg	380
3-Nitroaniline	1900	U	ug/kg	1900	21000	U	ug/kg	21000	-		ug/kg		1900	U	ug/kg	1900

US Naval Station, Mayport, Florida
Fleet Training Center(SWMU 14) - Southern Burn Area Groundwater Data

Lab Sample Number:	RA044011				MB747003				MB747003DL				MB747004			
Site	GROUPIII				GROUPIII				GROUPIII				GROUPIII			
Locator	14G00901				14G01701				14G01701DL				14G01801			
Collect Date:	17-JUN-95				04-SEP-96				04-SEP-96				04-SEP-96			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
1,4-Dioxane	200	R	ug/l	200	200	R	ug/l	200	-		ug/l		200	R	ug/l	200
3-Chloropropene	5	U	ug/l	5	5	U	ug/l	5	-		ug/l		5	U	ug/l	5
Acetonitrile	100	UJ	ug/l	100	100	U	ug/l	100	-		ug/l		100	U	ug/l	100
Chloroprene	200	U	ug/l	200	5	U	ug/l	5	-		ug/l		5	U	ug/l	5
Methacrylonitrile	5	U	ug/l	5	5	U	ug/l	5	-		ug/l		5	U	ug/l	5
Methyl methacrylate	10	U	ug/l	10	10	U	ug/l	10	-		ug/l		10	U	ug/l	10
Pentachloroethane	10	U	ug/l	10	10	U	ug/l	10	-		ug/l		10	U	ug/l	10
Propionitrile	100	UJ	ug/l	100	100	U	ug/l	100	-		ug/l		100	U	ug/l	100
Vinyl acetate	10	U	ug/l	10	10	U	ug/l	10	-		ug/l		10	U	ug/l	10
SEMIVOLATILES ug/l																
N-Nitrosodimethylamine	10	U	ug/l	10	10	U	ug/l	10	20	R	ug/l	20	10	U	ug/l	10
Phenol	10	U	ug/l	10	10	U	ug/l	10	20	R	ug/l	20	10	U	ug/l	10
Aniline	10	U	ug/l	10	10	U	ug/l	10	20	R	ug/l	20	10	U	ug/l	10
bis(2-Chloroethyl) ether	10	U	ug/l	10	10	U	ug/l	10	20	R	ug/l	20	10	U	ug/l	10
Benzyl Alcohol	10	U	ug/l	10	10	U	ug/l	10	20	R	ug/l	20	10	U	ug/l	10
2-Methylphenol	10	U	ug/l	10	10	U	ug/l	10	20	R	ug/l	20	10	U	ug/l	10
bis(2-Chloroisopropyl) ether	10	U	ug/l	10	10	U	ug/l	10	20	R	ug/l	20	10	U	ug/l	10
N-Nitroso-di-n-propylamine	10	U	ug/l	10	10	UJ	ug/l	10	20	R	ug/l	20	10	UJ	ug/l	10
Hexachloroethane	10	U	ug/l	10	10	U	ug/l	10	20	R	ug/l	20	10	U	ug/l	10
Nitrobenzene	10	U	ug/l	10	10	U	ug/l	10	20	R	ug/l	20	10	U	ug/l	10
Isophorone	10	U	ug/l	10	10	U	ug/l	10	20	R	ug/l	20	10	U	ug/l	10
2-Nitrophenol	10	U	ug/l	10	10	U	ug/l	10	20	R	ug/l	20	10	U	ug/l	10
2,4-Dimethylphenol	10	U	ug/l	10	10	U	ug/l	10	20	R	ug/l	20	10	U	ug/l	10
Benzoic acid	50	U	ug/l	50	50	U	ug/l	50	100	R	ug/l	100	50	U	ug/l	50
bis(2-Chloroethoxy) methane	10	U	ug/l	10	10	U	ug/l	10	20	R	ug/l	20	10	U	ug/l	10
2,4-Dichlorophenol	10	U	ug/l	10	10	U	ug/l	10	20	U	ug/l	20	10	U	ug/l	10
1,2,4-Trichlorobenzene	10	U	ug/l	10	10	U	ug/l	10	20	U	ug/l	20	10	U	ug/l	10
Naphthalene	4	J	ug/l	10	40		ug/l	10	49	R	ug/l	20	53		ug/l	10
4-Chloroaniline	10	U	ug/l	10	10	U	ug/l	10	20	R	ug/l	20	10	U	ug/l	10
Hexachlorobutadiene	10	U	ug/l	10	10	U	ug/l	10	20	R	ug/l	20	10	U	ug/l	10
4-Chloro-3-methylphenol	10	U	ug/l	10	10	U	ug/l	10	20	R	ug/l	20	10	U	ug/l	10
2-Methylnaphthalene	21		ug/l	10	100	R	ug/l	10	100		ug/l	20	150	R	ug/l	10
Hexachlorocyclopentadiene	10	U	ug/l	10	10	U	ug/l	10	20	R	ug/l	20	10	U	ug/l	10
2,4,6-Trichlorophenol	10	U	ug/l	10	10	U	ug/l	10	20	R	ug/l	20	10	U	ug/l	10
Dimethylphthalate	10	U	ug/l	10	10	U	ug/l	10	20	R	ug/l	20	10	U	ug/l	10
2,4,5-Trichlorophenol	50	U	ug/l	50	50	U	ug/l	50	100	R	ug/l	100	50	U	ug/l	50
2-Chloronaphthalene	10	U	ug/l	10	10	U	ug/l	10	20	R	ug/l	20	10	U	ug/l	10
2-Nitroaniline	50	U	ug/l	50	50	U	ug/l	50	100	R	ug/l	100	50	U	ug/l	50
Acenaphthylene	10	U	ug/l	10	10	U	ug/l	10	20	R	ug/l	20	1	J	ug/l	10
2,6-Dinitrotoluene	10	U	ug/l	10	10	U	ug/l	10	20	R	ug/l	20	10	U	ug/l	10
3-Nitroaniline	50	U	ug/l	50	50	U	ug/l	50	100	R	ug/l	100	50	U	ug/l	50
Acenaphthene	10	U	ug/l	10	3	J	ug/l	10	5	R	ug/l	20	2	J	ug/l	10
2,4-Dinitrophenol	50	U	ug/l	50	50	U	ug/l	50	100	R	ug/l	100	50	U	ug/l	50
4-Nitrophenol	50	U	ug/l	50	50	U	ug/l	50	100	R	ug/l	100	50	U	ug/l	50
Dibenzofuran	2	J	ug/l	10	5	J	ug/l	10	6	R	ug/l	20	6	J	ug/l	10
2,4-Dinitrotoluene	10	U	ug/l	10	10	U	ug/l	10	20	R	ug/l	20	10	U	ug/l	10
Diethylphthalate	10	U	ug/l	10	10	U	ug/l	10	20	R	ug/l	20	10	U	ug/l	10
4-Chlorophenyl-phenylether	10	U	ug/l	10	10	U	ug/l	10	20	R	ug/l	20	10	U	ug/l	10
Fluorene	3	J	ug/l	10	10		ug/l	10	15	R	ug/l	20	7	J	ug/l	10
4-Nitroaniline	50	U	ug/l	50	50	U	ug/l	50	100	R	ug/l	100	50	U	ug/l	50
4,6-Dinitro-2-methylphenol	50	U	ug/l	50	50	U	ug/l	50	100	R	ug/l	100	50	U	ug/l	50

US Naval Station, Mayport, Florida
Fleet Training Center(SWMU 14) - Southern Burn Area Subsurface Soil Data

Lab Sample Number:	MB647010				MB647011				MB647011R				MB647013			
Site	GROUPIII				GROUPIII				GROUPIII				GROUPIII			
Locator	14B04103				14B04203				14B04203RE				14B04303			
Collect Date:	22-AUG-96				22-AUG-96				22-AUG-96				22-AUG-96			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
p-Dimethylaminoazobenzene	380	U	ug/kg	380	4200	U	ug/kg	4200	-		ug/kg		380	U	ug/kg	380
7,12-Dimethylbenz(A)Anthracene	380	U	ug/kg	380	4200	U	ug/kg	4200	-		ug/kg		380	U	ug/kg	380
3-Methylcholanthrene	380	U	ug/kg	380	4200	U	ug/kg	4200	-		ug/kg		380	U	ug/kg	380
Pyridine	1900	U	ug/kg	1900	21000	U	ug/kg	21000	-		ug/kg		1900	U	ug/kg	1900
N-Nitrosomethylethylamine	380	U	ug/kg	380	4200	U	ug/kg	4200	-		ug/kg		380	U	ug/kg	380
N-Nitrosomorpholine	380	U	ug/kg	380	4200	U	ug/kg	4200	-		ug/kg		380	U	ug/kg	380
o-Toluidine	380	U	ug/kg	380	4200	U	ug/kg	4200	-		ug/kg		380	U	ug/kg	380
Hexachloropropene	1900	U	ug/kg	1900	21000	U	ug/kg	21000	-		ug/kg		1900	U	ug/kg	1900
p-Phenylenediamine	19000	U	ug/kg	19000	210000	UJ	ug/kg	210000	-		ug/kg		19000	U	ug/kg	19000
Safrole	1900	U	ug/kg	1900	21000	U	ug/kg	21000	-		ug/kg		1900	U	ug/kg	1900
Isosafrole	1900	U	ug/kg	1900	21000	U	ug/kg	21000	-		ug/kg		1900	U	ug/kg	1900
1,4-Naphthoquinone	38000	U	ug/kg	38000	420000	U	ug/kg	420000	-		ug/kg		38000	U	ug/kg	38000
1,3-Dinitrobenzene	380	U	ug/kg	380	4200	U	ug/kg	4200	-		ug/kg		380	U	ug/kg	380
5-Nitro-o-toluidine	380	U	ug/kg	380	4200	U	ug/kg	4200	-		ug/kg		380	U	ug/kg	380
1,3,5-Trinitrobenzene	380	UJ	ug/kg	380	4200	UJ	ug/kg	4200	-		ug/kg		380	UJ	ug/kg	380
4-Nitroquinoline-1-oxide	19000	UJ	ug/kg	19000	210000	UJ	ug/kg	210000	-		ug/kg		19000	UJ	ug/kg	19000
Methapyrilene	1900	UJ	ug/kg	1900	21000	UJ	ug/kg	21000	-		ug/kg		1900	UJ	ug/kg	1900
3,3-Dimethylbenzidine	380	U	ug/kg	380	4200	U	ug/kg	4200	-		ug/kg		380	U	ug/kg	380
Hexachlorophene	19000	UJ	ug/kg	19000	210000	R	ug/kg	210000	-		ug/kg		19000	UJ	ug/kg	19000
Aramite	1900	U	ug/kg	1900	21000	U	ug/kg	21000	-		ug/kg		1900	U	ug/kg	1900
2-Chlorophenol	380	U	ug/kg	380	4200	U	ug/kg	4200	-		ug/kg		380	U	ug/kg	380
3- & 4-Methylphenol (2)	380	U	ug/kg	380	4200	U	ug/kg	4200	-		ug/kg		380	U	ug/kg	380
Hexachloropropene	1900	U	ug/kg	1900	21000	U	ug/kg	21000	-		ug/kg		1900	U	ug/kg	1900
2-Acetylaminofluorene	380	U	ug/kg	380	4200	U	ug/kg	4200	-		ug/kg		380	U	ug/kg	380
Total petroleum hydrocarbons	69.9		mg/kg	1.9	5220		mg/kg	103	-		mg/kg		11.1		mg/kg	1.9

U = NOT DETECTED R = RESULT IS REJECTED
J = ESTIMATED VALUE UJ = REPORTED QUANTITATION LIMIT IS ESTIMATED
THE ADDITIONAL LISTINGS OF RESULTS FOR 1,2-; 1,3-; AND 1,4-DICHLOROBENZENE WERE GENERATED FROM THE SVOC (8270) ANALYTICAL RUN.

US Naval Station, Mayport, Florida
Fleet Training Center(SWMU 14) - Southern Burn Area Groundwater Data

Lab Sample Number:	RA044011				MB747003				MB747003DL				MB747004			
Site	GROUPIII				GROUPIII				GROUPIII				GROUPIII			
Locator	14G00901				14G01701				14G01701DL				14G01801			
Collect Date:	17-JUN-95				04-SEP-96				04-SEP-96				04-SEP-96			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
Isosafrole	50	U	ug/l	50	50	U	ug/l	50	100	R	ug/l	100	50	U	ug/l	50
1,4-Naphthoquinone	1000	R	ug/l	1000	1000	U	ug/l	1000	2000	R	ug/l	2000	1000	U	ug/l	1000
1,3-Dinitrobenzene	10	U	ug/l	10	10	U	ug/l	10	20	R	ug/l	20	10	U	ug/l	10
5-Nitro-o-toluidine	10	U	ug/l	10	10	U	ug/l	10	20	R	ug/l	20	10	U	ug/l	10
1,3,5-Trinitrobenzene	10	U	ug/l	10	10	UJ	ug/l	10	20	R	ug/l	20	10	UJ	ug/l	10
4-Nitroquinoline-1-oxide	500	UJ	ug/l	500	500	UJ	ug/l	500	1000	R	ug/l	1000	500	UJ	ug/l	500
Methapyrilene	50	UJ	ug/l	50	50	UJ	ug/l	50	100	R	ug/l	100	50	UJ	ug/l	50
3,3-Dimethylbenzidine	10	UJ	ug/l	10	10	U	ug/l	10	20	R	ug/l	20	10	U	ug/l	10
Hexachlorophene	500	UJ	ug/l	500	500	R	ug/l	500	1000	R	ug/l	1000	500	R	ug/l	500
Aramite	50	U	ug/l	50	50	U	ug/l	50	100	R	ug/l	100	50	U	ug/l	50
2-Chlorophenol	10	U	ug/l	10	10	U	ug/l	10	20	R	ug/l	20	10	U	ug/l	10
3- & 4-Methylphenol (2)	10	U	ug/l	10	10	U	ug/l	10	20	R	ug/l	20	10	U	ug/l	10
Hexachloropropene	50	UJ	ug/l	50	50	U	ug/l	50	100	R	ug/l	100	50	U	ug/l	50
2-Acetylaminofluorene	10	UJ	ug/l	10	10	U	ug/l	10	20	R	ug/l	20	10	U	ug/l	10
Total petroleum hydrocarbons	.05	U	mg/l	.05	.32		mg/l	.06	-		mg/l		.28		mg/l	.05

U = NOT DETECTED R = RESULT IS REJECTED
J = ESTIMATED VALUE UJ = REPORTED QUANTITATION LIMIT IS ESTIMATED
THE ADDITIONAL LISTINGS OF RESULTS FOR 1,2-; 1,3-; AND 1,4-DICHLOROBENZENE WERE GENERATED FROM THE SVOC (8270) ANALYTICAL RUN.

US Naval Station, Mayport, Florida
Fleet Training Center(SWMU 14) - Southern Burn Area Subsurface Soil Data

Lab Sample Number:		MB647010			MB647011			MB647013		
Site		GROUPIII			GROUPIII			GROUPIII		
Locator		14B04103			14B04203			14B04303		
Collect Date:		22-AUG-96			22-AUG-96			22-AUG-96		
		VALUE QUAL	UNITS	DL	VALUE QUAL	UNITS	DL	VALUE QUAL	UNITS	DL
INORGANICS (SOIL)	mg/kg									
Antimony		.58 U	mg/kg	.58	.64 U	mg/kg	.64	.58 U	mg/kg	.58
Arsenic		.4 J	mg/kg	.22	.41 J	mg/kg	.24	.36 J	mg/kg	.21
Barium		2.1 J	mg/kg	.08	2.5 J	mg/kg	.088	3 J	mg/kg	.079
Beryllium		.03 UJ	mg/kg	.03	.03 UJ	mg/kg	.03	.03 UJ	mg/kg	.03
Cadmium		.75 U	mg/kg	.75	.82 U	mg/kg	.82	.75 U	mg/kg	.75
Chromium		2.4	mg/kg	.5	2.8	mg/kg	.55	2.3	mg/kg	.5
Cobalt		.57 U	mg/kg	.57	.62 U	mg/kg	.62	.56 U	mg/kg	.56
Copper		.27 UJ	mg/kg	.27	.3 UJ	mg/kg	.3	.27 UJ	mg/kg	.27
Cyanide		.1 U	mg/kg	.1	.11 U	mg/kg	.11	.1 U	mg/kg	.1
Lead		.97	mg/kg	.17	1.6	mg/kg	.19	1.6	mg/kg	.17
Mercury		.03 U	mg/kg	.03	.03 U	mg/kg	.03	.03 U	mg/kg	.03
Nickel		1.5 J	mg/kg	1.3	1.4 U	mg/kg	1.4	1.4 J	mg/kg	1.2
Selenium		.29 U	mg/kg	.29	.31 U	mg/kg	.31	.28 U	mg/kg	.28
Silver		.5 U	mg/kg	.5	.55 U	mg/kg	.55	.5 U	mg/kg	.5
Thallium		.18 U	mg/kg	.18	.2 U	mg/kg	.2	.18 U	mg/kg	.18
Tin		2.7 U	mg/kg	2.7	3 U	mg/kg	3	2.7 U	mg/kg	2.7
Vanadium		1.1 J	mg/kg	.39	1.2 J	mg/kg	.43	1.5 J	mg/kg	.38
Zinc		5.8	mg/kg	.23	10	mg/kg	.25	7.7	mg/kg	.23

U = NOT DETECTED R = RESULT IS REJECTED
J = ESTIMATED VALUE UJ = REPORTED QUANTITATION LIMIT IS ESTIMATED
THE ADDITIONAL LISTINGS OF RESULTS FOR 1,2-; 1,3-; AND 1,4-DICHLOROBENZENE WERE GENERATED FROM THE SVOC (8270) ANALYTICAL RUN.

US Naval Station, Mayport, Florida
Fleet Training Center(SWMU 14) - Southern Burn Area Groundwater Data

Lab Sample Number:		MB747004DL			
Site		GROUPIII			
Locator		14G01B01DL			
Collect Date:		04-SEP-96			
		VALUE	QUAL	UNITS	DL
Dibromomethane		-		ug/l	
1,2-Dichlorobenzene		20	R	ug/l	20
2-Chloroethylvinyl ether		-		ug/l	
Ethyl methacrylate		-		ug/l	
1,2,3-Trichloropropane		-		ug/l	
trans-1,4-Dichloro-2-butene		-		ug/l	
Isobutyl alcohol		-		ug/l	
1,1,1,2-Tetrachloroethane		-		ug/l	
1,2-Dibromo-3-chloropropane		-		ug/l	
Ethylene dibromide		-		ug/l	
1,4-Dioxane		-		ug/l	
3-Chloropropene		-		ug/l	
Acetonitrile		-		ug/l	
Chloroprene		-		ug/l	
Methacrylonitrile		-		ug/l	
Methyl methacrylate		-		ug/l	
Pentachloroethane		-		ug/l	
Propionitrile		-		ug/l	
Vinyl acetate		-		ug/l	
SEMIVOLATILES	ug/l				
N-Nitrosodimethylamine		20	R	ug/l	20
Phenol		20	R	ug/l	20
Aniline		20	R	ug/l	20
bis(2-Chloroethyl) ether		20	R	ug/l	20
Benzyl Alcohol		20	R	ug/l	20
2-Methylphenol		20	R	ug/l	20
bis(2-Chloroisopropyl) ether		20	R	ug/l	20
N-Nitroso-di-n-propylamine		20	R	ug/l	20
Hexachloroethane		20	R	ug/l	20
Nitrobenzene		20	R	ug/l	20
Isophorone		20	R	ug/l	20
2-Nitrophenol		20	R	ug/l	20
2,4-Dimethylphenol		20	R	ug/l	20
Benzoic acid		100	R	ug/l	100
bis(2-Chloroethoxy) methane		20	R	ug/l	20
2,4-Dichlorophenol		20	R	ug/l	20
1,2,4-Trichlorobenzene		20	R	ug/l	20
Naphthalene		45	R	ug/l	20
4-Chloroaniline		20	R	ug/l	20
Hexachlorobutadiene		20	R	ug/l	20
4-Chloro-3-methylphenol		20	R	ug/l	20
2-Methylnaphthalene		88		ug/l	20
Hexachlorocyclopentadiene		20	R	ug/l	20
2,4,6-Trichlorophenol		20	R	ug/l	20
Dimethylphthalate		20	R	ug/l	20
2,4,5-Trichlorophenol		100	R	ug/l	100
2-Chloronaphthalene		20	R	ug/l	20
2-Nitroaniline		100	R	ug/l	100
Acenaphthylene		20	R	ug/l	20
2,6-Dinitrotoluene		20	R	ug/l	20
3-Nitroaniline		100	R	ug/l	100

US Naval Station, Mayport, Florida
Fleet Training Center(SWMU 14) - Southern Burn Area Groundwater Data

Lab Sample Number:		RA044011				MB747003				MB747003DL				MB747004		
Site		GROUPIII				GROUPIII				GROUPIII				GROUPIII		
Locator		14G00901				14G01701				14G01701DL				14G01801		
Collect Date:		17-JUN-95				04-SEP-96				04-SEP-96				04-SEP-96		
		VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
1,4-Dioxane		200	R	ug/l	200	200	R	ug/l	200	-		ug/l		200	R	ug/l	200
3-Chloropropene		5	U	ug/l	5	5	U	ug/l	5	-		ug/l		5	U	ug/l	5
Acetonitrile		100	UJ	ug/l	100	100	U	ug/l	100	-		ug/l		100	U	ug/l	100
Chloroprene		200	U	ug/l	200	5	U	ug/l	5	-		ug/l		5	U	ug/l	5
Methacrylonitrile		5	U	ug/l	5	5	U	ug/l	5	-		ug/l		5	U	ug/l	5
Methyl methacrylate		10	U	ug/l	10	10	U	ug/l	10	-		ug/l		10	U	ug/l	10
Pentachloroethane		10	U	ug/l	10	10	U	ug/l	10	-		ug/l		10	U	ug/l	10
Propionitrile		100	UJ	ug/l	100	100	U	ug/l	100	-		ug/l		100	U	ug/l	100
Vinyl acetate		10	U	ug/l	10	10	U	ug/l	10	-		ug/l		10	U	ug/l	10
SEMIVOLATILES	ug/l																
N-Nitrosodimethylamine		10	U	ug/l	10	10	U	ug/l	10	20	R	ug/l	20	10	U	ug/l	10
Phenol		10	U	ug/l	10	10	U	ug/l	10	20	R	ug/l	20	10	U	ug/l	10
Aniline		10	U	ug/l	10	10	U	ug/l	10	20	R	ug/l	20	10	U	ug/l	10
bis(2-Chloroethyl) ether		10	U	ug/l	10	10	U	ug/l	10	20	R	ug/l	20	10	U	ug/l	10
Benzyl Alcohol		10	U	ug/l	10	10	U	ug/l	10	20	R	ug/l	20	10	U	ug/l	10
2-Methylphenol		10	U	ug/l	10	10	U	ug/l	10	20	R	ug/l	20	10	U	ug/l	10
bis(2-Chloroisopropyl) ether		10	U	ug/l	10	10	U	ug/l	10	20	R	ug/l	20	10	UJ	ug/l	10
N-Nitroso-di-n-propylamine		10	U	ug/l	10	10	UJ	ug/l	10	20	R	ug/l	20	10	U	ug/l	10
Hexachloroethane		10	U	ug/l	10	10	U	ug/l	10	20	R	ug/l	20	10	U	ug/l	10
Nitrobenzene		10	U	ug/l	10	10	U	ug/l	10	20	R	ug/l	20	10	U	ug/l	10
Isophorone		10	U	ug/l	10	10	U	ug/l	10	20	R	ug/l	20	10	U	ug/l	10
2-Nitrophenol		10	U	ug/l	10	10	U	ug/l	10	20	R	ug/l	20	10	U	ug/l	10
2,4-Dimethylphenol		10	U	ug/l	10	10	U	ug/l	10	20	R	ug/l	20	10	U	ug/l	10
Benzoic acid		50	U	ug/l	50	50	U	ug/l	50	100	R	ug/l	100	50	U	ug/l	50
bis(2-Chloroethoxy) methane		10	U	ug/l	10	10	U	ug/l	10	20	R	ug/l	20	10	U	ug/l	10
2,4-Dichlorophenol		10	U	ug/l	10	10	U	ug/l	10	20	U	ug/l	20	10	U	ug/l	10
1,2,4-Trichlorobenzene		10	U	ug/l	10	10	U	ug/l	10	20	U	ug/l	20	10	U	ug/l	10
Naphthalene		4	J	ug/l	10	40		ug/l	10	49	R	ug/l	20	53		ug/l	10
4-Chloroaniline		10	U	ug/l	10	10	U	ug/l	10	20	R	ug/l	20	10	U	ug/l	10
Hexachlorobutadiene		10	U	ug/l	10	10	U	ug/l	10	20	R	ug/l	20	10	U	ug/l	10
4-Chloro-3-methylphenol		10	U	ug/l	10	10	U	ug/l	10	20	R	ug/l	20	10	U	ug/l	10
2-Methylnaphthalene		21		ug/l	10	100	R	ug/l	10	100		ug/l	20	150	R	ug/l	10
Hexachlorocyclopentadiene		10	U	ug/l	10	10	U	ug/l	10	20	R	ug/l	20	10	U	ug/l	10
2,4,6-Trichlorophenol		10	U	ug/l	10	10	U	ug/l	10	20	R	ug/l	20	10	U	ug/l	10
Dimethylphthalate		10	U	ug/l	10	10	U	ug/l	10	20	R	ug/l	20	10	U	ug/l	10
2,4,5-Trichlorophenol		50	U	ug/l	50	50	U	ug/l	50	100	R	ug/l	100	50	U	ug/l	50
2-Chloronaphthalene		10	U	ug/l	10	10	U	ug/l	10	20	R	ug/l	20	50	U	ug/l	50
2-Nitroaniline		50	U	ug/l	50	50	U	ug/l	50	100	R	ug/l	100	1	J	ug/l	1
Acenaphthylene		10	U	ug/l	10	10	U	ug/l	10	20	R	ug/l	20	10	U	ug/l	10
2,6-Dinitrotoluene		10	U	ug/l	10	10	U	ug/l	10	20	R	ug/l	20	10	U	ug/l	10
3-Nitroaniline		50	U	ug/l	50	50	U	ug/l	50	100	R	ug/l	100	50	U	ug/l	50
Acenaphthene		10	U	ug/l	10	3	J	ug/l	10	5	R	ug/l	20	2	J	ug/l	2
2,4-Dinitrophenol		50	U	ug/l	50	50	U	ug/l	50	100	R	ug/l	100	50	U	ug/l	50
4-Nitrophenol		50	U	ug/l	50	50	U	ug/l	50	100	R	ug/l	100	50	U	ug/l	50
Dibenzofuran		2	J	ug/l	10	5	J	ug/l	10	6	R	ug/l	20	6	J	ug/l	6
2,4-Dinitrotoluene		10	U	ug/l	10	10	U	ug/l	10	20	R	ug/l	20	10	U	ug/l	10
Diethylphthalate		10	U	ug/l	10	10	U	ug/l	10	20	R	ug/l	20	10	U	ug/l	10
4-Chlorophenyl-phenylether		10	U	ug/l	10	10	U	ug/l	10	20	R	ug/l	20	10	U	ug/l	10
Fluorene		3	J	ug/l	10	10		ug/l	10	15	R	ug/l	20	7	J	ug/l	7
4-Nitroaniline		50	U	ug/l	50	50	U	ug/l	50	100	R	ug/l	100	50	U	ug/l	50
4,6-Dinitro-2-methylphenol		50	U	ug/l	50	50	U	ug/l	50	100	R	ug/l	100	50	U	ug/l	50

US Naval Station, Mayport, Florida
Fleet Training Center(SWMU 14) - Southern Burn Area Groundwater Data

Lab Sample Number:	MB747004DL
Site	GROUP111
Locator	14G01801DL
Collect Date:	04-SEP-96

	VALUE	QUAL	UNITS	DL
p-Dimethylaminoazobenzene	20	R	ug/l	20
7,12-Dimethylbenz(A)Anthracene	20	R	ug/l	20
3-Methylcholanthrene	20	R	ug/l	20
Pyridine	100	R	ug/l	100
N-Nitrosomethylethylamine	20	R	ug/l	20
N-Nitrosomorpholine	20	R	ug/l	20
a-Toluidine	20	R	ug/l	20
Hexachloropropene	100	R	ug/l	100
p-Phenylenediamine	1000	R	ug/l	1000
Safrole	100	R	ug/l	100
Isosafrole	100	R	ug/l	100
1,4-Naphthoquinone	2000	R	ug/l	2000
1,3-Dinitrobenzene	20	R	ug/l	20
5-Nitro-o-toluidine	20	R	ug/l	20
1,3,5-Trinitrobenzene	20	R	ug/l	20
4-Nitroquinoline-1-oxide	1000	R	ug/l	1000
Methapyrilene	100	R	ug/l	100
3,3-Dimethylbenzidine	20	R	ug/l	20
Hexachlorophene	1000	R	ug/l	1000
Aramite	100	R	ug/l	100
2-Chlorophenol	20	R	ug/l	20
3- & 4-Methylphenol (2)	20	R	ug/l	20
Hexachloropropene	100	R	ug/l	100
2-Acetylaminofluorene	20	R	ug/l	20
Total petroleum hydrocarbons	-		mg/l	

U = NOT DETECTED R = RESULT IS REJECTED
J = ESTIMATED VALUE UJ = REPORTED QUANTITATION LIMIT IS ESTIMATED
THE ADDITIONAL LISTINGS OF RESULTS FOR 1,2-; 1,3-; AND 1,4-DICHLOROBENZENE WERE GENERATED FROM THE SVOC (8270) ANALYTICAL RUN.

US Naval Station, Mayport, Florida
Fleet Training Center(SWMU 14) - Southern Burn Area Groundwater Data

Lab Sample Number:	RA044011				MB747003				MB747003DL				MB747004			
Site	GROUPIII				GROUPIII				GROUPIII				GROUPIII			
Locator	14G00901				14G01701				14G01701DL				14G01801			
Collect Date:	17-JUN-95				04-SEP-96				04-SEP-96				04-SEP-96			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
Isosafrole	50	U	ug/l	50	50	U	ug/l	50	100	R	ug/l	100	50	U	ug/l	50
1,4-Naphthoquinone	1000	R	ug/l	1000	1000	U	ug/l	1000	2000	R	ug/l	2000	1000	U	ug/l	1000
1,3-Dinitrobenzene	10	U	ug/l	10	10	U	ug/l	10	20	R	ug/l	20	10	U	ug/l	10
5-Nitro-o-toluidine	10	U	ug/l	10	10	U	ug/l	10	20	R	ug/l	20	10	U	ug/l	10
1,3,5-Trinitrobenzene	10	U	ug/l	10	10	UJ	ug/l	10	20	R	ug/l	20	10	UJ	ug/l	10
4-Nitroquinoline-1-oxide	500	UJ	ug/l	500	500	UJ	ug/l	500	1000	R	ug/l	1000	500	UJ	ug/l	500
Methapyrilene	50	UJ	ug/l	50	50	UJ	ug/l	50	100	R	ug/l	100	50	UJ	ug/l	50
3,3-Dimethylbenzidine	10	UJ	ug/l	10	10	U	ug/l	10	20	R	ug/l	20	10	U	ug/l	10
Hexachlorophene	500	UJ	ug/l	500	500	R	ug/l	500	1000	R	ug/l	1000	500	R	ug/l	500
Aramite	50	U	ug/l	50	50	U	ug/l	50	100	R	ug/l	100	50	U	ug/l	50
2-Chlorophenol	10	U	ug/l	10	10	U	ug/l	10	20	R	ug/l	20	10	U	ug/l	10
3- & 4-Methylphenol (2)	10	U	ug/l	10	10	U	ug/l	10	20	R	ug/l	20	10	U	ug/l	10
Hexachloropropene	50	UJ	ug/l	50	50	U	ug/l	50	100	R	ug/l	100	50	U	ug/l	50
2-Acetylaminofluorene	10	UJ	ug/l	10	10	U	ug/l	10	20	R	ug/l	20	10	U	ug/l	10
Total petroleum hydrocarbons	.05	U	mg/l	.05	.32		mg/l	.06	-		mg/l		.28		mg/l	.05

U = NOT DETECTED R = RESULT IS REJECTED
J = ESTIMATED VALUE UJ = REPORTED QUANTITATION LIMIT IS ESTIMATED
THE ADDITIONAL LISTINGS OF RESULTS FOR 1,2-; 1,3-; AND 1,4-DICHLOROBENZENE WERE GENERATED FROM THE SVOC (8270) ANALYTICAL RUN.

US Naval Station, Mayport, Florida
Fleet Training Center(SWMU 14) - Detention Pond Surface Soil Data

Lab Sample Number:		R9756011			R9756012			R9756013			R9756014		
Site		GROUPIII			GROUPIII			GROUPIII			GROUPIII		
Locator		14S00701			14S00801			14S00901			14S01001		
Collect Date:		09-APR-95			09-APR-95			09-APR-95			09-APR-95		
		VALUE QUAL	UNITS	DL	VALUE QUAL	UNITS	DL	VALUE QUAL	UNITS	DL	VALUE QUAL	UNITS	DL
VOLATILES	ug/kg												
Chloromethane		11 U	ug/kg	11	11 U	ug/kg	11	11 U	ug/kg	11	11 U	ug/kg	11
Bromomethane		11 U	ug/kg	11	11 U	ug/kg	11	11 U	ug/kg	11	11 U	ug/kg	11
Vinyl chloride		11 U	ug/kg	11	11 U	ug/kg	11	11 U	ug/kg	11	11 U	ug/kg	11
Chloroethane		11 U	ug/kg	11	11 U	ug/kg	11	11 U	ug/kg	11	11 U	ug/kg	11
Methylene chloride		5 U	ug/kg	5	6 U	ug/kg	6	5 U	ug/kg	5	5 U	ug/kg	5
Acetone		11 UJ	ug/kg	11	11 UJ	ug/kg	11	11 UJ	ug/kg	11	26 UJ	ug/kg	26
Carbon disulfide		5 UJ	ug/kg	5	6 UJ	ug/kg	6	5 UJ	ug/kg	5	5 UJ	ug/kg	5
1,1-Dichloroethane		5 U	ug/kg	5	6 U	ug/kg	6	5 U	ug/kg	5	5 U	ug/kg	5
1,1-Dichloroethene		5 U	ug/kg	5	6 U	ug/kg	6	5 U	ug/kg	5	5 U	ug/kg	5
1,2-Dichloroethene (total)		5 U	ug/kg	5	6 U	ug/kg	6	5 U	ug/kg	5	5 U	ug/kg	5
Chloroform		5 U	ug/kg	5	6 U	ug/kg	6	5 U	ug/kg	5	5 U	ug/kg	5
1,2-Dichloroethane		5 U	ug/kg	5	6 U	ug/kg	6	5 U	ug/kg	5	5 U	ug/kg	5
2-Butanone		11 U	ug/kg	11	11 U	ug/kg	11	11 U	ug/kg	11	4 J	ug/kg	11
1,1,1-Trichloroethane		5 U	ug/kg	5	6 U	ug/kg	6	5 U	ug/kg	5	5 U	ug/kg	5
Carbon tetrachloride		5 U	ug/kg	5	6 U	ug/kg	6	5 U	ug/kg	5	5 U	ug/kg	5
Bromodichloromethane		5 U	ug/kg	5	6 U	ug/kg	6	5 U	ug/kg	5	5 U	ug/kg	5
1,2-Dichloropropane		5 U	ug/kg	5	6 U	ug/kg	6	5 U	ug/kg	5	5 U	ug/kg	5
cis-1,3-Dichloropropene		5 U	ug/kg	5	6 U	ug/kg	6	5 U	ug/kg	5	5 U	ug/kg	5
Trichloroethene		5 U	ug/kg	5	6 U	ug/kg	6	5 U	ug/kg	5	5 U	ug/kg	5
Dibromochloromethane		5 U	ug/kg	5	6 U	ug/kg	6	5 U	ug/kg	5	5 U	ug/kg	5
1,1,2-Trichloroethane		5 U	ug/kg	5	6 U	ug/kg	6	5 U	ug/kg	5	5 U	ug/kg	5
Benzene		5 U	ug/kg	5	6 U	ug/kg	6	5 U	ug/kg	5	5 U	ug/kg	5
trans-1,3-Dichloropropene		5 U	ug/kg	5	6 U	ug/kg	6	5 U	ug/kg	5	5 U	ug/kg	5
Bromoform		5 U	ug/kg	5	6 U	ug/kg	6	5 U	ug/kg	5	5 U	ug/kg	5
4-Methyl-2-pentanone		11 U	ug/kg	11	11 U	ug/kg	11	11 U	ug/kg	11	11 U	ug/kg	11
2-Hexanone		11 U	ug/kg	11	11 U	ug/kg	11	11 U	ug/kg	11	11 U	ug/kg	11
Tetrachloroethene		5 U	ug/kg	5	6 U	ug/kg	6	5 U	ug/kg	5	5 U	ug/kg	5
1,1,2,2-Tetrachloroethane		5 U	ug/kg	5	6 U	ug/kg	6	5 U	ug/kg	5	5 U	ug/kg	5
Toluene		2 J	ug/kg	5	6 U	ug/kg	6	5 U	ug/kg	5	5 U	ug/kg	5
Chlorobenzene		5 U	ug/kg	5	6 U	ug/kg	6	5 U	ug/kg	5	5 U	ug/kg	5
Ethylbenzene		5 U	ug/kg	5	6 U	ug/kg	6	5 U	ug/kg	5	5 U	ug/kg	5
Styrene		5 U	ug/kg	5	6 U	ug/kg	6	5 U	ug/kg	5	5 U	ug/kg	5
Xylenes (total)		5 U	ug/kg	5	6 U	ug/kg	6	5 U	ug/kg	5	5 U	ug/kg	5
Dichlorodifluoromethane		11 U	ug/kg	11	11 U	ug/kg	11	11 U	ug/kg	11	11 U	ug/kg	11
Trichlorofluoromethane		5 U	ug/kg	5	6 U	ug/kg	6	5 U	ug/kg	5	5 U	ug/kg	5
1,3-Dichlorobenzene		690 U	ug/kg	690	750 U	ug/kg	750	5 U	ug/kg	5	720 U	ug/kg	720
Acrolein		110 U	ug/kg	110	110 U	ug/kg	110	110 U	ug/kg	110	110 U	ug/kg	110
Iodomethane		11 U	ug/kg	11	11 U	ug/kg	11	11 U	ug/kg	11	11 U	ug/kg	11
1,4-Dichlorobenzene		5 U	ug/kg	5	750 U	ug/kg	750	5 U	ug/kg	5	5 U	ug/kg	5
Acrylonitrile		110 U	ug/kg	110	110 U	ug/kg	110	110 U	ug/kg	110	110 U	ug/kg	110
Dibromomethane		5 U	ug/kg	5	6 U	ug/kg	6	5 U	ug/kg	5	5 U	ug/kg	5
1,2-Dichlorobenzene		5 U	ug/kg	5	750 U	ug/kg	750	5 U	ug/kg	5	720 U	ug/kg	720
2-Chloroethylvinyl ether		11 U	ug/kg	11	11 U	ug/kg	11	11 U	ug/kg	11	11 U	ug/kg	11
Ethyl methacrylate		5 U	ug/kg	5	6 U	ug/kg	6	5 U	ug/kg	5	5 U	ug/kg	5
1,2,3-Trichloropropane		5 U	ug/kg	5	6 U	ug/kg	6	5 U	ug/kg	5	5 U	ug/kg	5
trans-1,4-Dichloro-2-butene		5 U	ug/kg	5	6 U	ug/kg	6	5 U	ug/kg	5	5 U	ug/kg	5
Isobutyl alcohol		210 R	ug/kg	210	230 R	ug/kg	230	210 R	ug/kg	210	220 R	ug/kg	220
1,1,1,2-Tetrachloroethane		5 U	ug/kg	5	6 U	ug/kg	6	5 U	ug/kg	5	5 U	ug/kg	5
1,2-Dibromo-3-chloropropane		11 U	ug/kg	11	11 U	ug/kg	11	11 U	ug/kg	11	11 U	ug/kg	11
Ethylene dibromide		5 U	ug/kg	5	6 U	ug/kg	6	5 U	ug/kg	5	5 U	ug/kg	5

US Naval Station, Mayport, Florida
Fleet Training Center(SWMU 14) - Southern Burn Area Groundwater Data

Lab Sample Number:		MB747004DL		
Site		GROUPIII		
Locator		14G01801DL		
Collect Date:		04-SEP-96		
	VALUE	QUAL	UNITS	DL
Dibromomethane	-		ug/l	
1,2-Dichlorobenzene	20	R	ug/l	20
2-Chloroethylvinyl ether	-		ug/l	
Ethyl methacrylate	-		ug/l	
1,2,3-Trichloropropane	-		ug/l	
trans-1,4-Dichloro-2-butene	-		ug/l	
Isobutyl alcohol	-		ug/l	
1,1,1,2-Tetrachloroethane	-		ug/l	
1,2-Dibromo-3-chloropropane	-		ug/l	
Ethylene dibromide	-		ug/l	
1,4-Dioxane	-		ug/l	
3-Chloropropene	-		ug/l	
Acetonitrile	-		ug/l	
Chloroprene	-		ug/l	
Methacrylonitrile	-		ug/l	
Methyl methacrylate	-		ug/l	
Pentachloroethane	-		ug/l	
Propionitrile	-		ug/l	
Vinyl acetate	-		ug/l	
SEMIVOLATILES ug/l				
N-Nitrosodimethylamine	20	R	ug/l	20
Phenol	20	R	ug/l	20
Aniline	20	R	ug/l	20
bis(2-Chloroethyl) ether	20	R	ug/l	20
Benzyl Alcohol	20	R	ug/l	20
2-Methylphenol	20	R	ug/l	20
bis(2-Chloroisopropyl) ether	20	R	ug/l	20
N-Nitroso-di-n-propylamine	20	R	ug/l	20
Hexachloroethane	20	R	ug/l	20
Nitrobenzene	20	R	ug/l	20
Isophorone	20	R	ug/l	20
2-Nitrophenol	20	R	ug/l	20
2,4-Dimethylphenol	20	R	ug/l	20
Benzoic acid	100	R	ug/l	100
bis(2-Chloroethoxy) methane	20	R	ug/l	20
2,4-Dichlorophenol	20	R	ug/l	20
1,2,4-Trichlorobenzene	20	R	ug/l	20
Naphthalene	45	R	ug/l	20
4-Chloroaniline	20	R	ug/l	20
Hexachlorobutadiene	20	R	ug/l	20
4-Chloro-3-methylphenol	20	R	ug/l	20
2-Methylnaphthalene	88		ug/l	20
Hexachlorocyclopentadiene	20	R	ug/l	20
2,4,6-Trichlorophenol	20	R	ug/l	20
Dimethylphthalate	20	R	ug/l	20
2,4,5-Trichlorophenol	100	R	ug/l	100
2-Chloronaphthalene	20	R	ug/l	20
2-Nitroaniline	100	R	ug/l	100
Acenaphthylene	20	R	ug/l	20
2,6-Dinitrotoluene	20	R	ug/l	20
3-Nitroaniline	100	R	ug/l	100

US Naval Station, Mayport, Florida
Fleet Training Center(SWMU 14) - Detention Pond Surface Soil Data

Lab Sample Number:	R9756011				R9756012				R9756013				R9756014			
Site	GROUPIII				GROUPIII				GROUPIII				GROUPIII			
Locator	14S00701				14S00801				14S00901				14S01001			
Collect Date:	09-APR-95				09-APR-95				09-APR-95				09-APR-95			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
N-Nitrosodiphenylamine	690	U	ug/kg	690	750	U	ug/kg	750	700	U	ug/kg	700	720	U	ug/kg	720
1,2-Diphenylhydrazine	690	U	ug/kg	690	750	U	ug/kg	750	700	U	ug/kg	700	720	U	ug/kg	720
4-Bromophenyl-phenylether	690	U	ug/kg	690	750	U	ug/kg	750	700	U	ug/kg	700	720	U	ug/kg	720
Hexachlorobenzene	690	U	ug/kg	690	750	U	ug/kg	750	700	U	ug/kg	700	720	U	ug/kg	720
Pentachlorophenol	3400	U	ug/kg	3400	3600	U	ug/kg	3600	3400	U	ug/kg	3400	3500	U	ug/kg	3500
Phenanthrene	690	U	ug/kg	690	750	U	ug/kg	750	700	U	ug/kg	700	720	U	ug/kg	720
Anthracene	690	U	ug/kg	690	750	U	ug/kg	750	700	U	ug/kg	700	720	U	ug/kg	720
Di-n-Butylphthalate	690	U	ug/kg	690	750	U	ug/kg	750	700	U	ug/kg	700	720	U	ug/kg	720
Fluoranthene	690	U	ug/kg	690	750	U	ug/kg	750	700	U	ug/kg	700	720	U	ug/kg	720
Pyrene	690	U	ug/kg	690	750	U	ug/kg	750	700	U	ug/kg	700	2700		ug/kg	720
Butylbenzylphthalate	690	U	ug/kg	690	750	U	ug/kg	750	700	U	ug/kg	700	720	U	ug/kg	720
3,3-Dichlorobenzidine	1400	U	ug/kg	1400	1500	U	ug/kg	1500	1400	U	ug/kg	1400	1400	U	ug/kg	1400
Benzo (a) anthracene	690	U	ug/kg	690	750	U	ug/kg	750	700	U	ug/kg	700	120	J	ug/kg	720
Chrysene	690	U	ug/kg	690	750	U	ug/kg	750	700	U	ug/kg	700	140	J	ug/kg	720
bis(2-Ethylhexyl) phthalate	690	U	ug/kg	690	750	U	ug/kg	750	700	U	ug/kg	700	720	U	ug/kg	720
Di-n-octylphthalate	690	U	ug/kg	690	750	U	ug/kg	750	700	U	ug/kg	700	720	U	ug/kg	720
Benzo (b) fluoranthene	690	U	ug/kg	690	750	U	ug/kg	750	700	U	ug/kg	700	720	U	ug/kg	720
Benzo (k) fluoranthene	690	U	ug/kg	690	750	U	ug/kg	750	700	U	ug/kg	700	720	U	ug/kg	720
Benzo (a) pyrene	690	U	ug/kg	690	750	U	ug/kg	750	700	U	ug/kg	700	720	U	ug/kg	720
Indeno (1,2,3-cd) pyrene	690	U	ug/kg	690	750	U	ug/kg	750	700	U	ug/kg	700	720	U	ug/kg	720
Dibenzo (a,h) anthracene	690	U	ug/kg	690	750	U	ug/kg	750	700	U	ug/kg	700	720	U	ug/kg	720
Benzo (g,h,i) perylene	690	UJ	ug/kg	690	750	UJ	ug/kg	750	700	UJ	ug/kg	700	720	UJ	ug/kg	720
2-Picoline	3400	UJ	ug/kg	3400	3600	UJ	ug/kg	3600	3400	UJ	ug/kg	3400	3500	UJ	ug/kg	3500
Methyl methanesulfonate	690	U	ug/kg	690	750	U	ug/kg	750	700	U	ug/kg	700	720	U	ug/kg	720
Ethyl methanesulfonate	690	U	ug/kg	690	750	U	ug/kg	750	700	U	ug/kg	700	720	U	ug/kg	720
Acetophenone	690	U	ug/kg	690	750	U	ug/kg	750	700	U	ug/kg	700	720	U	ug/kg	720
N-Nitrosopiperidine	690	U	ug/kg	690	750	U	ug/kg	750	700	U	ug/kg	700	720	U	ug/kg	720
Phenyl-tert-butylamine	3400	U	ug/kg	3400	3600	U	ug/kg	3600	3400	U	ug/kg	3400	3500	U	ug/kg	3500
2,6-Dichlorophenol	690	U	ug/kg	690	750	U	ug/kg	750	700	U	ug/kg	700	720	U	ug/kg	720
N-Nitroso-di-n-butylamine	690	U	ug/kg	690	750	U	ug/kg	750	700	U	ug/kg	700	720	U	ug/kg	720
N-Nitrosodiethylamine	690	U	ug/kg	690	750	U	ug/kg	750	700	U	ug/kg	700	720	U	ug/kg	720
N-Nitrosopyrrolidine	690	U	ug/kg	690	750	U	ug/kg	750	700	U	ug/kg	700	720	U	ug/kg	720
Benzidine	3400	UJ	ug/kg	3400	3600	UJ	ug/kg	3600	3400	UJ	ug/kg	3400	3500	UJ	ug/kg	3500
1,2,4,5-Tetrachlorobenzene	3400	U	ug/kg	3400	3600	U	ug/kg	3600	3400	U	ug/kg	3400	3500	U	ug/kg	3500
Pentachlorobenzene	3400	U	ug/kg	3400	3600	U	ug/kg	3600	3400	U	ug/kg	3400	3500	U	ug/kg	3500
1-Naphthylamine	3400	U	ug/kg	3400	3600	U	ug/kg	3600	3400	U	ug/kg	3400	3500	U	ug/kg	3500
2-Naphthylamine	3400	U	ug/kg	3400	3600	U	ug/kg	3600	3400	U	ug/kg	3400	3500	U	ug/kg	3500
2,3,4,6-Tetrachlorophenol	690	U	ug/kg	690	750	U	ug/kg	750	700	U	ug/kg	700	720	U	ug/kg	720
Phenacetin	690	UJ	ug/kg	690	750	UJ	ug/kg	750	700	UJ	ug/kg	700	720	UJ	ug/kg	720
4-Aminobiphenyl	3400	U	ug/kg	3400	3600	U	ug/kg	3600	3400	U	ug/kg	3400	3500	U	ug/kg	3500
Pentachloronitrobenzene	3400	U	ug/kg	3400	3600	U	ug/kg	3600	3400	U	ug/kg	3400	3500	U	ug/kg	3500
Pronamide	690	U	ug/kg	690	750	U	ug/kg	750	700	U	ug/kg	700	720	U	ug/kg	720
p-Dimethylaminoazobenzene	690	U	ug/kg	690	750	U	ug/kg	750	700	U	ug/kg	700	720	U	ug/kg	720
7,12-Dimethylbenz(A)Anthracene	690	U	ug/kg	690	750	U	ug/kg	750	700	U	ug/kg	700	720	U	ug/kg	720
3-Methylcholanthrene	690	U	ug/kg	690	750	U	ug/kg	750	700	U	ug/kg	700	720	U	ug/kg	720
Pyridine	3400	UJ	ug/kg	3400	3600	UJ	ug/kg	3600	3400	UJ	ug/kg	3400	3500	UJ	ug/kg	3500
N-Nitrosomethylethylamine	690	UJ	ug/kg	690	750	UJ	ug/kg	750	700	UJ	ug/kg	700	720	UJ	ug/kg	720
N-Nitrosomorpholine	690	U	ug/kg	690	750	U	ug/kg	750	700	U	ug/kg	700	720	U	ug/kg	720
o-Toluidine	690	U	ug/kg	690	750	U	ug/kg	750	700	U	ug/kg	700	720	U	ug/kg	720
Hexachloropropene	3400	U	ug/kg	3400	3600	U	ug/kg	3600	3400	U	ug/kg	3400	3500	U	ug/kg	3500
p-Phenylenediamine	34000	U	ug/kg	34000	36000	U	ug/kg	36000	34000	U	ug/kg	34000	35000	U	ug/kg	35000
Safrole	3400	U	ug/kg	3400	3600	U	ug/kg	3600	3400	U	ug/kg	3400	3500	U	ug/kg	3500

US Naval Station, Mayport, Florida
Fleet Training Center(SWMU 14) - Southern Burn Area Groundwater Data

Lab Sample Number: MB747004DL
Site GROUP1I1
Locator 14G01801DL
Collect Date: 04-SEP-96

	VALUE	QUAL	UNITS	DL
p-Dimethylaminoazobenzene	20	R	ug/l	20
7,12-Dimethylbenz(A)Anthracene	20	R	ug/l	20
3-Methylcholanthrene	20	R	ug/l	20
Pyridine	100	R	ug/l	100
N-Nitrosomethylethylamine	20	R	ug/l	20
N-Nitrosomorpholine	20	R	ug/l	20
o-Toluidine	20	R	ug/l	20
Hexachloropropene	100	R	ug/l	100
p-Phenylenediamine	1000	R	ug/l	1000
Safrole	100	R	ug/l	100
Isosafrole	100	R	ug/l	100
1,4-Naphthoquinone	2000	R	ug/l	2000
1,3-Dinitrobenzene	20	R	ug/l	20
5-Nitro-o-toluidine	20	R	ug/l	20
1,3,5-Trinitrobenzene	20	R	ug/l	20
4-Nitroquinoline-1-oxide	1000	R	ug/l	1000
Methapyrilene	100	R	ug/l	100
3,3-Dimethylbenzidine	20	R	ug/l	20
Hexachlorophene	1000	R	ug/l	1000
Aramite	100	R	ug/l	100
2-Chlorophenol	20	R	ug/l	20
3- & 4-Methylphenol (2)	20	R	ug/l	20
Hexachloropropene	100	R	ug/l	100
2-Acetylaminofluorene	20	R	ug/l	20
Total petroleum hydrocarbons	-		mg/l	

U = NOT DETECTED R = RESULT IS REJECTED
J = ESTIMATED VALUE UJ = REPORTED QUANTITATION LIMIT IS ESTIMATED
THE ADDITIONAL LISTINGS OF RESULTS FOR 1,2-; 1,3-; AND 1,4-DICHLOROBENZENE WERE GENERATED FROM THE SVOC (8270) ANALYTICAL RUN.

US Naval Station, Mayport, Florida
Fleet Training Center(SWMU 14) - Detention Pond Surface Soil Data

Lab Sample Number:		MB638003			MB638004			MB638005		
Site		GROUPIII			GROUPIII			GROUPIII		
Locator		14S03201			14S03201D			14S03301		
Collect Date:		21-AUG-96			21-AUG-96			21-AUG-96		
		VALUE QUAL	UNITS	DL	VALUE QUAL	UNITS	DL	VALUE QUAL	UNITS	DL
VOLATILES	ug/kg									
Chloromethane		10 U	ug/kg	10	10 U	ug/kg	10	13 U	ug/kg	13
Bromomethane		10 U	ug/kg	10	10 U	ug/kg	10	13 U	ug/kg	13
Vinyl chloride		10 U	ug/kg	10	10 U	ug/kg	10	13 U	ug/kg	13
Chloroethane		10 UJ	ug/kg	10	10 UJ	ug/kg	10	13 UJ	ug/kg	13
Methylene chloride		2 J	ug/kg	5	5 U	ug/kg	5	7 U	ug/kg	7
Acetone		16 U	ug/kg	16	10 U	ug/kg	10	13 U	ug/kg	13
Carbon disulfide		5 U	ug/kg	5	5 U	ug/kg	5	7 U	ug/kg	7
1,1-Dichloroethane		5 U	ug/kg	5	5 U	ug/kg	5	7 U	ug/kg	7
1,1-Dichloroethene		5 U	ug/kg	5	5 U	ug/kg	5	7 U	ug/kg	7
1,2-Dichloroethene (total)		5 U	ug/kg	5	5 U	ug/kg	5	7 U	ug/kg	7
Chloroform		5 U	ug/kg	5	5 U	ug/kg	5	7 U	ug/kg	7
1,2-Dichloroethane		5 U	ug/kg	5	5 U	ug/kg	5	7 U	ug/kg	7
2-Butanone		10 U	ug/kg	10	10 U	ug/kg	10	13 U	ug/kg	13
1,1,1-Trichloroethane		5 U	ug/kg	5	5 U	ug/kg	5	7 U	ug/kg	7
Carbon tetrachloride		5 U	ug/kg	5	5 U	ug/kg	5	7 U	ug/kg	7
Bromodichloromethane		5 U	ug/kg	5	5 U	ug/kg	5	7 U	ug/kg	7
1,2-Dichloropropane		5 U	ug/kg	5	5 U	ug/kg	5	7 U	ug/kg	7
cis-1,3-Dichloropropene		5 U	ug/kg	5	5 U	ug/kg	5	7 U	ug/kg	7
Trichloroethene		5 U	ug/kg	5	5 U	ug/kg	5	7 U	ug/kg	7
Dibromochloromethane		5 U	ug/kg	5	5 U	ug/kg	5	7 U	ug/kg	7
1,1,2-Trichloroethane		5 U	ug/kg	5	5 U	ug/kg	5	7 U	ug/kg	7
Benzene		5 U	ug/kg	5	5 U	ug/kg	5	7 U	ug/kg	7
trans-1,3-Dichloropropene		5 U	ug/kg	5	5 U	ug/kg	5	7 U	ug/kg	7
Bromoform		5 U	ug/kg	5	5 U	ug/kg	5	7 U	ug/kg	7
4-Methyl-2-pentanone		10 U	ug/kg	10	10 U	ug/kg	10	13 U	ug/kg	13
2-Hexanone		10 U	ug/kg	10	10 U	ug/kg	10	13 U	ug/kg	13
Tetrachloroethene		5 U	ug/kg	5	5 U	ug/kg	5	7 U	ug/kg	7
1,1,2,2-Tetrachloroethane		5 U	ug/kg	5	5 U	ug/kg	5	7 U	ug/kg	7
Toluene		5 U	ug/kg	5	5 U	ug/kg	5	7 U	ug/kg	7
Chlorobenzene		5 U	ug/kg	5	5 U	ug/kg	5	7 U	ug/kg	7
Ethylbenzene		5 U	ug/kg	5	5 U	ug/kg	5	7 U	ug/kg	7
Styrene		5 U	ug/kg	5	5 U	ug/kg	5	7 U	ug/kg	7
Xylenes (total)		5 U	ug/kg	5	5 U	ug/kg	5	7 U	ug/kg	7
Dichlorodifluoromethane		10 U	ug/kg	10	10 U	ug/kg	10	13 U	ug/kg	13
Trichlorofluoromethane		5 U	ug/kg	5	5 U	ug/kg	5	7 U	ug/kg	7
1,3-Dichlorobenzene		5 U	ug/kg	5	340 U	ug/kg	340	440 U	ug/kg	440
Acrolein		100 U	ug/kg	100	100 U	ug/kg	100	130 U	ug/kg	130
Iodomethane		10 UJ	ug/kg	10	10 U	ug/kg	10	13 U	ug/kg	13
1,4-Dichlorobenzene		350 U	ug/kg	350	340 U	ug/kg	340	440 U	ug/kg	440
Acrylonitrile		100 U	ug/kg	100	100 U	ug/kg	100	130 U	ug/kg	130

US Naval Station, Mayport, Florida
Fleet Training Center(SWMU 14) - Detention Pond Surface Soil Data

Lab Sample Number:		R9756011			R9756012			R9756013			R9756014		
Site		GROUPIII			GROUPIII			GROUPIII			GROUPIII		
Locator		14S00701			14S00801			14S00901			14S01001		
Collect Date:		09-APR-95			09-APR-95			09-APR-95			09-APR-95		
		VALUE QUAL	UNITS	DL	VALUE QUAL	UNITS	DL	VALUE QUAL	UNITS	DL	VALUE QUAL	UNITS	DL
VOLATILES	ug/kg												
Chloromethane		11 U	ug/kg	11	11 U	ug/kg	11	11 U	ug/kg	11	11 U	ug/kg	11
Bromomethane		11 U	ug/kg	11	11 U	ug/kg	11	11 U	ug/kg	11	11 U	ug/kg	11
Vinyl chloride		11 U	ug/kg	11	11 U	ug/kg	11	11 U	ug/kg	11	11 U	ug/kg	11
Chloroethane		11 U	ug/kg	11	11 U	ug/kg	11	11 U	ug/kg	11	11 U	ug/kg	11
Methylene chloride		5 U	ug/kg	5	6 U	ug/kg	6	5 U	ug/kg	5	5 U	ug/kg	5
Acetone		11 UJ	ug/kg	11	11 UJ	ug/kg	11	11 UJ	ug/kg	11	26 UJ	ug/kg	26
Carbon disulfide		5 UJ	ug/kg	5	6 UJ	ug/kg	6	5 UJ	ug/kg	5	5 UJ	ug/kg	5
1,1-Dichloroethane		5 U	ug/kg	5	6 U	ug/kg	6	5 U	ug/kg	5	5 U	ug/kg	5
1,1-Dichloroethene		5 U	ug/kg	5	6 U	ug/kg	6	5 U	ug/kg	5	5 U	ug/kg	5
1,2-Dichloroethene (total)		5 U	ug/kg	5	6 U	ug/kg	6	5 U	ug/kg	5	5 U	ug/kg	5
Chloroform		5 U	ug/kg	5	6 U	ug/kg	6	5 U	ug/kg	5	5 U	ug/kg	5
1,2-Dichloroethane		5 U	ug/kg	5	6 U	ug/kg	6	5 U	ug/kg	5	5 U	ug/kg	5
2-Butanone		11 U	ug/kg	11	11 U	ug/kg	11	11 U	ug/kg	11	4 J	ug/kg	11
1,1,1-Trichloroethane		5 U	ug/kg	5	6 U	ug/kg	6	5 U	ug/kg	5	5 U	ug/kg	5
Carbon tetrachloride		5 U	ug/kg	5	6 U	ug/kg	6	5 U	ug/kg	5	5 U	ug/kg	5
Bromodichloromethane		5 U	ug/kg	5	6 U	ug/kg	6	5 U	ug/kg	5	5 U	ug/kg	5
1,2-Dichloropropane		5 U	ug/kg	5	6 U	ug/kg	6	5 U	ug/kg	5	5 U	ug/kg	5
cis-1,3-Dichloropropene		5 U	ug/kg	5	6 U	ug/kg	6	5 U	ug/kg	5	5 U	ug/kg	5
Trichloroethene		5 U	ug/kg	5	6 U	ug/kg	6	5 U	ug/kg	5	5 U	ug/kg	5
Dibromochloromethane		5 U	ug/kg	5	6 U	ug/kg	6	5 U	ug/kg	5	5 U	ug/kg	5
1,1,2-Trichloroethane		5 U	ug/kg	5	6 U	ug/kg	6	5 U	ug/kg	5	5 U	ug/kg	5
Benzene		5 U	ug/kg	5	6 U	ug/kg	6	5 U	ug/kg	5	5 U	ug/kg	5
trans-1,3-Dichloropropene		5 U	ug/kg	5	6 U	ug/kg	6	5 U	ug/kg	5	5 U	ug/kg	5
Bromoform		5 U	ug/kg	5	6 U	ug/kg	6	5 U	ug/kg	5	5 U	ug/kg	5
4-Methyl-2-pentanone		11 U	ug/kg	11	11 U	ug/kg	11	11 U	ug/kg	11	11 U	ug/kg	11
2-Hexanone		11 U	ug/kg	11	11 U	ug/kg	11	11 U	ug/kg	11	11 U	ug/kg	11
Tetrachloroethene		5 U	ug/kg	5	6 U	ug/kg	6	5 U	ug/kg	5	5 U	ug/kg	5
1,1,2,2-Tetrachloroethane		5 U	ug/kg	5	6 U	ug/kg	6	5 U	ug/kg	5	5 U	ug/kg	5
Toluene		2 J	ug/kg	5	6 U	ug/kg	6	5 U	ug/kg	5	5 U	ug/kg	5
Chlorobenzene		5 U	ug/kg	5	6 U	ug/kg	6	5 U	ug/kg	5	5 U	ug/kg	5
Ethylbenzene		5 U	ug/kg	5	6 U	ug/kg	6	5 U	ug/kg	5	5 U	ug/kg	5
Styrene		5 U	ug/kg	5	6 U	ug/kg	6	5 U	ug/kg	5	5 U	ug/kg	5
Xylenes (total)		5 U	ug/kg	5	6 U	ug/kg	6	5 U	ug/kg	5	5 U	ug/kg	5
Dichlorodifluoromethane		11 U	ug/kg	11	11 U	ug/kg	11	11 U	ug/kg	11	11 U	ug/kg	11
Trichlorofluoromethane		5 U	ug/kg	5	6 U	ug/kg	6	5 U	ug/kg	5	5 U	ug/kg	5
1,3-Dichlorobenzene		690 U	ug/kg	690	750 U	ug/kg	750	5 U	ug/kg	5	720 U	ug/kg	720
Acrolein		110 U	ug/kg	110	110 U	ug/kg	110	110 U	ug/kg	110	110 U	ug/kg	110
Iodomethane		11 U	ug/kg	11	11 U	ug/kg	11	11 U	ug/kg	11	11 U	ug/kg	11
1,4-Dichlorobenzene		5 U	ug/kg	5	750 U	ug/kg	750	5 U	ug/kg	5	5 U	ug/kg	5
Acrylonitrile		110 U	ug/kg	110	110 U	ug/kg	110	110 U	ug/kg	110	110 U	ug/kg	110
Dibromomethane		5 U	ug/kg	5	6 U	ug/kg	6	5 U	ug/kg	5	5 U	ug/kg	5
1,2-Dichlorobenzene		5 U	ug/kg	5	750 U	ug/kg	750	5 U	ug/kg	5	720 U	ug/kg	720
2-Chloroethylvinyl ether		11 U	ug/kg	11	11 U	ug/kg	11	11 U	ug/kg	11	11 U	ug/kg	11
Ethyl methacrylate		5 U	ug/kg	5	6 U	ug/kg	6	5 U	ug/kg	5	5 U	ug/kg	5
1,2,3-Trichloropropane		5 U	ug/kg	5	6 U	ug/kg	6	5 U	ug/kg	5	5 U	ug/kg	5
trans-1,4-Dichloro-2-butene		5 U	ug/kg	5	6 U	ug/kg	6	5 U	ug/kg	5	5 U	ug/kg	5
Isobutyl alcohol		210 R	ug/kg	210	230 R	ug/kg	230	210 R	ug/kg	210	220 R	ug/kg	220
1,1,1,2-Tetrachloroethane		5 U	ug/kg	5	6 U	ug/kg	6	5 U	ug/kg	5	5 U	ug/kg	5
1,2-Dibromo-3-chloropropane		11 U	ug/kg	11	11 U	ug/kg	11	11 U	ug/kg	11	11 U	ug/kg	11
Ethylene dibromide		5 U	ug/kg	5	6 U	ug/kg	6	5 U	ug/kg	5	5 U	ug/kg	5

US Naval Station, Mayport, Florida
Fleet Training Center(SWMU 14) - Detention Pond Surface Soil Data

Lab Sample Number:	MB638003				MB638004				MB638005			
Site	GROUPIII				GROUPIII				GROUPIII			
Locator	14S03201				14S03201D				14S03301			
Collect Date:	21-AUG-96				21-AUG-96				21-AUG-96			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
Acenaphthene	350	U	ug/kg	350	340	U	ug/kg	340	440	U	ug/kg	440
2,4-Dinitrophenol	1700	U	ug/kg	1700	1700	U	ug/kg	1700	2200	U	ug/kg	2200
4-Nitrophenol	1700	U	ug/kg	1700	1700	U	ug/kg	1700	2200	U	ug/kg	2200
Dibenzofuran	350	U	ug/kg	350	340	U	ug/kg	340	440	U	ug/kg	440
2,4-Dinitrotoluene	350	U	ug/kg	350	340	U	ug/kg	340	440	U	ug/kg	440
Diethylphthalate	350	U	ug/kg	350	340	U	ug/kg	340	440	U	ug/kg	440
4-Chlorophenyl-phenylether	350	U	ug/kg	350	340	U	ug/kg	340	440	U	ug/kg	440
Fluorene	350	U	ug/kg	350	340	U	ug/kg	340	440	U	ug/kg	440
4-Nitroaniline	1700	U	ug/kg	1700	1700	U	ug/kg	1700	2200	U	ug/kg	2200
4,6-Dinitro-2-methylphenol	1700	U	ug/kg	1700	1700	U	ug/kg	1700	2200	U	ug/kg	2200
N-Nitrosodiphenylamine	350	U	ug/kg	350	340	U	ug/kg	340	440	U	ug/kg	440
1,2-Diphenylhydrazine	350	U	ug/kg	350	340	U	ug/kg	340	440	U	ug/kg	440
4-Bromophenyl-phenylether	350	U	ug/kg	350	340	U	ug/kg	340	440	U	ug/kg	440
Hexachlorobenzene	350	U	ug/kg	350	340	U	ug/kg	340	440	U	ug/kg	440
Pentachlorophenol	1700	UJ	ug/kg	1700	1700	U	ug/kg	1700	2200	UJ	ug/kg	2200
Phenanthrene	350	U	ug/kg	350	340	U	ug/kg	340	440	U	ug/kg	440
Anthracene	350	U	ug/kg	350	340	U	ug/kg	340	440	U	ug/kg	440
Di-n-Butylphthalate	350	U	ug/kg	350	340	U	ug/kg	340	440	U	ug/kg	440
Fluoranthene	350	U	ug/kg	350	340	U	ug/kg	340	440	U	ug/kg	440
Pyrene	350	U	ug/kg	350	340	U	ug/kg	340	440	U	ug/kg	440
Butylbenzylphthalate	350	U	ug/kg	350	340	U	ug/kg	340	440	U	ug/kg	440
3,3-Dichlorobenzidine	690	U	ug/kg	690	690	U	ug/kg	690	890	U	ug/kg	890
Benzo (a) anthracene	350	U	ug/kg	350	340	U	ug/kg	340	440	U	ug/kg	440
Chrysene	350	U	ug/kg	350	340	U	ug/kg	340	440	U	ug/kg	440
bis(2-Ethylhexyl) phthalate	81	J	ug/kg	350	190	J	ug/kg	340	260	J	ug/kg	440
Di-n-octylphthalate	350	U	ug/kg	350	340	U	ug/kg	340	440	U	ug/kg	440
Benzo (b) fluoranthene	350	U	ug/kg	350	340	U	ug/kg	340	440	U	ug/kg	440
Benzo (k) fluoranthene	350	U	ug/kg	350	340	U	ug/kg	340	440	U	ug/kg	440
Benzo (a) pyrene	350	U	ug/kg	350	340	U	ug/kg	340	440	U	ug/kg	440
Indeno (1,2,3-cd) pyrene	350	U	ug/kg	350	340	U	ug/kg	340	440	U	ug/kg	440
Dibenzo (a,h) anthracene	350	U	ug/kg	350	340	U	ug/kg	340	440	U	ug/kg	440
Benzo (g,h,i) perylene	350	U	ug/kg	350	340	U	ug/kg	340	440	U	ug/kg	440
2-Picoline	1700	U	ug/kg	1700	1700	U	ug/kg	1700	2200	U	ug/kg	2200
Methyl methanesulfonate	350	U	ug/kg	350	340	U	ug/kg	340	440	U	ug/kg	440
Ethyl methanesulfonate	350	U	ug/kg	350	340	U	ug/kg	340	440	U	ug/kg	440
Acetophenone	350	U	ug/kg	350	340	U	ug/kg	340	440	U	ug/kg	440
N-Nitrosopiperidine	350	U	ug/kg	350	340	U	ug/kg	340	440	U	ug/kg	440
Phenyl-tert-butylamine	1700	U	ug/kg	1700	1700	U	ug/kg	1700	2200	U	ug/kg	2200
2,6-Dichlorophenol	350	U	ug/kg	350	340	U	ug/kg	340	440	U	ug/kg	440
N-Nitroso-di-n-butylamine	350	U	ug/kg	350	340	U	ug/kg	340	440	U	ug/kg	440
N-Nitrosodiethylamine	350	U	ug/kg	350	340	U	ug/kg	340	440	U	ug/kg	440
N-Nitrosopyrrolidine	350	U	ug/kg	350	340	U	ug/kg	340	440	U	ug/kg	440
Benzidine	1700	U	ug/kg	1700	1700	U	ug/kg	1700	2200	U	ug/kg	2200
1,2,4,5-Tetrachlorobenzene	1700	U	ug/kg	1700	1700	U	ug/kg	1700	2200	U	ug/kg	2200
Pentachlorobenzene	1700	U	ug/kg	1700	1700	U	ug/kg	1700	2200	U	ug/kg	2200
1-Naphthylamine	1700	U	ug/kg	1700	1700	U	ug/kg	1700	2200	U	ug/kg	2200
2-Naphthylamine	1700	U	ug/kg	1700	1700	U	ug/kg	1700	2200	U	ug/kg	2200
2,3,4,6-Tetrachlorophenol	350	UJ	ug/kg	350	340	U	ug/kg	340	440	UJ	ug/kg	440
Phenacetin	350	UJ	ug/kg	350	340	U	ug/kg	340	440	UJ	ug/kg	440
4-Aminobiphenyl	1700	U	ug/kg	1700	1700	U	ug/kg	1700	2200	U	ug/kg	2200
Pentachloronitrobenzene	1700	UJ	ug/kg	1700	1700	U	ug/kg	1700	2200	UJ	ug/kg	2200
Pronamide	350	U	ug/kg	350	340	U	ug/kg	340	440	U	ug/kg	440

US Naval Station, Mayport, Florida
Fleet Training Center(SWMU 14) - Detention Pond Surface Soil Data

Lab Sample Number:	R9756011				R9756012				R9756013				R9756014			
Site	GROUPIII				GROUPIII				GROUPIII				GROUPIII			
Locator	14S00701				14S00801				14S00901				14S01001			
Collect Date:	09-APR-95				09-APR-95				09-APR-95				09-APR-95			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
N-Nitrosodiphenylamine	690	U	ug/kg	690	750	U	ug/kg	750	700	U	ug/kg	700	720	U	ug/kg	720
1,2-Diphenylhydrazine	690	U	ug/kg	690	750	U	ug/kg	750	700	U	ug/kg	700	720	U	ug/kg	720
4-Bromophenyl-phenylether	690	U	ug/kg	690	750	U	ug/kg	750	700	U	ug/kg	700	720	U	ug/kg	720
Hexachlorobenzene	690	U	ug/kg	690	750	U	ug/kg	750	700	U	ug/kg	700	720	U	ug/kg	720
Pentachlorophenol	3400	U	ug/kg	3400	3600	U	ug/kg	3600	3400	U	ug/kg	3400	3500	U	ug/kg	3500
Phenanthrene	690	U	ug/kg	690	750	U	ug/kg	750	700	U	ug/kg	700	720	U	ug/kg	720
Anthracene	690	U	ug/kg	690	750	U	ug/kg	750	700	U	ug/kg	700	720	U	ug/kg	720
Di-n-Butylphthalate	690	U	ug/kg	690	750	U	ug/kg	750	700	U	ug/kg	700	720	U	ug/kg	720
Fluoranthene	690	U	ug/kg	690	750	U	ug/kg	750	700	U	ug/kg	700	720	U	ug/kg	720
Pyrene	690	U	ug/kg	690	750	U	ug/kg	750	700	U	ug/kg	700	720	U	ug/kg	720
Butylbenzylphthalate	690	U	ug/kg	690	750	U	ug/kg	750	700	U	ug/kg	700	720	U	ug/kg	720
3,3-Dichlorobenzidine	1400	U	ug/kg	1400	1500	U	ug/kg	1500	1400	U	ug/kg	1400	1400	U	ug/kg	1400
Benzo (a) anthracene	690	U	ug/kg	690	750	U	ug/kg	750	700	U	ug/kg	700	120	J	ug/kg	720
Chrysene	690	U	ug/kg	690	750	U	ug/kg	750	700	U	ug/kg	700	140	J	ug/kg	720
bis(2-Ethylhexyl) phthalate	690	U	ug/kg	690	750	U	ug/kg	750	700	U	ug/kg	700	720	U	ug/kg	720
Di-n-octylphthalate	690	U	ug/kg	690	750	U	ug/kg	750	700	U	ug/kg	700	720	U	ug/kg	720
Benzo (b) fluoranthene	690	U	ug/kg	690	750	U	ug/kg	750	700	U	ug/kg	700	720	U	ug/kg	720
Benzo (k) fluoranthene	690	U	ug/kg	690	750	U	ug/kg	750	700	U	ug/kg	700	720	U	ug/kg	720
Benzo (a) pyrene	690	U	ug/kg	690	750	U	ug/kg	750	700	U	ug/kg	700	720	U	ug/kg	720
Indeno (1,2,3-cd) pyrene	690	U	ug/kg	690	750	U	ug/kg	750	700	U	ug/kg	700	720	U	ug/kg	720
Dibenzo (a,h) anthracene	690	U	ug/kg	690	750	U	ug/kg	750	700	U	ug/kg	700	720	U	ug/kg	720
Benzo (g,h,i) perylene	690	UJ	ug/kg	690	750	UJ	ug/kg	750	700	UJ	ug/kg	700	720	UJ	ug/kg	720
2-Picoline	3400	UJ	ug/kg	3400	3600	UJ	ug/kg	3600	3400	UJ	ug/kg	3400	3500	UJ	ug/kg	3500
Methyl methanesulfonate	690	U	ug/kg	690	750	U	ug/kg	750	700	U	ug/kg	700	720	U	ug/kg	720
Ethyl methanesulfonate	690	U	ug/kg	690	750	U	ug/kg	750	700	U	ug/kg	700	720	U	ug/kg	720
Acetophenone	690	U	ug/kg	690	750	U	ug/kg	750	700	U	ug/kg	700	720	U	ug/kg	720
N-Nitrosopiperidine	690	U	ug/kg	690	750	U	ug/kg	750	700	U	ug/kg	700	720	U	ug/kg	720
Phenyl-tert-butylamine	3400	U	ug/kg	3400	3600	U	ug/kg	3600	3400	U	ug/kg	3400	3500	U	ug/kg	3500
2,6-Dichlorophenol	690	U	ug/kg	690	750	U	ug/kg	750	700	U	ug/kg	700	720	U	ug/kg	720
N-Nitroso-di-n-butylamine	690	U	ug/kg	690	750	U	ug/kg	750	700	U	ug/kg	700	720	U	ug/kg	720
N-Nitrosodiethylamine	690	U	ug/kg	690	750	U	ug/kg	750	700	U	ug/kg	700	720	U	ug/kg	720
N-Nitrosopyrrolidine	690	U	ug/kg	690	750	U	ug/kg	750	700	U	ug/kg	700	720	U	ug/kg	720
Benzidine	3400	UJ	ug/kg	3400	3600	UJ	ug/kg	3600	3400	UJ	ug/kg	3400	3500	UJ	ug/kg	3500
1,2,4,5-Tetrachlorobenzene	3400	U	ug/kg	3400	3600	U	ug/kg	3600	3400	U	ug/kg	3400	3500	U	ug/kg	3500
Pentachlorobenzene	3400	U	ug/kg	3400	3600	U	ug/kg	3600	3400	U	ug/kg	3400	3500	U	ug/kg	3500
1-Naphthylamine	3400	U	ug/kg	3400	3600	U	ug/kg	3600	3400	U	ug/kg	3400	3500	U	ug/kg	3500
2-Naphthylamine	3400	U	ug/kg	3400	3600	U	ug/kg	3600	3400	U	ug/kg	3400	3500	U	ug/kg	3500
2,3,4,6-Tetrachlorophenol	690	U	ug/kg	690	750	U	ug/kg	750	700	U	ug/kg	700	720	U	ug/kg	720
Phenacetin	690	UJ	ug/kg	690	750	UJ	ug/kg	750	700	UJ	ug/kg	700	720	UJ	ug/kg	720
4-Aminobiphenyl	3400	U	ug/kg	3400	3600	U	ug/kg	3600	3400	U	ug/kg	3400	3500	U	ug/kg	3500
Pentachloronitrobenzene	3400	U	ug/kg	3400	3600	U	ug/kg	3600	3400	U	ug/kg	3400	3500	U	ug/kg	3500
Pronamide	690	U	ug/kg	690	750	U	ug/kg	750	700	U	ug/kg	700	720	U	ug/kg	720
p-Dimethylaminoazobenzene	690	U	ug/kg	690	750	U	ug/kg	750	700	U	ug/kg	700	720	U	ug/kg	720
7,12-Dimethylbenz(A)Anthracene	690	U	ug/kg	690	750	U	ug/kg	750	700	U	ug/kg	700	720	U	ug/kg	720
3-Methylcholanthrene	690	U	ug/kg	690	750	U	ug/kg	750	700	U	ug/kg	700	720	U	ug/kg	720
Pyridine	3400	UJ	ug/kg	3400	3600	UJ	ug/kg	3600	3400	UJ	ug/kg	3400	3500	UJ	ug/kg	3500
N-Nitrosomethylethylamine	690	UJ	ug/kg	690	750	UJ	ug/kg	750	700	UJ	ug/kg	700	720	UJ	ug/kg	720
N-Nitrosomorpholine	690	U	ug/kg	690	750	U	ug/kg	750	700	U	ug/kg	700	720	U	ug/kg	720
o-Toluidine	690	U	ug/kg	690	750	U	ug/kg	750	700	U	ug/kg	700	720	U	ug/kg	720
Hexachloropropene	3400	U	ug/kg	3400	3600	U	ug/kg	3600	3400	U	ug/kg	3400	3500	U	ug/kg	3500
p-Phenylenediamine	34000	U	ug/kg	34000	36000	U	ug/kg	36000	34000	U	ug/kg	34000	35000	U	ug/kg	35000
Safrole	3400	U	ug/kg	3400	3600	U	ug/kg	3600	3400	U	ug/kg	3400	3500	U	ug/kg	3500

US Naval Station, Mayport, Florida
Fleet Training Center(SWMU 14) - Detention Pond Surface Soil Data

Lab Sample Number:		R9756011			R9756012			R9756013			R9756014		
Site		GROUPIII			GROUPIII			GROUPIII			GROUPIII		
Locator		14S00701			14S00801			14S00901			14S01001		
Collect Date:		09-APR-95			09-APR-95			09-APR-95			09-APR-95		
		VALUE QUAL	UNITS	DL	VALUE QUAL	UNITS	DL	VALUE QUAL	UNITS	DL	VALUE QUAL	UNITS	DL
INORGANICS (SOIL)	mg/kg												
Antimony		1.1 U	mg/kg	1.1	1.1 U	mg/kg	1.1	1.1 U	mg/kg	1.1	1.1 U	mg/kg	1.1
Arsenic		.57 J	mg/kg	.7	2.2 J	mg/kg	.7	1 J	mg/kg	.7	.44 J	mg/kg	.7
Barium		5.2 J	mg/kg	.084	6.2 J	mg/kg	.091	5.6 J	mg/kg	.085	4.9 J	mg/kg	.087
Beryllium		.1 J	mg/kg	.042	.22 J	mg/kg	.045	.1 J	mg/kg	.042	.06 J	mg/kg	.044
Cadmium		.27 U	mg/kg	.27	.29 U	mg/kg	.29	.28 U	mg/kg	.28	.28 U	mg/kg	.28
Chromium		3.1	mg/kg	.44	7.1	mg/kg	.48	2.4	mg/kg	.45	2.5	mg/kg	.46
Cobalt		.57 U	mg/kg	.57	.61 U	mg/kg	.61	.57 U	mg/kg	.57	.59 U	mg/kg	.59
Copper		5.8	mg/kg	.32	4.6 J	mg/kg	.34	1.9 J	mg/kg	.32	4.7 J	mg/kg	.33
Cyanide		.05 U	mg/kg	.05	.17 J	mg/kg	1	.06 J	mg/kg	1	.05 U	mg/kg	.05
Lead		6.1	mg/kg	.5	5.1	mg/kg	.5	1.4	mg/kg	.5	3.2	mg/kg	.5
Mercury		.03 U	mg/kg	.03	.03 U	mg/kg	.03	.03 U	mg/kg	.03	.03 U	mg/kg	.03
Nickel		1.1 U	mg/kg	1.1	2.2 J	mg/kg	1.2	1.1 U	mg/kg	1.1	1.1 U	mg/kg	1.1
Selenium		.13 U	mg/kg	.13	.18 J	mg/kg	.6	.13 U	mg/kg	.13	.13 U	mg/kg	.13
Silver		.48 U	mg/kg	.48	.52 U	mg/kg	.52	.49 U	mg/kg	.49	.5 U	mg/kg	.5
Thallium		.13 U	mg/kg	.13	.14 U	mg/kg	.14	.13 U	mg/kg	.13	.13 U	mg/kg	.13
Tin		2.1 U	mg/kg	2.1	2.2 U	mg/kg	2.2	2.1 U	mg/kg	2.1	2.1 U	mg/kg	2.1
Vanadium		2.4 J	mg/kg	.32	7.5 J	mg/kg	.34	3.7 J	mg/kg	.32	1.7 J	mg/kg	.33
Zinc		26.1	mg/kg	.25	15.5	mg/kg	.27	4.8	mg/kg	.25	20.7	mg/kg	.26

U = NOT DETECTED R = RESULT IS REJECTED
J = ESTIMATED VALUE UJ = REPORTED QUANTITATION LIMIT IS ESTIMATED
THE ADDITIONAL LISTINGS OF RESULTS FOR 1,2-; 1,3-; AND 1,4-DICHLOROBENZENE WERE GENERATED FROM THE SVOC (8270) ANALYTICAL RUN.

US Naval Station, Mayport, Florida
Fleet Training Center(SWMU 14) - Detention Pond Surface Soil Data

Lab Sample Number:		MB638003				MB638004				MB638005		
Site		GROUPIII				GROUPIII				GROUPIII		
Locator		14S03201				14S03201D				14S03301		
Collect Date:		21-AUG-96				21-AUG-96				21-AUG-96		
		VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
VOLATILES	ug/kg												
Chloromethane		10	U	ug/kg	10	10	U	ug/kg	10	13	U	ug/kg	13
Bromomethane		10	U	ug/kg	10	10	U	ug/kg	10	13	U	ug/kg	13
Vinyl chloride		10	U	ug/kg	10	10	U	ug/kg	10	13	U	ug/kg	13
Chloroethane		10	UJ	ug/kg	10	10	UJ	ug/kg	10	13	UJ	ug/kg	13
Methylene chloride		2	J	ug/kg	5	5	U	ug/kg	5	7	U	ug/kg	7
Acetone		16	U	ug/kg	16	10	U	ug/kg	10	13	U	ug/kg	13
Carbon disulfide		5	U	ug/kg	5	5	U	ug/kg	5	7	U	ug/kg	7
1,1-Dichloroethane		5	U	ug/kg	5	5	U	ug/kg	5	7	U	ug/kg	7
1,1-Dichloroethene		5	U	ug/kg	5	5	U	ug/kg	5	7	U	ug/kg	7
1,2-Dichloroethene (total)		5	U	ug/kg	5	5	U	ug/kg	5	7	U	ug/kg	7
Chloroform		5	U	ug/kg	5	5	U	ug/kg	5	7	U	ug/kg	7
1,2-Dichloroethane		5	U	ug/kg	5	5	U	ug/kg	5	7	U	ug/kg	7
2-Butanone		10	U	ug/kg	10	10	U	ug/kg	10	13	U	ug/kg	13
1,1,1-Trichloroethane		5	U	ug/kg	5	5	U	ug/kg	5	7	U	ug/kg	7
Carbon tetrachloride		5	U	ug/kg	5	5	U	ug/kg	5	7	U	ug/kg	7
Bromodichloromethane		5	U	ug/kg	5	5	U	ug/kg	5	7	U	ug/kg	7
1,2-Dichloropropane		5	U	ug/kg	5	5	U	ug/kg	5	7	U	ug/kg	7
cis-1,3-Dichloropropene		5	U	ug/kg	5	5	U	ug/kg	5	7	U	ug/kg	7
Trichloroethene		5	U	ug/kg	5	5	U	ug/kg	5	7	U	ug/kg	7
Dibromochloromethane		5	U	ug/kg	5	5	U	ug/kg	5	7	U	ug/kg	7
1,1,2-Trichloroethane		5	U	ug/kg	5	5	U	ug/kg	5	7	U	ug/kg	7
Benzene		5	U	ug/kg	5	5	U	ug/kg	5	7	U	ug/kg	7
trans-1,3-Dichloropropene		5	U	ug/kg	5	5	U	ug/kg	5	7	U	ug/kg	7
Bromoform		5	U	ug/kg	5	5	U	ug/kg	5	7	U	ug/kg	7
4-Methyl-2-pentanone		10	U	ug/kg	10	10	U	ug/kg	10	13	U	ug/kg	13
2-Hexanone		10	U	ug/kg	10	10	U	ug/kg	10	13	U	ug/kg	13
Tetrachloroethene		5	U	ug/kg	5	5	U	ug/kg	5	7	U	ug/kg	7
1,1,2,2-Tetrachloroethane		5	U	ug/kg	5	5	U	ug/kg	5	7	U	ug/kg	7
Toluene		5	U	ug/kg	5	5	U	ug/kg	5	7	U	ug/kg	7
Chlorobenzene		5	U	ug/kg	5	5	U	ug/kg	5	7	U	ug/kg	7
Ethylbenzene		5	U	ug/kg	5	5	U	ug/kg	5	7	U	ug/kg	7
Styrene		5	U	ug/kg	5	5	U	ug/kg	5	7	U	ug/kg	7
Xylenes (total)		5	U	ug/kg	5	5	U	ug/kg	5	7	U	ug/kg	7
Dichlorodifluoromethane		10	U	ug/kg	10	10	U	ug/kg	10	13	U	ug/kg	13
Trichlorofluoromethane		5	U	ug/kg	5	5	U	ug/kg	5	7	U	ug/kg	7
1,3-Dichlorobenzene		5	U	ug/kg	5	340	U	ug/kg	340	440	U	ug/kg	440
Acrolein		100	U	ug/kg	100	100	U	ug/kg	100	130	U	ug/kg	130
Iodomethane		10	UJ	ug/kg	10	10	U	ug/kg	10	13	U	ug/kg	13
1,4-Dichlorobenzene		350	U	ug/kg	350	340	U	ug/kg	340	440	U	ug/kg	440
Acrylonitrile		100	U	ug/kg	100	100	U	ug/kg	100	130	U	ug/kg	130

US Naval Station, Mayport, Florida
Fleet Training Center(SWMU 14) - Detention Pond Subsurface Soil Data

Lab Sample Number:	MB624001				MB624001R				MB624002				MB624003			
Site	GROUPIII				GROUPIII				GROUPIII				GROUPIII			
Locator	14B02902				14B02902RE				14B03002				14B03102			
Collect Date:	20-AUG-96				20-AUG-96				20-AUG-96				20-AUG-96			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
VOLATILES ug/kg																
Chloromethane	12	UJ	ug/kg	12	12	R	ug/kg	12	12	UJ	ug/kg	12	12	UJ	ug/kg	12
Bromomethane	12	UJ	ug/kg	12	12	R	ug/kg	12	12	UJ	ug/kg	12	12	UJ	ug/kg	12
Vinyl chloride	12	UJ	ug/kg	12	12	R	ug/kg	12	12	UJ	ug/kg	12	12	UJ	ug/kg	12
Chloroethane	12	UJ	ug/kg	12	12	R	ug/kg	12	12	UJ	ug/kg	12	12	UJ	ug/kg	12
Methylene chloride	6	UJ	ug/kg	6	7	R	ug/kg	6	6	UJ	ug/kg	6	5	UJ	ug/kg	5
Acetone	29	UJ	ug/kg	29	40	R	ug/kg	12	53	J	ug/kg	12	110	J	ug/kg	12
Carbon disulfide	6	UJ	ug/kg	6	6	R	ug/kg	6	6	UJ	ug/kg	6	2	J	ug/kg	6
1,1-Dichloroethene	6	UJ	ug/kg	6	6	R	ug/kg	6	6	UJ	ug/kg	6	6	UJ	ug/kg	6
1,1-Dichloroethene	6	UJ	ug/kg	6	6	R	ug/kg	6	6	UJ	ug/kg	6	6	UJ	ug/kg	6
1,2-Dichloroethene (total)	6	UJ	ug/kg	6	6	R	ug/kg	6	6	UJ	ug/kg	6	6	UJ	ug/kg	6
Chloroform	6	UJ	ug/kg	6	6	R	ug/kg	6	6	UJ	ug/kg	6	6	UJ	ug/kg	6
1,2-Dichloroethane	6	UJ	ug/kg	6	6	R	ug/kg	6	6	UJ	ug/kg	6	6	UJ	ug/kg	6
2-Butanone	12	UJ	ug/kg	12	12	R	ug/kg	12	12	UJ	ug/kg	12	24	J	ug/kg	12
1,1,1-Trichloroethane	6	UJ	ug/kg	6	6	R	ug/kg	6	6	UJ	ug/kg	6	6	UJ	ug/kg	6
Carbon tetrachloride	6	UJ	ug/kg	6	6	R	ug/kg	6	6	UJ	ug/kg	6	6	UJ	ug/kg	6
Bromodichloromethane	6	UJ	ug/kg	6	6	R	ug/kg	6	6	UJ	ug/kg	6	6	UJ	ug/kg	6
1,2-Dichloropropane	6	UJ	ug/kg	6	6	R	ug/kg	6	6	UJ	ug/kg	6	6	UJ	ug/kg	6
cis-1,3-Dichloropropene	6	UJ	ug/kg	6	6	R	ug/kg	6	6	UJ	ug/kg	6	6	UJ	ug/kg	6
Trichloroethene	6	UJ	ug/kg	6	6	R	ug/kg	6	6	UJ	ug/kg	6	6	UJ	ug/kg	6
Dibromochloromethane	6	UJ	ug/kg	6	6	R	ug/kg	6	6	UJ	ug/kg	6	6	UJ	ug/kg	6
1,1,2-Trichloroethane	6	UJ	ug/kg	6	6	R	ug/kg	6	6	UJ	ug/kg	6	6	UJ	ug/kg	6
Benzene	6	UJ	ug/kg	6	1	R	ug/kg	6	6	UJ	ug/kg	6	6	UJ	ug/kg	6
trans-1,3-Dichloropropene	6	UJ	ug/kg	6	6	R	ug/kg	6	6	UJ	ug/kg	6	6	UJ	ug/kg	6
Bromoform	6	UJ	ug/kg	6	6	R	ug/kg	6	6	UJ	ug/kg	6	6	UJ	ug/kg	6
4-Methyl-2-pentanone	12	UJ	ug/kg	12	12	R	ug/kg	12	12	UJ	ug/kg	12	12	UJ	ug/kg	12
2-Hexanone	12	UJ	ug/kg	12	12	R	ug/kg	12	12	UJ	ug/kg	12	12	UJ	ug/kg	12
Tetrachloroethene	6	UJ	ug/kg	6	6	R	ug/kg	6	6	UJ	ug/kg	6	6	UJ	ug/kg	6
1,1,2,2-Tetrachloroethane	6	UJ	ug/kg	6	6	R	ug/kg	6	6	UJ	ug/kg	6	6	UJ	ug/kg	6
Toluene	1	J	ug/kg	6	2	R	ug/kg	6	3	J	ug/kg	6	7	J	ug/kg	6
Chlorobenzene	6	UJ	ug/kg	6	6	R	ug/kg	6	6	UJ	ug/kg	6	6	UJ	ug/kg	6
Ethylbenzene	6	UJ	ug/kg	6	6	R	ug/kg	6	6	UJ	ug/kg	6	3	J	ug/kg	6
Styrene	6	UJ	ug/kg	6	6	R	ug/kg	6	6	UJ	ug/kg	6	6	UJ	ug/kg	6
Xylenes (total)	8	J	ug/kg	6	9	R	ug/kg	6	6	J	ug/kg	6	30	J	ug/kg	6
Dichlorodifluoromethane	12	UJ	ug/kg	12	12	R	ug/kg	12	12	UJ	ug/kg	12	12	UJ	ug/kg	12
Trichlorofluoromethane	6	UJ	ug/kg	6	6	R	ug/kg	6	6	UJ	ug/kg	6	6	UJ	ug/kg	6
1,3-Dichlorobenzene	6	UJ	ug/kg	6	6	R	ug/kg	6	6	UJ	ug/kg	6	6	UJ	ug/kg	6
Acrolein	120	UJ	ug/kg	120	120	R	ug/kg	120	120	UJ	ug/kg	120	120	UJ	ug/kg	120
Iodomethane	12	UJ	ug/kg	12	12	R	ug/kg	12	12	UJ	ug/kg	12	12	UJ	ug/kg	12
1,4-Dichlorobenzene	6	UJ	ug/kg	6	6	R	ug/kg	6	6	UJ	ug/kg	6	6	UJ	ug/kg	6
Acrylonitrile	120	UJ	ug/kg	120	120	R	ug/kg	120	120	UJ	ug/kg	120	120	UJ	ug/kg	120
Dibromomethane	6	UJ	ug/kg	6	6	R	ug/kg	6	6	UJ	ug/kg	6	6	UJ	ug/kg	6
1,2-Dichlorobenzene	6	UJ	ug/kg	6	6	R	ug/kg	6	6	UJ	ug/kg	6	6	UJ	ug/kg	6
2-Chloroethylvinyl ether	12	UJ	ug/kg	12	12	R	ug/kg	12	12	UJ	ug/kg	12	12	UJ	ug/kg	12
Ethyl methacrylate	6	UJ	ug/kg	6	6	R	ug/kg	6	6	UJ	ug/kg	6	6	UJ	ug/kg	6
1,2,3-Trichloropropane	6	UJ	ug/kg	6	6	R	ug/kg	6	6	UJ	ug/kg	6	6	UJ	ug/kg	6
trans-1,4-Dichloro-2-butene	6	UJ	ug/kg	6	6	R	ug/kg	6	6	UJ	ug/kg	6	6	UJ	ug/kg	6
Isobutyl alcohol	240	UJ	ug/kg	240	240	R	ug/kg	240	240	UJ	ug/kg	240	240	UJ	ug/kg	240
1,1,1,2-Tetrachloroethane	6	UJ	ug/kg	6	6	R	ug/kg	6	6	UJ	ug/kg	6	6	UJ	ug/kg	6
1,2-Dibromo-3-chloropropane	12	UJ	ug/kg	12	12	R	ug/kg	12	12	UJ	ug/kg	12	12	UJ	ug/kg	12
Ethylene dibromide	6	UJ	ug/kg	6	6	R	ug/kg	6	6	UJ	ug/kg	6	6	UJ	ug/kg	6

US Naval Station, Mayport, Florida
Fleet Training Center(SWMU 14) - Detention Pond Surface Soil Data

Lab Sample Number:	MB638003				MB638004				MB638005			
Site	GROUPIII				GROUPIII				GROUPIII			
Locator	14S03201				14S03201D				14S03301			
Collect Date:	21-AUG-96				21-AUG-96				21-AUG-96			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
Acenaphthene	350	U	ug/kg	350	340	U	ug/kg	340	440	U	ug/kg	440
2,4-Dinitrophenol	1700	U	ug/kg	1700	1700	U	ug/kg	1700	2200	U	ug/kg	2200
4-Nitrophenol	1700	U	ug/kg	1700	1700	U	ug/kg	1700	2200	U	ug/kg	2200
Dibenzofuran	350	U	ug/kg	350	340	U	ug/kg	340	440	U	ug/kg	440
2,4-Dinitrotoluene	350	U	ug/kg	350	340	U	ug/kg	340	440	U	ug/kg	440
Diethylphthalate	350	U	ug/kg	350	340	U	ug/kg	340	440	U	ug/kg	440
4-Chlorophenyl-phenylether	350	U	ug/kg	350	340	U	ug/kg	340	440	U	ug/kg	440
Fluorene	350	U	ug/kg	350	340	U	ug/kg	340	440	U	ug/kg	440
4-Nitroaniline	1700	U	ug/kg	1700	1700	U	ug/kg	1700	2200	U	ug/kg	2200
4,6-Dinitro-2-methylphenol	1700	U	ug/kg	1700	1700	U	ug/kg	1700	2200	U	ug/kg	2200
N-Nitrosodiphenylamine	350	U	ug/kg	350	340	U	ug/kg	340	440	U	ug/kg	440
1,2-Diphenylhydrazine	350	U	ug/kg	350	340	U	ug/kg	340	440	U	ug/kg	440
4-Bromophenyl-phenylether	350	U	ug/kg	350	340	U	ug/kg	340	440	U	ug/kg	440
Hexachlorobenzene	350	U	ug/kg	350	340	U	ug/kg	340	440	U	ug/kg	440
Pentachlorophenol	1700	UJ	ug/kg	1700	1700	U	ug/kg	1700	2200	UJ	ug/kg	2200
Phenanthrene	350	U	ug/kg	350	340	U	ug/kg	340	440	U	ug/kg	440
Anthracene	350	U	ug/kg	350	340	U	ug/kg	340	440	U	ug/kg	440
Di-n-Butylphthalate	350	U	ug/kg	350	340	U	ug/kg	340	440	U	ug/kg	440
Fluoranthene	350	U	ug/kg	350	340	U	ug/kg	340	440	U	ug/kg	440
Pyrene	350	U	ug/kg	350	340	U	ug/kg	340	440	U	ug/kg	440
Butylbenzylphthalate	350	U	ug/kg	350	340	U	ug/kg	340	440	U	ug/kg	440
3,3-Dichlorobenzidine	690	U	ug/kg	690	690	U	ug/kg	690	890	U	ug/kg	890
Benzo (a) anthracene	350	U	ug/kg	350	340	U	ug/kg	340	440	U	ug/kg	440
Chrysene	350	U	ug/kg	350	340	U	ug/kg	340	440	U	ug/kg	440
bis(2-Ethylhexyl) phthalate	81	J	ug/kg	350	190	J	ug/kg	340	260	J	ug/kg	440
Di-n-octylphthalate	350	U	ug/kg	350	340	U	ug/kg	340	440	U	ug/kg	440
Benzo (b) fluoranthene	350	U	ug/kg	350	340	U	ug/kg	340	440	U	ug/kg	440
Benzo (k) fluoranthene	350	U	ug/kg	350	340	U	ug/kg	340	440	U	ug/kg	440
Benzo (a) pyrene	350	U	ug/kg	350	340	U	ug/kg	340	440	U	ug/kg	440
Indeno (1,2,3-cd) pyrene	350	U	ug/kg	350	340	U	ug/kg	340	440	U	ug/kg	440
Dibenzo (a,h) anthracene	350	U	ug/kg	350	340	U	ug/kg	340	440	U	ug/kg	440
Benzo (g,h,i) perylene	350	U	ug/kg	350	340	U	ug/kg	340	440	U	ug/kg	440
2-Picoline	1700	U	ug/kg	1700	1700	U	ug/kg	1700	2200	U	ug/kg	2200
Methyl methanesulfonate	350	U	ug/kg	350	340	U	ug/kg	340	440	U	ug/kg	440
Ethyl methanesulfonate	350	U	ug/kg	350	340	U	ug/kg	340	440	U	ug/kg	440
Acetophenone	350	U	ug/kg	350	340	U	ug/kg	340	440	U	ug/kg	440
N-Nitrosopiperidine	350	U	ug/kg	350	340	U	ug/kg	340	440	U	ug/kg	440
Phenyl-tert-butylamine	1700	U	ug/kg	1700	1700	U	ug/kg	1700	2200	U	ug/kg	2200
2,6-Dichlorophenol	350	U	ug/kg	350	340	U	ug/kg	340	440	U	ug/kg	440
N-Nitroso-di-n-butylamine	350	U	ug/kg	350	340	U	ug/kg	340	440	U	ug/kg	440
N-Nitrosodiethylamine	350	U	ug/kg	350	340	U	ug/kg	340	440	U	ug/kg	440
N-Nitrosopyrrolidine	350	U	ug/kg	350	340	U	ug/kg	340	440	U	ug/kg	440
Benzidine	1700	U	ug/kg	1700	1700	U	ug/kg	1700	2200	U	ug/kg	2200
1,2,4,5-Tetrachlorobenzene	1700	U	ug/kg	1700	1700	U	ug/kg	1700	2200	U	ug/kg	2200
Pentachlorobenzene	1700	U	ug/kg	1700	1700	U	ug/kg	1700	2200	U	ug/kg	2200
1-Naphthylamine	1700	U	ug/kg	1700	1700	U	ug/kg	1700	2200	U	ug/kg	2200
2-Naphthylamine	1700	U	ug/kg	1700	1700	U	ug/kg	1700	2200	U	ug/kg	2200
2,3,4,6-Tetrachlorophenol	350	UJ	ug/kg	350	340	U	ug/kg	340	440	UJ	ug/kg	440
Phenacetin	350	UJ	ug/kg	350	340	U	ug/kg	340	440	UJ	ug/kg	440
4-Aminobiphenyl	1700	U	ug/kg	1700	1700	U	ug/kg	1700	2200	U	ug/kg	2200
Pentachloronitrobenzene	1700	UJ	ug/kg	1700	1700	U	ug/kg	1700	2200	UJ	ug/kg	2200
Pronamide	350	U	ug/kg	350	340	U	ug/kg	340	440	U	ug/kg	440

US Naval Station, Mayport, Florida
Fleet Training Center(SWMU 14) - Detention Pond Subsurface Soil Data

Lab Sample Number:	MB624001				MB624001R				MB624002				MB624003			
Site	GROUPIII				GROUPIII				GROUPIII				GROUPIII			
Locator	14B02902				14B02902RE				14B03002				14B03102			
Collect Date:	20-AUG-96				20-AUG-96				20-AUG-96				20-AUG-96			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
N-Nitrosodiphenylamine	2000	U	ug/kg	2000	-		ug/kg		7900	U	ug/kg	7900	16000	U	ug/kg	16000
1,2-Diphenylhydrazine	2000	U	ug/kg	2000	-		ug/kg		7900	U	ug/kg	7900	16000	U	ug/kg	16000
4-Bromophenyl-phenylether	2000	U	ug/kg	2000	-		ug/kg		7900	U	ug/kg	7900	16000	U	ug/kg	16000
Hexachlorobenzene	2000	U	ug/kg	2000	-		ug/kg		7900	U	ug/kg	7900	16000	U	ug/kg	16000
Pentachlorophenol	9900	UJ	ug/kg	9900	-		ug/kg		39000	U	ug/kg	39000	80000	U	ug/kg	80000
Phenanthrene	3800		ug/kg	2000	-		ug/kg		9100		ug/kg	7900	27000		ug/kg	16000
Anthracene	240	J	ug/kg	2000	-		ug/kg		920	J	ug/kg	7900	1800	J	ug/kg	16000
Di-n-Butylphthalate	2000	U	ug/kg	2000	-		ug/kg		7900	U	ug/kg	7900	16000	U	ug/kg	16000
Fluoranthene	2000	U	ug/kg	2000	-		ug/kg		7900	U	ug/kg	7900	16000	U	ug/kg	16000
Pyrene	880	J	ug/kg	2000	-		ug/kg		2900	J	ug/kg	7900	5400	J	ug/kg	16000
Butylbenzylphthalate	2000	U	ug/kg	2000	-		ug/kg		7900	U	ug/kg	7900	16000	U	ug/kg	16000
3,3-Dichlorobenzidine	4000	U	ug/kg	4000	-		ug/kg		16000	U	ug/kg	16000	32000	U	ug/kg	32000
Benzo (a) anthracene	2000	U	ug/kg	2000	-		ug/kg		7900	U	ug/kg	7900	16000	U	ug/kg	16000
Chrysene	2000	U	ug/kg	2000	-		ug/kg		7900	U	ug/kg	7900	16000	U	ug/kg	16000
bis(2-Ethylhexyl) phthalate	330	J	ug/kg	2000	-		ug/kg		1500	J	ug/kg	7900	4200	J	ug/kg	16000
Di-n-octylphthalate	2000	U	ug/kg	2000	-		ug/kg		7900	U	ug/kg	7900	16000	U	ug/kg	16000
Benzo (b) fluoranthene	2000	U	ug/kg	2000	-		ug/kg		7900	U	ug/kg	7900	16000	U	ug/kg	16000
Benzo (k) fluoranthene	2000	U	ug/kg	2000	-		ug/kg		7900	U	ug/kg	7900	16000	U	ug/kg	16000
Benzo (a) pyrene	2000	U	ug/kg	2000	-		ug/kg		7900	U	ug/kg	7900	16000	U	ug/kg	16000
Indeno (1,2,3-cd) pyrene	2000	U	ug/kg	2000	-		ug/kg		7900	U	ug/kg	7900	16000	U	ug/kg	16000
Dibenzo (a,h) anthracene	2000	U	ug/kg	2000	-		ug/kg		7900	U	ug/kg	7900	16000	U	ug/kg	16000
Benzo (g,h,i) perylene	2000	U	ug/kg	2000	-		ug/kg		7900	U	ug/kg	7900	16000	U	ug/kg	16000
2-Picoline	9900	U	ug/kg	9900	-		ug/kg		39000	U	ug/kg	39000	80000	U	ug/kg	80000
Methyl methanesulfonate	2000	U	ug/kg	2000	-		ug/kg		7900	U	ug/kg	7900	16000	U	ug/kg	16000
Ethyl methanesulfonate	2000	U	ug/kg	2000	-		ug/kg		7900	U	ug/kg	7900	16000	U	ug/kg	16000
Acetophenone	2000	U	ug/kg	2000	-		ug/kg		7900	U	ug/kg	7900	16000	U	ug/kg	16000
N-Nitrosopiperidine	2000	U	ug/kg	2000	-		ug/kg		7900	U	ug/kg	7900	16000	U	ug/kg	16000
Phenyl-tert-butylamine	9900	U	ug/kg	9900	-		ug/kg		39000	UJ	ug/kg	39000	80000	UJ	ug/kg	80000
2,6-Dichlorophenol	2000	U	ug/kg	2000	-		ug/kg		7900	U	ug/kg	7900	16000	U	ug/kg	16000
N-Nitroso-di-n-butylamine	2000	U	ug/kg	2000	-		ug/kg		7900	U	ug/kg	7900	16000	U	ug/kg	16000
N-Nitrosodiethylamine	2000	U	ug/kg	2000	-		ug/kg		7900	U	ug/kg	7900	16000	U	ug/kg	16000
N-Nitrosopyrrolidine	2000	U	ug/kg	2000	-		ug/kg		7900	U	ug/kg	7900	16000	U	ug/kg	16000
Benzidine	9900	U	ug/kg	9900	-		ug/kg		39000	U	ug/kg	39000	80000	U	ug/kg	80000
1,2,4,5-Tetrachlorobenzene	9900	U	ug/kg	9900	-		ug/kg		39000	U	ug/kg	39000	80000	U	ug/kg	80000
Pentachlorobenzene	9900	U	ug/kg	9900	-		ug/kg		39000	U	ug/kg	39000	80000	U	ug/kg	80000
1-Naphthylamine	9900	U	ug/kg	9900	-		ug/kg		39000	U	ug/kg	39000	80000	U	ug/kg	80000
2-Naphthylamine	9900	U	ug/kg	9900	-		ug/kg		39000	U	ug/kg	39000	80000	U	ug/kg	80000
2,3,4,6-Tetrachlorophenol	2000	UJ	ug/kg	2000	-		ug/kg		7900	U	ug/kg	7900	16000	U	ug/kg	16000
Phenacetin	2000	UJ	ug/kg	2000	-		ug/kg		7900	U	ug/kg	7900	16000	U	ug/kg	16000
4-Aminobiphenyl	820	J	ug/kg	9900	-		ug/kg		39000	U	ug/kg	39000	80000	U	ug/kg	80000
Pentachloronitrobenzene	9900	UJ	ug/kg	9900	-		ug/kg		39000	U	ug/kg	39000	80000	U	ug/kg	80000
Pronamide	2000	U	ug/kg	2000	-		ug/kg		7900	U	ug/kg	7900	16000	U	ug/kg	16000
p-Dimethylaminoazobenzene	2000	U	ug/kg	2000	-		ug/kg		7900	U	ug/kg	7900	16000	U	ug/kg	16000
7,12-Dimethylbenz(A)Anthracene	2000	UJ	ug/kg	2000	-		ug/kg		7900	U	ug/kg	7900	16000	U	ug/kg	16000
3-Methylcholanthrene	2000	U	ug/kg	2000	-		ug/kg		7900	U	ug/kg	7900	16000	U	ug/kg	16000
Pyridine	9900	U	ug/kg	9900	-		ug/kg		39000	U	ug/kg	39000	80000	U	ug/kg	80000
N-Nitrosomethylethylamine	2000	U	ug/kg	2000	-		ug/kg		7900	U	ug/kg	7900	16000	U	ug/kg	16000
N-Nitrosomorpholine	2000	U	ug/kg	2000	-		ug/kg		7900	U	ug/kg	7900	16000	U	ug/kg	16000
o-Toluidine	2000	U	ug/kg	2000	-		ug/kg		7900	U	ug/kg	7900	16000	U	ug/kg	16000
Hexachloropropene	9900	U	ug/kg	9900	-		ug/kg		39000	U	ug/kg	39000	80000	U	ug/kg	80000
p-Phenylenediamine	99000	UJ	ug/kg	99000	-		ug/kg		390000	U	ug/kg	390000	800000	U	ug/kg	800000
Safrole	9900	U	ug/kg	9900	-		ug/kg		39000	U	ug/kg	39000	80000	U	ug/kg	80000

US Naval Station, Mayport, Florida
Fleet Training Center(SWMU 14) - Detention Pond Surface Soil Data

Lab Sample Number:	R9756011				R9756012				R9756013				R9756014			
Site	GROUPIII				GROUPIII				GROUPIII				GROUPIII			
Locator	14S00701				14S00801				14S00901				14S01001			
Collect Date:	09-APR-95				09-APR-95				09-APR-95				09-APR-95			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
INORGANICS (SOIL)			mg/kg													
Antimony	1.1	U	mg/kg	1.1	1.1	U	mg/kg	1.1	1.1	U	mg/kg	1.1	1.1	U	mg/kg	1.1
Arsenic	.57	J	mg/kg	.7	2.2	J	mg/kg	.7	1	J	mg/kg	.7	.44	J	mg/kg	.7
Barium	5.2	J	mg/kg	.084	6.2	J	mg/kg	.091	5.6	J	mg/kg	.085	4.9	J	mg/kg	.087
Beryllium	.1	J	mg/kg	.042	.22	J	mg/kg	.045	.1	J	mg/kg	.042	.06	J	mg/kg	.044
Cadmium	.27	U	mg/kg	.27	.29	U	mg/kg	.29	.28	U	mg/kg	.28	.28	U	mg/kg	.28
Chromium	3.1		mg/kg	.44	7.1		mg/kg	.48	2.4		mg/kg	.45	2.5		mg/kg	.46
Cobalt	.57	U	mg/kg	.57	.61	U	mg/kg	.61	.57	U	mg/kg	.57	.59	U	mg/kg	.59
Copper	5.8		mg/kg	.32	4.6	J	mg/kg	.34	1.9	J	mg/kg	.32	4.7	J	mg/kg	.33
Cyanide	.05	U	mg/kg	.05	.17	J	mg/kg	1	.06	J	mg/kg	1	.05	U	mg/kg	.05
Lead	6.1		mg/kg	.5	5.1		mg/kg	.5	1.4		mg/kg	.5	3.2		mg/kg	.5
Mercury	.03	U	mg/kg	.03	.03	U	mg/kg	.03	.03	U	mg/kg	.03	.03	U	mg/kg	.03
Nickel	1.1	U	mg/kg	1.1	2.2	J	mg/kg	1.2	1.1	U	mg/kg	1.1	1.1	U	mg/kg	1.1
Selenium	.13	U	mg/kg	.13	.18	J	mg/kg	.6	.13	U	mg/kg	.13	.13	U	mg/kg	.13
Silver	.48	U	mg/kg	.48	.52	U	mg/kg	.52	.49	U	mg/kg	.49	.5	U	mg/kg	.5
Thallium	.13	U	mg/kg	.13	.14	U	mg/kg	.14	.13	U	mg/kg	.13	.13	U	mg/kg	.13
Tin	2.1	U	mg/kg	2.1	2.2	U	mg/kg	2.2	2.1	U	mg/kg	2.1	2.1	U	mg/kg	2.1
Vanadium	2.4	J	mg/kg	.32	7.5	J	mg/kg	.34	3.7	J	mg/kg	.32	1.7	J	mg/kg	.33
Zinc	26.1		mg/kg	.25	15.5		mg/kg	.27	4.8		mg/kg	.25	20.7		mg/kg	.26

U = NOT DETECTED R = RESULT IS REJECTED
J = ESTIMATED VALUE UJ = REPORTED QUANTITATION LIMIT IS ESTIMATED
THE ADDITIONAL LISTINGS OF RESULTS FOR 1,2-; 1,3-; AND 1,4-DICHLOROBENZENE WERE GENERATED FROM THE SVOC (8270) ANALYTICAL RUN.

US Naval Station, Mayport, Florida
Fleet Training Center(SWMU 14) - Detention Pond Subsurface Soil Data

Lab Sample Number:		MB624003R			MB638006			MB638007			MB647014		
Site		GROUPIII			GROUPIII			GROUPIII			GROUPIII		
Locator		14B03102RE			14B03203			14B03303			14B04402		
Collect Date:		20-AUG-96			21-AUG-96			21-AUG-96			23-AUG-96		
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	
VOLATILES	ug/kg												
Chloromethane		12	R	ug/kg	12	12	U	ug/kg	12	11	U	ug/kg	11
Bromomethane		12	R	ug/kg	12	12	U	ug/kg	12	11	U	ug/kg	11
Vinyl chloride		12	R	ug/kg	12	12	U	ug/kg	12	11	U	ug/kg	11
Chloroethane		12	R	ug/kg	12	12	UJ	ug/kg	12	11	UJ	ug/kg	11
Methylene chloride		10	R	ug/kg	6	1	J	ug/kg	6	2	J	ug/kg	6
Acetone		96	R	ug/kg	12	12	U	ug/kg	12	78		ug/kg	11
Carbon disulfide		1	R	ug/kg	6	6	U	ug/kg	6	6	U	ug/kg	6
1,1-Dichloroethane		6	R	ug/kg	6	6	U	ug/kg	6	6	U	ug/kg	6
1,1-Dichloroethene		6	R	ug/kg	6	6	U	ug/kg	6	6	U	ug/kg	6
1,2-Dichloroethene (total)		6	R	ug/kg	6	6	U	ug/kg	6	6	U	ug/kg	6
Chloroform		6	R	ug/kg	6	6	U	ug/kg	6	6	U	ug/kg	6
1,2-Dichloroethane		6	R	ug/kg	6	6	U	ug/kg	6	6	U	ug/kg	6
2-Butanone		20	R	ug/kg	12	12	U	ug/kg	12	11	U	ug/kg	11
1,1,1-Trichloroethane		6	R	ug/kg	6	6	U	ug/kg	6	6	U	ug/kg	6
Carbon tetrachloride		6	R	ug/kg	6	6	U	ug/kg	6	6	U	ug/kg	6
Bromodichloromethane		6	R	ug/kg	6	6	U	ug/kg	6	6	U	ug/kg	6
1,2-Dichloropropane		6	R	ug/kg	6	6	U	ug/kg	6	6	U	ug/kg	6
cis-1,3-Dichloropropene		6	R	ug/kg	6	6	U	ug/kg	6	6	U	ug/kg	6
Trichloroethene		6	R	ug/kg	6	6	U	ug/kg	6	6	U	ug/kg	6
Dibromochloromethane		6	R	ug/kg	6	6	U	ug/kg	6	6	U	ug/kg	6
1,1,2-Trichloroethane		6	R	ug/kg	6	6	U	ug/kg	6	6	U	ug/kg	6
Benzene		2	R	ug/kg	6	6	U	ug/kg	6	6	U	ug/kg	6
trans-1,3-Dichloropropene		6	R	ug/kg	6	6	U	ug/kg	6	6	U	ug/kg	6
Bromoform		6	R	ug/kg	6	6	U	ug/kg	6	6	U	ug/kg	6
4-Methyl-2-pentanone		12	R	ug/kg	12	12	U	ug/kg	12	11	U	ug/kg	11
2-Hexanone		12	R	ug/kg	12	12	U	ug/kg	12	11	U	ug/kg	11
Tetrachloroethene		6	R	ug/kg	6	6	U	ug/kg	6	6	U	ug/kg	6
1,1,2,2-Tetrachloroethane		6	R	ug/kg	6	6	U	ug/kg	6	6	U	ug/kg	6
Toluene		6	R	ug/kg	6	6	U	ug/kg	6	1	J	ug/kg	6
Chlorobenzene		6	R	ug/kg	6	6	U	ug/kg	6	6	U	ug/kg	6
Ethylbenzene		2	R	ug/kg	6	6	U	ug/kg	6	6	U	ug/kg	6
Styrene		6	R	ug/kg	6	6	U	ug/kg	6	6	U	ug/kg	6
Xylenes (total)		24	R	ug/kg	6	6	U	ug/kg	6	6	U	ug/kg	6
Dichlorodifluoromethane		12	R	ug/kg	12	12	U	ug/kg	12	11	U	ug/kg	11
Trichlorofluoromethane		6	R	ug/kg	6	6	U	ug/kg	6	6	U	ug/kg	6
1,3-Dichlorobenzene		6	R	ug/kg	6	390	U	ug/kg	390	750	U	ug/kg	750
Acrolein		120	R	ug/kg	120	120	U	ug/kg	120	110	U	ug/kg	110
Iodomethane		12	R	ug/kg	12	12	U	ug/kg	12	11	U	ug/kg	11
1,4-Dichlorobenzene		6	R	ug/kg	6	390	U	ug/kg	390	750	U	ug/kg	750
Acrylonitrile		120	R	ug/kg	120	120	U	ug/kg	120	110	U	ug/kg	110

US Naval Station, Mayport, Florida
Fleet Training Center(SWMU 14) - Detention Pond Subsurface Soil Data

Lab Sample Number:	MB624001				MB624001R				MB624002				MB624003			
Site	GROUPIII				GROUPIII				GROUPIII				GROUPIII			
Locator	14B02902				14B02902RE				14B03002				14B03102			
Collect Date:	20-AUG-96				20-AUG-96				20-AUG-96				20-AUG-96			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
VOLATILES ug/kg																
Chloromethane	12	UJ	ug/kg	12	12	R	ug/kg	12	12	UJ	ug/kg	12	12	UJ	ug/kg	12
Bromomethane	12	UJ	ug/kg	12	12	R	ug/kg	12	12	UJ	ug/kg	12	12	UJ	ug/kg	12
Vinyl chloride	12	UJ	ug/kg	12	12	R	ug/kg	12	12	UJ	ug/kg	12	12	UJ	ug/kg	12
Chloroethane	12	UJ	ug/kg	12	12	R	ug/kg	12	12	UJ	ug/kg	12	12	UJ	ug/kg	12
Methylene chloride	6	UJ	ug/kg	6	7	R	ug/kg	6	6	UJ	ug/kg	6	5	UJ	ug/kg	5
Acetone	29	UJ	ug/kg	29	40	R	ug/kg	12	53	J	ug/kg	12	110	J	ug/kg	12
Carbon disulfide	6	UJ	ug/kg	6	6	R	ug/kg	6	6	UJ	ug/kg	6	2	J	ug/kg	6
1,1-Dichloroethane	6	UJ	ug/kg	6	6	R	ug/kg	6	6	UJ	ug/kg	6	6	UJ	ug/kg	6
1,1-Dichloroethene	6	UJ	ug/kg	6	6	R	ug/kg	6	6	UJ	ug/kg	6	6	UJ	ug/kg	6
1,2-Dichloroethene (total)	6	UJ	ug/kg	6	6	R	ug/kg	6	6	UJ	ug/kg	6	6	UJ	ug/kg	6
Chloroform	6	UJ	ug/kg	6	6	R	ug/kg	6	6	UJ	ug/kg	6	6	UJ	ug/kg	6
1,2-Dichloroethane	6	UJ	ug/kg	6	6	R	ug/kg	6	6	UJ	ug/kg	6	6	UJ	ug/kg	6
2-Butanone	12	UJ	ug/kg	12	12	R	ug/kg	12	12	UJ	ug/kg	12	24	J	ug/kg	12
1,1,1-Trichloroethane	6	UJ	ug/kg	6	6	R	ug/kg	6	6	UJ	ug/kg	6	6	UJ	ug/kg	6
Carbon tetrachloride	6	UJ	ug/kg	6	6	R	ug/kg	6	6	UJ	ug/kg	6	6	UJ	ug/kg	6
Bromodichloromethane	6	UJ	ug/kg	6	6	R	ug/kg	6	6	UJ	ug/kg	6	6	UJ	ug/kg	6
1,2-Dichloropropane	6	UJ	ug/kg	6	6	R	ug/kg	6	6	UJ	ug/kg	6	6	UJ	ug/kg	6
cis-1,3-Dichloropropene	6	UJ	ug/kg	6	6	R	ug/kg	6	6	UJ	ug/kg	6	6	UJ	ug/kg	6
Trichloroethene	6	UJ	ug/kg	6	6	R	ug/kg	6	6	UJ	ug/kg	6	6	UJ	ug/kg	6
Dibromochloromethane	6	UJ	ug/kg	6	6	R	ug/kg	6	6	UJ	ug/kg	6	6	UJ	ug/kg	6
1,1,2-Trichloroethane	6	UJ	ug/kg	6	6	R	ug/kg	6	6	UJ	ug/kg	6	6	UJ	ug/kg	6
Benzene	6	UJ	ug/kg	6	1	R	ug/kg	6	6	UJ	ug/kg	6	6	UJ	ug/kg	6
trans-1,3-Dichloropropene	6	UJ	ug/kg	6	6	R	ug/kg	6	6	UJ	ug/kg	6	6	UJ	ug/kg	6
Bromoform	6	UJ	ug/kg	6	6	R	ug/kg	6	6	UJ	ug/kg	6	6	UJ	ug/kg	6
4-Methyl-2-pentanone	12	UJ	ug/kg	12	12	R	ug/kg	12	12	UJ	ug/kg	12	12	UJ	ug/kg	12
2-Hexanone	12	UJ	ug/kg	12	12	R	ug/kg	12	12	UJ	ug/kg	12	12	UJ	ug/kg	12
Tetrachloroethene	6	UJ	ug/kg	6	6	R	ug/kg	6	6	UJ	ug/kg	6	6	UJ	ug/kg	6
1,1,2,2-Tetrachloroethane	6	UJ	ug/kg	6	6	R	ug/kg	6	6	UJ	ug/kg	6	6	UJ	ug/kg	6
Toluene	1	J	ug/kg	6	2	R	ug/kg	6	3	J	ug/kg	6	7	J	ug/kg	6
Chlorobenzene	6	UJ	ug/kg	6	6	R	ug/kg	6	6	UJ	ug/kg	6	6	UJ	ug/kg	6
Ethylbenzene	6	UJ	ug/kg	6	6	R	ug/kg	6	6	UJ	ug/kg	6	3	J	ug/kg	6
Styrene	6	UJ	ug/kg	6	6	R	ug/kg	6	6	UJ	ug/kg	6	6	UJ	ug/kg	6
Xylenes (total)	8	J	ug/kg	6	9	R	ug/kg	6	6	J	ug/kg	6	30	J	ug/kg	6
Dichlorodifluoromethane	12	UJ	ug/kg	12	12	R	ug/kg	12	12	UJ	ug/kg	12	12	UJ	ug/kg	12
Trichlorofluoromethane	6	UJ	ug/kg	6	6	R	ug/kg	6	6	UJ	ug/kg	6	6	UJ	ug/kg	6
1,3-Dichlorobenzene	6	UJ	ug/kg	6	6	R	ug/kg	6	6	UJ	ug/kg	6	6	UJ	ug/kg	6
Acrolein	120	UJ	ug/kg	120	120	R	ug/kg	120	120	UJ	ug/kg	120	120	UJ	ug/kg	120
Iodomethane	12	UJ	ug/kg	12	12	R	ug/kg	12	12	UJ	ug/kg	12	12	UJ	ug/kg	12
1,4-Dichlorobenzene	6	UJ	ug/kg	6	6	R	ug/kg	6	6	UJ	ug/kg	6	6	UJ	ug/kg	6
Acrylonitrile	120	UJ	ug/kg	120	120	R	ug/kg	120	120	UJ	ug/kg	120	120	UJ	ug/kg	120
Dibromomethane	6	UJ	ug/kg	6	6	R	ug/kg	6	6	UJ	ug/kg	6	6	UJ	ug/kg	6
1,2-Dichlorobenzene	6	UJ	ug/kg	6	6	R	ug/kg	6	6	UJ	ug/kg	6	6	UJ	ug/kg	6
2-Chloroethylvinyl ether	12	UJ	ug/kg	12	12	R	ug/kg	12	12	UJ	ug/kg	12	12	UJ	ug/kg	12
Ethyl methacrylate	6	UJ	ug/kg	6	6	R	ug/kg	6	6	UJ	ug/kg	6	6	UJ	ug/kg	6
1,2,3-Trichloropropane	6	UJ	ug/kg	6	6	R	ug/kg	6	6	UJ	ug/kg	6	6	UJ	ug/kg	6
trans-1,4-Dichloro-2-butene	6	UJ	ug/kg	6	6	R	ug/kg	6	6	UJ	ug/kg	6	6	UJ	ug/kg	6
Isobutyl alcohol	240	UJ	ug/kg	240	240	R	ug/kg	240	240	UJ	ug/kg	240	240	UJ	ug/kg	240
1,1,1,2-Tetrachloroethane	6	UJ	ug/kg	6	6	R	ug/kg	6	6	UJ	ug/kg	6	6	UJ	ug/kg	6
1,2-Dibromo-3-chloropropane	12	UJ	ug/kg	12	12	R	ug/kg	12	12	UJ	ug/kg	12	12	UJ	ug/kg	12
Ethylene dibromide	6	UJ	ug/kg	6	6	R	ug/kg	6	6	UJ	ug/kg	6	6	UJ	ug/kg	6

US Naval Station, Mayport, Florida
Fleet Training Center(SWMU 14) - Detention Pond Subsurface Soil Data

Lab Sample Number:	MB624003R				MB638006				MB638007				MB647014			
Site	GROUPIII				GROUPIII				GROUPIII				GROUPIII			
Locator	14B03102RE				14B03203				14B03303				14B04402			
Collect Date:	20-AUG-96				21-AUG-96				21-AUG-96				23-AUG-96			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
Acenaphthene	-		ug/kg		390	U	ug/kg	390	750	U	ug/kg	750	3800	U	ug/kg	3800
2,4-Dinitrophenol	-		ug/kg		1900	U	ug/kg	1900	3700	U	ug/kg	3700	19000	U	ug/kg	19000
4-Nitrophenol	-		ug/kg		1900	U	ug/kg	1900	3700	U	ug/kg	3700	19000	U	ug/kg	19000
Dibenzofuran	-		ug/kg		390	U	ug/kg	390	750	U	ug/kg	750	3800	U	ug/kg	3800
2,4-Dinitrotoluene	-		ug/kg		390	U	ug/kg	390	750	U	ug/kg	750	3800	U	ug/kg	3800
Diethylphthalate	-		ug/kg		390	U	ug/kg	390	750	U	ug/kg	750	3800	U	ug/kg	3800
4-Chlorophenyl-phenylether	-		ug/kg		390	U	ug/kg	390	750	U	ug/kg	750	3800	U	ug/kg	3800
Fluorene	-		ug/kg		390	U	ug/kg	390	750	U	ug/kg	750	3800	U	ug/kg	3800
4-Nitroaniline	-		ug/kg		1900	U	ug/kg	1900	3700	U	ug/kg	3700	19000	U	ug/kg	19000
4,6-Dinitro-2-methylphenol	-		ug/kg		1900	U	ug/kg	1900	3700	U	ug/kg	3700	19000	U	ug/kg	19000
N-Nitrosodiphenylamine	-		ug/kg		390	U	ug/kg	390	750	U	ug/kg	750	3800	U	ug/kg	3800
1,2-Diphenylhydrazine	-		ug/kg		390	U	ug/kg	390	750	U	ug/kg	750	3800	U	ug/kg	3800
4-Bromophenyl-phenylether	-		ug/kg		390	U	ug/kg	390	750	U	ug/kg	750	3800	U	ug/kg	3800
Hexachlorobenzene	-		ug/kg		390	U	ug/kg	390	750	U	ug/kg	750	3800	U	ug/kg	3800
Pentachlorophenol	-		ug/kg		1900	UJ	ug/kg	1900	3700	UJ	ug/kg	3700	19000	U	ug/kg	19000
Phenanthrene	-		ug/kg		390	U	ug/kg	390	750	U	ug/kg	750	1800	J	ug/kg	3800
Anthracene	-		ug/kg		390	U	ug/kg	390	750	U	ug/kg	750	3800	U	ug/kg	3800
Di-n-Butylphthalate	-		ug/kg		390	U	ug/kg	390	750	U	ug/kg	750	3800	U	ug/kg	3800
Fluoranthene	-		ug/kg		390	U	ug/kg	390	750	U	ug/kg	750	3800	U	ug/kg	3800
Pyrene	-		ug/kg		390	U	ug/kg	390	750	U	ug/kg	750	3800	U	ug/kg	3800
Butylbenzylphthalate	-		ug/kg		390	U	ug/kg	390	750	U	ug/kg	750	3800	U	ug/kg	3800
3,3-Dichlorobenzidine	-		ug/kg		780	U	ug/kg	780	1500	U	ug/kg	1500	7700	U	ug/kg	7700
Benzo (a) anthracene	-		ug/kg		390	U	ug/kg	390	750	U	ug/kg	750	3800	U	ug/kg	3800
Chrysene	-		ug/kg		390	U	ug/kg	390	750	U	ug/kg	750	3800	U	ug/kg	3800
bis(2-Ethylhexyl) phthalate	-		ug/kg		390	U	ug/kg	390	120	J	ug/kg	750	3800	U	ug/kg	3800
Di-n-octylphthalate	-		ug/kg		390	U	ug/kg	390	750	U	ug/kg	750	3800	U	ug/kg	3800
Benzo (b) fluoranthene	-		ug/kg		390	U	ug/kg	390	750	U	ug/kg	750	3800	U	ug/kg	3800
Benzo (k) fluoranthene	-		ug/kg		390	U	ug/kg	390	750	U	ug/kg	750	3800	U	ug/kg	3800
Benzo (a) pyrene	-		ug/kg		390	U	ug/kg	390	750	U	ug/kg	750	3800	U	ug/kg	3800
Indeno (1,2,3-cd) pyrene	-		ug/kg		390	U	ug/kg	390	750	U	ug/kg	750	3800	U	ug/kg	3800
Dibenzo (a,h) anthracene	-		ug/kg		390	U	ug/kg	390	750	U	ug/kg	750	3800	U	ug/kg	3800
Benzo (g,h,i) perylene	-		ug/kg		390	U	ug/kg	390	77	J	ug/kg	750	3800	U	ug/kg	3800
2-Picoline	-		ug/kg		1900	U	ug/kg	1900	3700	U	ug/kg	3700	19000	U	ug/kg	19000
Methyl methanesulfonate	-		ug/kg		390	U	ug/kg	390	750	U	ug/kg	750	3800	U	ug/kg	3800
Ethyl methanesulfonate	-		ug/kg		390	U	ug/kg	390	750	U	ug/kg	750	3800	U	ug/kg	3800
Acetophenone	-		ug/kg		390	U	ug/kg	390	750	U	ug/kg	750	3800	U	ug/kg	3800
N-Nitrosopiperidine	-		ug/kg		390	U	ug/kg	390	750	U	ug/kg	750	3800	U	ug/kg	3800
Phenyl-tert-butylamine	-		ug/kg		1900	U	ug/kg	1900	3700	U	ug/kg	3700	19000	U	ug/kg	19000
2,6-Dichlorophenol	-		ug/kg		390	U	ug/kg	390	750	U	ug/kg	750	3800	U	ug/kg	3800
N-Nitroso-di-n-butylamine	-		ug/kg		390	U	ug/kg	390	750	U	ug/kg	750	3800	U	ug/kg	3800
N-Nitrosodiethylamine	-		ug/kg		390	U	ug/kg	390	750	U	ug/kg	750	3800	U	ug/kg	3800
N-Nitrosopyrrolidine	-		ug/kg		390	U	ug/kg	390	750	U	ug/kg	750	3800	U	ug/kg	3800
Benzidine	-		ug/kg		1900	U	ug/kg	1900	3700	U	ug/kg	3700	19000	U	ug/kg	19000
1,2,4,5-Tetrachlorobenzene	-		ug/kg		1900	U	ug/kg	1900	3700	U	ug/kg	3700	19000	U	ug/kg	19000
Pentachlorobenzene	-		ug/kg		1900	U	ug/kg	1900	3700	U	ug/kg	3700	19000	U	ug/kg	19000
1-Naphthylamine	-		ug/kg		1900	U	ug/kg	1900	3700	U	ug/kg	3700	19000	U	ug/kg	19000
2-Naphthylamine	-		ug/kg		1900	U	ug/kg	1900	3700	U	ug/kg	3700	19000	U	ug/kg	19000
2,3,4,6-Tetrachlorophenol	-		ug/kg		390	UJ	ug/kg	390	750	UJ	ug/kg	750	3800	U	ug/kg	3800
Phenacetin	-		ug/kg		390	UJ	ug/kg	390	750	UJ	ug/kg	750	3800	UJ	ug/kg	3800
4-Aminobiphenyl	-		ug/kg		1900	U	ug/kg	1900	3700	U	ug/kg	3700	19000	U	ug/kg	19000
Pentachloronitrobenzene	-		ug/kg		1900	UJ	ug/kg	1900	3700	UJ	ug/kg	3700	19000	U	ug/kg	19000
Pronamide	-		ug/kg		390	U	ug/kg	390	750	U	ug/kg	750	3800	U	ug/kg	3800

US Naval Station, Mayport, Florida
Fleet Training Center(SWMU 14) - Detention Pond Subsurface Soil Data

Lab Sample Number:	MB624001				MB624001R				MB624002				MB624003			
Site	GROUPIII				GROUPIII				GROUPIII				GROUPIII			
Locator	14B02902				14B02902RE				14B03002				14B03102			
Collect Date:	20-AUG-96				20-AUG-96				20-AUG-96				20-AUG-96			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
N-Nitrosodiphenylamine	2000	U	ug/kg	2000	-		ug/kg		7900	U	ug/kg	7900	16000	U	ug/kg	16000
1,2-Diphenylhydrazine	2000	U	ug/kg	2000	-		ug/kg		7900	U	ug/kg	7900	16000	U	ug/kg	16000
4-Bromophenyl-phenylether	2000	U	ug/kg	2000	-		ug/kg		7900	U	ug/kg	7900	16000	U	ug/kg	16000
Hexachlorobenzene	2000	U	ug/kg	2000	-		ug/kg		7900	U	ug/kg	7900	16000	U	ug/kg	16000
Pentachlorophenol	9900	UJ	ug/kg	9900	-		ug/kg		39000	U	ug/kg	39000	80000	U	ug/kg	80000
Phenanthrene	3800		ug/kg	2000	-		ug/kg		9100		ug/kg	7900	27000		ug/kg	16000
Anthracene	240	J	ug/kg	2000	-		ug/kg		920	J	ug/kg	7900	1800	J	ug/kg	16000
Di-n-Butylphthalate	2000	U	ug/kg	2000	-		ug/kg		7900	U	ug/kg	7900	16000	U	ug/kg	16000
Fluoranthene	2000	U	ug/kg	2000	-		ug/kg		7900	U	ug/kg	7900	16000	U	ug/kg	16000
Pyrene	880	J	ug/kg	2000	-		ug/kg		2900	J	ug/kg	7900	5400	J	ug/kg	16000
Butylbenzylphthalate	2000	U	ug/kg	2000	-		ug/kg		7900	U	ug/kg	7900	16000	U	ug/kg	16000
3,3-Dichlorobenzidine	4000	U	ug/kg	4000	-		ug/kg		16000	U	ug/kg	16000	32000	U	ug/kg	32000
Benzo (a) anthracene	2000	U	ug/kg	2000	-		ug/kg		7900	U	ug/kg	7900	16000	U	ug/kg	16000
Chrysene	2000	U	ug/kg	2000	-		ug/kg		7900	U	ug/kg	7900	16000	U	ug/kg	16000
bis(2-Ethylhexyl) phthalate	330	J	ug/kg	2000	-		ug/kg		1500	J	ug/kg	7900	4200	J	ug/kg	16000
Di-n-octylphthalate	2000	U	ug/kg	2000	-		ug/kg		7900	U	ug/kg	7900	16000	U	ug/kg	16000
Benzo (b) fluoranthene	2000	U	ug/kg	2000	-		ug/kg		7900	U	ug/kg	7900	16000	U	ug/kg	16000
Benzo (k) fluoranthene	2000	U	ug/kg	2000	-		ug/kg		7900	U	ug/kg	7900	16000	U	ug/kg	16000
Benzo (a) pyrene	2000	U	ug/kg	2000	-		ug/kg		7900	U	ug/kg	7900	16000	U	ug/kg	16000
Indeno (1,2,3-cd) pyrene	2000	U	ug/kg	2000	-		ug/kg		7900	U	ug/kg	7900	16000	U	ug/kg	16000
Dibenzo (a,h) anthracene	2000	U	ug/kg	2000	-		ug/kg		7900	U	ug/kg	7900	16000	U	ug/kg	16000
Benzo (g,h,i) perylene	2000	U	ug/kg	2000	-		ug/kg		7900	U	ug/kg	7900	16000	U	ug/kg	16000
2-Picoline	9900	U	ug/kg	9900	-		ug/kg		39000	U	ug/kg	39000	80000	U	ug/kg	80000
Methyl methanesulfonate	2000	U	ug/kg	2000	-		ug/kg		7900	U	ug/kg	7900	16000	U	ug/kg	16000
Ethyl methanesulfonate	2000	U	ug/kg	2000	-		ug/kg		7900	U	ug/kg	7900	16000	U	ug/kg	16000
Acetophenone	2000	U	ug/kg	2000	-		ug/kg		7900	U	ug/kg	7900	16000	U	ug/kg	16000
N-Nitrosopiperidine	2000	U	ug/kg	2000	-		ug/kg		7900	U	ug/kg	7900	16000	U	ug/kg	16000
Phenyl-tert-butylamine	9900	U	ug/kg	9900	-		ug/kg		39000	UJ	ug/kg	39000	80000	UJ	ug/kg	80000
2,6-Dichlorophenol	2000	U	ug/kg	2000	-		ug/kg		7900	U	ug/kg	7900	16000	U	ug/kg	16000
N-Nitroso-di-n-butylamine	2000	U	ug/kg	2000	-		ug/kg		7900	U	ug/kg	7900	16000	U	ug/kg	16000
N-Nitrosodiethylamine	2000	U	ug/kg	2000	-		ug/kg		7900	U	ug/kg	7900	16000	U	ug/kg	16000
N-Nitrosopyrrolidine	2000	U	ug/kg	2000	-		ug/kg		7900	U	ug/kg	7900	16000	U	ug/kg	16000
Benzidine	9900	U	ug/kg	9900	-		ug/kg		39000	U	ug/kg	39000	80000	U	ug/kg	80000
1,2,4,5-Tetrachlorobenzene	9900	U	ug/kg	9900	-		ug/kg		39000	U	ug/kg	39000	80000	U	ug/kg	80000
Pentachlorobenzene	9900	U	ug/kg	9900	-		ug/kg		39000	U	ug/kg	39000	80000	U	ug/kg	80000
1-Naphthylamine	9900	U	ug/kg	9900	-		ug/kg		39000	U	ug/kg	39000	80000	U	ug/kg	80000
2-Naphthylamine	9900	U	ug/kg	9900	-		ug/kg		39000	U	ug/kg	39000	80000	U	ug/kg	80000
2,3,4,6-Tetrachlorophenol	2000	UJ	ug/kg	2000	-		ug/kg		7900	U	ug/kg	7900	16000	U	ug/kg	16000
Phenacetin	2000	UJ	ug/kg	2000	-		ug/kg		7900	U	ug/kg	7900	16000	U	ug/kg	16000
4-Aminobiphenyl	820	J	ug/kg	9900	-		ug/kg		39000	U	ug/kg	39000	80000	U	ug/kg	80000
Pentachloronitrobenzene	9900	UJ	ug/kg	9900	-		ug/kg		39000	U	ug/kg	39000	80000	U	ug/kg	80000
Pronamide	2000	U	ug/kg	2000	-		ug/kg		7900	U	ug/kg	7900	16000	U	ug/kg	16000
p-Dimethylaminoazobenzene	2000	U	ug/kg	2000	-		ug/kg		7900	U	ug/kg	7900	16000	U	ug/kg	16000
7,12-Dimethylbenz(A)Anthracene	2000	UJ	ug/kg	2000	-		ug/kg		7900	U	ug/kg	7900	16000	U	ug/kg	16000
3-Methylcholanthrene	2000	U	ug/kg	2000	-		ug/kg		7900	U	ug/kg	7900	16000	U	ug/kg	16000
Pyridine	9900	U	ug/kg	9900	-		ug/kg		39000	U	ug/kg	39000	80000	U	ug/kg	80000
N-Nitrosomethylethylamine	2000	U	ug/kg	2000	-		ug/kg		7900	U	ug/kg	7900	16000	U	ug/kg	16000
N-Nitrosomorpholine	2000	U	ug/kg	2000	-		ug/kg		7900	U	ug/kg	7900	16000	U	ug/kg	16000
o-Toluidine	2000	U	ug/kg	2000	-		ug/kg		7900	U	ug/kg	7900	16000	U	ug/kg	16000
Hexachloropropene	9900	U	ug/kg	9900	-		ug/kg		39000	U	ug/kg	39000	80000	U	ug/kg	80000
p-Phenylenediamine	99000	UJ	ug/kg	99000	-		ug/kg		390000	U	ug/kg	390000	800000	U	ug/kg	800000
Safrole	9900	U	ug/kg	9900	-		ug/kg		39000	U	ug/kg	39000	80000	U	ug/kg	80000

US Naval Station, Mayport, Florida
Fleet Training Center(SWMU 14) - Detention Pond Subsurface Soil Data

Lab Sample Number:		MB647014R			MB647015			MB647015R		
Site		GROUPIII			GROUPIII			GROUPIII		
Locator		14B04402RE			14B04402D			14B04402DRE		
Collect Date:		23-AUG-96			23-AUG-96			23-AUG-96		
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
VOLATILES	ug/kg											
Chloromethane	11	R	ug/kg	11	12	U	ug/kg	12	12	R	ug/kg	12
Bromomethane	11	R	ug/kg	11	12	UJ	ug/kg	12	12	R	ug/kg	12
Vinyl chloride	11	R	ug/kg	11	12	U	ug/kg	12	12	R	ug/kg	12
Chloroethane	11	R	ug/kg	11	12	UJ	ug/kg	12	12	R	ug/kg	12
Methylene chloride	8	R	ug/kg	6	2	J	ug/kg	6	4	R	ug/kg	6
Acetone	51	R	ug/kg	11	65	J	ug/kg	12	45	R	ug/kg	12
Carbon disulfide	6	R	ug/kg	6	1	J	ug/kg	6	6	R	ug/kg	6
1,1-Dichloroethane	6	R	ug/kg	6	6	U	ug/kg	6	6	R	ug/kg	6
1,1-Dichloroethene	6	R	ug/kg	6	6	U	ug/kg	6	6	R	ug/kg	6
1,2-Dichloroethene (total)	6	R	ug/kg	6	6	U	ug/kg	6	6	R	ug/kg	6
Chloroform	6	R	ug/kg	6	6	U	ug/kg	6	6	R	ug/kg	6
1,2-Dichloroethane	6	R	ug/kg	6	6	U	ug/kg	6	6	R	ug/kg	6
2-Butanone	12	R	ug/kg	11	14	J	ug/kg	12	11	R	ug/kg	12
1,1,1-Trichloroethane	6	R	ug/kg	6	6	U	ug/kg	6	6	R	ug/kg	6
Carbon tetrachloride	6	R	ug/kg	6	6	U	ug/kg	6	6	R	ug/kg	6
Bromodichloromethane	6	R	ug/kg	6	6	U	ug/kg	6	6	R	ug/kg	6
1,2-Dichloropropane	6	R	ug/kg	6	6	U	ug/kg	6	6	R	ug/kg	6
cis-1,3-Dichloropropene	6	R	ug/kg	6	6	U	ug/kg	6	6	R	ug/kg	6
Trichloroethene	6	R	ug/kg	6	6	U	ug/kg	6	6	R	ug/kg	6
Dibromochloromethane	6	R	ug/kg	6	6	U	ug/kg	6	6	R	ug/kg	6
1,1,2-Trichloroethane	6	R	ug/kg	6	6	U	ug/kg	6	6	R	ug/kg	6
Benzene	6	R	ug/kg	6	6	U	ug/kg	6	6	R	ug/kg	6
trans-1,3-Dichloropropene	6	R	ug/kg	6	6	U	ug/kg	6	6	R	ug/kg	6
Bromoform	6	R	ug/kg	6	6	U	ug/kg	6	6	R	ug/kg	6
4-Methyl-2-pentanone	11	R	ug/kg	11	12	U	ug/kg	12	12	R	ug/kg	12
2-Hexanone	11	R	ug/kg	11	12	U	ug/kg	12	12	R	ug/kg	12
Tetrachloroethene	6	R	ug/kg	6	6	U	ug/kg	6	6	R	ug/kg	6
1,1,2,2-Tetrachloroethane	6	R	ug/kg	6	6	U	ug/kg	6	6	R	ug/kg	6
Toluene	1	R	ug/kg	6	2	J	ug/kg	6	2	R	ug/kg	6
Chlorobenzene	6	R	ug/kg	6	6	U	ug/kg	6	6	R	ug/kg	6
Ethylbenzene	4	R	ug/kg	6	6	J	ug/kg	6	4	R	ug/kg	6
Styrene	6	R	ug/kg	6	6	U	ug/kg	6	6	R	ug/kg	6
Xylenes (total)	51	R	ug/kg	6	77	J	ug/kg	6	56	R	ug/kg	6
Dichlorodifluoromethane	11	R	ug/kg	11	12	U	ug/kg	12	12	R	ug/kg	12
Trichlorofluoromethane	6	R	ug/kg	6	6	U	ug/kg	6	6	R	ug/kg	6
1,3-Dichlorobenzene	6	R	ug/kg	6	3900	U	ug/kg	3900	6	R	ug/kg	6
Acrolein	110	R	ug/kg	110	120	U	ug/kg	120	120	R	ug/kg	120
Iodomethane	11	R	ug/kg	11	12	U	ug/kg	12	12	R	ug/kg	12
1,4-Dichlorobenzene	6	R	ug/kg	6	3900	U	ug/kg	3900	6	R	ug/kg	6
Acrylonitrile	110	R	ug/kg	110	120	U	ug/kg	120	120	R	ug/kg	120

US Naval Station, Mayport, Florida
Fleet Training Center(SWMU 14) - Detention Pond Subsurface Soil Data

Lab Sample Number:	MB624003R			MB638006			MB638007			MB647014		
Site	GROUPIII			GROUPIII			GROUPIII			GROUPIII		
Locator	14B03102RE			14B03203			14B03303			14B04402		
Collect Date:	20-AUG-96			21-AUG-96			21-AUG-96			23-AUG-96		
	VALUE QUAL	UNITS	DL	VALUE QUAL	UNITS	DL	VALUE QUAL	UNITS	DL	VALUE QUAL	UNITS	DL
VOLATILES ug/kg												
Chloromethane	12 R	ug/kg	12	12 U	ug/kg	12	11 U	ug/kg	11	11 U	ug/kg	11
Bromomethane	12 R	ug/kg	12	12 U	ug/kg	12	11 U	ug/kg	11	11 UJ	ug/kg	11
Vinyl chloride	12 R	ug/kg	12	12 U	ug/kg	12	11 U	ug/kg	11	11 U	ug/kg	11
Chloroethane	12 R	ug/kg	12	12 UJ	ug/kg	12	11 UJ	ug/kg	11	11 UJ	ug/kg	11
Methylene chloride	10 R	ug/kg	6	1 J	ug/kg	6	2 J	ug/kg	6	2 J	ug/kg	6
Acetone	96 R	ug/kg	12	12 U	ug/kg	12	78	ug/kg	11	53 J	ug/kg	11
Carbon disulfide	1 R	ug/kg	6	6 U	ug/kg	6	6 U	ug/kg	6	1 J	ug/kg	6
1,1-Dichloroethane	6 R	ug/kg	6	6 U	ug/kg	6	6 U	ug/kg	6	6 U	ug/kg	6
1,1-Dichloroethene	6 R	ug/kg	6	6 U	ug/kg	6	6 U	ug/kg	6	6 U	ug/kg	6
1,2-Dichloroethene (total)	6 R	ug/kg	6	6 U	ug/kg	6	6 U	ug/kg	6	6 U	ug/kg	6
Chloroform	6 R	ug/kg	6	6 U	ug/kg	6	6 U	ug/kg	6	6 U	ug/kg	6
1,2-Dichloroethane	6 R	ug/kg	6	6 U	ug/kg	6	6 U	ug/kg	6	6 U	ug/kg	6
2-Butanone	20 R	ug/kg	12	12 U	ug/kg	12	11 U	ug/kg	11	11 J	ug/kg	11
1,1,1-Trichloroethane	6 R	ug/kg	6	6 U	ug/kg	6	6 U	ug/kg	6	6 U	ug/kg	6
Carbon tetrachloride	6 R	ug/kg	6	6 U	ug/kg	6	6 U	ug/kg	6	6 U	ug/kg	6
Bromodichloromethane	6 R	ug/kg	6	6 U	ug/kg	6	6 U	ug/kg	6	6 U	ug/kg	6
1,2-Dichloropropane	6 R	ug/kg	6	6 U	ug/kg	6	6 U	ug/kg	6	6 U	ug/kg	6
cis-1,3-Dichloropropene	6 R	ug/kg	6	6 U	ug/kg	6	6 U	ug/kg	6	6 U	ug/kg	6
Trichloroethene	6 R	ug/kg	6	6 U	ug/kg	6	6 U	ug/kg	6	6 U	ug/kg	6
Dibromochloromethane	6 R	ug/kg	6	6 U	ug/kg	6	6 U	ug/kg	6	6 U	ug/kg	6
1,1,2-Trichloroethane	6 R	ug/kg	6	6 U	ug/kg	6	6 U	ug/kg	6	6 U	ug/kg	6
Benzene	2 R	ug/kg	6	6 U	ug/kg	6	6 U	ug/kg	6	6 U	ug/kg	6
trans-1,3-Dichloropropene	6 R	ug/kg	6	6 U	ug/kg	6	6 U	ug/kg	6	6 U	ug/kg	6
Bromoform	6 R	ug/kg	6	6 U	ug/kg	6	6 U	ug/kg	6	6 U	ug/kg	6
4-Methyl-2-pentanone	12 R	ug/kg	12	12 U	ug/kg	12	11 U	ug/kg	11	11 U	ug/kg	11
2-Hexanone	12 R	ug/kg	12	12 U	ug/kg	12	11 U	ug/kg	11	11 U	ug/kg	11
Tetrachloroethene	6 R	ug/kg	6	6 U	ug/kg	6	6 U	ug/kg	6	6 U	ug/kg	6
1,1,2,2-Tetrachloroethane	6 R	ug/kg	6	6 U	ug/kg	6	6 U	ug/kg	6	6 U	ug/kg	6
Toluene	6 R	ug/kg	6	6 U	ug/kg	6	1 J	ug/kg	6	3 J	ug/kg	6
Chlorobenzene	6 R	ug/kg	6	6 U	ug/kg	6	6 U	ug/kg	6	6 U	ug/kg	6
Ethylbenzene	2 R	ug/kg	6	6 U	ug/kg	6	6 U	ug/kg	6	7 J	ug/kg	6
Styrene	6 R	ug/kg	6	6 U	ug/kg	6	6 U	ug/kg	6	6 U	ug/kg	6
Xylenes (total)	24 R	ug/kg	6	6 U	ug/kg	6	6 U	ug/kg	6	84 J	ug/kg	6
Dichlorodifluoromethane	12 R	ug/kg	12	12 U	ug/kg	12	11 U	ug/kg	11	11 U	ug/kg	11
Trichlorofluoromethane	6 R	ug/kg	6	6 U	ug/kg	6	6 U	ug/kg	6	6 U	ug/kg	6
1,3-Dichlorobenzene	6 R	ug/kg	6	390 U	ug/kg	390	750 U	ug/kg	750	6 U	ug/kg	6
Acrolein	120 R	ug/kg	120	120 U	ug/kg	120	110 U	ug/kg	110	110 U	ug/kg	110
Iodomethane	12 R	ug/kg	12	12 U	ug/kg	12	11 U	ug/kg	11	11 U	ug/kg	11
1,4-Dichlorobenzene	6 R	ug/kg	6	390 U	ug/kg	390	750 U	ug/kg	750	3800 U	ug/kg	3800
Acrylonitrile	120 R	ug/kg	120	120 U	ug/kg	120	110 U	ug/kg	110	110 U	ug/kg	110

US Naval Station, Mayport, Florida
Fleet Training Center(SWMU 14) - Detention Pond Subsurface Soil Data

Lab Sample Number:	MB647014R				MB647015				MB647015R			
Site	GROUPIII				GROUPIII				GROUPIII			
Locator	14B04402RE				14B04402D				14B04402DRE			
Collect Date:	23-AUG-96				23-AUG-96				23-AUG-96			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
Acenaphthene	-		ug/kg		3900	U	ug/kg	3900	-		ug/kg	
2,4-Dinitrophenol	-		ug/kg		19000	U	ug/kg	19000	-		ug/kg	
4-Nitrophenol	-		ug/kg		19000	U	ug/kg	19000	-		ug/kg	
Dibenzofuran	-		ug/kg		3900	U	ug/kg	3900	-		ug/kg	
2,4-Dinitrotoluene	-		ug/kg		3900	U	ug/kg	3900	-		ug/kg	
Diethylphthalate	-		ug/kg		3900	U	ug/kg	3900	-		ug/kg	
4-Chlorophenyl-phenylether	-		ug/kg		3900	U	ug/kg	3900	-		ug/kg	
Fluorene	-		ug/kg		3900	U	ug/kg	3900	-		ug/kg	
4-Nitroaniline	-		ug/kg		19000	U	ug/kg	19000	-		ug/kg	
4,6-Dinitro-2-methylphenol	-		ug/kg		19000	U	ug/kg	19000	-		ug/kg	
N-Nitrosodiphenylamine	-		ug/kg		3900	U	ug/kg	3900	-		ug/kg	
1,2-Diphenylhydrazine	-		ug/kg		3900	U	ug/kg	3900	-		ug/kg	
4-Bromophenyl-phenylether	-		ug/kg		3900	U	ug/kg	3900	-		ug/kg	
Hexachlorobenzene	-		ug/kg		3900	U	ug/kg	3900	-		ug/kg	
Pentachlorophenol	-		ug/kg		19000	U	ug/kg	19000	-		ug/kg	
Phenanthrene	-		ug/kg		2700	J	ug/kg	3900	-		ug/kg	
Anthracene	-		ug/kg		3900	U	ug/kg	3900	-		ug/kg	
Di-n-Butylphthalate	-		ug/kg		3900	U	ug/kg	3900	-		ug/kg	
Fluoranthene	-		ug/kg		3900	U	ug/kg	3900	-		ug/kg	
Pyrene	-		ug/kg		790	J	ug/kg	3900	-		ug/kg	
Butylbenzylphthalate	-		ug/kg		3900	U	ug/kg	3900	-		ug/kg	
3,3-Dichlorobenzidine	-		ug/kg		7800	U	ug/kg	7800	-		ug/kg	
Benzo (a) anthracene	-		ug/kg		3900	U	ug/kg	3900	-		ug/kg	
Chrysene	-		ug/kg		3900	U	ug/kg	3900	-		ug/kg	
bis(2-Ethylhexyl) phthalate	-		ug/kg		3900	U	ug/kg	3900	-		ug/kg	
Di-n-octylphthalate	-		ug/kg		3900	U	ug/kg	3900	-		ug/kg	
Benzo (b) fluoranthene	-		ug/kg		3900	U	ug/kg	3900	-		ug/kg	
Benzo (k) fluoranthene	-		ug/kg		3900	U	ug/kg	3900	-		ug/kg	
Benzo (a) pyrene	-		ug/kg		3900	U	ug/kg	3900	-		ug/kg	
Indeno (1,2,3-cd) pyrene	-		ug/kg		3900	U	ug/kg	3900	-		ug/kg	
Dibenzo (a,h) anthracene	-		ug/kg		3900	U	ug/kg	3900	-		ug/kg	
Benzo (g,h,i) perylene	-		ug/kg		3900	U	ug/kg	3900	-		ug/kg	
2-Picoline	-		ug/kg		19000	U	ug/kg	19000	-		ug/kg	
Methyl methanesulfonate	-		ug/kg		3900	U	ug/kg	3900	-		ug/kg	
Ethyl methanesulfonate	-		ug/kg		3900	U	ug/kg	3900	-		ug/kg	
Acetophenone	-		ug/kg		3900	U	ug/kg	3900	-		ug/kg	
N-Nitrosopiperidine	-		ug/kg		3900	U	ug/kg	3900	-		ug/kg	
Phenyl-tert-butylamine	-		ug/kg		19000	U	ug/kg	19000	-		ug/kg	
2,6-Dichlorophenol	-		ug/kg		3900	U	ug/kg	3900	-		ug/kg	
N-Nitroso-di-n-butylamine	-		ug/kg		3900	U	ug/kg	3900	-		ug/kg	
N-Nitrosodiethylamine	-		ug/kg		3900	U	ug/kg	3900	-		ug/kg	
N-Nitrosopyrrolidine	-		ug/kg		3900	U	ug/kg	3900	-		ug/kg	
Benzidine	-		ug/kg		19000	U	ug/kg	19000	-		ug/kg	
1,2,4,5-Tetrachlorobenzene	-		ug/kg		19000	U	ug/kg	19000	-		ug/kg	
Pentachlorobenzene	-		ug/kg		19000	U	ug/kg	19000	-		ug/kg	
1-Naphthylamine	-		ug/kg		19000	U	ug/kg	19000	-		ug/kg	
2-Naphthylamine	-		ug/kg		19000	U	ug/kg	19000	-		ug/kg	
2,3,4,6-Tetrachlorophenol	-		ug/kg		3900	U	ug/kg	3900	-		ug/kg	
Phenacetin	-		ug/kg		3900	UJ	ug/kg	3900	-		ug/kg	
4-Aminobiphenyl	-		ug/kg		19000	U	ug/kg	19000	-		ug/kg	
Pentachloronitrobenzene	-		ug/kg		19000	U	ug/kg	19000	-		ug/kg	
Pronamide	-		ug/kg		3900	U	ug/kg	3900	-		ug/kg	

US Naval Station, Mayport, Florida
Fleet Training Center(SWMU 14) - Detention Pond Subsurface Soil Data

Lab Sample Number:	MB624003R				MB638006				MB638007				MB647014			
Site	GROUPIII				GROUPIII				GROUPIII				GROUPIII			
Locator	14B03102RE				14B03203				14B03303				14B04402			
Collect Date:	20-AUG-96				21-AUG-96				21-AUG-96				23-AUG-96			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
Acenaphthene	-		ug/kg		390	U	ug/kg	390	750	U	ug/kg	750	3800	U	ug/kg	3800
2,4-Dinitrophenol	-		ug/kg		1900	U	ug/kg	1900	3700	U	ug/kg	3700	19000	U	ug/kg	19000
4-Nitrophenol	-		ug/kg		1900	U	ug/kg	1900	3700	U	ug/kg	3700	19000	U	ug/kg	19000
Dibenzofuran	-		ug/kg		390	U	ug/kg	390	750	U	ug/kg	750	3800	U	ug/kg	3800
2,4-Dinitrotoluene	-		ug/kg		390	U	ug/kg	390	750	U	ug/kg	750	3800	U	ug/kg	3800
Diethylphthalate	-		ug/kg		390	U	ug/kg	390	750	U	ug/kg	750	3800	U	ug/kg	3800
4-Chlorophenyl-phenylether	-		ug/kg		390	U	ug/kg	390	750	U	ug/kg	750	3800	U	ug/kg	3800
Fluorene	-		ug/kg		390	U	ug/kg	390	750	U	ug/kg	750	3800	U	ug/kg	3800
4-Nitroaniline	-		ug/kg		1900	U	ug/kg	1900	3700	U	ug/kg	3700	19000	U	ug/kg	19000
4,6-Dinitro-2-methylphenol	-		ug/kg		1900	U	ug/kg	1900	3700	U	ug/kg	3700	19000	U	ug/kg	19000
N-Nitrosodiphenylamine	-		ug/kg		390	U	ug/kg	390	750	U	ug/kg	750	3800	U	ug/kg	3800
1,2-Diphenylhydrazine	-		ug/kg		390	U	ug/kg	390	750	U	ug/kg	750	3800	U	ug/kg	3800
4-Bromophenyl-phenylether	-		ug/kg		390	U	ug/kg	390	750	U	ug/kg	750	3800	U	ug/kg	3800
Hexachlorobenzene	-		ug/kg		390	U	ug/kg	390	750	U	ug/kg	750	3800	U	ug/kg	3800
Pentachlorophenol	-		ug/kg		1900	UJ	ug/kg	1900	3700	UJ	ug/kg	3700	19000	U	ug/kg	19000
Phenanthrene	-		ug/kg		390	U	ug/kg	390	750	U	ug/kg	750	1800	J	ug/kg	3800
Anthracene	-		ug/kg		390	U	ug/kg	390	750	U	ug/kg	750	3800	U	ug/kg	3800
Di-n-Butylphthalate	-		ug/kg		390	U	ug/kg	390	750	U	ug/kg	750	3800	U	ug/kg	3800
Fluoranthene	-		ug/kg		390	U	ug/kg	390	750	U	ug/kg	750	3800	U	ug/kg	3800
Pyrene	-		ug/kg		390	U	ug/kg	390	750	U	ug/kg	750	3800	U	ug/kg	3800
Butylbenzylphthalate	-		ug/kg		390	U	ug/kg	390	750	U	ug/kg	750	3800	U	ug/kg	3800
3,3-Dichlorobenzidine	-		ug/kg		780	U	ug/kg	780	1500	U	ug/kg	1500	7700	U	ug/kg	7700
Benzo (a) anthracene	-		ug/kg		390	U	ug/kg	390	750	U	ug/kg	750	3800	U	ug/kg	3800
Chrysene	-		ug/kg		390	U	ug/kg	390	750	U	ug/kg	750	3800	U	ug/kg	3800
bis(2-Ethylhexyl) phthalate	-		ug/kg		390	U	ug/kg	390	120	J	ug/kg	750	3800	U	ug/kg	3800
Di-n-octylphthalate	-		ug/kg		390	U	ug/kg	390	750	U	ug/kg	750	3800	U	ug/kg	3800
Benzo (b) fluoranthene	-		ug/kg		390	U	ug/kg	390	750	U	ug/kg	750	3800	U	ug/kg	3800
Benzo (k) fluoranthene	-		ug/kg		390	U	ug/kg	390	750	U	ug/kg	750	3800	U	ug/kg	3800
Benzo (a) pyrene	-		ug/kg		390	U	ug/kg	390	750	U	ug/kg	750	3800	U	ug/kg	3800
Indeno (1,2,3-cd) pyrene	-		ug/kg		390	U	ug/kg	390	750	U	ug/kg	750	3800	U	ug/kg	3800
Dibenzo (a,h) anthracene	-		ug/kg		390	U	ug/kg	390	750	U	ug/kg	750	3800	U	ug/kg	3800
Benzo (g,h,i) perylene	-		ug/kg		390	U	ug/kg	390	77	J	ug/kg	750	3800	U	ug/kg	3800
2-Picoline	-		ug/kg		1900	U	ug/kg	1900	3700	U	ug/kg	3700	19000	U	ug/kg	19000
Methyl methanesulfonate	-		ug/kg		390	U	ug/kg	390	750	U	ug/kg	750	3800	U	ug/kg	3800
Ethyl methanesulfonate	-		ug/kg		390	U	ug/kg	390	750	U	ug/kg	750	3800	U	ug/kg	3800
Acetophenone	-		ug/kg		390	U	ug/kg	390	750	U	ug/kg	750	3800	U	ug/kg	3800
N-Nitrosopiperidine	-		ug/kg		390	U	ug/kg	390	750	U	ug/kg	750	3800	U	ug/kg	3800
Phenyl-tert-butylamine	-		ug/kg		1900	U	ug/kg	1900	3700	U	ug/kg	3700	19000	U	ug/kg	19000
2,6-Dichlorophenol	-		ug/kg		390	U	ug/kg	390	750	U	ug/kg	750	3800	U	ug/kg	3800
N-Nitroso-di-n-butylamine	-		ug/kg		390	U	ug/kg	390	750	U	ug/kg	750	3800	U	ug/kg	3800
N-Nitrosodiethylamine	-		ug/kg		390	U	ug/kg	390	750	U	ug/kg	750	3800	U	ug/kg	3800
N-Nitrosopyrrolidine	-		ug/kg		390	U	ug/kg	390	750	U	ug/kg	750	3800	U	ug/kg	3800
Benzidine	-		ug/kg		1900	U	ug/kg	1900	3700	U	ug/kg	3700	19000	U	ug/kg	19000
1,2,4,5-Tetrachlorobenzene	-		ug/kg		1900	U	ug/kg	1900	3700	U	ug/kg	3700	19000	U	ug/kg	19000
Pentachlorobenzene	-		ug/kg		1900	U	ug/kg	1900	3700	U	ug/kg	3700	19000	U	ug/kg	19000
1-Naphthylamine	-		ug/kg		1900	U	ug/kg	1900	3700	U	ug/kg	3700	19000	U	ug/kg	19000
2-Naphthylamine	-		ug/kg		1900	U	ug/kg	1900	3700	U	ug/kg	3700	19000	U	ug/kg	19000
2,3,4,6-Tetrachlorophenol	-		ug/kg		390	UJ	ug/kg	390	750	UJ	ug/kg	750	3800	U	ug/kg	3800
Phenacetin	-		ug/kg		390	UJ	ug/kg	390	750	UJ	ug/kg	750	3800	UJ	ug/kg	3800
4-Aminobiphenyl	-		ug/kg		1900	U	ug/kg	1900	3700	U	ug/kg	3700	19000	U	ug/kg	19000
Pentachloronitrobenzene	-		ug/kg		1900	UJ	ug/kg	1900	3700	UJ	ug/kg	3700	19000	U	ug/kg	19000
Pronamide	-		ug/kg		390	U	ug/kg	390	750	U	ug/kg	750	3800	U	ug/kg	3800

US Naval Station, Mayport, Florida
Fleet Training Center(SWMU 14) - Detention Pond Subsurface Soil Data

Lab Sample Number:	MB624001				MB624002				MB624003				MB638006			
Site	GROUPIII				GROUPIII				GROUPIII				GROUPIII			
Locator	14B02902				14B03002				14B03102				14B03203			
Collect Date:	20-AUG-96				20-AUG-96				20-AUG-96				21-AUG-96			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
INORGANICS (SOIL)	mg/kg															
Antimony	.61	UJ	mg/kg	.61	1.6	J	mg/kg	.61	1	J	mg/kg	.62	.6	UJ	mg/kg	.6
Arsenic	.36	J	mg/kg	.23	.31	J	mg/kg	.23	.67	J	mg/kg	.23	.32	J	mg/kg	.22
Barium	3.2	J	mg/kg	.084	4.4	J	mg/kg	.083	3.8	J	mg/kg	.085	2.9	J	mg/kg	.083
Beryllium	.03	UJ	mg/kg	.03	.03	UJ	mg/kg	.03	.03	UJ	mg/kg	.03	.03	UJ	mg/kg	.03
Cadmium	.79	U	mg/kg	.79	.79	U	mg/kg	.79	.8	U	mg/kg	.8	.78	U	mg/kg	.78
Chromium	2.2	J	mg/kg	.53	2.6		mg/kg	.52	5.4		mg/kg	.53	2.9		mg/kg	.52
Cobalt	.6	U	mg/kg	.6	.6	J	mg/kg	.6	.6	U	mg/kg	.6	.59	U	mg/kg	.59
Copper	1.6	UJ	mg/kg	1.6	.94	UJ	mg/kg	.94	3.4	UJ	mg/kg	3.4	.28	U	mg/kg	.28
Cyanide	.11	U	mg/kg	.11	.1	U	mg/kg	.1	.11	U	mg/kg	.11	.1	U	mg/kg	.1
Lead	1.2	J	mg/kg	.18	1.1	J	mg/kg	.18	2.6	J	mg/kg	.18	3.6	J	mg/kg	.18
Mercury	.03	U	mg/kg	.03	.03	U	mg/kg	.03	.03	U	mg/kg	.03	.03	J	mg/kg	.03
Nickel	1.3	U	mg/kg	1.3	1.3	U	mg/kg	1.3	3.4	J	mg/kg	1.3	1.3	U	mg/kg	1.3
Selenium	.3	U	mg/kg	.3	.32	J	mg/kg	.3	.3	U	mg/kg	.3	.3	U	mg/kg	.3
Silver	.53	U	mg/kg	.53	.52	U	mg/kg	.52	.53	U	mg/kg	.53	.52	U	mg/kg	.52
Thallium	.19	UJ	mg/kg	.19	.19	UJ	mg/kg	.19	.19	UJ	mg/kg	.19	.19	UJ	mg/kg	.19
Tin	2.8	U	mg/kg	2.8	8.5	J	mg/kg	2.8	2.9	U	mg/kg	2.9	2.8	U	mg/kg	2.8
Vanadium	2	J	mg/kg	.41	2.1	J	mg/kg	.4	1.8	J	mg/kg	.41	2.1	J	mg/kg	.4
Zinc	17.1		mg/kg	.24	10		mg/kg	.24	34.9		mg/kg	.24	11.6		mg/kg	.24

U = NOT DETECTED R = RESULT IS REJECTED
J = ESTIMATED VALUE UJ = REPORTED QUANTITATION LIMIT IS ESTIMATED
THE ADDITIONAL LISTINGS OF RESULTS FOR 1,2-; 1,3-; AND 1,4-DICHLOROBENZENE WERE GENERATED FROM THE SVOC (8270) ANALYTICAL RUN.

US Naval Station, Mayport, Florida
Fleet Training Center(SWMU 14) - Detention Pond Subsurface Soil Data

Lab Sample Number:	MB647014R				MB647015				MB647015R			
Site	GROUPIII				GROUPIII				GROUPIII			
Locator	14B04402RE				14B04402D				14B04402DRE			
Collect Date:	23-AUG-96				23-AUG-96				23-AUG-96			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
VOLATILES ug/kg												
Chloromethane	11	R	ug/kg	11	12	U	ug/kg	12	12	R	ug/kg	12
Bromomethane	11	R	ug/kg	11	12	UJ	ug/kg	12	12	R	ug/kg	12
Vinyl chloride	11	R	ug/kg	11	12	U	ug/kg	12	12	R	ug/kg	12
Chloroethane	11	R	ug/kg	11	12	UJ	ug/kg	12	12	R	ug/kg	12
Methylene chloride	8	R	ug/kg	6	2	J	ug/kg	6	4	R	ug/kg	6
Acetone	51	R	ug/kg	11	65	J	ug/kg	12	45	R	ug/kg	12
Carbon disulfide	6	R	ug/kg	6	1	J	ug/kg	6	6	R	ug/kg	6
1,1-Dichloroethane	6	R	ug/kg	6	6	U	ug/kg	6	6	R	ug/kg	6
1,1-Dichloroethene	6	R	ug/kg	6	6	U	ug/kg	6	6	R	ug/kg	6
1,2-Dichloroethene (total)	6	R	ug/kg	6	6	U	ug/kg	6	6	R	ug/kg	6
Chloroform	6	R	ug/kg	6	6	U	ug/kg	6	6	R	ug/kg	6
1,2-Dichloroethane	6	R	ug/kg	6	6	U	ug/kg	6	6	R	ug/kg	6
2-Butanone	12	R	ug/kg	11	14	J	ug/kg	12	11	R	ug/kg	12
1,1,1-Trichloroethane	6	R	ug/kg	6	6	U	ug/kg	6	6	R	ug/kg	6
Carbon tetrachloride	6	R	ug/kg	6	6	U	ug/kg	6	6	R	ug/kg	6
Bromodichloromethane	6	R	ug/kg	6	6	U	ug/kg	6	6	R	ug/kg	6
1,2-Dichloropropane	6	R	ug/kg	6	6	U	ug/kg	6	6	R	ug/kg	6
cis-1,3-Dichloropropene	6	R	ug/kg	6	6	U	ug/kg	6	6	R	ug/kg	6
Trichloroethene	6	R	ug/kg	6	6	U	ug/kg	6	6	R	ug/kg	6
Dibromochloromethane	6	R	ug/kg	6	6	U	ug/kg	6	6	R	ug/kg	6
1,1,2-Trichloroethane	6	R	ug/kg	6	6	U	ug/kg	6	6	R	ug/kg	6
Benzene	6	R	ug/kg	6	6	U	ug/kg	6	6	R	ug/kg	6
trans-1,3-Dichloropropene	6	R	ug/kg	6	6	U	ug/kg	6	6	R	ug/kg	6
Bromoform	6	R	ug/kg	6	6	U	ug/kg	6	6	R	ug/kg	6
4-Methyl-2-pentanone	11	R	ug/kg	11	12	U	ug/kg	12	12	R	ug/kg	12
2-Hexanone	11	R	ug/kg	11	12	U	ug/kg	12	12	R	ug/kg	12
Tetrachloroethene	6	R	ug/kg	6	6	U	ug/kg	6	6	R	ug/kg	6
1,1,2,2-Tetrachloroethane	6	R	ug/kg	6	6	U	ug/kg	6	6	R	ug/kg	6
Toluene	1	R	ug/kg	6	2	J	ug/kg	6	2	R	ug/kg	6
Chlorobenzene	6	R	ug/kg	6	6	U	ug/kg	6	6	R	ug/kg	6
Ethylbenzene	4	R	ug/kg	6	6	J	ug/kg	6	4	R	ug/kg	6
Styrene	6	R	ug/kg	6	6	U	ug/kg	6	6	R	ug/kg	6
Xylenes (total)	51	R	ug/kg	6	77	J	ug/kg	6	56	R	ug/kg	6
Dichlorodifluoromethane	11	R	ug/kg	11	12	U	ug/kg	12	12	R	ug/kg	12
Trichlorofluoromethane	6	R	ug/kg	6	6	U	ug/kg	6	6	R	ug/kg	6
1,3-Dichlorobenzene	6	R	ug/kg	6	3900	U	ug/kg	3900	6	R	ug/kg	6
Acrolein	110	R	ug/kg	110	120	U	ug/kg	120	120	R	ug/kg	120
Iodomethane	11	R	ug/kg	11	12	U	ug/kg	12	12	R	ug/kg	12
1,4-Dichlorobenzene	6	R	ug/kg	6	3900	U	ug/kg	3900	6	R	ug/kg	6
Acrylonitrile	110	R	ug/kg	110	120	U	ug/kg	120	120	R	ug/kg	120

US Naval Station, Mayport, Florida
Fleet Training Center(SWMU 14) - Detention Pond Groundwater Data

Lab Sample Number:		RA024014			RA044009			RA044010			MB671003		
Site		GROUPIII			GROUPIII			GROUPIII			GROUPIII		
Locator		14G00801			14G01001			14G01401			14G01501		
Collect Date:		15-JUN-95			17-JUN-95			17-JUN-95			27-AUG-96		
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
VOLATILES	ug/l															
Chloromethane		10	UJ	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Bromomethane		10	U	ug/l	10	10	UJ	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Vinyl chloride		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Chloroethane		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Methylene chloride		5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
Acetone		10	U	ug/l	10	10	U	ug/l	10	15	U	ug/l	15	10	UJ	ug/l	10
Carbon disulfide		5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
1,1-Dichloroethane		5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
1,1-Dichloroethene		5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
1,2-Dichloroethene (total)		5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
Chloroform		5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
1,2-Dichloroethane		5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
2-Butanone		10	R	ug/l	10	10	R	ug/l	10	10	R	ug/l	10	10	U	ug/l	10
1,1,1-Trichloroethane		5	UJ	ug/l	5	5	UJ	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
Carbon tetrachloride		5	UJ	ug/l	5	5	UJ	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
Bromodichloromethane		5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
1,2-Dichloropropane		5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
cis-1,3-Dichloropropene		5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
Trichloroethene		5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
Dibromochloromethane		5	UJ	ug/l	5	5	UJ	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
1,1,2-Trichloroethane		5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
Benzene		5	U	ug/l	5	5	UJ	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
trans-1,3-Dichloropropene		5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
Bromoform		5	UJ	ug/l	5	5	UJ	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
4-Methyl-2-pentanone		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
2-Hexanone		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Tetrachloroethene		5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
1,1,2,2-Tetrachloroethane		5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
Toluene		5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
Chlorobenzene		5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
Ethylbenzene		5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
Styrene		5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
Xylenes (total)		5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5	4	J	ug/l	5
Dichlorodifluoromethane		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Trichlorofluoromethane		5	UJ	ug/l	5	5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
1,3-Dichlorobenzene		10	U	ug/l	10	5	U	ug/l	5	5	U	ug/l	5	50	U	ug/l	50
Acrolein		100	U	ug/l	100	100	U	ug/l	100	100	U	ug/l	100	100	U	ug/l	100
Iodomethane		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
1,4-Dichlorobenzene		10	U	ug/l	10	5	U	ug/l	5	5	U	ug/l	5	50	U	ug/l	50
Acrylonitrile		100	UJ	ug/l	100	100	U	ug/l	100	100	U	ug/l	100	100	U	ug/l	100
Dibromomethane		5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
1,2-Dichlorobenzene		10	U	ug/l	10	5	U	ug/l	5	5	U	ug/l	5	50	U	ug/l	50
2-Chloroethylvinyl ether		10	U	ug/l	10	10	U	ug/l	10	10	UJ	ug/l	10	10	U	ug/l	10
Ethyl methacrylate		5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
1,2,3-Trichloropropane		5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
trans-1,4-Dichloro-2-butene		5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
Isobutyl alcohol		200	R	ug/l	200	200	R	ug/l	200	200	R	ug/l	200	200	U	ug/l	200
1,1,1,2-Tetrachloroethane		5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
1,2-Dibromo-3-chloropropane		10	UJ	ug/l	10	10	UJ	ug/l	10	10	UJ	ug/l	10	10	U	ug/l	10
Ethylene dibromide		5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5

US Naval Station, Mayport, Florida
Fleet Training Center(SWMU 14) - Detention Pond Subsurface Soil Data

Lab Sample Number:	MB647014R				MB647015				MB647015R			
Site	GROUPIII				GROUPIII				GROUPIII			
Locator	14B04402RE				14B04402D				14B04402DRE			
Collect Date:	23-AUG-96				23-AUG-96				23-AUG-96			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
Acenaphthene	-		ug/kg		3900	U	ug/kg	3900	-		ug/kg	
2,4-Dinitrophenol	-		ug/kg		19000	U	ug/kg	19000	-		ug/kg	
4-Nitrophenol	-		ug/kg		19000	U	ug/kg	19000	-		ug/kg	
Dibenzofuran	-		ug/kg		3900	U	ug/kg	3900	-		ug/kg	
2,4-Dinitrotoluene	-		ug/kg		3900	U	ug/kg	3900	-		ug/kg	
Diethylphthalate	-		ug/kg		3900	U	ug/kg	3900	-		ug/kg	
4-Chlorophenyl-phenylether	-		ug/kg		3900	U	ug/kg	3900	-		ug/kg	
Fluorene	-		ug/kg		3900	U	ug/kg	3900	-		ug/kg	
4-Nitroaniline	-		ug/kg		19000	U	ug/kg	19000	-		ug/kg	
4,6-Dinitro-2-methylphenol	-		ug/kg		19000	U	ug/kg	19000	-		ug/kg	
N-Nitrosodiphenylamine	-		ug/kg		3900	U	ug/kg	3900	-		ug/kg	
1,2-Diphenylhydrazine	-		ug/kg		3900	U	ug/kg	3900	-		ug/kg	
4-Bromophenyl-phenylether	-		ug/kg		3900	U	ug/kg	3900	-		ug/kg	
Hexachlorobenzene	-		ug/kg		3900	U	ug/kg	3900	-		ug/kg	
Pentachlorophenol	-		ug/kg		19000	U	ug/kg	19000	-		ug/kg	
Phenanthrene	-		ug/kg		2700	J	ug/kg	3900	-		ug/kg	
Anthracene	-		ug/kg		3900	U	ug/kg	3900	-		ug/kg	
Di-n-Butylphthalate	-		ug/kg		3900	U	ug/kg	3900	-		ug/kg	
Fluoranthene	-		ug/kg		3900	U	ug/kg	3900	-		ug/kg	
Pyrene	-		ug/kg		790	J	ug/kg	3900	-		ug/kg	
Butylbenzylphthalate	-		ug/kg		3900	U	ug/kg	3900	-		ug/kg	
3,3-Dichlorobenzidine	-		ug/kg		7800	U	ug/kg	7800	-		ug/kg	
Benzo (a) anthracene	-		ug/kg		3900	U	ug/kg	3900	-		ug/kg	
Chrysene	-		ug/kg		3900	U	ug/kg	3900	-		ug/kg	
bis(2-Ethylhexyl) phthalate	-		ug/kg		3900	U	ug/kg	3900	-		ug/kg	
Di-n-octylphthalate	-		ug/kg		3900	U	ug/kg	3900	-		ug/kg	
Benzo (b) fluoranthene	-		ug/kg		3900	U	ug/kg	3900	-		ug/kg	
Benzo (k) fluoranthene	-		ug/kg		3900	U	ug/kg	3900	-		ug/kg	
Benzo (a) pyrene	-		ug/kg		3900	U	ug/kg	3900	-		ug/kg	
Indeno (1,2,3-cd) pyrene	-		ug/kg		3900	U	ug/kg	3900	-		ug/kg	
Dibenzo (a,h) anthracene	-		ug/kg		3900	U	ug/kg	3900	-		ug/kg	
Benzo (g,h,i) perylene	-		ug/kg		3900	U	ug/kg	3900	-		ug/kg	
2-Picoline	-		ug/kg		19000	U	ug/kg	19000	-		ug/kg	
Methyl methanesulfonate	-		ug/kg		3900	U	ug/kg	3900	-		ug/kg	
Ethyl methanesulfonate	-		ug/kg		3900	U	ug/kg	3900	-		ug/kg	
Acetophenone	-		ug/kg		3900	U	ug/kg	3900	-		ug/kg	
N-Nitrosopiperidine	-		ug/kg		3900	U	ug/kg	3900	-		ug/kg	
Phenyl-tert-butylamine	-		ug/kg		19000	U	ug/kg	19000	-		ug/kg	
2,6-Dichlorophenol	-		ug/kg		3900	U	ug/kg	3900	-		ug/kg	
N-Nitroso-di-n-butylamine	-		ug/kg		3900	U	ug/kg	3900	-		ug/kg	
N-Nitrosodiethylamine	-		ug/kg		3900	U	ug/kg	3900	-		ug/kg	
N-Nitrosopyrrolidine	-		ug/kg		3900	U	ug/kg	3900	-		ug/kg	
Benzidine	-		ug/kg		19000	U	ug/kg	19000	-		ug/kg	
1,2,4,5-Tetrachlorobenzene	-		ug/kg		19000	U	ug/kg	19000	-		ug/kg	
Pentachlorobenzene	-		ug/kg		19000	U	ug/kg	19000	-		ug/kg	
1-Naphthylamine	-		ug/kg		19000	U	ug/kg	19000	-		ug/kg	
2-Naphthylamine	-		ug/kg		19000	U	ug/kg	19000	-		ug/kg	
2,3,4,6-Tetrachlorophenol	-		ug/kg		3900	U	ug/kg	3900	-		ug/kg	
Phenacetin	-		ug/kg		3900	UJ	ug/kg	3900	-		ug/kg	
4-Aminobiphenyl	-		ug/kg		19000	U	ug/kg	19000	-		ug/kg	
Pentachloronitrobenzene	-		ug/kg		19000	U	ug/kg	19000	-		ug/kg	
Pronamide	-		ug/kg		3900	U	ug/kg	3900	-		ug/kg	

US Naval Station, Mayport, Florida
Fleet Training Center(SWMU 14) - Detention Pond Groundwater Data

Lab Sample Number:	RA024014				RA044009				RA044010				MB671003			
Site	GROUPIII				GROUPIII				GROUPIII				GROUPIII			
Locator	14G00801				14G01001				14G01401				14G01501			
Collect Date:	15-JUN-95				17-JUN-95				17-JUN-95				27-AUG-96			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
N-Nitrosodiphenylamine	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	50	U	ug/l	50
1,2-Diphenylhydrazine	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	50	U	ug/l	50
4-Bromophenyl-phenylether	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	50	U	ug/l	50
Hexachlorobenzene	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	50	U	ug/l	50
Pentachlorophenol	50	U	ug/l	50	50	U	ug/l	50	50	U	ug/l	50	250	U	ug/l	250
Phenanthrene	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	5	J	ug/l	50
Anthracene	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	50	U	ug/l	50
Di-n-Butylphthalate	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	50	U	ug/l	50
Fluoranthene	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	50	U	ug/l	50
Pyrene	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	50	U	ug/l	50
Butylbenzylphthalate	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	50	U	ug/l	50
3,3-Dichlorobenzidine	20	U	ug/l	20	20	U	ug/l	20	20	U	ug/l	20	100	U	ug/l	100
Benzo (a) anthracene	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	50	U	ug/l	50
Chrysene	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	50	U	ug/l	50
bis(2-Ethylhexyl) phthalate	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	50	U	ug/l	50
Di-n-octylphthalate	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	50	U	ug/l	50
Benzo (b) fluoranthene	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	50	U	ug/l	50
Benzo (k) fluoranthene	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	50	U	ug/l	50
Benzo (a) pyrene	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	50	U	ug/l	50
Indeno (1,2,3-cd) pyrene	10	UJ	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	50	U	ug/l	50
Dibenzo (a,h) anthracene	10	UJ	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	50	U	ug/l	50
Benzo (g,h,i) perylene	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	50	U	ug/l	50
2-Picoline	50	U	ug/l	50	50	U	ug/l	50	50	U	ug/l	50	250	U	ug/l	250
Methyl methanesulfonate	10	UJ	ug/l	10	10	UJ	ug/l	10	10	UJ	ug/l	10	50	U	ug/l	50
Ethyl methanesulfonate	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	50	U	ug/l	50
Acetophenone	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	50	U	ug/l	50
N-Nitrosopiperidine	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	50	U	ug/l	50
Phenyl-tert-butylamine	50	U	ug/l	50	50	UJ	ug/l	50	50	UJ	ug/l	50	250	U	ug/l	250
2,6-Dichlorophenol	10	UJ	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	50	U	ug/l	50
N-Nitroso-di-n-butylamine	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	50	U	ug/l	50
N-Nitrosodiethylamine	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	50	U	ug/l	50
N-Nitrosopyrrolidine	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	50	U	ug/l	50
Benzidine	50	U	ug/l	50	50	U	ug/l	50	50	U	ug/l	50	250	U	ug/l	250
1,2,4,5-Tetrachlorobenzene	50	U	ug/l	50	50	U	ug/l	50	50	U	ug/l	50	250	U	ug/l	250
Pentachlorobenzene	50	U	ug/l	50	50	U	ug/l	50	50	U	ug/l	50	250	U	ug/l	250
1-Naphthylamine	50	UJ	ug/l	50	50	UJ	ug/l	50	50	UJ	ug/l	50	250	U	ug/l	250
2-Naphthylamine	50	UJ	ug/l	50	50	U	ug/l	50	50	U	ug/l	50	250	U	ug/l	250
2,3,4,6-Tetrachlorophenol	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	50	U	ug/l	50
Phenacetin	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	50	U	ug/l	50
4-Aminobiphenyl	50	UJ	ug/l	50	50	U	ug/l	50	50	U	ug/l	50	250	U	ug/l	250
Pentachloronitrobenzene	50	U	ug/l	50	50	U	ug/l	50	50	U	ug/l	50	250	U	ug/l	250
Pronamide	10	UJ	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	50	U	ug/l	50
p-Dimethylaminoazobenzene	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	50	U	ug/l	50
7,12-Dimethylbenz(A)Anthracene	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	50	U	ug/l	50
3-Methylcholanthrene	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	50	U	ug/l	50
Pyridine	50	U	ug/l	50	50	U	ug/l	50	50	U	ug/l	50	250	U	ug/l	250
N-Nitrosomethylethylamine	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	50	U	ug/l	50
N-Nitrosomorpholine	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	50	U	ug/l	50
o-Toluidine	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	50	U	ug/l	50
Hexachloropropene	50	U	ug/l	50	50	UJ	ug/l	50	50	UJ	ug/l	50	250	U	ug/l	250
p-Phenylenediamine	500	UJ	ug/l	500	500	UJ	ug/l	500	500	UJ	ug/l	500	2500	U	ug/l	2500
Safrole	50	UJ	ug/l	50	50	U	ug/l	50	50	U	ug/l	50	250	U	ug/l	250

US Naval Station, Mayport, Florida
Fleet Training Center(SWMU 14) - Detention Pond Subsurface Soil Data

Lab Sample Number:	MB624001				MB624002				MB624003				MB638006			
Site	GROUPIII				GROUPIII				GROUPIII				GROUPIII			
Locator	14B02902				14B03002				14B03102				14B03203			
Collect Date:	20-AUG-96				20-AUG-96				20-AUG-96				21-AUG-96			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
INORGANICS (SOIL)	mg/kg															
Antimony	.61	UJ	mg/kg	.61	1.6	J	mg/kg	.61	1	J	mg/kg	.62	.6	UJ	mg/kg	.6
Arsenic	.36	J	mg/kg	.23	.31	J	mg/kg	.23	.67	J	mg/kg	.23	.32	J	mg/kg	.22
Barium	3.2	J	mg/kg	.084	4.4	J	mg/kg	.083	3.8	J	mg/kg	.085	2.9	J	mg/kg	.083
Beryllium	.03	UJ	mg/kg	.03	.03	UJ	mg/kg	.03	.03	UJ	mg/kg	.03	.03	UJ	mg/kg	.03
Cadmium	.79	U	mg/kg	.79	.79	U	mg/kg	.79	.8	U	mg/kg	.8	.78	U	mg/kg	.78
Chromium	2.2	J	mg/kg	.53	2.6		mg/kg	.52	5.4		mg/kg	.53	2.9		mg/kg	.52
Cobalt	.6	U	mg/kg	.6	.6	J	mg/kg	.6	.6	U	mg/kg	.6	.59	U	mg/kg	.59
Copper	1.6	UJ	mg/kg	1.6	.94	UJ	mg/kg	.94	3.4	UJ	mg/kg	3.4	.28	U	mg/kg	.28
Cyanide	.11	U	mg/kg	.11	.1	U	mg/kg	.1	.11	U	mg/kg	.11	.1	U	mg/kg	.1
Lead	1.2	J	mg/kg	.18	1.1	J	mg/kg	.18	2.6	J	mg/kg	.18	3.6	J	mg/kg	.18
Mercury	.03	U	mg/kg	.03	.03	U	mg/kg	.03	.03	U	mg/kg	.03	.03	J	mg/kg	.03
Nickel	1.3	U	mg/kg	1.3	1.3	U	mg/kg	1.3	3.4	J	mg/kg	1.3	1.3	U	mg/kg	1.3
Selenium	.3	U	mg/kg	.3	.32	J	mg/kg	.3	.3	U	mg/kg	.3	.3	U	mg/kg	.3
Silver	.53	U	mg/kg	.53	.52	U	mg/kg	.52	.53	U	mg/kg	.53	.52	U	mg/kg	.52
Thallium	.19	UJ	mg/kg	.19	.19	UJ	mg/kg	.19	.19	UJ	mg/kg	.19	.19	UJ	mg/kg	.19
Tin	2.8	U	mg/kg	2.8	8.5	J	mg/kg	2.8	2.9	U	mg/kg	2.9	2.8	U	mg/kg	2.8
Vanadium	2	J	mg/kg	.41	2.1	J	mg/kg	.4	1.8	J	mg/kg	.41	2.1	J	mg/kg	.4
Zinc	17.1		mg/kg	.24	10		mg/kg	.24	34.9		mg/kg	.24	11.6		mg/kg	.24

U = NOT DETECTED R = RESULT IS REJECTED
J = ESTIMATED VALUE UJ = REPORTED QUANTITATION LIMIT IS ESTIMATED
THE ADDITIONAL LISTINGS OF RESULTS FOR 1,2-; 1,3-; AND 1,4-DICHLOROBENZENE WERE GENERATED FROM THE SVOC (8270) ANALYTICAL RUN.

US Naval Station, Mayport, Florida
Fleet Training Center(SWMU 14) - Detention Pond Groundwater Data

Lab Sample Number:		MB671004		
Site		GROUPIII		
Locator		14G01501D		
Collect Date:		27-AUG-96		
	VALUE	QUAL	UNITS	DL
VOLATILES	ug/l			
Chloromethane		10	U	ug/l	10
Bromomethane		10	U	ug/l	10
Vinyl chloride		10	U	ug/l	10
Chloroethane		10	U	ug/l	10
Methylene chloride		5	U	ug/l	5
Acetone		10	UJ	ug/l	10
Carbon disulfide		5	U	ug/l	5
1,1-Dichloroethane		5	U	ug/l	5
1,1-Dichloroethene		5	U	ug/l	5
1,2-Dichloroethene (total)		5	U	ug/l	5
Chloroform		5	U	ug/l	5
1,2-Dichloroethane		5	U	ug/l	5
2-Butanone		10	U	ug/l	10
1,1,1-Trichloroethane		5	U	ug/l	5
Carbon tetrachloride		5	U	ug/l	5
Bromodichloromethane		5	U	ug/l	5
1,2-Dichloropropane		5	U	ug/l	5
cis-1,3-Dichloropropene		5	U	ug/l	5
Trichloroethene		5	U	ug/l	5
Dibromochloromethane		5	U	ug/l	5
1,1,2-Trichloroethane		5	U	ug/l	5
Benzene		5	U	ug/l	5
trans-1,3-Dichloropropene		5	U	ug/l	5
Bromoform		5	U	ug/l	5
4-Methyl-2-pentanone		10	U	ug/l	10
2-Hexanone		10	U	ug/l	10
Tetrachloroethene		5	U	ug/l	5
1,1,2,2-Tetrachloroethane		5	U	ug/l	5
Toluene		5	U	ug/l	5
Chlorobenzene		5	U	ug/l	5
Ethylbenzene		5	U	ug/l	5
Styrene		5	U	ug/l	5
Xylenes (total)		4	J	ug/l	5
Dichlorodifluoromethane		10	U	ug/l	10
Trichlorofluoromethane		5	U	ug/l	5
1,3-Dichlorobenzene		5	U	ug/l	5
Acrolein		100	U	ug/l	100
Iodomethane		10	U	ug/l	10
1,4-Dichlorobenzene		50	U	ug/l	50
Acrylonitrile		100	U	ug/l	100

US Naval Station, Mayport, Florida
Fleet Training Center(SWMU 14) - Detention Pond Groundwater Data

Lab Sample Number:	RA024014				RA044009				RA044010				MB671003			
Site	GROUPIII				GROUPIII				GROUPIII				GROUPIII			
Locator	14G00801				14G01001				14G01401				14G01501			
Collect Date:	15-JUN-95				17-JUN-95				17-JUN-95				27-AUG-96			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
VOLATILES ug/l																
Chloromethane	10	UJ	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Bromomethane	10	U	ug/l	10	10	UJ	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Vinyl chloride	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Chloroethane	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Methylene chloride	5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
Acetone	10	U	ug/l	10	10	U	ug/l	10	15	U	ug/l	15	10	UJ	ug/l	10
Carbon disulfide	5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
1,1-Dichloroethane	5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
1,1-Dichloroethene	5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
1,2-Dichloroethene (total)	5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
Chloroform	5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
1,2-Dichloroethane	5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
2-Butanone	10	R	ug/l	10	10	R	ug/l	10	10	R	ug/l	10	10	U	ug/l	10
1,1,1-Trichloroethane	5	UJ	ug/l	5	5	UJ	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
Carbon tetrachloride	5	UJ	ug/l	5	5	UJ	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
Bromodichloromethane	5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
1,2-Dichloropropane	5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
cis-1,3-Dichloropropene	5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
Trichloroethene	5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
Dibromochloromethane	5	UJ	ug/l	5	5	UJ	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
1,1,2-Trichloroethane	5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
Benzene	5	U	ug/l	5	5	UJ	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
trans-1,3-Dichloropropene	5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
Bromoform	5	UJ	ug/l	5	5	UJ	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
4-Methyl-2-pentanone	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
2-Hexanone	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Tetrachloroethene	5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
1,1,2,2-Tetrachloroethane	5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
Toluene	5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
Chlorobenzene	5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
Ethylbenzene	5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
Styrene	5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
Xylenes (total)	5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5	4	J	ug/l	5
Dichlorodifluoromethane	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Trichlorofluoromethane	5	UJ	ug/l	5	5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
1,3-Dichlorobenzene	10	U	ug/l	10	5	U	ug/l	5	5	U	ug/l	5	50	U	ug/l	50
Acrolein	100	U	ug/l	100	100	U	ug/l	100	100	U	ug/l	100	100	U	ug/l	100
Iodomethane	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
1,4-Dichlorobenzene	10	U	ug/l	10	5	U	ug/l	5	5	U	ug/l	5	50	U	ug/l	50
Acrylonitrile	100	UJ	ug/l	100	100	U	ug/l	100	100	U	ug/l	100	100	U	ug/l	100
Dibromomethane	5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
1,2-Dichlorobenzene	10	U	ug/l	10	5	U	ug/l	5	5	U	ug/l	5	50	U	ug/l	50
2-Chloroethylvinyl ether	10	U	ug/l	10	10	U	ug/l	10	10	UJ	ug/l	10	10	U	ug/l	10
Ethyl methacrylate	5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
1,2,3-Trichloropropane	5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
trans-1,4-Dichloro-2-butene	5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
Isobutyl alcohol	200	R	ug/l	200	200	R	ug/l	200	200	R	ug/l	200	200	U	ug/l	200
1,1,1,2-Tetrachloroethane	5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
1,2-Dibromo-3-chloropropane	10	UJ	ug/l	10	10	UJ	ug/l	10	10	UJ	ug/l	10	10	U	ug/l	10
Ethylene dibromide	5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5	5	U	ug/l	5

US Naval Station, Mayport, Florida
Fleet Training Center(SWMU 14) - Detention Pond Groundwater Data

Lab Sample Number:	MB671004			
Site	GROUPIII			
Locator	14G01501D			
Collect Date:	27-AUG-96			
	VALUE	QUAL	UNITS	DL
Acenaphthene	6	J	ug/l	50
2,4-Dinitrophenol	250	U	ug/l	250
4-Nitrophenol	250	U	ug/l	250
Dibenzofuran	50	U	ug/l	50
2,4-Dinitrotoluene	50	U	ug/l	50
Diethylphthalate	50	U	ug/l	50
4-Chlorophenyl-phenylether	50	U	ug/l	50
Fluorene	5	J	ug/l	50
4-Nitroaniline	250	U	ug/l	250
4,6-Dinitro-2-methylphenol	250	U	ug/l	250
N-Nitrosodiphenylamine	50	U	ug/l	50
1,2-Diphenylhydrazine	50	U	ug/l	50
4-Bromophenyl-phenylether	50	U	ug/l	50
Hexachlorobenzene	50	U	ug/l	50
Pentachlorophenol	250	U	ug/l	250
Phenanthrene	50	U	ug/l	50
Anthracene	50	U	ug/l	50
Di-n-Butylphthalate	50	U	ug/l	50
Fluoranthene	50	U	ug/l	50
Pyrene	50	U	ug/l	50
Butylbenzylphthalate	50	U	ug/l	50
3,3-Dichlorobenzidine	100	U	ug/l	100
Benzo (a) anthracene	50	U	ug/l	50
Chrysene	50	U	ug/l	50
bis(2-Ethylhexyl) phthalate	50	U	ug/l	50
Di-n-octylphthalate	50	U	ug/l	50
Benzo (b) fluoranthene	50	U	ug/l	50
Benzo (k) fluoranthene	50	U	ug/l	50
Benzo (a) pyrene	50	U	ug/l	50
Indeno (1,2,3-cd) pyrene	50	U	ug/l	50
Dibenzo (a,h) anthracene	50	U	ug/l	50
Benzo (g,h,i) perylene	50	U	ug/l	50
2-Picoline	250	U	ug/l	250
Methyl methanesulfonate	50	U	ug/l	50
Ethyl methanesulfonate	50	U	ug/l	50
Acetophenone	50	U	ug/l	50
N-Nitrosopiperidine	50	U	ug/l	50
Phenyl-tert-butylamine	250	U	ug/l	250
2,6-Dichlorophenol	50	U	ug/l	50
N-Nitroso-di-n-butylamine	50	U	ug/l	50
N-Nitrosodiethylamine	50	U	ug/l	50
N-Nitrosopyrrolidine	50	U	ug/l	50
Benzidine	250	U	ug/l	250
1,2,4,5-Tetrachlorobenzene	250	U	ug/l	250
Pentachlorobenzene	250	U	ug/l	250
1-Naphthylamine	250	U	ug/l	250
2-Naphthylamine	250	U	ug/l	250
2,3,4,6-Tetrachlorophenol	50	U	ug/l	50
Phenacetin	50	U	ug/l	50
4-Aminobiphenyl	250	U	ug/l	250
Pentachloronitrobenzene	250	U	ug/l	250
Pronamide	50	U	ug/l	50

US Naval Station, Mayport, Florida
Fleet Training Center(SWMU 14) - Detention Pond Groundwater Data

Lab Sample Number:	RA024014				RA044009				RA044010				MB671003			
Site	GROUPIII				GROUPIII				GROUPIII				GROUPIII			
Locator	14G00801				14G01001				14G01401				14G01501			
Collect Date:	15-JUN-95				17-JUN-95				17-JUN-95				27-AUG-96			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
N-Nitrosodiphenylamine	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	50	U	ug/l	50
1,2-Diphenylhydrazine	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	50	U	ug/l	50
4-Bromophenyl-phenylether	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	50	U	ug/l	50
Hexachlorobenzene	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	50	U	ug/l	50
Pentachlorophenol	50	U	ug/l	50	50	U	ug/l	50	50	U	ug/l	50	250	U	ug/l	250
Phenanthrene	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	5	J	ug/l	50
Anthracene	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	50	U	ug/l	50
Di-n-Butylphthalate	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	50	U	ug/l	50
Fluoranthene	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	50	U	ug/l	50
Pyrene	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	50	U	ug/l	50
Butylbenzylphthalate	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	50	U	ug/l	50
3,3-Dichlorobenzidine	20	U	ug/l	20	20	U	ug/l	20	20	U	ug/l	20	100	U	ug/l	100
Benzo (a) anthracene	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	50	U	ug/l	50
Chrysene	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	50	U	ug/l	50
bis(2-Ethylhexyl) phthalate	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	50	U	ug/l	50
Di-n-octylphthalate	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	50	U	ug/l	50
Benzo (b) fluoranthene	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	50	U	ug/l	50
Benzo (k) fluoranthene	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	50	U	ug/l	50
Benzo (a) pyrene	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	50	U	ug/l	50
Indeno (1,2,3-cd) pyrene	10	UJ	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	50	U	ug/l	50
Dibenzo (a,h) anthracene	10	UJ	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	50	U	ug/l	50
Benzo (g,h,i) perylene	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	50	U	ug/l	50
2-Picoline	50	U	ug/l	50	50	U	ug/l	50	50	U	ug/l	50	250	U	ug/l	250
Methyl methanesulfonate	10	UJ	ug/l	10	10	UJ	ug/l	10	10	UJ	ug/l	10	50	U	ug/l	50
Ethyl methanesulfonate	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	50	U	ug/l	50
Acetophenone	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	50	U	ug/l	50
N-Nitrosopiperidine	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	50	U	ug/l	50
Phenyl-tert-butylamine	50	U	ug/l	50	50	UJ	ug/l	50	50	UJ	ug/l	50	250	U	ug/l	250
2,6-Dichlorophenol	10	UJ	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	50	U	ug/l	50
N-Nitroso-di-n-butylamine	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	50	U	ug/l	50
N-Nitrosodiethylamine	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	50	U	ug/l	50
N-Nitrosopyrrolidine	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	50	U	ug/l	50
Benzidine	50	U	ug/l	50	50	U	ug/l	50	50	U	ug/l	50	250	U	ug/l	250
1,2,4,5-Tetrachlorobenzene	50	U	ug/l	50	50	U	ug/l	50	50	U	ug/l	50	250	U	ug/l	250
Pentachlorobenzene	50	U	ug/l	50	50	U	ug/l	50	50	U	ug/l	50	250	U	ug/l	250
1-Naphthylamine	50	UJ	ug/l	50	50	UJ	ug/l	50	50	UJ	ug/l	50	250	U	ug/l	250
2-Naphthylamine	50	UJ	ug/l	50	50	U	ug/l	50	50	U	ug/l	50	250	U	ug/l	250
2,3,4,6-Tetrachlorophenol	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	50	U	ug/l	50
Phenacetin	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	50	U	ug/l	50
4-Aminobiphenyl	50	UJ	ug/l	50	50	U	ug/l	50	50	U	ug/l	50	250	U	ug/l	250
Pentachloronitrobenzene	50	U	ug/l	50	50	U	ug/l	50	50	U	ug/l	50	250	U	ug/l	250
Pronamide	10	UJ	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	50	U	ug/l	50
p-Dimethylaminoazobenzene	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	50	U	ug/l	50
7,12-Dimethylbenz(A)Anthracene	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	50	U	ug/l	50
3-Methylcholanthrene	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	50	U	ug/l	50
Pyridine	50	U	ug/l	50	50	U	ug/l	50	50	U	ug/l	50	250	U	ug/l	250
N-Nitrosomethylethylamine	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	50	U	ug/l	50
N-Nitrosomorpholine	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	50	U	ug/l	50
o-Toluidine	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	50	U	ug/l	50
Hexachloropropene	50	U	ug/l	50	50	UJ	ug/l	50	50	UJ	ug/l	50	250	U	ug/l	250
p-Phenylenediamine	500	UJ	ug/l	500	500	UJ	ug/l	500	500	UJ	ug/l	500	2500	U	ug/l	2500
Safrole	50	UJ	ug/l	50	50	U	ug/l	50	50	U	ug/l	50	250	U	ug/l	250

US Naval Station, Mayport, Florida
Fleet Training Center(SWMU 14) - Detention Pond Groundwater Data

Lab Sample Number:		RA024014			RA044009			RA044010			MB671003		
Site		GROUPIII			GROUPIII			GROUPIII			GROUPIII		
Locator		14G00801			14G01001			14G01401			14G01501		
Collect Date:		15-JUN-95			17-JUN-95			17-JUN-95			27-AUG-96		
		VALUE QUAL	UNITS	DL	VALUE QUAL	UNITS	DL	VALUE QUAL	UNITS	DL	VALUE QUAL	UNITS	DL
INORGANICS (WATER)	ug/l												
Antimony		5 U	ug/l	5	5 U	ug/l	5	5 U	ug/l	5	2.6 U	ug/l	2.6
Arsenic		1.5 J	ug/l	.6	3.8 J	ug/l	.6	3.3 J	ug/l	.6	2.8 J	ug/l	1
Barium		4 J	ug/l	1.1	10 J	ug/l	1.1	3.9 UJ	ug/l	3.9	119 J	ug/l	.35
Beryllium		.3 U	ug/l	.3	.3 U	ug/l	.3	.3 U	ug/l	.3	.13 UJ	ug/l	.13
Cadmium		1.2 U	ug/l	1.2	1.2 U	ug/l	1.2	1.2 U	ug/l	1.2	3.3 U	ug/l	3.3
Calcium		78900	ug/l	34.8	69700	ug/l	34.8	64500	ug/l	34.8	-	ug/l	
Chromium		1.7 U	ug/l	1.7	1.7 U	ug/l	1.7	1.7 U	ug/l	1.7	2.2 U	ug/l	2.2
Cobalt		3.1 U	ug/l	3.1	3.1 U	ug/l	3.1	3.1 U	ug/l	3.1	2.5 U	ug/l	2.5
Copper		1 U	ug/l	1	1 U	ug/l	1	1 U	ug/l	1	27.1	ug/l	1.2
Cyanide		1.5 U	ug/l	1.5	1.6 UJ	ug/l	1.6	1.5 U	ug/l	1.5	.88 UJ	ug/l	.88
Iron		692	ug/l	1.9	75.9 UJ	ug/l	75.9	279	ug/l	1.9	-	ug/l	
Lead		.4 U	ug/l	.4	.4 U	ug/l	.4	.7 UJ	ug/l	.7	.75 UJ	ug/l	.75
Magnesium		11400	ug/l	19.8	8450	ug/l	19.8	10700	ug/l	19.8	-	ug/l	
Manganese		66.2	ug/l	.5	79.8	ug/l	.5	30	ug/l	.5	-	ug/l	
Mercury		.1 U	ug/l	.1	.1 U	ug/l	.1	.1 U	ug/l	.1	.05 U	ug/l	.05
Nickel		5.7 U	ug/l	5.7	6.1 UJ	ug/l	6.1	6.1 UJ	ug/l	6.1	5.5 U	ug/l	5.5
Selenium		.5 U	ug/l	.5	.5 U	ug/l	.5	.5 U	ug/l	.5	4.5 U	ug/l	4.5
Silver		1.4 U	ug/l	1.4	1.4 U	ug/l	1.4	1.4 U	ug/l	1.4	2.2 U	ug/l	2.2
Sodium		14700	ug/l	19.5	16200	ug/l	19.5	14300	ug/l	19.5	-	ug/l	
Thallium		.6 U	ug/l	.6	.6 U	ug/l	.6	.6 U	ug/l	.6	3.2 R	ug/l	3.2
Tin		13.6 U	ug/l	13.6	13.6 U	ug/l	13.6	13.6 U	ug/l	13.6	11.8 U	ug/l	11.8
Vanadium		1.8 J	ug/l	1.2	1.2 U	ug/l	1.2	2.9 J	ug/l	1.2	1.7 UJ	ug/l	1.7
Zinc		7.1 UJ	ug/l	7.1	5.5 UJ	ug/l	5.5	5 UJ	ug/l	5	8 UJ	ug/l	8

U = NOT DETECTED R = RESULT IS REJECTED
J = ESTIMATED VALUE UJ = REPORTED QUANTITATION LIMIT IS ESTIMATED
THE ADDITIONAL LISTINGS OF RESULTS FOR 1,2-; 1,3-; AND 1,4-DICHLOROBENZENE WERE GENERATED FROM THE SVOC (8270) ANALYTICAL RUN.

US Naval Station, Mayport, Florida
Fleet Training Center(SWMU 14) - Detention Pond Groundwater Data

Lab Sample Number:	MB671004
Site	GROUPIII
Locator	14G01501D
Collect Date:	27-AUG-96

	VALUE	QUAL	UNITS	DL
VOLATILES ug/l				
Chloromethane	10	U	ug/l	10
Bromomethane	10	U	ug/l	10
Vinyl chloride	10	U	ug/l	10
Chloroethane	10	U	ug/l	10
Methylene chloride	5	U	ug/l	5
Acetone	10	UJ	ug/l	10
Carbon disulfide	5	U	ug/l	5
1,1-Dichloroethane	5	U	ug/l	5
1,1-Dichloroethene	5	U	ug/l	5
1,2-Dichloroethene (total)	5	U	ug/l	5
Chloroform	5	U	ug/l	5
1,2-Dichloroethane	5	U	ug/l	5
2-Butanone	10	U	ug/l	10
1,1,1-Trichloroethane	5	U	ug/l	5
Carbon tetrachloride	5	U	ug/l	5
Bromodichloromethane	5	U	ug/l	5
1,2-Dichloropropane	5	U	ug/l	5
cis-1,3-Dichloropropene	5	U	ug/l	5
Trichloroethene	5	U	ug/l	5
Dibromochloromethane	5	U	ug/l	5
1,1,2-Trichloroethane	5	U	ug/l	5
Benzene	5	U	ug/l	5
trans-1,3-Dichloropropene	5	U	ug/l	5
Bromoform	5	U	ug/l	5
4-Methyl-2-pentanone	10	U	ug/l	10
2-Hexanone	10	U	ug/l	10
Tetrachloroethene	5	U	ug/l	5
1,1,2,2-Tetrachloroethane	5	U	ug/l	5
Toluene	5	U	ug/l	5
Chlorobenzene	5	U	ug/l	5
Ethylbenzene	5	U	ug/l	5
Styrene	5	U	ug/l	5
Xylenes (total)	4	J	ug/l	5
Dichlorodifluoromethane	10	U	ug/l	10
Trichlorofluoromethane	5	U	ug/l	5
1,3-Dichlorobenzene	5	U	ug/l	5
Acrolein	100	U	ug/l	100
Iodomethane	10	U	ug/l	10
1,4-Dichlorobenzene	50	U	ug/l	50
Acrylonitrile	100	U	ug/l	100

US Naval Station, Mayport, Florida
Fleet Training Center(SWMU 14) - Groundwater Quality Data

Lab Sample Number:		RA024007			RA02400B			RA024011			RA024004		
Site		GROUPIII			GROUPIII			GROUPIII			GROUPIII		
Locator		14G00101			14G00201			14G00301			14G00401		
Collect Date:		14-JUN-95			14-JUN-95			15-JUN-95			13-JUN-95		
		VALUE	QUAL UNITS	DL	VALUE	QUAL UNITS	DL	VALUE	QUAL UNITS	DL	VALUE	QUAL UNITS	DL
GROUND WATER QUALITY	mg/l												
Alkalinity as CaCO3		282	mg/l	2	382	mg/l	2	338	mg/l	2	224	mg/l	2
Ammonia-N		.6	mg/l	.3	2.4	mg/l	.3	1.6	mg/l	.3	.4	mg/l	.3
Chloride		31	mg/l	10	27.9	mg/l	10	24.1	mg/l	10	20	mg/l	1
Hardness as CaCO3		269	mg/l	3	378	mg/l	6	327	mg/l	3	235	mg/l	3
Nitrate/Nitrite-N		-	mg/l		-	mg/l		-	mg/l		-	mg/l	
Oil and Grease		5 U	mg/l	5	5 U	mg/l	5	5 U	mg/l	5	-	mg/l	
Phosphorous-P, Total		.6	mg/l	.1	.26	mg/l	.1	.34	mg/l	.1	.24	mg/l	.1
Sulfate		4.7	mg/l	1	11.7	mg/l	1	7.86	mg/l	1	34.1	mg/l	1
Sulfide		1 U	mg/l	1	1 U	mg/l	1	1 U	mg/l	1	1 U	mg/l	1
Total Dissolved Solids		352	mg/l	10	440	mg/l	10	414	mg/l	10	308	mg/l	10
Total Kjeldahl Nitrogen		1.1	mg/l	.3	2.7	mg/l	.3	2.6	mg/l	.3	.8	mg/l	.3
Total Organic Carbon		13.2	mg/l	1	17.5	mg/l	1	29.4	mg/l	1	4.4	mg/l	1
Total petroleum hydrocarbons		.05 U	mg/l	.05	.05 U	mg/l	.05	.05 U	mg/l	.05	-	mg/l	
Iron		1090	ug/l	1.9	1020	ug/l	1.9	591	ug/l	1.9	343	ug/l	1.9
Sodium		19900	ug/l	19.5	18400	ug/l	19.5	15400	ug/l	19.5	14800	ug/l	19.5

U = NOT DETECTED R = RESULT IS REJECTED
J = ESTIMATED VALUE UJ = REPORTED QUANTITATION LIMIT IS ESTIMATED
THE ADDITIONAL LISTINGS OF RESULTS FOR 1,2-; 1,3-; AND 1,4-DICHLOROBENZENE WERE GENERATED FROM THE SVOC (8270) ANALYTICAL RUN.

US Naval Station, Mayport, Florida
Fleet Training Center(SWMU 14) - Detention Pond Groundwater Data

Lab Sample Number: MB671004
Site GROUPIII
Locator 14G01501D
Collect Date: 27-AUG-96

	VALUE	QUAL	UNITS	DL
Acenaphthene	6	J	ug/l	50
2,4-Dinitrophenol	250	U	ug/l	250
4-Nitrophenol	250	U	ug/l	250
Dibenzofuran	50	U	ug/l	50
2,4-Dinitrotoluene	50	U	ug/l	50
Diethylphthalate	50	U	ug/l	50
4-Chlorophenyl-phenylether	50	U	ug/l	50
Fluorene	5	J	ug/l	50
4-Nitroaniline	250	U	ug/l	250
4,6-Dinitro-2-methylphenol	250	U	ug/l	250
N-Nitrosodiphenylamine	50	U	ug/l	50
1,2-Diphenylhydrazine	50	U	ug/l	50
4-Bromophenyl-phenylether	50	U	ug/l	50
Hexachlorobenzene	50	U	ug/l	50
Pentachlorophenol	250	U	ug/l	250
Phenanthrene	50	U	ug/l	50
Anthracene	50	U	ug/l	50
Di-n-Butylphthalate	50	U	ug/l	50
Fluoranthene	50	U	ug/l	50
Pyrene	50	U	ug/l	50
Butylbenzylphthalate	50	U	ug/l	50
3,3-Dichlorobenzidine	100	U	ug/l	100
Benzo (a) anthracene	50	U	ug/l	50
Chrysene	50	U	ug/l	50
bis(2-Ethylhexyl) phthalate	50	U	ug/l	50
Di-n-octylphthalate	50	U	ug/l	50
Benzo (b) fluoranthene	50	U	ug/l	50
Benzo (k) fluoranthene	50	U	ug/l	50
Benzo (a) pyrene	50	U	ug/l	50
Indeno (1,2,3-cd) pyrene	50	U	ug/l	50
Dibenzo (a,h) anthracene	50	U	ug/l	50
Benzo (g,h,i) perylene	50	U	ug/l	50
2-Picoline	250	U	ug/l	250
Methyl methanesulfonate	50	U	ug/l	50
Ethyl methanesulfonate	50	U	ug/l	50
Acetophenone	50	U	ug/l	50
N-Nitrosopiperidine	50	U	ug/l	50
Phenyl-tert-butylamine	250	U	ug/l	250
2,6-Dichlorophenol	50	U	ug/l	50
N-Nitroso-di-n-butylamine	50	U	ug/l	50
N-Nitrosodiethylamine	50	U	ug/l	50
N-Nitrosopyrrolidine	50	U	ug/l	50
Benzidine	250	U	ug/l	250
1,2,4,5-Tetrachlorobenzene	250	U	ug/l	250
Pentachlorobenzene	250	U	ug/l	250
1-Naphthylamine	250	U	ug/l	250
2-Naphthylamine	250	U	ug/l	250
2,3,4,6-Tetrachlorophenol	50	U	ug/l	50
Phenacetin	50	U	ug/l	50
4-Aminobiphenyl	250	U	ug/l	250
Pentachloronitrobenzene	250	U	ug/l	250
Pronamide	50	U	ug/l	50

US Naval Station, Mayport, Florida
Fleet Training Center(SWMU 14) - Groundwater Quality Data

Lab Sample Number:	RA044012			RA024014			RA044011			RA044009		
Site	GROUPIII			GROUPIII			GROUPIII			GROUPIII		
Locator	14G00701			14G00801			14G00901			14G01001		
Collect Date:	18-JUN-95			15-JUN-95			17-JUN-95			17-JUN-95		
	VALUE	QUAL UNITS	DL	VALUE	QUAL UNITS	DL	VALUE	QUAL UNITS	DL	VALUE	QUAL UNITS	DL
GROUND WATER QUALITY mg/l												
Alkalinity as CaCO3	300	mg/l	2	228	mg/l	2	287	mg/l	2	182	mg/l	2
Ammonia-N	1.2	mg/l	.3	.6	mg/l	.3	2.2	mg/l	.3	.3 U	mg/l	.3
Chloride	20.8	mg/l	10	23.3	mg/l	10	27	mg/l	10	25.2	mg/l	10
Hardness as CaCO3	311	mg/l	3	251	mg/l	3	289	mg/l	6	169	mg/l	3
Nitrate/Nitrite-N	-	mg/l		-	mg/l		-	mg/l		-	mg/l	
Oil and Grease	5 U	mg/l	5	5 U	mg/l	5	5 U	mg/l	5	5 U	mg/l	5
Phosphorous-P, Total	.26	mg/l	.1	.46	mg/l	.1	.37	mg/l	.1	.31	mg/l	.1
Sulfate	12.1	mg/l	1	15	mg/l	1	22.9	mg/l	1	35.8	mg/l	1
Sulfide	1 U	mg/l	1	1 U	mg/l	1	1 U	mg/l	1	1 U	mg/l	1
Total Dissolved Solids	380	mg/l	10	320	mg/l	10	382	mg/l	10	275	mg/l	10
Total Kjeldahl Nitrogen	1.5	mg/l	.3	1	mg/l	.3	2.5	mg/l	.3	.3	mg/l	.3
Total Organic Carbon	20.6	mg/l	1	13.8	mg/l	1	12.7	mg/l	1	3.8	mg/l	1
Total petroleum hydrocarbons	.05 U	mg/l	.05	.05 U	mg/l	.05	.05 U	mg/l	.05	.05 U	mg/l	.05
Iron	732	ug/l	1.9	692	ug/l	1.9	1480	ug/l	1.9	75.9 UJ	ug/l	75.9
Sodium	13800	ug/l	19.5	14700	ug/l	19.5	16800	ug/l	19.5	16200	ug/l	19.5

U = NOT DETECTED R = RESULT IS REJECTED
J = ESTIMATED VALUE UJ = REPORTED QUANTITATION LIMIT IS ESTIMATED
THE ADDITIONAL LISTINGS OF RESULTS FOR 1,2-; 1,3-; AND 1,4-DICHLOROBENZENE WERE GENERATED FROM THE SVOC (8270) ANALYTICAL RUN.

US Naval Station, Mayport, Florida
Fleet Training Center(SWMU 14) - Detention Pond Groundwater Data

Lab Sample Number:		RA024014			RA044009			RA044010			MB671003		
Site		GROUPIII			GROUPIII			GROUPIII			GROUPIII		
Locator		14G00801			14G01001			14G01401			14G01501		
Collect Date:		15-JUN-95			17-JUN-95			17-JUN-95			27-AUG-96		
		VALUE QUAL	UNITS	DL	VALUE QUAL	UNITS	DL	VALUE QUAL	UNITS	DL	VALUE QUAL	UNITS	DL
INORGANICS (WATER)	ug/l												
Antimony		5 U	ug/l	5	5 U	ug/l	5	5 U	ug/l	5	2.6 U	ug/l	2.6
Arsenic		1.5 J	ug/l	.6	3.8 J	ug/l	.6	3.3 J	ug/l	.6	2.8 J	ug/l	1
Barium		4 J	ug/l	1.1	10 J	ug/l	1.1	3.9 UJ	ug/l	3.9	119 J	ug/l	.35
Beryllium		.3 U	ug/l	.3	.3 U	ug/l	.3	.3 U	ug/l	.3	.13 UJ	ug/l	.13
Cadmium		1.2 U	ug/l	1.2	1.2 U	ug/l	1.2	1.2 U	ug/l	1.2	3.3 U	ug/l	3.3
Calcium		78900	ug/l	34.8	69700	ug/l	34.8	64500	ug/l	34.8	-	ug/l	
Chromium		1.7 U	ug/l	1.7	1.7 U	ug/l	1.7	1.7 U	ug/l	1.7	2.2 U	ug/l	2.2
Cobalt		3.1 U	ug/l	3.1	3.1 U	ug/l	3.1	3.1 U	ug/l	3.1	2.5 U	ug/l	2.5
Copper		1 U	ug/l	1	1 U	ug/l	1	1 U	ug/l	1	27.1	ug/l	1.2
Cyanide		1.5 U	ug/l	1.5	1.6 UJ	ug/l	1.6	1.5 U	ug/l	1.5	.88 UJ	ug/l	.88
Iron		692	ug/l	1.9	75.9 UJ	ug/l	75.9	279	ug/l	1.9	-	ug/l	
Lead		.4 U	ug/l	.4	.4 U	ug/l	.4	.7 UJ	ug/l	.7	.75 UJ	ug/l	.75
Magnesium		11400	ug/l	19.8	8450	ug/l	19.8	10700	ug/l	19.8	-	ug/l	
Manganese		66.2	ug/l	.5	79.8	ug/l	.5	30	ug/l	.5	-	ug/l	
Mercury		.1 U	ug/l	.1	.1 U	ug/l	.1	.1 U	ug/l	.1	.05 U	ug/l	.05
Nickel		5.7 U	ug/l	5.7	6.1 UJ	ug/l	6.1	6.1 UJ	ug/l	6.1	5.5 U	ug/l	5.5
Selenium		.5 U	ug/l	.5	.5 U	ug/l	.5	.5 U	ug/l	.5	4.5 U	ug/l	4.5
Silver		1.4 U	ug/l	1.4	1.4 U	ug/l	1.4	1.4 U	ug/l	1.4	2.2 U	ug/l	2.2
Sodium		14700	ug/l	19.5	16200	ug/l	19.5	14300	ug/l	19.5	-	ug/l	
Thallium		.6 U	ug/l	.6	.6 U	ug/l	.6	.6 U	ug/l	.6	3.2 R	ug/l	3.2
Tin		13.6 U	ug/l	13.6	13.6 U	ug/l	13.6	13.6 U	ug/l	13.6	11.8 U	ug/l	11.8
Vanadium		1.8 J	ug/l	1.2	1.2 U	ug/l	1.2	2.9 J	ug/l	1.2	1.7 UJ	ug/l	1.7
Zinc		7.1 UJ	ug/l	7.1	5.5 UJ	ug/l	5.5	5 UJ	ug/l	5	8 UJ	ug/l	8

U = NOT DETECTED R = RESULT IS REJECTED
J = ESTIMATED VALUE UJ = REPORTED QUANTITATION LIMIT IS ESTIMATED
THE ADDITIONAL LISTINGS OF RESULTS FOR 1,2-; 1,3-; AND 1,4-DICHLOROBENZENE WERE GENERATED FROM THE SVOC (8270) ANALYTICAL RUN.

US Naval Station, Mayport, Florida
Fleet Training Center(SWMU 14) - Groundwater Quality Data

Lab Sample Number:		MB671003			MB747002			MB747003			MB747004		
Site		GROUPIII			GROUPIII			GROUPIII			GROUPIII		
Locator		14G01501			14G01601			14G01701			14G01801		
Collect Date:		27-AUG-96			04-SEP-96			04-SEP-96			04-SEP-96		
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
GROUND WATER QUALITY	mg/l															
Alkalinity as CaCO3		-	mg/l			-	mg/l			-	mg/l			-	mg/l	
Ammonia-N		-	mg/l			-	mg/l			-	mg/l			-	mg/l	
Chloride		-	mg/l			-	mg/l			-	mg/l			-	mg/l	
Hardness as CaCO3		-	mg/l			-	mg/l			-	mg/l			-	mg/l	
Nitrate/Nitrite-N		-	mg/l			-	mg/l			-	mg/l			-	mg/l	
Oil and Grease		-	mg/l			-	mg/l			-	mg/l			-	mg/l	
Phosphorous-P, Total		-	mg/l			-	mg/l			-	mg/l			-	mg/l	
Sulfate		-	mg/l			-	mg/l			-	mg/l			-	mg/l	
Sulfide		-	mg/l			-	mg/l			-	mg/l			-	mg/l	
Total Dissolved Solids		-	mg/l			-	mg/l			-	mg/l			-	mg/l	
Total Kjeldahl Nitrogen		-	mg/l			-	mg/l			-	mg/l			-	mg/l	
Total Organic Carbon		-	mg/l			-	mg/l			-	mg/l			-	mg/l	
Total petroleum hydrocarbons		.14	mg/l	.06	.17	mg/l	.06	.32	mg/l	.06	.28	mg/l	.05			
Iron		-	ug/l			-	ug/l		-	ug/l		-	ug/l			
Sodium		-	ug/l			-	ug/l		-	ug/l		-	ug/l			

U = NOT DETECTED R = RESULT IS REJECTED
J = ESTIMATED VALUE UJ = REPORTED QUANTITATION LIMIT IS ESTIMATED
THE ADDITIONAL LISTINGS OF RESULTS FOR 1,2-; 1,3-; AND 1,4-DICHLOROBENZENE WERE GENERATED FROM THE SVOC (8270) ANALYTICAL RUN.

US Naval Station, Mayport, Florida
Fleet Training Center(SWMU 14) - Groundwater Quality Data

Lab Sample Number:	RA024007			RA024008			RA024011			RA024004		
Site	GROUPIII			GROUPIII			GROUPIII			GROUPIII		
Locator	14G00101			14G00201			14G00301			14G00401		
Collect Date:	14-JUN-95			14-JUN-95			15-JUN-95			13-JUN-95		
	VALUE	QUAL UNITS	DL	VALUE	QUAL UNITS	DL	VALUE	QUAL UNITS	DL	VALUE	QUAL UNITS	DL
GROUND WATER QUALITY mg/l												
Alkalinity as CaCO3	282	mg/l	2	382	mg/l	2	338	mg/l	2	224	mg/l	2
Ammonia-N	.6	mg/l	.3	2.4	mg/l	.3	1.6	mg/l	.3	.4	mg/l	.3
Chloride	31	mg/l	10	27.9	mg/l	10	24.1	mg/l	10	20	mg/l	1
Hardness as CaCO3	269	mg/l	3	378	mg/l	6	327	mg/l	3	235	mg/l	3
Nitrate/Nitrite-N	-	mg/l		-	mg/l		-	mg/l		-	mg/l	
Oil and Grease	5 U	mg/l	5	5 U	mg/l	5	5 U	mg/l	5	-	mg/l	
Phosphorous-P, Total	.6	mg/l	.1	.26	mg/l	.1	.34	mg/l	.1	.24	mg/l	.1
Sulfate	4.7	mg/l	1	11.7	mg/l	1	7.86	mg/l	1	34.1	mg/l	1
Sulfide	1 U	mg/l	1	1 U	mg/l	1	1 U	mg/l	1	1 U	mg/l	1
Total Dissolved Solids	352	mg/l	10	440	mg/l	10	414	mg/l	10	308	mg/l	10
Total Kjeldahl Nitrogen	1.1	mg/l	.3	2.7	mg/l	.3	2.6	mg/l	.3	.8	mg/l	.3
Total Organic Carbon	13.2	mg/l	1	17.5	mg/l	1	29.4	mg/l	1	4.4	mg/l	1
Total petroleum hydrocarbons	.05 U	mg/l	.05	.05 U	mg/l	.05	.05 U	mg/l	.05	-	mg/l	
Iron	1090	ug/l	1.9	1020	ug/l	1.9	591	ug/l	1.9	343	ug/l	1.9
Sodium	19900	ug/l	19.5	18400	ug/l	19.5	15400	ug/l	19.5	14800	ug/l	19.5

U = NOT DETECTED R = RESULT IS REJECTED
J = ESTIMATED VALUE UJ = REPORTED QUANTITATION LIMIT IS ESTIMATED
THE ADDITIONAL LISTINGS OF RESULTS FOR 1,2-; 1,3-; AND 1,4-DICHLOROBENZENE WERE GENERATED FROM THE SVOC (8270) ANALYTICAL RUN.

APPENDIX B

DATA VALIDATION SUMMARIES

Environmental Data Services, Inc.

Specializing in Laboratory Data Validation

Summary of Organic Data Validation
Volatile Organic Compounds

Client:	ABB Environmental Services, Inc.
Project Name:	U.S. Naval Station Mayport, Mayport, Florida
Project Number:	CTO 028
Contract Laboratory:	Quality Analytical Laboratory
SDG Number:	M3033
Purchase Order Number:	SE4-21-017
NEESA Level:	C
Data Reviewer:	Nancy Weaver
Secondary Reviewer:	Linda Harding
Date Review Completed:	October 9, 1996

Contractor Sample Number	Laboratory Sample Number	Sample Matrix
14T046	MB619001	Water
14Y010	MB619002	Water
14R034	MB619003	Water
14B02902	MB624001	Soil
14B02902R	MB624001R	Soil
14B03002	MB624002	Soil
14B03002R	MB624002R	Soil
14B03102	MB624003	Soil
14B03102R	MB624003R	Soil
14T047	MB638001	Water
14T048	MB638002	Water
14S03201	MB638003	Soil
14S03201MS	MB638003MS	Soil
14S03201MSD	MB638003MSD	Soil
14S03201D	MB638004	Soil
14S03301	MB638005	Soil
14B03203	MB638006	Soil
14B03303	MB638007	Soil
14S03401	MB638008	Soil
14S03501	MB638009	Soil
14B03403	MB638010	Soil

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14B03503	MB638011	Soil
14S03601	MB638012	Soil
14S03601D	MB638013	Soil
14S03701	MB638014	Soil
14B03603	MB638015	Soil
14B03603R	MB638015R	Soil
14B03703	MB638016	Soil
14S03801	MB638017	Soil
14B03803	MB638018	Soil

TABLE OF CONTENTS

I. Validation Procedure Summary 1

II. Data Deliverables 1

III. Technical Holding Times 1

IV. GC/MS Instrument Performance Check 1

V. Initial Calibration (ICAL) 2

VI. Continuing Calibration 4

VII. Blanks 6
A. Laboratory Blanks 6
B. Field Blanks 8

VIII. System Monitoring Compounds (Surrogates) 9

IX. Matrix Spikes/Matrix Spike Duplicates 10

X. Laboratory Control Samples (LCS) 10

XI. Field Duplicates 11

XII. Internal Standards 11

XIII. Target Compound Identification 12

XIV. Compound Quantitation and Reported CRQLS 12

XV. Tentatively Identified Compounds 13

XVI. System Performance 14

XVII. Overall Assessment of Data 14

Organic Data Qualifiers 15

I. Validation Procedure Summary

Data review and validation were performed in accordance with Naval Energy and Environmental Support Activity (NEESA) 20.2-047B (June 1988) using the USEPA National Functional Guidelines for Organic Data Review, (12/90, Revised 6/91) and criteria specified in the USEPA Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846, 3rd Edition (1986).

II. Data Deliverables

1. All required deliverables including QA/QC summary forms and all necessary raw data were present in legible form in the data package.

   Yes: __X__ No: ____

III. Technical Holding Times

Technical holding times for all samples were verified from raw data and chain of custody forms.

1. Technical holding times were within the allowable limits shown below:

   a. Preserved water samples analyzed ≤ 14 days from date of sample collection.

   Yes: __X__ No: ____ N/A: ____

   b. Unpreserved water samples, aromatic VOCs analyzed ≤ 7 days from date of sample collection; non-aromatic VOCs analyzed ≤ 14 days from date of sample collection.

   Yes: ____ No: ____ N/A: __X__

   c. Soil samples analyzed ≤ 14 days from date of sample collection.

   Yes: __X__ No: ____ N/A: ____

   Comment: Holding time criteria have been met and no action has been taken.

IV. GC/MS Instrument Performance Check

One hundred percent of the results on the summary forms were checked to ensure that reported results met required quality control criteria.

1. The BFB instrument performance check solution was analyzed at the beginning of each 12 hour period during sample analysis. All standards, samples, blanks and samples were analyzed within 12 hours of the injection of the tuning compound.

Yes: X No: ____

2. BFB ion abundance criteria for all instrument performance checks were within the quality control limits specified below.

Yes: X No: ____

Bromofluorobezene (BFB)

m/z	Ion Abundance Criteria
50	15 - 40.0% of m/z 95
75	30.0 - 60.0 of m/z 95
95	Base peak, 100% relative abundance
96	5.0 - 9.0% of m/z 95
173	Less than 2.0% of m/z 174
174	Greater than 50.0% of m/z 95
175	5.0 - 9.0% of m/z 174
176	95.0 - 101.0% of m/z 174
177	5.0 - 9.0% of m/z 176

Summary of Tuning

Date of Injection	Instrument ID	Matrix	Level (low or medium)	File/Batch No.
8/27/96	MS5	Water	Low	27AUG0201002.D
8/26/96	MS6	Soil	Low	C2BF039330.D
8/27/96	MS6	Soil	Low	C1BF039348.D
8/28/96	MS6	Soil	Low	C1BF039368.D
8/29/96	MS6	Soil	Low	C2BF039394.D

Comment: Tuning criteria have been met and no action has been taken.

V. Initial Calibration (ICAL)

One hundred percent of the results on the summary forms were checked to ensure that reported results met required quality control criteria.

1. An initial 5-point calibration was run for each compound at concentrations of 10, 20, 50, 100, and 200 ug/L (or, if a 25-mL purge volume was used, at concentrations of 4, 10, 20, 30 and 40 ug/L).

   Yes: X No: ____

2. The initial calibration mean relative response factor (RRF) was greater than or equal to 0.05 for each compound.

   Yes: ____ No: X

3. The RRF percent relative standard deviation (% RSD) results from the initial calibration were less than or equal to 30% for all compounds.

   Yes: ____ No: X

   Initial calibration results which did not meet RRF or %RSD criteria are listed below:

Volatile Initial Calibration Summary Table
SDG No. M3033

ICAL Date and File/Batch Numbers of Stds.	Affected Analyte	% RSD	RRF	Affected Sample	Lab Conc ug/l or ug/kg	Lab Qual	EDS Conc ug/l or ug/kg	EDS Qual
27AUG0301003.D-27AUG0701007.D 8/27/96	Acetone	39.8	0.593	None-All associated results non-detect	--	--	--	--
27AUG0301003.D-27AUG0701007.D 8/27/96	1,4-Dioxane	8.3	0.003	14T046 14Y010 14R034 14T047 14T048	200 200 200 200 200	U	200 200 200 200 200	R

CSVH039331.D- CSVH039335.D 8/26/96	1,4-Dioxane	11.4	0.005	14S03201	210	U	210	R
				14B02902	240		240	
				14B03002	240		240	
				14B03102	210		210	
				14S03201D	210		210	
				14S03301	270		270	
				14B03203	240		240	
				14B03303	220		220	
				14S03401	210		210	
				14S03501	220		220	
				14B03403	230		230	
				14B03503	220		220	
				14S03601	220		220	
				14S03601D	220		220	
				14S03701	210		210	
				14B03603	220		220	
				14B03703	220		220	
				14S03801	220		220	
				14B03803	220		220	
				14B02902R	240		240	
				14B03002R	240		240	
				14B03102R	240		240	
				14B03603R	220		220	

VI. Continuing Calibration

One hundred percent of the results on the summary forms were checked to ensure that reported results met required quality control criteria.

1. A continuing calibration standard containing all target compounds was analyzed at the beginning of each 12-hour analysis period following the analysis of the instrument performance check and prior to the analysis of any blanks or samples.

   Yes: X No: ____

2. The relative response factor (RRF) for each compound was greater than or equal to 0.05.

   Yes: ____ No: X

3. The percent difference (%D) between the mean initial calibration RRF and the continuing calibration RRF for each compound was within ±25%.

   Yes: ____ No: X

   Continuing calibration results which did not meet RRF or %D criteria are listed below:

Volatile Continuing Calibration Summary Table SDG No. M3033								
CCAL Date and File/Batch Numbers of Stds.	Affected Analyte	%D	RRF	Affected Sample	Lab Conc ug/l or ug/kg	Lab Qual	EDS Conc ug/l or ug/kg	EDS Qual
27AUG0301003.D 8/27/96	1,4-Dioxane	4.5	0.003	None-All previously qualified due to initial calibration				
27AUG0301003.D 8/27/96	Methyl Methacrylate	26.4	0.418	14T046	10	U	10	UJ
				14Y010	10		10	
				14R034	10		10	
				14T047	10		10	
				14T048	10		10	
CSVH039331.D 8/26/96	Chloroethane	28.4	1.368	14B02902	12	U	12	UJ
				14B03002	12		12	
				14B03102	10		10	
				14S03201D	10		10	
				14S03301	13		13	
				14B03203	12		12	
				14B03303	11		11	
				14S03401	10		10	
CSVH039331.D 8/26/96	1,4-Dioxane	4.7	0.005	None-All previously qualified due to initial calibration				
CSVH039349.D 8/27/96	Chloroethane	31.9	1.406	14S03201	10	U	10	UJ
				14S03501	11		11	
				14B03403	12		12	
				14B03503	11		11	
				14S03601	11	-	11	
				14S03601D	11		11	
				14S03701	10		10	
				14B03603	11		11	
				14B02902R	12		12	
				14B03002R	12		12	
				14B03102R	12		12	
CSVH039349.D 8/27/96	Iodomethane	27.3	3.272	14S03201	10	U	10	UJ
				14S03501	11		11	
				14B03403	12		12	
				14B03503	11		11	
				14S03601	11		11	
				14S03601D	11		11	
				14S03701	10		10	
				14B03603	11		11	
				14B02902R	12		12	
				14B03002R	12		12	
				14B03102R	12		12	

CSVH039349.D 8/27/96	1,4-Dioxane	3.1	0.006	None-All previously qualified due to initial calibration				
CSVH039370.D 8/28/96	Bromomethane	25.5	0.900	14B03703 14B03803 14B03603R	11 11 11	U	11 11 11	UJ
CSVH039370.D 8/28/96	Chloroethane	39.7	1.489	14B03703 14B03803 14B03603R	11 11 11	U	11 11 11	UJ
CSVH039370.D 8/28/96	1,4-Dioxane	17.6	0.006	None-All previously qualified due to initial calibration				
CSVH039370.D 8/28/96	Iodomethane	28.9	3.312	14B03703 14B03803 14B03603R	11 11 11	U	11 11 11	UJ
CSVH039395.D 8/29/96	Bromomethane	44.9	0.666	14S03801	11	U	11	UJ
CSVH039395.D 8/29/96	Chloroethane	39.2	1.483	14S03801	11	U	11	UJ
CSVH039395.D 8/29/96	1,4-Dioxane	15.2	0.006	None-All previously qualified due to initial calibration				

4. Comments: The following calibration calculations were verified during the validation process.

M3033 MS5 8/27/96 Acetone Mean =(Sum RRF/5) Mean RRF = (0.969+0.669+0.505+ 0.441+0.381/5=0.593	M3033 MS5 8/27/96 Acetone %RSD=(Std.Deviation/Mean)*100 %RSD=(0.2361/0.593)*100 %RSD=39.8%	M3033 MS6 8/28/96 Iodomethane %D=(Mean RRF- RRF50/Mean RRF)*100 %D=(2.570-3.312/2.570)* 100 %D=-28.9

VII. Blanks

One hundred percent of the results on the summary forms were checked to ensure that reported results met required quality control criteria.

A. Laboratory Blanks

1. Laboratory method blanks were analyzed for each matrix type, concentration level, and for each 12 hour time period on each GC/MS system used to analyze samples.

Yes: __X__ No: ____

2. All laboratory blanks were found to be free of contaminant target compounds at detectable concentrations.

Yes: _____ No: __X__

Comment: The following table summarizes laboratory blank results:

Volatile Laboratory Blank Summary Table SDG No. M3033								
Blank ID/Date Analyzed	Affected Analyte	Conc. ug/l or ug/kg	Action Level ** ug/l or ug/kg	Affected Sample	Lab Conc ug/l or ug/kg	Lab Qual	EDS Conc ug/l or ug/kg	EDS Qual
VBLK2Q 8/27/96	Acetone	8	80	14Y010	12	B	12	U
				14T046	3	JB	10	U
				14R034	10	B	10	U
				14T047	2	JB	10	U
VBLK2N 8/26/96	Acetone	4	40	14B02902	29	B	29	U
				14S03201D	6	JB	10	U
				14S03301	8	JB	13	U
				14B03203	7	JB	12	U
				14S03401	19	B	19	U
VBLK2R 8/27/96	Acetone	4	40	14S03501	28	B	28	U
				14B02902R	40	B	40	U
				14S03201	16	B	16	U
				14B03403	39	B	39	U
				14B03503	39	B	39	U
				14S03701	14	B	14	U
VBLK2U 8/28/96	Acetone	6	60	14B03703	8	JB	11	U
				14B03803	25	B	25	U
VBLK2U 8/28/96	2-Butanone	1	10	14B03703	2	JB	11	U
				14B03803	5	JB	11	U
VBLK2U 8/28/96	Benzene	2	20	14B03603R	2	JB	6	U
				14B03703	2	JB	6	U
				14B03803	2	JB	5	U
VBLK31 8/29/96	None Found	--	--	--	--	--	--	--

** The "action level" is 10X the blank concentration for compounds defined to be common lab contaminants (i.e., methylene chloride, acetone, 2-butanone), and 5X the blank concentration for other target compound contaminants.

3. All laboratory blanks were found to be clean of tentatively identified compound (TIC) contamination.

Yes: ____ No: ____ N/A: __X__

4. If TICs were detected in the laboratory blanks, the associated samples were found to be free of those analytes at detectable concentrations.

Yes: ____ No: ____ N/A: __X__

B. Field Blanks

1. The field blanks associated with samples in the SDG met the following conditions:

a. All field blanks were found to be free of target analytes at detectable concentrations.

Yes: ____ No: __X__ N/A: ____

Comment: The following table summarizes field blank results:

Volatile Field Blank Summary Table
SDG No. M3033

Blank ID/Date Analyzed	Affected Analyte	Conc. ug/l	Action Level ** ug/l	Affected Sample	Lab Conc ug/l	Lab Qual	EDS Conc ug/l	EDS Qual
14T046 8/27/96	Methylene Chloride	3	30	14B02902	2	J	6	U
				14B03002	2	J	6	U
				14B03102	4	J	5	U
14Y010 8/27/96	2-Butanone	2	20	14B02902	4	J	12	U
				14B02902R	5	J	12	U
				14B03002	9	J	12	U
				14B03002R	8	J	12	U
				14B03102R	20	--	20	U
				14B03303	6	J	11	U
				14S03401	3	J	10	U
				14S03501	4	J	11	U
				14B03403	5	J	12	U
				14B03503	7	J	11	U
				14S03701	2	J	10	U
				14B03603	20	--	20	U
				14S03801	10	J	11	U
14R034 8/27/96	None-All non-detect	--	--	--	--	--	--	--

14T047 8/27/96	None-All non-detect	--	--	--	--	--	--	--
14T048 8/27/96	None-All non-detect	--	--	--	--	--	--	--

** The "action level" is 10X the blank concentration for compounds defined to be common lab contaminants (i.e., methylene chloride, acetone, 2-butanone), and 5X the blank concentration for other target compound contaminants.

2. All field blanks were found to be clean of tentatively identified compound (TIC) contamination.

   Yes: ____ No: ____ N/A: __X__

3. If TICs were detected in the field blanks, the associated samples were found to be free of those analytes at detectable concentrations.

   Yes: ____ No: ____ N/A: __X__

   Comment: TIC analyses were not performed for field blanks.

VIII. System Monitoring Compounds (Surrogates)

One hundred percent of the results on the summary forms were checked to ensure that reported results met required quality control criteria.

1. System monitoring compound recovery results met the criteria specified below in all samples.

   Yes: ____ No: __X__

System Monitoring Compound Criteria

	Water %R	Soil/Sediment %R
Toluene-d_8 (TOL)	88-110	81-117
Bromofluorobenzene (BFB)	86-115	74-121
1,2-Dichloroethane-d_4 (DCE)	76-114	70-121

2. Sample reanalysis was performed if system monitoring results were outside of criteria.

   Yes: __X__ No: ____ N/A: ____

Comment: Samples 14B02902, 14B03002, 14B03102, and 14B03603 exhibited a high toluene-d8 % recovery and a low % recovery for BFB. The samples were reanalyzed with the same results (14B02902R, 14B03002R, 14B03102R, and 14B03603R). Both sets of samples were qualified as estimated (J/UJ). The original sample results should be used for reporting purposes.

IX. Matrix Spikes/Matrix Spike Duplicates

One hundred percent of the results on the summary forms were checked to ensure that reported results met required quality control criteria.

1. For every 20 samples in an SDG, one field sample of each type was spiked for MS/MSD analysis.

   Yes: __X__ No: ____

2. MS/MSD sample I.D.: 14S03201

3. MS/MSD sample results met the criteria specified below.

   Yes: __X__ No: ____ NA: ____

MS/MSD Criteria

	Water		Soil/Sediment	
	%R	RPD	%R	RPD
1,1-Dichloroethene	61-145	14	59-172	22
Trichloroethene	71-120	14	62-137	24
Benzene	76-127	11	60-133	21
Toluene	76-125	13	59-139	21
Chlorobenzene	75-130	13	66-142	21

4. 0 of 10 %R results were out of QC limits.
   0 of 5 RPD results were out of QC limits.

Comment: MS/MSD criteria have been met and no action has been taken.

X. Laboratory Control Samples (LCS)

Laboratory control charts were included in the data packages.

1. Laboratory control charts were provided for each surrogate for reagent blank analyses per batch.

Yes: X No: ____ N/A: ____

2. The percent recoveries were within acceptable QC limits.

Yes: ____ No: X N/A: ____

Comment: The water LCS exhibited a low % recovery for toluene-d8. The soil LCS exhibited a low % recovery for 1,2-dichloroethane. No action is taken based on control charts.

XI. Field Duplicates

1. The following duplicate set(s) was analyzed with this SDG:

a. 14S03201 and 14S03201D
b. 14S03601 and 14S03601D

2. Comment: The following table summarizes results for each duplicate pair.

Compound	14S03201 ug/kg	14S03201D ug/kg	RPD
Methylene Chloride	2	5U	NC

Compound	14S03601 ug/kg	14S03601D ug/kg	RPD
Methylene Chloride	1	2	67
2-Butanone	35	52	39
Benzene	2	2	0
Toluene	1	1	0
Acetone	140	200	35

Comment: No action is taken based on field duplicate results.

XII. Internal Standards

One hundred percent of the results on the summary forms were checked to ensure that reported results met required quality control criteria.

1. All sample IS area counts were within a -50% to +100% control limit window from the associated calibration standard.

   Yes: ____ No: X

2. All sample IS retention times were within a ±30 sec. control limit window of the associated calibration standard IS retention times.

   Yes: X No: ____

   Comment: Sample 14B03102 displayed a low IS3 area count. The sample was reanalyzed as 14B03102R with the same results. All results for these samples were previously qualified due to surrogate problems, therefore, no further action was taken.

XIII. Target Compound Identification

Target compound identification results are not verified for Level C data validation.

1. Sample results were not verified for the following identification criteria:

   a. Compound relative retention times (RRT) were within ±0.06 RRT units of the standard relative retention time.

   b. All ions present in the standard mass spectrum at a relative intensity greater than 10% were present in the sample spectrum, and the relative intensities of these ions were within ±20%.

   c. All ions present at greater than 10% in the sample mass spectrum but not present in the standard mass spectrum were accounted for.

   Yes: ____ No: ____ N/A: X

XIV. Compound Quantitation and Reported CRQLS

Compound quantitation and reported CRQLs are not verified for Level C data validation.

1. All Form I sample results which were verified were correctly calculated and reported.

   Yes: ____ No: ____ N/A: X

2. All sample compounds had on-column concentrations within the upper calibration range of the method.

Yes: X No: ____ N/A: ____

3. All samples were analyzed only once (i.e., no samples required re-analysis or dilution).

Yes: ____ No: X N/A: ____

XV. Tentatively Identified Compounds

One hundred percent of the results on the summary forms were checked to ensure that TIC results met required quality control criteria.

1. A mass spectral search of the NIST library was conducted for the 10 largest volatile fraction peaks which were not target compounds, ISs, or system monitoring compounds, and the spectra for the three TIC candidates were included.

Yes: ____ No: ____ N/A: X

2. Reported TICs met the following criteria:

a. Ions present at greater than 10% abundance in the referenced spectrum were also present in the sample spectrum, and relative intensities were within ±20%.

b. Ions present in the sample spectrum at greater than 10% abundance were also present in the reference spectra, or could be accounted for.

Yes: ____ No: ____ N/A: X

3. TIC concentrations were calculated assuming an RRF value of 1.0.

Yes: ____ No ____ N/A: X

Comment: TICs were not reported for these samples.

XVI. System Performance

1. The instrumental and analytical systems used in the analysis of these samples maintained an acceptable level of performance.

   Yes: __X__ No: _____

XVII. Overall Assessment of Data

The final validated results represent the compilation of all quality control qualification. With the exception of the quality control anomalies presented in Sections V, VI, VII, and VIII (Initial and Continuing Calibration, Blanks, and Surrogates) of this report and the resulting qualifiers, the analyses of environmental samples and quality control samples are valid within the constraints identified with the data quality flags, with the exception of 1,4-dioxane which was rejected due to initial and continuing calibration problems.

Organic Data Qualifiers

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

J - The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

N - The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."

NJ - The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

UJ - The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

R - The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

Summary of Organic Data Validation
Semivolatile Organic Compounds

Client:	ABB Environmental Services, Inc.
Project Name:	U.S. Naval Station Mayport, Mayport, Florida
Project Number:	CTO 028
Contract Laboratory:	Quality Analytical Laboratory
SDG Number:	M3033
Purchase Order Number:	SE4-21-017
NEESA Level:	C
Data Reviewer:	Nancy Weaver
Secondary Reviewer:	Linda Harding
Date Review Completed:	October 10, 1996

Contractor Sample Number	Laboratory Sample Number	Sample Matrix
14Y010	MB619002	Water
14R034	MB619003	Water
14B02902	MB624001	Soil
14B03002	MB624002	Soil
14B03102	MB624003	Soil
14S03201	MB638003	Soil
14S03201MS	MB638003MS	Soil
14S03201MSD	MB638003MSD	Soil
14S03201D	MB638004	Soil
14S03301	MB638005	Soil
14B03203	MB638006	Soil
14B03303	MB638007	Soil
14S03401	MB638008	Soil
14S03501	MB638009	Soil
14B03403	MB638010	Soil
14B03503	MB638011	Soil
14S03601	MB638012	Soil
14S03601D	MB638013	Soil
14S03701	MB638014	Soil
14B03603	MB638015	Soil
14B03703	MB638016	Soil

14S03801	MB638017	Soil
14B03803	MB638018	Soil
14B03803RE	MB638018RE	Soil

TABLE OF CONTENTS

I. Validation Procedure Summary 1

II. Data Deliverables 1

III. Technical Holding Times 1

IV. GC/MS Instrument Performance Check 1

V. Initial Calibration (ICAL) 3

VI. Continuing Calibration (CCAL) 3

VII. Blanks 7
A. Laboratory Blanks 7
B. Field Blanks 8

VIII. Surrogate Spike Compounds 9

IX. Matrix Spikes/Matrix Spike Duplicates 10

X. Laboratory Control Samples (LCS) 10

XI. Field Duplicates 11

XII. Internal Standards (IS) 11

XIII. Target Compound Identification 12

XIV. Compound Quantitation and Reported CRQLS 12

XV. Tentatively Identified Compounds 13

XVI. System Performance 13

XVII. Overall Assessment of Data 14

Organic Data Qualifiers 15

I. Validation Procedure Summary

Data review and validation were performed in accordance with Naval Energy and Environmental Support Activity (NEESA) 20.2-047B (June 1988) using the USEPA National Functional Guidelines for Organic Data Review, (12/90, Revised 6/91) and criteria specified in the USEPA Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846, 3rd Edition (1986).

II. Data Deliverables

1. All required deliverables including QA/QC summary forms and all necessary raw data were present in legible form in the data package.

   Yes: X No: ____

III. Technical Holding Times

Technical holding times for all samples were verified from raw data and chain of custody forms.

1. Technical holding times were within the allowable limits shown below:

   a. Water samples extracted ≤7 days from date of sample collection; analyzed ≤40 days from date of extraction.

   Yes: X No: ____ N/A: ____

   b. Soil/sediment samples extracted ≤14 days from date of sample collection; analyzed ≤40 days from date of extraction.

   Yes: ____ No: X N/A: ____

   Comment: Sample 14B03803RE was re-extracted outside of holding times due to surrogate recovery problems. All associated results are qualified as estimated "J/UJ."

IV. GC/MS Instrument Performance Check

One hundred percent of the results on the summary forms were checked to ensure that reported results met required quality control criteria.

1. The DFTPP instrument performance check solution was analyzed at the beginning of each 12 hour period during sample analysis. All standards, samples, blanks and samples were analyzed within 12 hours of the injection of the tuning compound.

Yes: X No: ____

2. DFTPP ion abundance criteria for all instrument performance checks were within the quality control limits specified below.

Yes: X No: ____

Decafluorotriphenylphosphine (DFTPP)

m/z	Ion Abundance Criteria
51	30.0-60.0% of m/z 198
68	Less than 2.0% of m/z 69
69	Present, Mass 69 relative abundance
70	Less than 2.0% of m/z 69
127	40.0 - 60.0 of m/z 198
197	Less than 1.0% of m/z 198
198	Base peak, 100% relative abundance
199	5.0 - 9.0 of m/z 198
275	10.0 - 30.0% of m/z 198
365	Greater than 1.00% of m/z 198
441	Present, but less than m/z 443
442	Greater than 40.0% of m/z 198
443	17.0 - 23.0% of m/z 442

Summary of Tuning

Date of Injection	Instrument ID	Matrix	Level (low or medium)	File/Batch No.
8/27/96	MS3	Soil	Low	H0007011.D
9/9/96	MS3	Soil	Low	H0007155.D
9/10/96	MS3	Soil	Low	H0007175.D
9/10/96	MS3	Soil	Low	H0007183.D
9/11/96	MS3	Soil	Low	H0007209.D
9/12/96	MS3	Soil	Low	H0007224.D

Comment: Tuning criteria have been met and no action has been taken.

V. Initial Calibration (ICAL)

One hundred percent of the results on the summary forms were checked to ensure that reported results met required quality control criteria.

1. An initial 5-point calibration was run for each compound at concentrations of 20, 50, 80, 120, and 160 ng per 2 ul injections.

   Yes: X No: ____

2. The initial calibration mean relative response factor (RRF) results were greater than or equal to 0.05 for each compound.

   Yes: X No: ____

3. The RRF percent relative standard deviation (% RSD) results from the initial calibration were less than or equal to 30% for all compounds.

   Yes: ____ No: X

   Comment: Hexachlorophene exceeded the 30% RSD criteria during the 8/27/96 ICAL, however, there were no positive results reported for this compound and no qualifications were required. The 9/10/96 ICAL was acceptable.

VI. Continuing Calibration (CCAL)

One hundred percent of the results on the summary forms were checked to ensure that reported results met required quality control criteria.

1. A 50 ug/L continuing calibration standard containing all target compounds was analyzed at the beginning of each 12-hour analysis period following the analysis of the instrument performance check and prior to the analysis of any blanks or samples.

   Yes: X No: ____

2. The relative response factors (RRFs) were greater than or equal to 0.05 for each compound.

   Yes: X No: ____

3. The percent difference (%D) between the mean initial calibration RRF and the continuing calibration RRF were within ±25%.

Yes: ____ No: __X__

Comment: The following summarizes continuing calibration %D exceedences:

Semivolatile Continuing Calibration Summary Table SDG No. M3033								
CCAL Date and File/Batch Numbers of Stds.	Affected Analyte	%D	RRF	Affected Samples	Lab Value ug/l or ug/kg	Lab Qual	EDS Value ug/l or ug/kg	EDS Qual
H0007156.D 9/9/96	Pentachlorophenol	26.3	0.274	14Y010	50	U	50	UJ
				14S03201	1700		1700	
				14S03301	2200		2200	
				14B03203	1900		1900	
				14S03401	1700		1700	
				14B03403	1900		1900	
				14B03303	3700		3700	
				14B02902	9900		9900	
H0007156.D 9/9/96	p-Phenylenediamine	30.8	0.151	14Y010	500	U	500	UJ
				14S03201	17000		17000	
				14S03301	22000		22000	
				14B03203	19000		19000	
				14S03401	17000		17000	
				14B03403	19000		19000	
				14B03303	37000		37000	
				14B02902	99000		99000	
H0007156.D 9/9/96	2,3,4,6-Tetrachlorophenol	29.0	0.524	14Y010	10	U	10	UJ
				14S03201	350		350	
				14S03301	440		440	
				14B03203	390		390	
				14S03401	340		340	
				14B03403	390		390	
				14B03303	750		750	
				14B02902	2000		2000	
H0007156.D 9/9/96	1.3.5-Trinitrobenzene	37.6	0.753	14Y010	10	U	10	UJ
				14S03201	350		350	
				14S03301	440		440	
				14B03203	390		390	
				14S03401	340		340	
				14B03403	390		390	
				14B03303	750		750	
				14B02902	2000		2000	

H0007156.D 9/9/96	Phenacetin	27.8	1.159	14Y010 14S03201 14S03301 14B03203 14S03401 14B03403 14B03303 14B02902	10 350 440 390 340 390 750 2000	U	10 350 440 390 340 390 750 2000	UJ
H0007156.D 9/9/96	Pentachloronitro benzene	31.3	0.150	14Y010 14S03201 14S03301 14B03203 14S03401 14B03403 14B03303 14B02902	50 1700 2200 1900 1700 1900 3700 9900	U	50 1700 2200 1900 1700 1900 3700 9900	UJ
H0007156.D 9/9/96	7,12-Dimethylbenz(a) anthracene	28.0	0.753	14Y010 14S03201 14S03301 14B03203 14S03401 14B03403 14B03303 14B02902	10 350 440 390 340 390 750 2000	U	10 350 440 390 340 390 750 2000	UJ
H0007156.D 9/9/96	Hexachlorophene	27.2	0.123	14Y010 14S03201 14S03301 14B03203 14S03401 14B03403 14B03303 14B02902	500 17000 22000 19000 17000 19000 37000 99000	U	500 17000 22000 19000 17000 19000 37000 99000	UJ
H0007184.D 9/10/96	4-Nitroquinoline-1-oxide	29.5	0.123	14S03201D 14S03701 14S03601D 14S03801 14B03603	17000 17000 53000 89000 370000	U	17000 17000 53000 89000 370000	UJ
H0007210.D 9/11/96	Phenyl-tert-butylamine	28.2	1.116	14R034 14S03501 14B03703 14B03803 14B03503 14S03601 14B03002 14B03102	50 35000 1800 1800 3700 5300 39000 80000	U	50 35000 1800 1800 3700 5300 39000 80000	UJ

H0007210.D 9/11/96	4-Nitroquinoline- 1-oxide	28.6	0.068	14R034 14S03501 14B03703 14B03803 14B03503 14S03601 14B03002 14B03102	500 350000 18000 18000 37000 53000 390000 800000	U	500 350000 18000 18000 37000 53000 390000 800000	UJ
H0007210.D 9/11/96	Methapyrilene	43.8	0.836	14R034 14S03501 14B03703 14B03803 14B03503 14S03601 14B03002 14B03102	50 35000 1800 1800 3700 5300 39000 80000	U	50 35000 1800 1800 3700 5300 39000 80000	UJ
H0007210.D 9/11/96	Hexachlorophene	30.9	0.080	14R034 14S03501 14B03703 14B03803 14B03503 14S03601 14B03002 14B03102	500 350000 18000 18000 37000 53000 390000 800000	U	500 350000 18000 18000 37000 53000 390000 800000	UJ
H0007225.D 9/12/96	4-Nitrophenol	25.4	0.520	14B03803RE	1800	U	1800	UJ
H0007225.D 9/12/96	Pyrene	27.6	1.657	14B03803RE	360	U	360	UJ
H0007225.D 9/12/96	Phenyl-tert- butylamine	38.6	1.207	14B03803RE	1800	U	1800	UJ
H0007225.D 9/12/96	1,3,5- Trinitrobenzene	41.7	0.884	14B03803RE	360	U	360	UJ
H0007225.D 9/12/96	Phenacetin	32.3	1.251	14B03803RE	360	U	360	UJ
H0007225.D 9/12/96	4-Nitroquinoline- 1-oxide	32.5	0.064	14B03803RE	18000	U	18000	UJ
H0007225.D 9/12/96	Methapyrilene	27.3	0.740	14B03803RE	1800	U	1800	UJ
H0007225.D 9/12/96	Hexachlorophene	39.4	0.070	14B03803RE	18000	U	18000	UJ

4. Comments: The following calibration calculations were verified during the validation process.

M3033 MS3 8/27/96 Fluorene Mean RRF=(Sum RRF)/5 Mean RRF= (1.200+1.291+1.323+ 1.285+1.358)/5=1.291	M3033 MS3 8/27/96 Fluorene %RSD=(Std.Deviation/Mean)*100 %RSD=(0.0588/1.291)*100 %RSD=4.6%	M3033 MS3 9/9/96 Phenol %D=(Mean RRF- RRF50/Mean RRF)*100 %D=(1.733-1.616/1.733) *100 %D=6.8

VII. Blanks

A. Laboratory Blanks

One hundred percent of the results on the summary forms were checked to ensure that reported results met required quality control criteria.

1. Laboratory method blanks were analyzed for each matrix type, concentration level, extraction batch, and for each 12 hour time period on each GC/MS system used to analyze samples.

   Yes: __X__ No: ____

2. All laboratory blanks were found to be free of contaminant target compounds at detectable concentrations.

   Yes: ____ No: __X__

   Comment: The following table summarizes laboratory blank results:

Semivolatile Laboratory Blank Summary Table
SDG No. M3033

Blank ID/ Date Analyzed	Affected Analyte	Conc. ug/l or ug/kg	Action Level** ug/l or ug/kg	Affected Sample	Lab Conc ug/l or ug/kg	Lab Qual	EDS Conc ug/l or ug/kg	EDS Qual
SBLKB6 9/9/96	None	--	--	--	--	--	--	--
SBLKB7 9/9/96	Di-n- butylphthalate	47	470	14S03401 14B03403 14S03201D	46 170 34	JB JB JB	340 390 340	U U U
SBLKBB 9/10/96	Di-n- butylphthalate	49	490	14S03701 14S03601D 14B03703 14B03503	180 160 63 150	JB JB JB JB	340 1100 370 740	U U U U

SBLKBB 9/10/96	Bis(2-ethylhexyl) phthalate	110	1100	14S03701	380	B	380	U
SBLKBF 9/12/96	None	--	--	--	--	--	--	--

** The "action level" is 10X the blank concentration for compounds defined to be common phthalate lab contaminants, and 5X the blank concentration for other target compound contaminants.

3. All laboratory blanks were free of tentatively identified compound (TIC) contamination.

Yes: ____ No: ____ N/A: __X__

4. If TICs were detected in the laboratory blanks, the associated samples were found to be free of those analytes at detectable concentrations.

Yes: ____ No: ____ N/A: __X__

B. Field Blanks

1. The field blanks associated with samples in the SDG met the following conditions:

a. All field blanks were found to be free of target analytes at detectable concentrations.

Yes: __X__ No: ____ N/A: ____

Comment: The following table summarizes laboratory blank results:

Semivolatile Field Blank Summary Table SDG No. M3033								
Blank ID/ Date Analyzed	Affected Analyte	Conc. ug/l	Action Level** ug/l	Affected Sample	Lab Conc ug/l	Lab Qual	EDS Conc ug/l	EDS Qual
14Y010 9/9/96	None Found	--	--	--	--	--	--	--
14R034 9/11/96	None Found	--	--	--	--	--	--	--

** The "action level" is 10X the blank concentration for compounds defined to be common phthalate lab contaminants, and 5X the blank concentration for other target compound contaminants.

2. All field blanks were free of tentatively identified compound (TIC) contamination.

Yes: ____ No: ____ N/A: __X__

3. If TICs were detected in the field blanks, the associated samples were found to be free of those analytes at detectable concentrations.

Yes: ____ No: ____ N/A: __X__

Comment: TICs were not analyzed for the field blank sample.

VIII. Surrogate Spike Compounds

One hundred percent of the results on the summary forms were checked to ensure that reported results met required quality control criteria.

1. Surrogate compound recovery (%R) results met the criteria specified below in all samples.

Yes: ____ No: __X__

Surrogate Recovery Limits

	Water %R	Soil %R
NBZ (Nitrobenzene-d5)	35-114	23-120
FBP (2-Fluorobiphenyl)	43-116	30-115
TPH (Terphenyl-d14)	33-141	18-137
PHL (Phenol-d5)	10-94	24-113
2FP (2-Fluorophenol)	21-100	25-121
TBP (2,4,6-Tribromophenol)	10-123	19-122

2. Sample reanalysis was performed if surrogate results were outside of criteria.

Yes: __X__ No: ____ N/A: ____

Comment: Samples 14B03603, 14S03501, 14B03002, and 14B03102 surrogates were diluted out and were reported as 0%. No action was taken by the reviewer. Sample 14B03803 exhibited low % recoveries four 4 of 6 surrogates (2 acid and 2 base/neutral). All results for this sample were qualified as estimated "J/UJ." The sample was reanalyzed (outside of holding times) with acceptable results. Although this diluted sample is qualified due to holding time exceedences, these sample results should be used for reporting purposes since the surrogate recoveries were acceptable.

IX. Matrix Spikes/Matrix Spike Duplicates

One hundred percent of the results on the summary forms were checked to ensure that reported results met required quality control criteria.

1. For every 20 samples in an SDG, one field sample of each type was spiked for MS/MSD analysis.

   Yes: X No: ____

2. MS/MSD Sample I.D.: 14S03201

3. MS/MSD sample results met with the criteria specified below.

   Yes: X No: ____ N/A: ____

MS/MSD CRITERIA

	Water		Soil/Sediment	
	%R	RPD	%R	RPD
Phenol	12-110	42	26-90	35
2-Chlorophenol	27-123	40	25-102	50
1,4-Dichlorobenzene	36-97	28	28-104	27
N-Nitroso-Di-n-propylamine	41-116	38	41-126	38
1,2,4-Trichlorobenzene	39-98	28	38-107	23
4-Chloro-3-methylphenol	23-97	42	26-103	33
Acenaphthene	46-118	31	31-137	19
4-Nitrophenol	10-80	50	11-114	50
2-4-Dinitrotoluene	24-96	38	28-89	47
Pentachlorophenol	9-103	50	17-109	47
Pyrene	26-127	31	35-142	36

4. 0 of 22 MS/MSD %R results were out of required quality control limits.
   0 of 11 MS/MSD RPD results were out of required quality control limits.

   Comment: MS/MSD criteria have been met and no action has been taken.

X. Laboratory Control Samples (LCS)

Laboratory control charts were included in the data packages.

1. Laboratory control charts were provided for each surrogate for reagent blank analyses per batch.

   Yes: X No: ____ N/A: ____

2. The percent recoveries were within acceptable QC limits.

Yes: X No: ____ N/A: ____

Comment: LCS criteria have been met and no action has been taken.

XI. Field Duplicates

1. The following duplicate set was analyzed with this SDG:

a. 14S03201 and 14S03201D
b. 14S03601 and 14S03601D

2. Comment: The following tables summarize field duplicate results.

Semivolatile Field Duplicate Results SDG No. M3033			
Compound	14S03201 ug/kg	14S03201D ug/kg	RPD
Bis(2-ethylhexyl)phthalate	81	190	80

Semivolatile Field Duplicate Results SDG No. M3033			
Compound	14S03601 ug/kg	14S03601D ug/kg	RPD
Naphthalene	230	200	14
2-Methylnaphthalene	1000	920	8
Fluorene	360	1100U	NC
Phenanthrene	640	660	3
Pyrene	150	140	7
Acenaphthene	1100U	140	NC

Comment: No action is taken based on field duplicate results. The RPDs for fluorene and acenaphthene were not calculated since one result was a non-detect.

XII. Internal Standards (IS)

One hundred percent of the results on the summary forms were checked to ensure that reported results met required quality control criteria.

1. All sample IS area counts were within a -50% to +100% control limit window from the associated calibration standard.

   Yes: X No: ____

2. All sample IS retention times were within a ±30 sec. control limit window of the associated calibration standard IS retention times.

   Yes: X No: ____

   Comment: IS criteria have been met and no action has been taken.

XIII. Target Compound Identification

Target compound identification results are not verified for Level C data validation.

1. Sample results were not verified for the following identification criteria:

   a. Compound relative retention times (RRT) were within ±0.06 RRT units of the standard relative retention time.

   b. All ions present in the standard mass spectrum at a relative intensity greater than 10% were present in the sample spectrum, and the relative intensities of these ions were within ±20%.

   c. All ions present at greater than 10% in the sample mass spectrum but not present in the standard mass spectrum were accounted for.

   Yes: ____ No: ____ N/A: X

XIV. Compound Quantitation and Reported CRQLS

Compound quantitation and reported CRQLs are not verified for Level C data validation.

1. All Form I sample results which were verified were correctly calculated and reported.

   Yes: ____ No: ____ N/A: X

2. All sample compounds had on-column concentrations within the upper calibration range of the method.

   Yes: X No: ____ N/A: ____

3. All samples were analyzed only once (i.e., no samples required re-analysis or dilution).

Yes: ____ No: __X__ N/A: ____

XV. Tentatively Identified Compounds

One hundred percent of the results on the summary forms were checked to ensure that TIC results met required quality control criteria.

1. A mass spectral search of the NIST library was conducted for the 20 largest semivolatile fraction peaks which were not target compounds, ISs, or surrogate compounds, and the spectra for the three TIC candidates were included.

   Yes: ____ No: ____ N/A: __X__

2. Reported TICs met the following criteria:

   a. Ions present at greater than 10% abundance in the referenced spectrum were also present in the sample spectrum, and relative intensities were within ±20%.

   b. Ions present in the sample spectrum at greater than 10% abundance were also present in the reference spectra, or could be accounted for.

   Yes: ____ No: ____ N/A: __X__

3. TIC concentrations were calculated assuming an RRF value of 1.0.

   Yes: ____ No ____ N/A: __X__

XVI. System Performance

1. The instrumental and analytical systems used in the analysis of these samples maintained an acceptable level of performance.

   Yes: __X__ No ____

XVII. Overall Assessment of Data

The final validated results represent the compilation of all quality control qualification. With the exception of the quality control anomalies presented in Sections III, VI, VII, and VIII (Holding Times, Continuing Calibration, Blanks, and Surrogates) of this report and the resulting qualifiers, the analyses of environmental samples and quality control samples are valid within the constraints identified with the data quality flags.

Organic Data Qualifiers

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

J - The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

N - The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."

NJ - The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

UJ - The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

R - The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

Environmental Data Services, Inc.

Specializing in Laboratory Data Validation

Summary of Inorganic Data Validation
Metals/Cyanide

Client:	ABB Environmental Services, Inc.
Project Name:	U.S. Naval Station Mayport, Mayport, Florida
Project Number:	CTO 028
Contract Laboratory:	Quality Analytical Laboratory
SDG Number:	M3033
Purchase Order Number:	SE4-21-017
NEESA Level:	C
Data Reviewer:	Susan Dalla
Secondary Reviewer:	Nancy Weaver
Date Review Completed:	October 3, 1996

Contractor Sample Number	Laboratory Sample Number	Sample Matrix
14Y010	MB619002	Water
14R034	MB619003	Water
14B02902	MB624001	Soil
14B03002	MB624002	Soil
14B03102	MB624003	Soil
14S03201	MB638003	Soil
14S03201MS	MB638003MS	Soil
14S03201MSD	MB638003MSD	Soil
14S03201D	MB638004	Soil
14S03301	MB638005	Soil
14B03203	MB638006	Soil
14B03303	MB638007	Soil
14S03401	MB638008	Soil
14S03501	MB638009	Soil
14B03403	MB638010	Soil
14B03503	MB638011	Soil
14S03601	MB638012	Soil
14S03601D	MB638013	Soil
14S03701	MB638014	Soil
14B03603	MB638015	Soil
14B03703	MB638016	Soil

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14S03801	MB638017	Soil
14B03803	MB638018	Soil

TABLE OF CONTENTS

I. Validation Procedure Summary 1

II. Data Deliverables 1

III. Technical Holding Times 1

IV. Instrument Calibration and Calibration Verification 2

V. Blanks 3
A. Laboratory Blanks 3
B. Field Blanks 6

VI. Matrix Spike Sample Recovery 7

VII. Interference Check Samples 8

VIII. Laboratory Control Sample (LCS) 9

IX. Duplicate Sample Analysis 11
A. Laboratory Duplicates 11
B. Field Duplicates 12

X. Furnace Atomic Absorption QC 12

XI. ICP Serial Dilution 13

XII. Sample Result Verification 14

XIII. Additional Comments/Professional Judgment 15

Inorganic Data Qualifiers 16

APPENDIX A - Summary Tables and Work Sheets 17

I. Validation Procedure Summary

Data review and validation were performed in accordance with Naval Energy and Environmental Support Activity (NEESA) 20.2-047B (June 1988) using the USEPA Functional Guidelines for Inorganic Analyses (7/88) and criteria specified in the USEPA Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846, 3rd Edition (1986).

II. Data Deliverables

1. All required deliverables including QA/QC summary forms are present and in legible form in the data package.

   Yes: __X__ No: ____

2. Lab control charts were received and data points were within the control limit windows.

   Yes: __X__ No: ____ N/A: ____

   Note: If data points are outside of control limit windows, refer to the Laboratory Control Sample section VIII for any effect on data quality.

III. Technical Holding Times

Chain of custody records and sample preparation logs (Form 13) were checked for all samples to verify that technical holding time, and preservation criteria were met.

1. Technical holding times were within the allowable limits shown below:

   a. Analysis for all metals was completed within 180 days of sample collection; mercury was completed within 28 days; cyanide was completed within 14 days.

   Yes: __X__ No: ____

   Comment: Holding time criteria have been met and no action has been taken.

IV. Instrument Calibration and Calibration Verification

One hundred percent of the calibration results on the quality control summary forms were checked to ensure that reported results were within required quality control limits.

1. Instrument calibration for metals determined by inductively coupled plasma spectroscopy (ICP) was performed using a blank and one standard for each analyte.

   Yes: X No: ____ N/A: ____

2. Instrument calibration for metals determined by graphite furnace atomic absorption spectroscopy (GFAA) was performed using a blank and three standards (one of which was at the CRDL).

   Yes: X No: ____

3. Instrument calibration for mercury was performed using a blank and four standards.

   Yes: X No: ____ N/A: ____

4. Instrument calibration for cyanide was performed using a blank and three standards (one of which was at the CRDL).

   Yes: X No: ____ N/A: ____

5. Calibration verification was performed for each analyte at a frequency of 10%.

   Yes: X No: ____

6. A continuing calibration verification (CCV) was performed after the last analytical sample in each run.

   Yes: X No: ____

7. Initial calibration verification (ICV) and CCV percent recovery (%R) values met the criteria specified below:

   a. For all metals except cyanide and mercury, %R results were between 90% and 110%.

Note: Due to possible rounding errors, allow results to fall within 1% of the contract windows (e.g. 89-111%).

Yes: X No: ____

8. Correlation coefficients for GFAA analytes, mercury, and cyanide calibration curves were greater than or equal to 0.995.

Yes: ____ No: ____ N/A: X

Comment: Raw data was not provided for this Level C SDG; therefore, calibration curves were not available.

9. Comments: The following calibration calculations were verified during the validation process.

ICV or CCV	Analyte	Calculation %R=(Found/True)*100	%R
ICV	Barium	2406/2500 x 100	96.2
CCV	Barium	2382/2500 x 100	95.3
ICV	Arsenic	25.46/25.0 x 100	101.8
CCV	Arsenic	26.59/25.0 x 100	106.4
ICV	Mercury	4.89/5.0 x 100	97.8
CCV	Mercury	4.74/5.0 x 100	94.8
ICV	Cyanide	88.8/94.0 x 100	94.5
CCV	Cyanide	98.8/94.0 x 100	105.1

V. Blanks

A. Laboratory Blanks

One hundred percent of the laboratory blank results on the summary forms were checked to ensure that reported results were within required quality control limits.

1. Preparation blank analyses results have been reported for each matrix type for every extraction batch.

Yes: X No: ____

2. Calibration blanks were run at a frequency of 10%.

Yes: X No: ____

3. A calibration blank was analyzed immediately after every ICV and CCV, and after the last sample.

Yes: X No: ____

4. All reported blank analyte results had absolute values less than the corresponding IDL values.

Yes: ____ No: X

The following sample results were qualified due to laboratory blanks that had target analytes where the absolute value of the reported results was greater than or equal to the corresponding IDL value; sample results were less than 5X the absolute value of the blank result.

Inorganic Laboratory Blank Summary Table
SDG No. M3033

Blank ID/ Date	Affected Analyte	Absolute Conc. ug/l or mg/kg	Action Level ug/l or mg/kg	Affected Sample	Lab Conc ug/l or mg/kg	Lab Qual	EDS Conc ug/l or mg/kg	EDS Qual
PBW 8/23/96	Barium	0.5	2.5	14Y010 14R034	0.96 1.20	B B	0.96 1.20	UJ UJ
PBW 8/23/96	Beryllium	-0.86	U	14Y010 14R034	0.13 0.13	U U	0.13 0.13	UJ UJ
PBW 8/23/96	Nickel	5.73	28.6	14Y010	5.50	B	5.70	UJ
PBW 8/23/96	Thallium	-1.09	U	14Y010 14R034	0.79 0.79	U U	0.79 0.79	UJ UJ
PBW 8/23/96	Zinc	5.71	28.6	14Y010 14R034	8.10 8.30	B B	8.10 8.30	UJ UJ
PBS 8/23/96	Beryllium	-0.176	U	14B02902 14B03002 14B03102	0.03 0.03 0.03	U U U	0.03 0.03 0.03	UJ UJ UJ

PBS 8/23/96	Thallium	-0.31	U	14B02902	0.19	U	0.19	UJ
				14B03002	0.19	U	0.19	UJ
				14B03102	0.19	U	0.19	UJ
PBS 8/27/96	Antimony	0.68	3.4	14S03201	0.46	B	0.68	UJ
				14S03501	0.94	B	0.94	UJ
				14S03601	0.69	B	0.69	UJ
PBS 8/27/96	Arsenic	-0.31	U	14S03301	0.25	U	0.25	UJ
				14S03401	0.20	U	0.20	UJ
				14B03403	0.22	U	0.22	UJ
				14B03503	0.21	U	0.21	UJ
				14S03601	0.20	U	0.20	UJ
				14S03601D	0.20	U	0.20	UJ
				14B03603	0.21	U	0.21	UJ
				14B03703	0.21	U	0.21	UJ
				14S03801	0.20	U	0.20	UJ
				14B03803	0.20	U	0.20	UJ
PBS 8/27/96	Beryllium	-0.174	U	14S03201	0.03	U	0.03	UJ
				14S03201D	0.03	U	0.03	UJ
				14S03301	0.03	U	0.03	UJ
				14B03203	0.03	U	0.03	UJ
				14B03303	0.03	U	0.03	UJ
				14S03401	0.03	U	0.03	UJ
				14S03501	0.03	U	0.03	UJ
				14B03403	0.03	U	0.03	UJ
				14B03503	0.03	U	0.03	UJ
				14S03601	0.03	U	0.03	UJ
				14S03601D	0.03	U	0.03	UJ
				14S03701	0.03	U	0.03	UJ
				14B03603	0.03	U	0.03	UJ
				14B03703	0.03	U	0.03	UJ
				14S03801	0.03	U	0.03	UJ
				14B03803	0.03	U	0.03	UJ

PBS 8/27/96	Thallium	-0.28	U	14S03201	0.16	U	0.16	UJ
				14S03201D	0.16	U	0.16	UJ
				14S03301	0.21	U	0.21	UJ
				14B03203	0.19	U	0.19	UJ
				14B03303	0.18	U	0.18	UJ
				14S03401	0.16	U	0.16	UJ
				14S03501	0.17	U	0.17	UJ
				14B03403	0.18	U	0.18	UJ
				14B03503	0.18	U	0.18	UJ
				14S03601	0.17	U	0.17	UJ
				14S03601D	0.17	U	0.17	UJ
				14S03701	0.16	U	0.16	UJ
				14B03603	0.18	U	0.18	UJ
				14B03703	0.18	U	0.18	UJ
				14S03801	0.17	U	0.17	UJ
				14B03803	0.17	U	0.17	UJ

5. All reported blank analyte results had absolute values less than or equal to the corresponding CRDL values.

Yes: X No: ____

B. Field Blanks

1. If analytes were detected in the blanks, the associated samples were found to be free of those analytes at detectable concentrations.

Yes: ____ No: X N/A: ____

2. Analytes were detected, but associated sample aliquot concentrations were greater than 5X the blank concentration.

Yes: ____ No: X N/A: ____

The following sample results were qualified due to field blanks that had target analytes where the absolute value of the reported results was greater than or equal to the corresponding IDL value; sample results were less than 5X the absolute value of the blank result.

Inorganic Field Blank Summary Table SDG No. M3033								
Blank ID	Affected Analyte	Absolute Conc. ug/l or mg/kg	Action Level ug/l or mg/kg	Affected Sample	Lab Conc ug/l or mg/kg	Lab Qual	EDS Conc ug/l or mg/kg	EDS Qual
14R034	Copper	0.70	3.5	14B02902	1.60	B	1.60	UJ
				14B03002	0.94	B	0.94	UJ
				14B03102	3.40	B	3.40	UJ
				14S03201	3.10	B	3.10	UJ
				14S03201D	1.90	B	1.90	UJ
				14B03503	2.50	B	2.50	UJ
				14S03601	1.20	B	1.20	UJ
				14S03601D	2.60	B	2.60	UJ
				14B03603	2.00	B	2.00	UJ
				14B03703	1.50	B	1.50	UJ
				14S03801	2.50	B	2.50	UJ
				14B03803	0.95	B	0.95	UJ

VI. Matrix Spike Sample Recovery

One hundred percent of the matrix spike (MS) sample results on the quality control summary forms were checked to ensure that reported results were within required quality control limits.

1. One field sample from each group of samples of a similar matrix and concentration level was spiked with each target analyte (except: Ca, Mg, K, Na on water samples and Al, Ca, Mg, K, and Na on soil/sediment samples) by the laboratory.

   Yes: __X__ No: ____

2. MS sample ID: 14S03201

3. For all target analytes, percent recovery (%R) results were within the limits of 75% - 125% (Note: MS %R limits do not apply when the sample concentration exceeded the spike concentration by a factor of 4 or more).

   Yes: ____ No: __X__

Sample	Analyte	% Recovery	Qualifier
14B02902	Antimony	64.2	UJ
14B03002	Antimony	64.2	J
14B03102	Antimony	64.2	J
14B03201D	Antimony	64.2	UJ
14S03301	Antimony	64.2	UJ
14B03203	Antimony	64.2	UJ
14B03303	Antimony	64.2	UJ
14S03401	Antimony	64.2	UJ
14B03403	Antimony	64.2	UJ
14B03503	Antimony	64.2	UJ
14S03601D	Antimony	64.2	UJ
14S03701	Antimony	64.2	UJ
14B03603	Antimony	64.2	UJ
14B03703	Antimony	64.2	UJ
14S03801	Antimony	64.2	UJ
14B03803	Antimony	64.2	UJ

4. The following spike calculations were verified during the validation process.

Instrument or Method	Analyte	Calculation %R=(SSR-SR/SA)*100	%R
ICP	Barium	(402-4.40)/415.8 x 100	95.6
GFAA	Antimony	(3.24-0.57)/4.16 x 100	64.2
CV	Mercury	(1.05-0.0)/1.04 x 100	101.0
CA	Cyanide	(2.16-0.0)/2.08 x 100	103.8

VII. Interference Check Samples

One hundred percent of the ICS results on the quality control summary forms were checked to ensure that reported results were within required quality control limits.

1. ICP ICSs (solutions A and AB) were analyzed at the beginning and end of each sample analysis run (or a minimum of twice per 8-hour shift, whichever was more frequent).

   Yes: __X__ No: ____ N/A: ____

2. Solution AB analyte recovery results were within the control limits of 80%-120%.

   Yes: __X__ No: ____ N/A: ____

3. Concentrations of Ca, Fe, and Mg in the samples are less than or equal to their respective concentration in ICS solution A or AB.

   Yes: ____ No: ____ N/A: __X__

4. Cr, Cu, Ni, and V are present in a sample(s) at concentrations less than 10,000 ug/L.

   Yes: __X__ No: ____ N/A: ____

5. Comments: ICP ICSs criteria have been met and no action has been taken. The following ICS calculations were verified during the validation process.

Analyte	Calculation %R=(Found Soln AB/True Soln AB)*100	%R
Barium	457/500 x 100	91.4

VIII. Laboratory Control Sample (LCS)

One hundred percent of the LCS results on the quality control summary forms were checked to ensure that reported results were within required quality control limits.

1. A laboratory control sample was analyzed for each SDG for each matrix type.

   Yes: __X__ No: ____

2. Aqueous LCS recovery results were within the control limits of 80% to 120% (except for Sb and Ag which have no required limits).

   Yes: __X__ No: ____ N/A: ____

3. Soil LCS recovery results were within the required control limits specified on the laboratory Form VII-IN and control charts.

Yes: ____ No: __X__ N/A: ____

Comment: Soil LCS for lead exceeded acceptance criteria. The following table summarizes the lead LCS results.

Sample	Analyte	Conc.	Control Limit	Qualifier
14B02902	Lead	296	188-285	J
14B03002	Lead	296	188-285	J
14B03102	Lead	296	188-285	J
14S03201	Lead	296	188-285	J
14S03201D	Lead	296	188-285	J
14S03301	Lead	296	188-285	J
14B03203	Lead	296	188-285	J
14B03303	Lead	296	188-285	J
14S03401	Lead	296	188-285	J
14S03501	Lead	296	188-285	J
14B03403	Lead	296	188-285	J
14B03503	Lead	296	188-285	J
14S03601	Lead	296	188-285	J
14S03601D	Lead	296	188-285	J
14S03701	Lead	296	188-285	J
14B03603	Lead	296	188-285	J
14B03703	Lead	296	188-285	J
14S03801	Lead	296	188-285	J
14B03803	Lead	296	188-285	J

4. The following LCS calculations were verified during the validation process.

Instrument or Method	Analyte	Calculation %R=(Found/True)*100	%R
ICP	Barium	2419/2500 x 100	96.8
GFAA	Arsenic	93.63/100 x 100	93.6
CV	Mercury	4.68/5.0 x 100	93.6
CA	Cyanide	96.1/94.0 x 100	102.2

IX. Duplicate Sample Analysis

One hundred percent of the duplicate results on the quality control summary forms were checked to ensure that reported results were within required quality control limits.

A. Laboratory Duplicates

1. For each SDG, one duplicate sample was analyzed from each group of samples of a similar matrix type and concentration level.

   Yes: __X__ No: ____

   MSD ID: 14S03201

2. For duplicate analyte concentrations greater than 5X the CRDL, the relative percent difference (RPD) between the two reported results was less than 20% for aqueous samples (35% for soil samples).

   Yes: __X__ No: ____

3. For duplicate analyte concentrations less than 5X the CRDL, the difference between the two reported results was less than the CRDL value for aqueous samples, or less than 2X the CRDL value for soil samples. RPDs for samples with values less than the CRDL are not calculated.

   Yes: __X__ No: ____

   Comment: Zinc results for soils were flagged with a "*" by the laboratory. The duplicate difference for zinc analysis is 5.4 and the control limit is ±8.4. The "*" flags have been removed by the reviewer.

4. Laboratory duplicate criteria have been met and no action has been taken.

5. The following duplicate calculations were verified during the validation process.

Instrument or Method	Analyte	Calculation RPD=[S-D/(S+D/2)]*100 D = S - Dup	RPD or Difference
ICP	Chromium	3.40-3.53	0.13 (±2.1)
GFAA	Lead	[(4.01-3.71)/(4.01+3.71)]/2 x 100	7.8
CV	Mercury	0.0-0.3	NC
CA	Cyanide	0.0-0.0	NC

B. Field Duplicates

1. The following duplicate sets were analyzed with this SDG:

   a. 14S03201 and 14S03201D
   b. 14S03601 and 14S03601D

2. Comment: Field duplicate results for zinc in duplicate pair (b) have an RPD of 51.3. It is the professional judgement of the reviewer that the above RPD is not excessive considering the matrix of the field duplicates (soil, rocks, shells) and qualification is not required.

X. Furnace Atomic Absorption QC

One hundred percent of the AA summary data was checked to ensure that reported results were within required quality control limits.

1. Duplicate injections for AA analytes with concentrations greater than the CRDL had RSD results < 20%.

   Yes: _____ No: _____ N/A: __X__

   Comment: RSD results are contained in the raw data which is not provided for Level C review.

2. For each sample, all AA analytical spike recovery results were between 85% and 115%.

Yes: ____ No: __X__

Comment: Analytical spike recovery of selenium exceeded acceptance criteria for sample 14Y010 (118%). Selenium results in this sample have been qualified as estimated "UJ."

3. For each sample, all AA results were within the appropriate calibration range, or were diluted to meet this criteria.

Yes: __X__ No: ____ N/A: ____

4. Sample analyte results where the analytical spike recovery was <40% were diluted once and reanalyzed.

Yes: ____ No: ____ N/A: __X__

5. Samples having analyte concentrations greater than or equal to 50% of the spike concentrations, and spike %R results <85% or >115% were quantitated by MSA.

Yes: ____ No: ____ N/A: __X__

6. MSA analyses with correlation coefficients less than 0.995 were rerun once.

Yes: ____ No: ____ N/A: __X__

7. MSA spike values met the criteria specified below:

a. Spike 1 was approximately 50% of the sample concentration.
b. Spike 2 was approximately 100% of the sample concentration.
c. Spike 3 was approximately 150% of the sample concentration.

Yes: ____ No: ____ N/A: __X__

XI. ICP Serial Dilution

ICP serial dilution results were not provided by the laboratory.

1. ICP serial dilution analysis was performed on one sample from each SDG of a similar matrix type and concentration level.

   Yes: ____ No: ____ N/A: __X__

2. For each analyte in the serial dilution sample which was minimally a factor of 50 above the IDL in the original sample, the serial dilution result agreed within 10% of the original determination after correction for dilution.

   Yes: ____ No: ____ N/A: __X__

XII. Sample Result Verification

Ten percent of all reported sample results were not verified since the raw data is not provided for a Level C data package.

1. All sample results which were verified were correctly calculated and reported.

   Yes: ____ No: ____ N/A: __X__

   Comment: Calculations and transcriptions can not be verified without the raw data.

2. All sample results fall within the calibrated range of the instrument for AA and cyanide.

   Yes: __X__ No: ____ N/A: ____

3. All reported concentrations were above the CRDL.

   Yes: ____ No: __X__ N/A: ____

   Comment: The "B" qualifier applied by the laboratory for results between the CRDL and the IDL were amended with a "J" qualifier.

4. Sample results on Form 1 were reported down to the IDL not CRDL for all analytes.

   Yes: __X__ No: ____ N/A: ____

5. Reported sample results that were analyzed by ICP for As, Pb, Se, and Tl were at least 5X the ICP IDL.

Yes: ____ No: ____ N/A: __X__

6. Sample weights, volumes and dilutions were taken into account when reporting detection limits on Form 1.

Yes: __X__ No: ____ N/A: ____

7. IDLs were present and found to be less than CRDL.

Yes: __X__ No: ____ N/A: ____

8. All CRDLs and IDLs were included on Form X.

Yes: __X__ No: ____ N/A: ____

9. Raw data were free of anomalies (e.g. baseline shifts, negative absorbances/emissions, omissions, etc.). If no, please describe anomalies in the comments section below.

Yes: ____ No: ____ N/A: __X__

Comment: Raw data is not provided for Level C review.

XIII. Additional Comments/Professional Judgment

The final validated results represent the compilation of all quality control qualification. With the exception of the quality control anomalies presented in Sections V.A.4, V.B.2, VI.3, VIII.3, X.2, and XII.3 and the resulting qualifiers, the analyses of environmental samples and quality control samples are valid within the constraints identified with the data quality flags. All false positive/negative results and matrix interferences are summarized on Table A-1 and A-3, respectively.

Additional Comments

1. Sample 14B03203 is incorrectly identified on the Form I as 14S03203. Correction has been performed by the reviewer.

Inorganic Data Qualifiers

U - The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

J - The associated value is an estimated quantity.

R - The data are unusable. (Note: Analyte may or may not be present.)

UJ - The material was analyzed for, but was not detected. The associated value is an estimate and may be inaccurate or imprecise.

APPENDIX A

Summary Tables and Work Sheets

Table A-1
Review of False Positive/Negative Results

Sample	Parameter	False Positive or Negative	Rationale	Reported		Validated	
				Conc. (ug/L or mg/kg)	Qual	Conc. (ug/L or mg/kg)	Qual
14Y010	Barium	P	2	0.96	B	0.96	UJ
14R034	Barium	P	2	1.2	B	1.2	UJ
14Y010	Beryllium	N	3	0.13	U	0.13	UJ
14R034	Beryllium	N	3	0.13	U	0.13	UJ
14Y010	Nickel	P	2	5.5	B	5.7	UJ
14Y010	Thallium	N	3	0.79	U	0.79	UJ
14R034	Thallium	N	3	0.79	U	0.79	UJ
14Y010	Zinc	P	2	8.1	B	8.1	UJ
14R034	Zinc	P	2	8.3	B	8.3	UJ
14B02902	Beryllium	N	3	0.03	U	0.03	UJ
14B03002	Beryllium	N	3	0.03	U	0.03	UJ
14B03102	Beryllium	N	3	0.03	U	0.03	UJ
14B02902	Thallium	N	3	0.19	U	0.19	UJ
14B03002	Thallium	N	3	0.19	U	0.19	UJ
14B03102	Thallium	N	3	0.19	U	0.19	UJ
14S03201	Antimony	P	2	0.46	B	0.68	UJ
14S03501	Antimony	P	2	0.94	B	0.94	UJ
14S03601	Antimony	P	2	0.69	B	0.69	UJ
14S03301	Arsenic	N	3	0.25	U	0.25	UJ
14S03401	Arsenic	N	3	0.20	U	0.20	UJ
14B03403	Arsenic	N	3	0.22	U	0.22	UJ
14B03503	Arsenic	N	3	0.21	U	0.21	UJ
14S03601	Arsenic	N	3	0.20	U	0.20	UJ
14S03601D	Arsenic	N	3	0.20	U	0.20	UJ
14B03603	Arsenic	N	3	0.21	U	0.21	UJ

14B03703	Arsenic	N	3	0.21	U	0.21	UJ
14S03801	Arsenic	N	3	0.20	U	0.20	UJ
14B03803	Arsenic	N	3	0.20	U	0.20	UJ
14S03201	Beryllium	N	3	0.03	U	0.03	UJ
14S03201D	Beryllium	N	3	0.03	U	0.03	UJ
14S03301	Beryllium	N	3	0.03	U	0.03	UJ
14B03203	Beryllium	N	3	0.03	U	0.03	UJ
14B03303	Beryllium	N	3	0.03	U	0.03	UJ
14S03401	Beryllium	N	3	0.03	U	0.03	UJ
14S03501	Beryllium	N	3	0.03	U	0.03	UJ
14B03403	Beryllium	N	3	0.03	U	0.03	UJ
14B03503	Beryllium	N	3	0.03	U	0.03	UJ
14S03601	Beryllium	N	3	0.03	U	0.03	UJ
14S03601D	Beryllium	N	3	0.03	U	0.03	UJ
14S03701	Beryllium	N	3	0.03	U	0.03	UJ
14B03603	Beryllium	N	3	0.03	U	0.03	UJ
14B03703	Beryllium	N	3	0.03	U	0.03	UJ
14S03801	Beryllium	N	3	0.03	U	0.03	UJ
14B03803	Beryllium	N	3	0.03	U	0.03	UJ
14S03201	Thallium	N	3	0.16	U	0.16	UJ
14S03201D	Thallium	N	3	0.16	U	0.16	UJ
14S03301	Thallium	N	3	0.21	U	0.21	UJ
14B03203	Thallium	N	3	0.19	U	0.19	UJ
14B03303	Thallium	N	3	0.18	U	0.18	UJ
14S03401	Thallium	N	3	0.16	U	0.16	UJ
14S03501	Thallium	N	3	0.17	U	0.17	UJ
14B03403	Thallium	N	3	0.18	U	0.18	UJ
14B03503	Thallium	N	3	0.18	U	0.18	UJ
14S03601	Thallium	N	3	0.17	U	0.17	UJ
14S03601D	Thallium	N	3	0.17	U	0.17	UJ

14S03701	Thallium	N	3	0.16	U	0.16	UJ
14B03603	Thallium	N	3	0.18	U	0.18	UJ
14B03703	Thallium	N	3	0.18	U	0.18	UJ
14S03801	Thallium	N	3	0.17	U	0.17	UJ
14B03803	Thallium	N	3	0.17	U	0.17	UJ
14B02902	Copper	P	2	1.6	B	1.6	UJ
14B03002	Copper	P	2	0.94	B	0.94	UJ
14B03102	Copper	P	2	3.4	B	3.4	UJ
14S03201	Copper	P	2	3.1	B	3.1	UJ
14S03201D	Copper	P	2	1.9	B	1.9	UJ
14B03503	Copper	P	2	2.5	B	2.5	UJ
14S03601	Copper	P	2	1.2	B	1.2	UJ
14S03601D	Copper	P	2	2.6	B	2.6	UJ
14B03603	Copper	P	2	2.0	B	2.0	UJ
14B03703	Copper	P	2	1.5	B	1.5	UJ
14S03801	Copper	P	2	2.5	B	2.5	UJ
14B03803	Copper	P	2	0.95	B	0.95	UJ

Rationale
1 = Professional judgement
2 = Blank contamination (laboratory or field)
3 = Prep Blank - negative value > IDL

Table A-3
Matrix Interferences (Inorganics)

Sample	Parameter	Initial	Re-analysis ID	Final	Was the Re-analysis Needed?	Most Appropriate Result	Comment
14B02902	Antimony	%R=64.2	NA	NA	NO	0.61 UJ	VI.3
14B03002	Antimony	%R=64.2	NA	NA	NO	1.6 J	VI.3
14B03102	Antimony	%R=64.2	NA	NA	NO	1.0 J	VI.3
14S03201D	Antimony	%R=64.2	NA	NA	NO	0.52 UJ	VI.3
14S03301	Antimony	%R=64.2	NA	NA	NO	0.68 UJ	VI.3
14B03203	Antimony	%R=64.2	NA	NA	NO	0.60 UJ	VI.3
14B03303	Antimony	%R=64.2	NA	NA	NO	0.57 UJ	VI.3
14S03401	Antimony	%R=64.2	NA	NA	NO	0.53 UJ	VI.3
14B03403	Antimony	%R=64.2	NA	NA	NO	0.60 UJ	VI.3
14B03503	Antimony	%R=64.2	NA	NA	NO	0.57 UJ	VI.3
14S03601D	Antimony	%R=64.2	NA	NA	NO	0.55 UJ	VI.3
14S03701	Antimony	%R=64.2	NA	NA	NO	0.53 UJ	VI.3
14B03603	Antimony	%R=64.2	NA	NA	NO	0.57 UJ	VI.3
14B03703	Antimony	%R=64.2	NA	NA	NO	0.57 UJ	VI.3
14S03801	Antimony	%R=64.2	NA	NA	NO	0.55 UJ	VI.3
14B03803	Antimony	%R=64.2	NA	NA	NO	0.55 UJ	VI.3
14Y010	Antimony	%R=118	NA	NA	NO	2.6 UJ	X.2

Environmental Data Services, Inc.

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Summary of Organic Data Validation
Volatile Organic Compounds

Client:	ABB Environmental Services, Inc.
Project Name:	U.S. Naval Station Mayport, Mayport, Florida
Project Number:	CTO 028
Contract Laboratory:	Quality Analytical Laboratory
SDG Number:	M3034
Purchase Order Number:	SE4-21-017
NEESA Level:	C
Data Reviewer:	Nancy Weaver
Secondary Reviewer:	Linda Harding
Date Review Completed:	October 14, 1996

Contractor Sample Number	Laboratory Sample Number	Sample Matrix
14T049	MB647001	Water
14R035	MB647002	Water
14S03901	MB647003	Soil
14S03901MS	MB647003MS	Soil
14S03901MSD	MB647003MSD	Soil
14S03901D	MB647004	Soil
14S04001	MB647005	Soil
14B03903	MB647006	Soil
14B04003	MB647007	Soil
14S04101	MB647008	Soil
14S04201	MB647009	Soil
14B04103	MB647010	Soil
14B04203	MB647011	Soil
14B04203R	MB647011R	Soil
14S04301	MB647012	Soil
14B04303	MB647013	Soil
14B04402	MB647014	Soil
14B04402R	MB647014R	Soil
14B04402D	MB647015	Soil
14B04402DR	MB647015R	Soil

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TABLE OF CONTENTS

I. Validation Procedure Summary 1

II. Data Deliverables 1

III. Technical Holding Times 1

IV. GC/MS Instrument Performance Check 1

V. Initial Calibration (ICAL) 2

VI. Continuing Calibration 4

VII. Blanks 6
A. Laboratory Blanks 6
B. Field Blanks 7

VIII. System Monitoring Compounds (Surrogates) 8

IX. Matrix Spikes/Matrix Spike Duplicates 9

X. Laboratory Control Samples (LCS) 10

XI. Field Duplicates 10

XII. Internal Standards 11

XIII. Target Compound Identification 11

XIV. Compound Quantitation and Reported CRQLS 11

XV. Tentatively Identified Compounds 12

XVI. System Performance 13

XVII. Overall Assessment of Data 13

Organic Data Qualifiers 14

I. Validation Procedure Summary

Data review and validation were performed in accordance with Naval Energy and Environmental Support Activity (NEESA) 20.2-047B (June 1988) using the USEPA National Functional Guidelines for Organic Data Review, (12/90, Revised 6/91) and criteria specified in the USEPA Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846, 3rd Edition (1986).

II. Data Deliverables

1. All required deliverables including QA/QC summary forms and all necessary raw data were present in legible form in the data package.

   Yes: X No: ____

III. Technical Holding Times

Technical holding times for all samples were verified from raw data and chain of custody forms.

1. Technical holding times were within the allowable limits shown below:

   a. Preserved water samples analyzed ≤14 days from date of sample collection.

   Yes: X No: ____ N/A: ____

   b. Unpreserved water samples, aromatic VOCs analyzed ≤7 days from date of sample collection; non-aromatic VOCs analyzed ≤14 days from date of sample collection.

   Yes: ____ No: ____ N/A: X

   c. Soil samples analyzed ≤14 days from date of sample collection.

   Yes: X No: ____ N/A: ____

   Comment: Holding time criteria have been met and no action has been taken.

IV. GC/MS Instrument Performance Check

One hundred percent of the results on the summary forms were checked to ensure that reported results met required quality control criteria.

1. The BFB instrument performance check solution was analyzed at the beginning of each 12 hour period during sample analysis. All standards, samples, blanks and samples were analyzed within 12 hours of the injection of the tuning compound.

Yes: X No: ____

2. BFB ion abundance criteria for all instrument performance checks were within the quality control limits specified below.

Yes: X No: ____

Bromofluorobezene (BFB)

m/z	Ion Abundance Criteria
50	15 - 40.0% of m/z 95
75	30.0 - 60.0 of m/z 95
95	Base peak, 100% relative abundance
96	5.0 - 9.0% of m/z 95
173	Less than 2.0% of m/z 174
174	Greater than 50.0% of m/z 95
175	5.0 - 9.0% of m/z 174
176	95.0 - 101.0% of m/z 174
177	5.0 - 9.0% of m/z 176

Summary of Tuning

Date of Injection	Instrument ID	Matrix	Level (low or medium)	File/Batch No.
8/27/96	MS5	Water	Low	27AUG0201002.D
8/26/96	MS6	Soil	Low	C2BF039330.D
8/28/96	MS6	Soil	Low	C1BF039368.D
8/29/96	MS6	Soil	Low	C1BF039394.D
8/30/96	MS6	Soil	Low	C1BF039410.D
8/31/96	MS6	Soil	Low	C1BF039420.D

Comment: Tuning criteria have been met and no action has been taken.

V. Initial Calibration (ICAL)

One hundred percent of the results on the summary forms were checked to ensure that reported results met required quality control criteria.

1. An initial 5-point calibration was run for each compound at concentrations of 10, 20, 50, 100, and 200 ug/L (or, if a 25-mL purge volume was used, at concentrations of 4, 10, 20, 30 and 40 ug/L).

   Yes: __X__ No: ____

2. The initial calibration mean relative response factor (RRF) was greater than or equal to 0.05 for each compound.

   Yes: ____ No: __X__

3. The RRF percent relative standard deviation (% RSD) results from the initial calibration were less than or equal to 30% for all compounds.

   Yes: ____ No: __X__

   Initial calibration results which did not meet RRF or %RSD criteria are listed below:

Volatile Initial Calibration Summary Table SDG No. M3034								
ICAL Date and File/Batch Numbers of Stds.	Affected Analyte	% RSD	RRF	Affected Sample	Lab Conc ug/l or ug/kg	Lab Qual	EDS Conc ug/l or ug/kg	EDS Qual
27AUG0301003.D- 27AUG0701007.D 8/27/96	Acetone	39.8	0.593	14T049 14R035	None-All results non-detect			
27AUG0301003.D- 27AUG0701007.D 8/27/96	1,4-Dioxane	8.3	0.003	14T049 14R035	200 200	U	200 200	R

CSVH039331.D- CSVH039335.D 8/26/96	1,4-Dioxane	11.4	0.005	14S03901	210	U	210	R
				14S03901D	210		210	
				14S04001	210		210	
				14B03903	230		230	
				14B04003	220		220	
				14S04101	210		210	
				14S04201	210		210	
				14B04103	230		230	
				14B04203	250		250	
				14B04203R	250		250	
				14S04301	210		210	
				14B04303	220		220	
				14B04402	230		230	
				14B04402R	230		230	
				14B04402D	230		230	
				14B04402DR	230		230	

VI. Continuing Calibration

One hundred percent of the results on the summary forms were checked to ensure that reported results met required quality control criteria.

1. A continuing calibration standard containing all target compounds was analyzed at the beginning of each 12-hour analysis period following the analysis of the instrument performance check and prior to the analysis of any blanks or samples.

   Yes: __X__ No: ____

2. The relative response factor (RRF) for each compound was greater than or equal to 0.05.

   Yes: ____ No: __X__

3. The percent difference (%D) between the mean initial calibration RRF and the continuing calibration RRF for each compound was within ±25%.

   Yes: ____ No: __X__

   Continuing calibration results which did not meet RRF or %D criteria are listed below:

Volatile Continuing Calibration Summary Table SDG No. M3034								
CCAL Date and File/Batch Numbers of Stds.	Affected Analyte	%D	RRF	Affected Sample	Lab Conc ug/l or ug/kg	Lab Qual	EDS Conc ug/l or ug/kg	EDS Qual
27AUG0301003.D 8/27/96	1,4-Dioxane	4.5	0.003	None-All previously qualified due to initial calibration				
27AUG0301003.D 8/27/96	Methyl Methacrylate	26.4	0.418	14T049 14R035	10 10	U	10 10	UJ
CSVH039370.D 8/28/96	Bromomethane	25.5	0.900	14S03901 14S03901D	11 11	U	11 11	UJ
CSVH039370.D 8/28/96	Chloroethane	39.7	1.489	14S03901 14S03901D	11 11	U	11 11	UJ
CSVH039370.D 8/28/96	1,4-Dioxane	17.6	0.006	None-All previously qualified due to initial calibration				
CSVH039370.D 8/28/96	Iodomethane	28.9	3.312	14S03901 14S03901D	11 11	U	11 11	UJ
CSVH039395.D 8/29/96	Bromomethane	44.9	0.666	14B03903 14B04003 14S04101 14B04103 14S04001 14S04201 14B04203 14S04301 14B04303 14B04402 14B04402D	11 11 10 11 10 10 12 10 11 11 12	U	11 11 10 11 10 10 12 10 11 11 12	UJ
CSVH039395.D 8/29/96	Chloroethane	39.2	1.483	14B03903 14B04003 14S04101 14B04103 14S04001 14S04201 14B04203 14S04301 14B04303 14B04402 14B04402D	11 11 10 11 10 10 12 10 11 11 12	U	11 11 10 11 10 10 12 10 11 11 12	UJ
CSVH039395.D 8/29/96	1,4-Dioxane	15.2	0.006	None-All previously qualified due to initial calibration				
CSVH039411.D 8/30/96	Bromomethane	36.0	0.773	14B04402R	11	U	11	UJ

CSVH039411.D 8/30/96	Chloroethane	28.6	1.370	14B04402R	11	U	11	UJ
CSVH039411.D 8/30/96	1,4-Dioxane	0.2	0.005	None-All previously qualified due to initial calibration				
CSVH039421.D 8/31/96	Chloroethane	42.3	1.516	14B04402DR 14B04203R	12 12	U	12 12	UJ
CSVH039421.D 8/31/96	1,4-Dioxane	17.0	0.006	None-All previously qualified due to initial calibration				

4. Comments: The following calibration calculations were verified during the validation process.

M3034 MS5 8/27/96 Methylene Chloride Mean =(Sum RRF/5) Mean RRF = (2.109+1.940+1.890+ 1.904+1.775/5=1.924	M3034 MS5 8/27/96 Methylene Chloride %RSD=(Std.Deviation/Mean)*100 %RSD=(0.1207/1.924)*100 %RSD=6.3%	M3034 MS5 8/27/96 Methyl methacrylate %D=(Mean RRF-RRF50/Mean RRF)*100 %D=(0.331-0.418/0.331)* 100 %D= 26.3

VII. Blanks

One hundred percent of the results on the summary forms were checked to ensure that reported results met required quality control criteria.

A. Laboratory Blanks

1. Laboratory method blanks were analyzed for each matrix type, concentration level, and for each 12 hour time period on each GC/MS system used to analyze samples.

   Yes: X No: ____

2. All laboratory blanks were found to be free of contaminant target compounds at detectable concentrations.

   Yes: ____ No: X

   Comment: The following table summarizes laboratory blank results:

Volatile Laboratory Blank Summary Table SDG No. M3034								
Blank ID/Date Analyzed	Affected Analyte	Conc. ug/l or ug/kg	Action Level ** ug/l or ug/kg	Affected Sample	Lab Conc ug/l or ug/kg	Lab Qual	EDS Conc ug/l or ug/kg	EDS Qual
VBLK2Q 8/27/96	Acetone	8	80	14T049 14R035	2 4	JB JB	10 10	U U
VBLK2U 8/28/96	Acetone	6	60	14S03901 14S03901D	30 14	B B	30 14	U U
VBLK2U 8/28/96	2-Butanone	1	10	14S03901D	2	JB	11	U
VBLK2U 8/28/96	Benzene	2	10	14S03901 14S03901D	4 2	JB JB	5 5	U U
VBLK31 8/29/96	Acetone	3	30	14B03903	28	B	28	U
VBLK32 8/30/96	Methylene Chloride	1	10	14B04402R	8	B	8	U
VBLK32 8/30/96	Acetone	6	60	14B04402R	51	B	51	U
VBLK37 8/31/96	Acetone	6	60	14B04402DR 14B04203R	45 26	B B	45 26	U U

** The "action level" is 10X the blank concentration for compounds defined to be common lab contaminants (i.e., methylene chloride, acetone, 2-butanone), and 5X the blank concentration for other target compound contaminants.

3. All laboratory blanks were found to be clean of tentatively identified compound (TIC) contamination.

   Yes: _____ No: _____ N/A: __X__

4. If TICs were detected in the laboratory blanks, the associated samples were found to be free of those analytes at detectable concentrations.

   Yes: _____ No: _____ N/A: __X__

B. Field Blanks

1. The field blanks associated with samples in the SDG met the following conditions:

a. All field blanks were found to be free of target analytes at detectable concentrations.

Yes: X No: ____ N/A: ____

Comment: The following table summarizes field blank results:

Volatile Field Blank Summary Table SDG No. M3034								
Blank ID/Date Analyzed	Affected Analyte	Conc. ug/l	Action Level ** ug/l	Affected Sample	Lab Conc ug/l	Lab Qual	EDS Conc ug/l	EDS Qual
14T049 8/27/96	None Found	--	--	--	--	--	--	--
14R035 8/27/96	None Found	--	--	--	--	--	--	--

** The "action level" is 10X the blank concentration for compounds defined to be common lab contaminants (i.e., methylene chloride, acetone, 2-butanone), and 5X the blank concentration for other target compound contaminants.

2. All field blanks were found to be clean of tentatively identified compound (TIC) contamination.

Yes: ____ No: ____ N/A: X

3. If TICs were detected in the field blanks, the associated samples were found to be free of those analytes at detectable concentrations.

Yes: ____ No: ____ N/A: X

Comment: TIC analyses were not performed for field blanks.

VIII. System Monitoring Compounds (Surrogates)

One hundred percent of the results on the summary forms were checked to ensure that reported results met required quality control criteria.

1. System monitoring compound recovery results met the criteria specified below in all samples.

Yes: ____ No: X

System Monitoring Compound Criteria

	Water	Soil/Sediment
	%R	%R
Toluene-d_8 (TOL)	88-110	81-117
Bromofluorobenzene (BFB)	86-115	74-121
1,2-Dichloroethane-d_4 (DCE)	76-114	70-121

2. Sample reanalysis was performed if system monitoring results were outside of criteria.

   Yes: __X__ No: ____ N/A: ____

   Comment: Samples 14B04203, 14B04402, and 14B04402D exhibited a high toluene-d8 % recovery. The samples were reanalyzed with the same results (14B04203R, 14B04402R, and 14B04402DR). Both sets of samples were qualified as estimated "J" for positive results. The original sample results should be used for reporting purposes.

IX. Matrix Spikes/Matrix Spike Duplicates

One hundred percent of the results on the summary forms were checked to ensure that reported results met required quality control criteria.

1. For every 20 samples in an SDG, one field sample of each type was spiked for MS/MSD analysis.

   Yes: __X__ No: ____

2. MS/MSD sample I.D.: 14S03901

3. MS/MSD sample results met the criteria specified below.

   Yes: __X__ No: ____ NA: ____

MS/MSD Criteria

	Water		Soil/Sediment	
	%R	RPD	%R	RPD
1,1-Dichloroethene	61-145	14	59-172	22
Trichloroethene	71-120	14	62-137	24
Benzene	76-127	11	60-133	21
Toluene	76-125	13	59-139	21
Chlorobenzene	75-130	13	66-142	21

4. 0 of 10 %R results were out of QC limits.
0 of 5 RPD results were out of QC limits.

Comment: MS/MSD criteria have been met and no action has been taken.

X. Laboratory Control Samples (LCS)

Laboratory control charts were included in the data packages.

1. Laboratory control charts were provided for each surrogate for reagent blank analyses per batch.

   Yes: __X__ No: ____ N/A: ____

2. The percent recoveries were within acceptable QC limits.

   Yes: __X__ No: ____ N/A: ____

   Comment: LCS criteria have been met and no action has been taken.

XI. Field Duplicates

1. The following duplicate set(s) was analyzed with this SDG:

   a. 14S03901 and 14S03901D
   b. 14B04402 and 14B04402D

2. Comment: The following table summarizes results for each duplicate pair.

Compound	14S03901 ug/kg	14S03901D ug/kg	RPD
Toluene	2	1	67

Compound	14B04402 ug/kg	14B04402D ug/kg	RPD
Methylene Chloride	2	8U	NC
Acetone	53	51U	NC
Carbon Disulfide	1	6U	NC
2-Butanone	11	12	9
Toluene	3	1	100
Ethylbenzene	7	4	55
Xylenes (total)	84	51	49

Comment: No action is taken based on field duplicate results.

XII. Internal Standards

One hundred percent of the results on the summary forms were checked to ensure that reported results met required quality control criteria.

1. All sample IS area counts were within a -50% to +100% control limit window from the associated calibration standard.

   Yes: __X__ No: ____

2. All sample IS retention times were within a ±30 sec. control limit window of the associated calibration standard IS retention times.

   Yes: __X__ No: ____

   Comment: IS criteria have been met and no action has been taken.

XIII. Target Compound Identification

Target compound identification results are not verified for Level C data validation.

1. Sample results were not verified for the following identification criteria:

   a. Compound relative retention times (RRT) were within ±0.06 RRT units of the standard relative retention time.

   b. All ions present in the standard mass spectrum at a relative intensity greater than 10% were present in the sample spectrum, and the relative intensities of these ions were within ±20%.

   c. All ions present at greater than 10% in the sample mass spectrum but not present in the standard mass spectrum were accounted for.

   Yes: ____ No: ____ N/A: __X__

XIV. Compound Quantitation and Reported CRQLS

Compound quantitation and reported CRQLs are not verified for Level C data validation.

1. All Form I sample results which were verified were correctly calculated and reported.

Yes: ____ No: ____ N/A: __X__

2. All sample compounds had on-column concentrations within the upper calibration range of the method.

Yes: __X__ No: ____ N/A: ____

3. All samples were analyzed only once (i.e., no samples required re-analysis or dilution).

Yes: ____ No: __X__ N/A: ____

Comment: Dilutions were required for samples 14B04203, 14B04402, and 14B04402D due to surrogate deficiencies.

XV. Tentatively Identified Compounds

One hundred percent of the results on the summary forms were checked to ensure that TIC results met required quality control criteria.

1. A mass spectral search of the NIST library was conducted for the 10 largest volatile fraction peaks which were not target compounds, ISs, or system monitoring compounds, and the spectra for the three TIC candidates were included.

Yes: ____ No: ____ N/A: __X__

2. Reported TICs met the following criteria:

a. Ions present at greater than 10% abundance in the referenced spectrum were also present in the sample spectrum, and relative intensities were within ±20%.

b. Ions present in the sample spectrum at greater than 10% abundance were also present in the reference spectra, or could be accounted for.

Yes: ____ No: ____ N/A: __X__

3. TIC concentrations were calculated assuming an RRF value of 1.0.

Yes: ____ No ____ N/A: __X__

Comment: TICs were not reported for these samples.

XVI. System Performance

1. The instrumental and analytical systems used in the analysis of these samples maintained an acceptable level of performance.

   Yes: __X__ No: ____

XVII. Overall Assessment of Data

The final validated results represent the compilation of all quality control qualification. With the exception of the quality control anomalies presented in Sections V, VI, VII, and VIII (Initial and Continuing Calibration, Blanks, and Surrogates) of this report and the resulting qualifiers, the analyses of environmental samples and quality control samples are valid within the constraints identified with the data quality flags, with the exception of 1,4-dioxane which was rejected due to initial and continuing calibration problems.

Organic Data Qualifiers

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

J - The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

N - The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."

NJ - The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

UJ - The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

R - The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

Summary of Organic Data Validation
Semivolatile Organic Compounds

Client:	ABB Environmental Services, Inc.
Project Name:	U.S. Naval Station Mayport, Mayport, Florida
Project Number:	CTO 028
Contract Laboratory:	Quality Analytical Laboratory
SDG Number:	M3034
Purchase Order Number:	SE4-21-017
NEESA Level:	C
Data Reviewer:	Nancy Weaver
Secondary Reviewer:	Linda Harding
Date Review Completed:	October 14, 1996

Contractor Sample Number	Laboratory Sample Number	Sample Matrix
14R035	MB647002	Water
14S03901	MB647003	Soil
14S03901MS	MB647003MS	Soil
14S03901MSD	MB647003MSD	Soil
14S03901D	MB647004	Soil
14S04001	MB647005	Soil
14B03903	MB647006	Soil
14B04003	MB647007	Soil
14S04101	MB647008	Soil
14S04201	MB647009	Soil
14S04201RE	MB647009RE	Soil
14B04103	MB647010	Soil
14B04203	MB647011	Soil
14S04301	MB647012	Soil
14B04303	MB647013	Soil
14B04402	MB647014	Soil
14B04402D	MB647015	Soil

TABLE OF CONTENTS

I. Validation Procedure Summary 1

II. Data Deliverables 1

III. Technical Holding Times 1

IV. GC/MS Instrument Performance Check 1

V. Initial Calibration (ICAL) 3

VI. Continuing Calibration (CCAL) 3

VII. Blanks 7
A. Laboratory Blanks 7
B. Field Blanks 8

VIII. Surrogate Spike Compounds 9

IX. Matrix Spikes/Matrix Spike Duplicates 9

X. Laboratory Control Samples (LCS) 10

XI. Field Duplicates 10

XII. Internal Standards (IS) 11

XIII. Target Compound Identification 11

XIV. Compound Quantitation and Reported CRQLS 12

XV. Tentatively Identified Compounds 12

XVI. System Performance 13

XVII. Overall Assessment of Data 13

Organic Data Qualifiers 14

I. Validation Procedure Summary

Data review and validation were performed in accordance with Naval Energy and Environmental Support Activity (NEESA) 20.2-047B (June 1988) using the USEPA National Functional Guidelines for Organic Data Review, (12/90, Revised 6/91) and criteria specified in the USEPA Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846, 3rd Edition (1986).

II. Data Deliverables

1. All required deliverables including QA/QC summary forms and all necessary raw data were present in legible form in the data package.

   Yes: __X__ No: ____

III. Technical Holding Times

Technical holding times for all samples were verified from raw data and chain of custody forms.

1. Technical holding times were within the allowable limits shown below:

   a. Water samples extracted ≤7 days from date of sample collection; analyzed ≤40 days from date of extraction.

   Yes: __X__ No: ____ N/A: ____

   b. Soil/sediment samples extracted ≤14 days from date of sample collection; analyzed ≤40 days from date of extraction.

   Yes: ____ No: __X__ N/A: ____

   Comment: Sample 14S04201RE was re-extracted outside of holding times due to surrogate recovery problems. All associated results are qualified as estimated "J/UJ."

IV. GC/MS Instrument Performance Check

One hundred percent of the results on the summary forms were checked to ensure that reported results met required quality control criteria.

1. The DFTPP instrument performance check solution was analyzed at the beginning of each 12 hour period during sample analysis. All standards, samples, blanks and samples were analyzed within 12 hours of the injection of the tuning compound.

Yes: X No: ____

2. DFTPP ion abundance criteria for all instrument performance checks were within the quality control limits specified below.

Yes: X No: ____

Decafluorotriphenylphosphine (DFTPP)

m/z	Ion Abundance Criteria
51	30.0-60.0% of m/z 198
68	Less than 2.0% of m/z 69
69	Present, Mass 69 relative abundance
70	Less than 2.0% of m/z 69
127	40.0 - 60.0 of m/z 198
197	Less than 1.0% of m/z 198
198	Base peak, 100% relative abundance
199	5.0 - 9.0 of m/z 198
275	10.0 - 30.0% of m/z 198
365	Greater than 1.00% of m/z 198
441	Present, but less than m/z 443
442	Greater than 40.0% of m/z 198
443	17.0 - 23.0% of m/z 442

Summary of Tuning

Date of Injection	Instrument ID	Matrix	Level (low or medium)	File/Batch No.
9/10/96	MS3	Soil	Low	H0007175.D
9/11/96	MS3	Soil	Low	H0007209.D
9/12/96	MS3	Soil	Low	H0007224.D
9/16/96	MS3	Soil	Low	H0007252.D

Comment: Tuning criteria have been met and no action has been taken.

V. Initial Calibration (ICAL)

One hundred percent of the results on the summary forms were checked to ensure that reported results met required quality control criteria.

1. An initial 5-point calibration was run for each compound at concentrations of 20, 50, 80, 120, and 160 ng per 2 ul injections.

   Yes: X No: ____

2. The initial calibration mean relative response factor (RRF) results were greater than or equal to 0.05 for each compound.

   Yes: X No: ____

3. The RRF percent relative standard deviation (% RSD) results from the initial calibration were less than or equal to 30% for all compounds.

   Yes: X No: ____

   Comment: Initial calibration criteria have been met and no action has been taken.

VI. Continuing Calibration (CCAL)

One hundred percent of the results on the summary forms were checked to ensure that reported results met required quality control criteria.

1. A 50 ug/L continuing calibration standard containing all target compounds was analyzed at the beginning of each 12-hour analysis period following the analysis of the instrument performance check and prior to the analysis of any blanks or samples.

   Yes: X No: ____

2. The relative response factors (RRFs) were greater than or equal to 0.05 for each compound.

   Yes: ____ No: X

3. The percent difference (%D) between the mean initial calibration RRF and the continuing calibration RRF were within ±25%.

   Yes: ____ No: X

Comment: The following summarizes continuing calibration %D and/or RRF exceedences:

Semivolatile Continuing Calibration Summary Table SDG No. M3034								
CCAL Date and File/Batch Numbers of Stds.	Affected Analyte	%D	RRF	Affected Samples	Lab Value ug/l or ug/kg	Lab Qual	EDS Value ug/l or ug/kg	EDS Qual
H0007210.D 9/11/96	Phenyl-tert-butylamine	28.2	1.116	14R035	50	U	50	UJ
H0007210.D 9/11/96	4-Nitroquinoline-1-oxide	28.6	0.068	14R035	500	U	500	UJ
H0007210.D 9/11/96	Methapyrilene	43.8	0.836	14R035	50	U	50	UJ
H0007210.D 9/11/96	Hexachlorophene	30.9	0.080	14R035	500	U	500	UJ
H0007225.D 9/12/96	4-Nitrophenol	25.4	0.520	14S03901	1800	U	1800	UJ
				14S03901D	1800	U	1800	UJ
				14B03903	1900	U	1900	UJ
				14B04003	1800	U	1800	UJ
				14S04101	1700	U	1700	UJ
				14B04103	1900	U	1900	UJ
				14S04001	17000	U	17000	UJ
				14S04201	17000	U	17000	UJ
				14B04303	1900	U	1900	UJ
H0007225.D 9/12/96	Pyrene	27.6	1.657	14S03901	350	U	350	UJ
				14S03901D	350	U	350	UJ
				14B03903	380	U	380	UJ
				14B04003	370	U	370	UJ
				14S04101	340	U	340	UJ
				14B04103	380	U	380	UJ
				14S04001	3500	U	3500	UJ
				14S04201	3400	U	3400	UJ
				14B04303	380	U	380	UJ
H0007225.D 9/12/96	Phenyl-tert-butylamine	38.6	1.207	14S03901	1800	U	1800	UJ
				14S03901D	1800	U	1800	UJ
				14B03903	1900	U	1900	UJ
				14B04003	1800	U	1800	UJ
				14S04101	1700	U	1700	UJ
				14B04103	1900	U	1900	UJ
				14S04001	17000	U	17000	UJ
				14S04201	17000	U	17000	UJ
				14B04303	1900	U	1900	UJ

H0007225.D 9/12/96	1,3,5-Trinitrobenzene	41.7	0.884	14S03901	350	U	350	UJ
				14S03901D	350	U	350	UJ
				14B03903	380	U	380	UJ
				14B04003	370	U	370	UJ
				14S04101	340	U	340	UJ
				14B04103	380	U	380	UJ
				14S04001	3500	U	3500	UJ
				14S04201	3400	U	3400	UJ
				14B04303	380	U	380	UJ
H0007225.D 9/12/96	Phenacetin	32.3	1.251	14S03901	350	U	350	UJ
				14S03901D	350	U	350	UJ
				14B03903	380	U	380	UJ
				14B04003	370	U	370	UJ
				14S04101	340	U	340	UJ
				14B04103	380	U	380	UJ
				14S04001	3500	U	3500	UJ
				14S04201	3400	U	3400	UJ
				14B04303	380	U	380	UJ
H0007225.D 9/12/96	4-Nitroquinoline-1-oxide	32.5	0.064	14S03901	18000	U	18000	UJ
				14S03901D	18000	U	18000	UJ
				14B03903	19000	U	19000	UJ
				14B04003	18000	U	18000	UJ
				14S04101	17000	U	17000	UJ
				14B04103	19000	U	19000	UJ
				14S04001	170000	U	170000	UJ
				14S04201	170000	U	170000	UJ
				14B04303	19000	U	19000	UJ
H0007225.D 9/12/96	Methapyrilene	27.3	0.740	14S03901	1800	U	1800	UJ
				14S03901D	1800	U	1800	UJ
				14B03903	1900	U	1900	UJ
				14B04003	1800	U	1800	UJ
				14S04101	1700	U	1700	UJ
				14B04103	1900	U	1900	UJ
				14S04001	17000	U	17000	UJ
				14S04201	17000	U	17000	UJ
				14B04303	1900	U	1900	UJ
H0007225.D 9/12/96	Hexachlorophene	39.4	0.070	14S03901	18000	U	18000	UJ
				14S03901D	18000	U	18000	UJ
				14B03903	19000	U	19000	UJ
				14B04003	18000	U	18000	UJ
				14S04101	17000	U	17000	UJ
				14B04103	19000	U	19000	UJ
				14S04001	170000	U	170000	UJ
				14S04201	170000	U	170000	UJ
				14B04303	19000	U	19000	UJ

H0007253.D 9/16/96	n-Nitroso-di-n-propylamine	25.8	1.249	14S04301 14B04402D 14B04203 14B04402 14S04201RE	350 3900 4200 3800 3400	U U U U U	350 3900 4200 3800 3400	UJ UJ UJ UJ UJ
H0007253.D 9/16/96	p-Phenylenediamine	31.0	0.083	14S04301 14B04402D 14B04203 14B04402 14S04201RE	17000 190000 210000 190000 170000	U U U U U	17000 190000 210000 190000 170000	UJ UJ UJ UJ UJ
H0007253.D 9/16/96	1,3,5-Trinitrobenzene	34.5	0.839	14S04301 14B04402D 14B04203 14B04402 14S04201RE	350 3900 4200 3800 3400	U U U U U	350 3900 4200 3800 3400	UJ UJ UJ UJ UJ
H0007253.D 9/16/96	Phenacetin	26.6	1.197	14S04301 14B04402D 14B04203 14B04402 14S04201RE	350 3900 4200 3800 3400	U U U U U	350 3900 4200 3800 3400	UJ UJ UJ UJ UJ
H0007253.D 9/16/96	4-Nitroquinoline-1-oxide	43.5	0.054	14S04301 14B04402D 14B04203 14B04402 14S04201RE	17000 190000 210000 190000 170000	U U U U U	17000 190000 210000 190000 170000	UJ UJ UJ UJ UJ
H0007253.D 9/16/96	Methapyrilene	44.7	0.841	14S04301 14B04402D 14B04203 14B04402 14S04201RE	17000 190000 21000 19000 17000	U U U U U	17000 190000 21000 19000 17000	UJ UJ UJ UJ UJ
H0007253.D 9/16/96	Hexachlorophene	63.5	0.042	14S04301 14B04402D 14B04203 14B04402 14S04201RE	17000 190000 210000 190000 170000	U U U U U	17000 190000 210000 190000 170000	R R R R R

4. Comments: The following calibration calculations were verified during the validation process.

M3034 MS3 9/10/96 p-Phenylenediamine Mean RRF=(Sum RRF)/5 Mean RRF= (0.150+0.141+0.116+ 0.099+0.093)/5=0.120	M3034 MS3 9/10/96 p-Phenylenediamine %RSD=(Std.Deviation/Mean)*100 %RSD=(0.0251/0.120)*100 %RSD=20.9%	M3034 MS3 9/11/96 Phenol %D=(Mean RRF- RRF50/Mean RRF)*100 %D=(1.547-1.785/1.547) *100 %D=-15.4

VII. Blanks

A. Laboratory Blanks

One hundred percent of the results on the summary forms were checked to ensure that reported results met required quality control criteria.

1. Laboratory method blanks were analyzed for each matrix type, concentration level, extraction batch, and for each 12 hour time period on each GC/MS system used to analyze samples.

   Yes: __X__ No: ____

2. All laboratory blanks were found to be free of contaminant target compounds at detectable concentrations.

   Yes: ____ No: __X__

   Comment: The following table summarizes laboratory blank results:

Semivolatile Laboratory Blank Summary Table
SDG No. M3034

Blank ID/ Date Analyzed	Affected Analyte	Conc. ug/l or ug/kg	Action Level** ug/l or ug/kg	Affected Sample	Lab Conc ug/l or ug/kg	Lab Qual	EDS Conc ug/l or ug/kg	EDS Qual
SBLKBE 9/11/96	None Found	--	--	--	--	--	--	--
SBLKBG 9/12/96	Bis(2-ethylhexyl) phthalate	36	360	14S03901 14B03903 14B04103	73 45 95	JB JB JB	350 380 380	U U U
SBLKBP 9/16/96	Bis(2-ethylhexyl) phthalate	360	360	None-All samples non-detect				

** The "action level" is 10X the blank concentration for compounds defined to be common phthalate lab contaminants, and 5X the blank concentration for other target compound contaminants.

3. All laboratory blanks were free of tentatively identified compound (TIC) contamination.

   Yes: ____ No: ____ N/A: __X__

4. If TICs were detected in the laboratory blanks, the associated samples were found to be free of those analytes at detectable concentrations.

Yes: ____ No: ____ N/A: X

B. Field Blanks

1. The field blanks associated with samples in the SDG met the following conditions:

a. All field blanks were found to be free of target analytes at detectable concentrations.

Yes: X No: ____ N/A: ____

Comment: The following table summarizes laboratory blank results:

Semivolatile Field Blank Summary Table SDG No. M3034								
Blank ID/ Date Analyzed	Affected Analyte	Conc. ug/l	Action Level** ug/l	Affected Sample	Lab Conc ug/l	Lab Qual	EDS Conc ug/l	EDS Qual
14R035 9/11/96	None Found	--	--	--	--	--	--	--

** The "action level" is 10X the blank concentration for compounds defined to be common phthalate lab contaminants, and 5X the blank concentration for other target compound contaminants.

2. All field blanks were free of tentatively identified compound (TIC) contamination.

Yes: ____ No: ____ N/A: X

3. If TICs were detected in the field blanks, the associated samples were found to be free of those analytes at detectable concentrations.

Yes: ____ No: ____ N/A: X

Comment: TICs were not analyzed for the field blank sample.

VIII. Surrogate Spike Compounds

One hundred percent of the results on the summary forms were checked to ensure that reported results met required quality control criteria.

1. Surrogate compound recovery (%R) results met the criteria specified below in all samples.

   Yes: ____ No: __X__

Surrogate Recovery Limits

	Water %R	Soil %R
NBZ (Nitrobenzene-d5)	35-114	23-120
FBP (2-Fluorobiphenyl)	43-116	30-115
TPH (Terphenyl-d14)	33-141	18-137
PHL (Phenol-d5)	10-94	24-113
2FP (2-Fluorophenol)	21-100	25-121
TBP (2,4,6-Tribromophenol)	10-123	19-122

2. Sample reanalysis was performed if surrogate results were outside of criteria.

   Yes: __X__ No: ____ N/A: ____

   Comment: Sample 14S04201 exhibited a low %R for S6-2,4,6-tribromophenol. The functional guidelines allow for up to two surrogates per fraction to exceed QC limits before qualifications are required. The sample was reanalyzed as 14S04201RE with acceptable surrogate recoveries. Use the original sample results for reporting purposes since the reanalysis was qualified due to holding time deficiencies.

IX. Matrix Spikes/Matrix Spike Duplicates

One hundred percent of the results on the summary forms were checked to ensure that reported results met required quality control criteria.

1. For every 20 samples in an SDG, one field sample of each type was spiked for MS/MSD analysis.

   Yes: __X__ No: ____

2. MS/MSD Sample I.D.: 14S03901

3. MS/MSD sample results met with the criteria specified below.

Yes: X No: ____ N/A: ____

MS/MSD CRITERIA

	Water		Soil/Sediment	
	%R	RPD	%R	RPD
Phenol	12-110	42	26-90	35
2-Chlorophenol	27-123	40	25-102	50
1,4-Dichlorobenzene	36-97	28	28-104	27
N-Nitroso-Di-n-propylamine	41-116	38	41-126	38
1,2,4-Trichlorobenzene	39-98	28	38-107	23
4-Chloro-3-methylphenol	23-97	42	26-103	33
Acenaphthene	46-118	31	31-137	19
4-Nitrophenol	10-80	50	11-114	50
2-4-Dinitrotoluene	24-96	38	28-89	47
Pentachlorophenol	9-103	50	17-109	47
Pyrene	26-127	31	35-142	36

4. 0 of 22 MS/MSD %R results were out of required quality control limits.
0 of 11 MS/MSD RPD results were out of required quality control limits.

Comment: MS/MSD criteria have been met and no action has been taken.

X. Laboratory Control Samples (LCS)

Laboratory control charts were included in the data packages.

1. Laboratory control charts were provided for each surrogate for reagent blank analyses per batch.

Yes: X No: ____ N/A: ____

2. The percent recoveries were within acceptable QC limits.

Yes: X No: ____ N/A: ____

Comment: LCS criteria have been met and no action has been taken.

XI. Field Duplicates

1. The following duplicate set was analyzed with this SDG:

a. 14S03901 and 14S03901D
b. 14B04402 and 14B04402D

2. Comment: There were no positive results reported for duplicate sample pair (a). The following table summarizes field duplicate results for pair (b).

Semivolatile Field Duplicate Results SDG No. M3034			
Compound	14B04402 ug/kg	14B04402D ug/kg	RPD
Naphthalene	650	1100	51
2-Methylnaphthalene	3500	4900	33
Phenanthrene	1800	2700	40
Pyrene	3800U	790	NC

Comment: No action is taken based on field duplicate results. The RPD for pyrene was not calculated since one result was a non-detect.

XII. Internal Standards (IS)

One hundred percent of the results on the summary forms were checked to ensure that reported results met required quality control criteria.

1. All sample IS area counts were within a -50% to +100% control limit window from the associated calibration standard.

   Yes: X No: ____

2. All sample IS retention times were within a ±30 sec. control limit window of the associated calibration standard IS retention times.

   Yes: X No: ____

   Comment: IS criteria have been met and no action has been taken.

XIII. Target Compound Identification

Target compound identification results are not verified for Level C data validation.

1. Sample results were not verified for the following identification criteria:

   a. Compound relative retention times (RRT) were within ±0.06 RRT units of the standard relative retention time.

b. All ions present in the standard mass spectrum at a relative intensity greater than 10% were present in the sample spectrum, and the relative intensities of these ions were within ±20%.

c. All ions present at greater than 10% in the sample mass spectrum but not present in the standard mass spectrum were accounted for.

Yes: ____ No: ____ N/A: X

XIV. Compound Quantitation and Reported CRQLS

Compound quantitation and reported CRQLs are not verified for Level C data validation.

1. All Form I sample results which were verified were correctly calculated and reported.

   Yes: ____ No: ____ N/A: X

2. All sample compounds had on-column concentrations within the upper calibration range of the method.

   Yes: X No: ____ N/A: ____

3. All samples were analyzed only once (i.e., no samples required re-analysis or dilution).

   Yes: ____ No: X N/A: ____

   Comment: Several samples were analyzed at dilutions due to sample matrix. No action is taken on this basis.

XV. Tentatively Identified Compounds

One hundred percent of the results on the summary forms were checked to ensure that TIC results met required quality control criteria.

1. A mass spectral search of the NIST library was conducted for the 20 largest semivolatile fraction peaks which were not target compounds, ISs, or surrogate compounds, and the spectra for the three TIC candidates were included.

   Yes: ____ No: ____ N/A: X

2. Reported TICs met the following criteria:

a. Ions present at greater than 10% abundance in the referenced spectrum were also present in the sample spectrum, and relative intensities were within ±20%.

b. Ions present in the sample spectrum at greater than 10% abundance were also present in the reference spectra, or could be accounted for.

Yes: ____ No: ____ N/A: __X__

3. TIC concentrations were calculated assuming an RRF value of 1.0.

Yes: ____ No ____ N/A: __X__

XVI. System Performance

1. The instrumental and analytical systems used in the analysis of these samples maintained an acceptable level of performance.

Yes: __X__ No ____

XVII. Overall Assessment of Data

The final validated results represent the compilation of all quality control qualification. With the exception of the quality control anomalies presented in Sections III, VI, VII, and XIV (Holding Times, Continuing Calibration, Blanks, and Compound Quantitation) of this report and the resulting qualifiers, the analyses of environmental samples and quality control samples are valid within the constraints identified with the data quality flags with the exception of hexachlorophene which was rejected due to continuing calibration problems.

Organic Data Qualifiers

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

J - The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

N - The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."

NJ - The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

UJ - The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

R - The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

Summary of Inorganic Data Validation
Metals/Cyanide

Client:	ABB Environmental Services, Inc.
Project Name:	U.S. Naval Station Mayport, Mayport, Florida
Project Number:	CTO 028
Contract Laboratory:	Quality Analytical Laboratory
SDG Number:	M3034
Purchase Order Number:	SE4-21-017
NEESA Level:	C
Data Reviewer:	Susan Dalla
Secondary Reviewer:	Nancy Weaver
Date Review Completed:	October 3, 1996

Contractor Sample Number	Laboratory Sample Number	Sample Matrix
14R035	MB647002	Water
14S03901	MB647003	Soil
14S03901MS	MB647003MS	Soil
14S03901MSD	MB647003MSD	Soil
14S03901D	MB647004	Soil
14S04001	MB647005	Soil
14B03903	MB647006	Soil
14B04003	MB647007	Soil
14S04101	MB647008	Soil
14S04201	MB647009	Soil
14B04103	MB647010	Soil
14B04203	MB647011	Soil
14S04301	MB647012	Soil
14B04303	MB647013	Soil
14B04402	MB647014	Soil
14B04402D	MB647015	Soil

TABLE OF CONTENTS

I. Validation Procedure Summary 1

II. Data Deliverables 1

III. Technical Holding Times 1

IV. Instrument Calibration and Calibration Verification 2

V. Blanks 3
A. Laboratory Blanks 3
B. Field Blanks 5

VI. Matrix Spike Sample Recovery 5

VII. Interference Check Samples 6

VIII. Laboratory Control Sample (LCS) 7

IX. Duplicate Sample Analysis 8
A. Laboratory Duplicates 8
B. Field Duplicates 9

X. Furnace Atomic Absorption QC 9

XI. ICP Serial Dilution 10

XII. Sample Result Verification 10

XIII. Additional Comments/Professional Judgment 12

Inorganic Data Qualifiers 13

APPENDIX A - Summary Tables and Work Sheets 14

I. Validation Procedure Summary

Data review and validation were performed in accordance with Naval Energy and Environmental Support Activity (NEESA) 20.2-047B (June 1988) using the USEPA Functional Guidelines for Inorganic Analyses (7/88) and criteria specified in the USEPA Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846, 3rd Edition (1986).

II. Data Deliverables

1. All required deliverables including QA/QC summary forms are present and in legible form in the data package.

   Yes: __X__ No: ____

2. Lab control charts were received and data points were within the control limit windows.

   Yes: __X__ No: ____ N/A: ____

   Note: If data points are outside of control limit windows, refer to the Laboratory Control Sample section VIII for any effect on data quality.

III. Technical Holding Times

Chain of custody records and sample preparation logs (Form 13) were checked for all samples to verify that technical holding time, and preservation criteria were met.

1. Technical holding times were within the allowable limits shown below:

   a. Analysis for all metals was completed within 180 days of sample collection; mercury was completed within 28 days; cyanide was completed within 14 days.

   Yes: __X__ No: ____

   Comment: Holding time criteria have been met and no action has been taken.

IV. Instrument Calibration and Calibration Verification

One hundred percent of the calibration results on the quality control summary forms were checked to ensure that reported results were within required quality control limits.

1. Instrument calibration for metals determined by inductively coupled plasma spectroscopy (ICP) was performed using a blank and one standard for each analyte.

   Yes: __X__ No: ____ N/A: ____

2. Instrument calibration for metals determined by graphite furnace atomic absorption spectroscopy (GFAA) was performed using a blank and three standards (one of which was at the CRDL).

   Yes: __X__ No: ____

3. Instrument calibration for mercury was performed using a blank and four standards.

   Yes: __X__ No: ____ N/A: ____

4. Instrument calibration for cyanide was performed using a blank and three standards (one of which was at the CRDL).

   Yes: __X__ No: ____ N/A: ____

5. Calibration verification was performed for each analyte at a frequency of 10%.

   Yes: __X__ No: ____

6. A continuing calibration verification (CCV) was performed after the last analytical sample in each run.

   Yes: __X__ No: ____

7. Initial calibration verification (ICV) and CCV percent recovery (%R) values met the criteria specified below:

   a. For all metals except cyanide and mercury, %R results were between 90% and 110%.

Note: Due to possible rounding errors, allow results to fall within 1% of the contract windows (e.g. 89-111%).

Yes: X No: ____

8. Correlation coefficients for GFAA analytes, mercury, and cyanide calibration curves were greater than or equal to 0.995.

Yes: ____ No: ____ N/A: X

Comment: Raw data was not provided for this Level C SDG; therefore, calibration curves were not available.

9. Comments: The following calibration calculations were verified during the validation process.

ICV or CCV	Analyte	Calculation %R=(Found/True)*100	%R
ICV	Barium	2543/2500 x 100	101.7
CCV	Barium	2568/2500 x 100	102.7
ICV	Arsenic	25.74/25.0 x 100	103.0
CCV	Arsenic	26.15/25.0 x 100	104.6
ICV	Mercury	4.89/5.0 x 100	97.8
CCV	Mercury	4.74/5.0 x 100	94.8
ICV	Cyanide	88.8/94.0 x 100	94.5
CCV	Cyanide	98.8/94.0 x 100	105.1

V. Blanks

A. Laboratory Blanks

One hundred percent of the laboratory blank results on the summary forms were checked to ensure that reported results were within required quality control limits.

1. Preparation blank analyses results have been reported for each matrix type for every extraction batch.

Yes: X No: ____

2. Calibration blanks were run at a frequency of 10%.

Yes: __X__ No: ____

3. A calibration blank was analyzed immediately after every ICV and CCV, and after the last sample.

Yes: __X__ No: ____

4. All reported blank analyte results had absolute values less than the corresponding IDL values.

Yes: ____ No: __X__

The following sample results were qualified due to laboratory blanks that had target analytes where the absolute value of the reported results was greater than or equal to the corresponding IDL value; sample results were less than 5X the absolute value of the blank result.

Inorganic Laboratory Blank Summary Table
SDG No. M3034

Blank ID/ Date	Affected Analyte	Absolute Conc. ug/l or mg/kg	Action Level ug/l or mg/kg	Affected Sample	Lab Conc ug/l or mg/kg	Lab Qual	EDS Conc ug/l or mg/kg	EDS Qual
PBW 8/29/96	Zinc	3.76	18.8	14R035	1.8	B	3.76	UJ
PBS 9/3/96	Beryllium	-0.13	U	14S03901	0.03	U	0.03	UJ
				14S03901D	0.03		0.03	
				14S04001	0.03		0.03	
				14B03903	0.03		0.03	
				14B04003	0.03		0.03	
				14S04101	0.03		0.03	
				14S04201	0.03		0.03	
				14B04103	0.03		0.03	
				14B04203	0.03		0.03	
				14S04301	0.03		0.03	
				14B04303	0.03		0.03	
				14B04402	0.03		0.03	
				14B04402D	0.03		0.03	

	Copper	-1.94	U	14S03901	0.26	U	0.26	UJ
				14S03901D	0.26		0.26	
				14S04001	0.25		0.25	
				14B03903	0.27		0.27	
				14B04003	0.29		0.29	
				14S04101	0.25		0.25	
				14S04201	0.25		0.25	
				14B04103	0.27		0.27	
				14B04203	0.30		0.30	
				14S04301	0.25		0.25	
				14B04303	0.27		0.27	

5. All reported blank analyte results had absolute values less than or equal to the corresponding CRDL values.

   Yes: __X__ No: ____

B. Field Blanks

1. If analytes were detected in the blanks, the associated samples were found to be free of those analytes at detectable concentrations.

   Yes: ____ No: ____ N/A: __X__

2. Analytes were detected, but associated sample aliquot concentrations were greater than 5X the blank concentration.

   Yes: ____ No: ____ N/A: __X__

   Comment: Field blank 14R035 was free of contamination.

VI. Matrix Spike Sample Recovery

One hundred percent of the matrix spike (MS) sample results on the quality control summary forms were checked to ensure that reported results were within required quality control limits.

1. One field sample from each group of samples of a similar matrix and concentration level was spiked with each target analyte (except: Ca, Mg, K, Na on water samples and Al, Ca, Mg, K, and Na on soil/sediment samples) by the laboratory.

   Yes: __X__ No: ____

2. MS sample ID: 14S03901

3. For all target analytes, percent recovery (%R) results were within the limits of 75% - 125% (Note: MS %R limits do not apply when the sample concentration exceeded the spike concentration by a factor of 4 or more).

Yes: X No: ____

4. The following spike calculations were verified during the validation process.

Instrument or Method	Analyte	Calculation %R=(SSR-SR/SA)*100	%R
ICP	Beryllium	(10.02-0.0)/10.65 x 100	94.1
GFAA	Arsenic	(7.59-0.48)/8.52 x 100	83.4
CV	Mercury	(103.3-1.18)/106.5 x 100	95.9
CA	Cyanide	(2.34-0.0)/2.13 x 100	109.8

VII. Interference Check Samples

One hundred percent of the ICS results on the quality control summary forms were checked to ensure that reported results were within required quality control limits.

1. ICP ICSs (solutions A and AB) were analyzed at the beginning and end of each sample analysis run (or a minimum of twice per 8-hour shift, whichever was more frequent).

Yes: X No: ____ N/A: ____

2. Solution AB analyte recovery results were within the control limits of 80%-120%.

Yes: X No: ____ N/A: ____

3. Concentrations of Ca, Fe, and Mg in the samples are less than or equal to their respective concentration in ICS solution A or AB.

Yes: ____ No: ____ N/A: X

4. Cr, Cu, Ni, and V are present in a sample(s) at concentrations less than 10,000 ug/L.

Yes: X No: ____ N/A: ____

5. Comments: ICP ICSs criteria have been met and no action has been taken. The following ICS calculations were verified during the validation process.

Analyte	Calculation %R=(Found Soln AB/True Soln AB)*100	%R
Barium	490/500 x 100	98.0

VIII. Laboratory Control Sample (LCS)

One hundred percent of the LCS results on the quality control summary forms were checked to ensure that reported results were within required quality control limits.

1. A laboratory control sample was analyzed for each SDG for each matrix type.

Yes: X No: ____

2. Aqueous LCS recovery results were within the control limits of 80% to 120% (except for Sb and Ag which have no required limits).

Yes: X No: ____ N/A: ____

3. Soil LCS recovery results were within the required control limits specified on the laboratory Form VII-IN and control charts.

Yes: X No: ____ N/A: ____

Comment: LCS criteria have been met and no action has been taken.

4. The following LCS calculations were verified during the validation process.

Instrument or Method	Analyte	Calculation %R=(Found/True)*100	%R
ICP	Barium	2530/2500 x 100	101.2
GFAA	Arsenic	100.2/100 x 100	100.2
CV	Mercury	4.74/5.0 x 100	94.8
CA	Cyanide	96.1/94.0 x 100	102.2

IX. Duplicate Sample Analysis

One hundred percent of the duplicate results on the quality control summary forms were checked to ensure that reported results were within required quality control limits.

A. Laboratory Duplicates

1. For each SDG, one duplicate sample was analyzed from each group of samples of a similar matrix type and concentration level.

   Yes: __X__ No: ____

   MSD ID: 14S03901

2. For duplicate analyte concentrations greater than 5X the CRDL, the relative percent difference (RPD) between the two reported results was less than 20% for aqueous samples (35% for soil samples).

   Yes: __X__ No: ____

3. For duplicate analyte concentrations less than 5X the CRDL, the difference between the two reported results was less than the CRDL value for aqueous samples, or less than 2X the CRDL value for soil samples. RPDs for samples with values less than the CRDL are not calculated.

   Yes: __X__ No: ____

4. Laboratory duplicate criteria have been met and no action has been taken.

5. The following duplicate calculations were verified during the validation process.

Instrument or Method	Analyte	Calculation RPD=[S-D/(S+D/2)]*100 D = S - Dup	RPD or Difference
ICP	Chromium	2.67-3.23	0.56 (±4.2)
GFAA	Lead	1.61-1.42	0.19 (±1.2)
CV	Mercury	NA	NC
CA	Cyanide	NA	NC

B. Field Duplicates

1. The following duplicate sets were analyzed with this SDG:

   a. 14S03901 and 14S03901D
   b. 14B04402 and 14B04402D

2. Comment: Field duplicate criteria have been met and no action has been taken.

X. Furnace Atomic Absorption QC

One hundred percent of the AA summary data was checked to ensure that reported results were within required quality control limits.

1. Duplicate injections for AA analytes with concentrations greater than the CRDL had RSD results < 20%.

   Yes: ____ No: ____ N/A: __X__

   Comment: RSD results are contained in the raw data which is not provided for Level C review.

2. For each sample, all AA analytical spike recovery results were between 85% and 115%.

   Yes: ____ No: __X__

   Comment: Analytical spike recovery of antimony exceeded acceptance criteria for sample 14S03901 (132%). Antimony results in this sample have been qualified as estimated "UJ" due to the possibility of interference.

3. For each sample, all AA results were within the appropriate calibration range, or were diluted to meet this criteria.

   Yes: __X__ No: ____ N/A: ____

4. Sample analyte results where the analytical spike recovery was <40% were diluted once and reanalyzed.

   Yes: ____ No: ____ N/A: __X__

5. Samples having analyte concentrations greater than or equal to 50% of the spike concentrations, and spike %R results <85% or >115% were quantitated by MSA.

Yes: ____ No: ____ N/A: X

6. MSA analyses with correlation coefficients less than 0.995 were rerun once.

Yes: ____ No: ____ N/A: X

7. MSA spike values met the criteria specified below:

a. Spike 1 was approximately 50% of the sample concentration.
b. Spike 2 was approximately 100% of the sample concentration.
c. Spike 3 was approximately 150% of the sample concentration.

Yes: ____ No: ____ N/A: X

XI. ICP Serial Dilution

ICP serial dilution results were not provided by the laboratory.

1. ICP serial dilution analysis was performed on one sample from each SDG of a similar matrix type and concentration level.

Yes: ____ No: ____ N/A: X

2. For each analyte in the serial dilution sample which was minimally a factor of 50 above the IDL in the original sample, the serial dilution result agreed within 10% of the original determination after correction for dilution.

Yes: ____ No: ____ N/A: X

XII. Sample Result Verification

Ten percent of all reported sample results were not verified since the raw data is not provided for a Level C data package.

1. All sample results which were verified were correctly calculated and reported.

Yes: ____ No: ____ N/A: X

Comment: Calculations and transcriptions can not be verified without the raw data.

2. All sample results fall within the calibrated range of the instrument for AA and cyanide.

Yes: __X__ No: ____ N/A: ____

3. All reported concentrations were above the CRDL.

Yes: ____ No: __X__ N/A: ____

Comment: The "B" qualifier applied by the laboratory for results between the CRDL and the IDL were amended with a "J" qualifier.

4. Sample results on Form 1 were reported down to the IDL not CRDL for all analytes.

Yes: __X__ No: ____ N/A: ____

5. Reported sample results that were analyzed by ICP for As, Pb, Se, and Tl were at least 5X the ICP IDL.

Yes: ____ No: ____ N/A: __X__

6. Sample weights, volumes and dilutions were taken into account when reporting detection limits on Form 1.

Yes: __X__ No: ____ N/A: ____

7. IDLs were present and found to be less than CRDL.

Yes: __X__ No: ____ N/A: ____

8. All CRDLs and IDLs were included on Form X.

Yes: __X__ No: ____ N/A: ____

9. Raw data were free of anomalies (e.g. baseline shifts, negative absorbances/emissions, omissions, etc.). If no, please describe anomalies in the comments section below.

Yes: ____ No: ____ N/A: __X__

Comment: Raw data is not provided for Level C review.

XIII. Additional Comments/Professional Judgment

The final validated results represent the compilation of all quality control qualification. With the exception of the quality control anomalies presented in Sections V.A.4, X.2, and XII.3 and the resulting qualifiers, the analyses of environmental samples and quality control samples are valid within the constraints identified with the data quality flags. All false positive/negative results and matrix interferences are summarized on Table A-1 and A-3, respectively.

Inorganic Data Qualifiers

U - The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

J - The associated value is an estimated quantity.

R - The data are unusable. (Note: Analyte may or may not be present.)

UJ - The material was analyzed for, but was not detected. The associated value is an estimate and may be inaccurate or imprecise.

APPENDIX A

Summary Tables and Work Sheets

Table A-1
Review of False Positive/Negative Results

Sample	Parameter	False Positive or Negative	Rationale	Reported		Validated	
				Conc. (ug/L or mg/kg)	Qual	Conc. (ug/L or mg/kg)	Qual
14R035	Zinc	P	2	1.8	B	3.76	UJ
14S03901	Beryllium	N	3	0.03	U	0.03	UJ
14S03901D	Beryllium	N	3	0.03	U	0.03	UJ
14S04001	Beryllium	N	3	0.03	U	0.03	UJ
14B03903	Beryllium	N	3	0.03	U	0.03	UJ
14B04003	Beryllium	N	3	0.03	U	0.03	UJ
14S04101	Beryllium	N	3	0.03	U	0.03	UJ
14S04201	Beryllium	N	3	0.03	U	0.03	UJ
14B04103	Beryllium	N	3	0.03	U	0.03	UJ
14B04203	Beryllium	N	3	0.03	U	0.03	UJ
14S04301	Beryllium	N	3	0.03	U	0.03	UJ
14B04303	Beryllium	N	3	0.03	U	0.03	UJ
14B04402	Beryllium	N	3	0.03	U	0.03	UJ
14B04402D	Beryllium	N	3	0.03	U	0.03	UJ
14S03901	Copper	N	3	0.26	U	0.26	UJ
14S03901D	Copper	N	3	0.26	U	0.26	UJ
14S04001	Copper	N	3	0.25	U	0.25	UJ
14B03903	Copper	N	3	0.27	U	0.27	UJ
14B04003	Copper	N	3	0.29	U	0.29	UJ
14S04101	Copper	N	3	0.25	U	0.25	UJ
14S04201	Copper	N	3	0.25	U	0.25	UJ
14B04103	Copper	N	3	0.27	U	0.27	UJ
14B04203	Copper	N	3	0.30	U	0.30	UJ
14S04301	Copper	N	3	0.25	U	0.25	UJ
14B04303	Copper	N	3	0.27	U	0.27	UJ

Rationale
1 = Professional judgement
2 = Blank contamination (laboratory or field)
3 = Prep Blank - negative value > IDL

Table A-3
Matrix Interferences (Inorganics)

Sample	Parameter	Initial	Re-analysis ID	Final	Was the Re-analysis Needed?	Most Appropriate Result	Comment
14S03901	Antimony	%R=132	NA	NA	NO	0.54 UJ	X.2

Environmental Data Services, Inc.

Specializing in Laboratory Data Validation

Summary of Organic Data Validation
Volatile Organic Compounds

Client:	ABB Environmental Services, Inc.
Project Name:	U.S. Naval Station Mayport, Mayport, Florida
Project Number:	CTO 028
Contract Laboratory:	Quality Analytical Laboratory
SDG Number:	M3035
Purchase Order Number:	SE4-21-017
NEESA Level:	C
Data Reviewer:	Nancy Weaver
Secondary Reviewer:	Linda Harding
Date Review Completed:	October 10, 1996

Contractor Sample Number	Laboratory Sample Number	Sample Matrix
14T050	MB671001	Water
14R036	MB671002	Water
14G01501	MB671003	Water
14G01501MS	MB671003MS	Water
14G01501MSD	MB671003MSD	Water
14G01501D	MB671004	Water
14T051	MB747001	Water
14G01601	MB747002	Water
14G01701	MB747003	Water
14G01801	MB747004	Water

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TABLE OF CONTENTS

I. Validation Procedure Summary 1

II. Data Deliverables 1

III. Technical Holding Times 1

IV. GC/MS Instrument Performance Check 1

V. Initial Calibration (ICAL) 2

VI. Continuing Calibration 3

VII. Blanks 5
A. Laboratory Blanks 5
B. Field Blanks 6

VIII. System Monitoring Compounds (Surrogates) 7

IX. Matrix Spikes/Matrix Spike Duplicates 7

X. Laboratory Control Samples (LCS) 8

XI. Field Duplicates 8

XII. Internal Standards 9

XIII. Target Compound Identification 9

XIV. Compound Quantitation and Reported CRQLS 10

XV. Tentatively Identified Compounds 10

XVI. System Performance 11

XVII. Overall Assessment of Data 11

Organic Data Qualifiers 12

I. Validation Procedure Summary

Data review and validation were performed in accordance with Naval Energy and Environmental Support Activity (NEESA) 20.2-047B (June 1988) using the USEPA National Functional Guidelines for Organic Data Review, (12/90, Revised 6/91) and criteria specified in the USEPA Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846, 3rd Edition (1986).

II. Data Deliverables

1. All required deliverables including QA/QC summary forms and all necessary raw data were present in legible form in the data package.

   Yes: __X__ No: ____

III. Technical Holding Times

Technical holding times for all samples were verified from raw data and chain of custody forms.

1. Technical holding times were within the allowable limits shown below:

   a. Preserved water samples analyzed ≤ 14 days from date of sample collection.

   Yes: __X__ No: ____ N/A: ____

   b. Unpreserved water samples, aromatic VOCs analyzed ≤ 7 days from date of sample collection; non-aromatic VOCs analyzed ≤ 14 days from date of sample collection.

   Yes: ____ No: ____ N/A: __X__

   c. Soil samples analyzed ≤ 14 days from date of sample collection.

   Yes: ____ No: ____ N/A: __X__

   Comment: Holding time criteria have been met and no action has been taken.

IV. GC/MS Instrument Performance Check

One hundred percent of the results on the summary forms were checked to ensure that reported results met required quality control criteria.

1. The BFB instrument performance check solution was analyzed at the beginning of each 12 hour period during sample analysis. All standards, samples, blanks and samples were analyzed within 12 hours of the injection of the tuning compound.

Yes: X No: ____

2. BFB ion abundance criteria for all instrument performance checks were within the quality control limits specified below.

Yes: X No: ____

Bromofluorobezene (BFB)

m/z	Ion Abundance Criteria
50	15 - 40.0% of m/z 95
75	30.0 - 60.0 of m/z 95
95	Base peak, 100% relative abundance
96	5.0 - 9.0% of m/z 95
173	Less than 2.0% of m/z 174
174	Greater than 50.0% of m/z 95
175	5.0 - 9.0% of m/z 174
176	95.0 - 101.0% of m/z 174
177	5.0 - 9.0% of m/z 176

Summary of Tuning

Date of Injection	Instrument ID	Matrix	Level (low or medium)	File/Batch No.
8/27/96	MS5	Water	Low	27AUG0201002.D
9/3/96	MS5	Water	Low	03SEP0201002.D
9/11/96	MS5	Water	Low	11SEP0101001.D

Comment: Tuning criteria have been met and no action has been taken.

V. Initial Calibration (ICAL)

One hundred percent of the results on the summary forms were checked to ensure that reported results met required quality control criteria.

1. An initial 5-point calibration was run for each compound at concentrations of 10, 20, 50, 100, and 200 ug/L (or, if a 25-mL purge volume was used, at concentrations of 4, 10, 20, 30 and 40 ug/L).

   Yes: __X__ No: ____

2. The initial calibration mean relative response factor (RRF) was greater than or equal to 0.05 for each compound.

   Yes: ____ No: __X__

3. The RRF percent relative standard deviation (% RSD) results from the initial calibration were less than or equal to 30% for all compounds.

   Yes: ____ No: __X__

   Comment: Acetone exceeded the 30% RSD criteria, however, there were no positive results reported for acetone in the associated samples, therefore, no qualifications were required.

   Initial calibration results which did not meet RRF or %RSD criteria are listed below:

Volatile Initial Calibration Summary Table
SDG No. M3035

ICAL Date and File/Batch Numbers of Stds.	Affected Analyte	% RSD	RRF	Affected Sample	Lab Conc ug/l	Lab Qual	EDS Conc ug/l	EDS Qual
27AUG0301003.D-27AUG0701007.D 8/27/96	1,4-Dioxane	8.3	0.003	All Samples	200	U	200	R

VI. Continuing Calibration

One hundred percent of the results on the summary forms were checked to ensure that reported results met required quality control criteria.

1. A continuing calibration standard containing all target compounds was analyzed at the beginning of each 12-hour analysis period following the analysis of the instrument performance check and prior to the analysis of any blanks or samples.

   Yes: __X__ No: ____

2. The relative response factor (RRF) for each compound was greater than or equal to 0.05.

Yes: ____ No: __X__

3. The percent difference (%D) between the mean initial calibration RRF and the continuing calibration RRF for each compound was within ±25%.

Yes: ____ No: __X__

Continuing calibration results which did not meet RRF or %D criteria are listed below:

Volatile Continuing Calibration Summary Table SDG No. M3035								
CCAL Date and File/Batch Numbers of Stds.	Affected Analyte	%D	RRF	Affected Sample	Lab Conc ug/l	Lab Qual	EDS Conc ug/l	EDS Qual
03SEP0301003.D 9/3/96	Acetone	33.1	0.397	14T050 14R036 14G01501 14G01501D	10 10 10 10	U	10 10 10 10	UJ
03SEP0301003.D 9/3/96	1,4-Dioxane	0.6	0.003	None-All previously qualified due to initial calibration				
11SEP0301003.D 9/11/96	Acetone	25.8	0.440	14T051 14G01601 14G01701 14G01801	13 10 10 10	U	13 10 10 10	UJ
11SEP0301003.D 9/11/96	Dichlorodi fluoromethane	35.9	3.265	14T051 14G01601 14G01701 14G01801	10 10 10 10	U	10 10 10 10	UJ
11SEP0301003.D 9/11/96	1,4-Dioxane	5.3	0.004	None-All previously qualified due to initial calibration				

4. Comments: The following calibration calculations were verified during the validation process.

M3035 MS5 8/27/96 Bromomethane Mean =(Sum RRF/5) Mean RRF = (1.900+1.793+1.533+ 1.650+1.399/5=1.655	M3035 MS5 8/27/96 Bromomethane %RSD=(Std.Deviation/Mean)*100 %RSD=(0.1997/1.655)*100 %RSD=12.0%	M3035 MS5 9/3/96 Chloromethane %D=(Mean RRF-RRF50/Mean RRF)*100 %D=(2.271-2.107/2.271)* 100 %D=7.2

VII. Blanks

One hundred percent of the results on the summary forms were checked to ensure that reported results met required quality control criteria.

A. Laboratory Blanks

1. Laboratory method blanks were analyzed for each matrix type, concentration level, and for each 12 hour time period on each GC/MS system used to analyze samples.

   Yes: X No: ____

2. All laboratory blanks were found to be free of contaminant target compounds at detectable concentrations.

   Yes: ____ No: X

   Comment: The following table summarizes laboratory blank results:

Volatile Laboratory Blank Summary Table
SDG No. M3035

Blank ID/Date Analyzed	Affected Analyte	Conc. ug/l	Action Level ** ug/l	Affected Sample	Lab Conc ug/l	Lab Qual	EDS Conc ug/l	EDS Qual
VBLK3A 9/3/96	Acetone	2	20	14T050	3	JB	10	U
				14R036	9	JB	10	U
				14G01501	3	JB	10	U
				14G01501D	5	JB	10	U
VBLK3W 9/11/96	Acetone	3	30	14T051	13	B	13	U
				14G01601	3	JB	10	U
				14G01701	4	JB	10	U
				14G01801	3	JB	10	U

** The "action level" is 10X the blank concentration for compounds defined to be common lab contaminants (i.e., methylene chloride, acetone, 2-butanone), and 5X the blank concentration for other target compound contaminants.

3. All laboratory blanks were found to be clean of tentatively identified compound (TIC) contamination.

Yes: ____ No: ____ N/A: __X__

4. If TICs were detected in the laboratory blanks, the associated samples were found to be free of those analytes at detectable concentrations.

Yes: ____ No: ____ N/A: __X__

B. Field Blanks

1. The field blanks associated with samples in the SDG met the following conditions:

a. All field blanks were found to be free of target analytes at detectable concentrations.

Yes: ____ No: __X__ N/A: ____

Comment: The following table summarizes field blank results:

Volatile Field Blank Summary Table
SDG No. M3035

Blank ID/Date Analyzed	Affected Analyte	Conc. ug/l	Action Level ** ug/l	Affected Sample	Lab Conc ug/l	Lab Qual	EDS Conc ug/l	EDS Qual
14T050 9/3/96	None Found	--	--	--	--	--	--	--
14R036 9/3/96	2-Butanone	2	20	None-All non-detects	--	--	--	--
14T051 9/11/96	None Found	--	--	--	--	--	--	--

** The "action level" is 10X the blank concentration for compounds defined to be common lab contaminants (i.e., methylene chloride, acetone, 2-butanone), and 5X the blank concentration for other target compound contaminants.

2. All field blanks were found to be clean of tentatively identified compound (TIC) contamination.

Yes: ____ No: ____ N/A: __X__

3. If TICs were detected in the field blanks, the associated samples were found to be free of those analytes at detectable concentrations.

Yes: ____ No: ____ N/A: __X__

Comment: TIC analyses were not performed for field blanks.

VIII. System Monitoring Compounds (Surrogates)

One hundred percent of the results on the summary forms were checked to ensure that reported results met required quality control criteria.

1. System monitoring compound recovery results met the criteria specified below in all samples.

Yes: __X__ No: ____

System Monitoring Compound Criteria

	Water	Soil/Sediment
	%R	%R
Toluene-d_8 (TOL)	88-110	81-117
Bromofluorobenzene (BFB)	86-115	74-121
1,2-Dichloroethane-d_4 (DCE)	76-114	70-121

2. Sample reanalysis was performed if system monitoring results were outside of criteria.

Yes: ____ No: ____ N/A: __X__

Comment: Surrogate recovery criteria have been met and no action has been taken.

IX. Matrix Spikes/Matrix Spike Duplicates

One hundred percent of the results on the summary forms were checked to ensure that reported results met required quality control criteria.

1. For every 20 samples in an SDG, one field sample of each type was spiked for MS/MSD analysis.

Yes: __X__ No: ____

2. MS/MSD sample I.D.: 14G01501

3. MS/MSD sample results met the criteria specified below.

Yes: __X__ No: ____ NA: ____

MS/MSD Criteria

	Water		Soil/Sediment	
	%R	RPD	%R	RPD
1,1-Dichloroethene	61-145	14	59-172	22
Trichloroethene	71-120	14	62-137	24
Benzene	76-127	11	60-133	21
Toluene	76-125	13	59-139	21
Chlorobenzene	75-130	13	66-142	21

4. 0 of 10 %R results were out of QC limits.
   0 of 5 RPD results were out of QC limits.

Comment: MS/MSD criteria have been met and no action has been taken.

X. Laboratory Control Samples (LCS)

Laboratory control charts were included in the data packages.

1. Laboratory control charts were provided for each surrogate for reagent blank analyses per batch.

   Yes: __X__ No: ____ N/A: ____

2. The percent recoveries were within acceptable QC limits.

   Yes: __X__ No: ____ N/A: ____

   Comment: LCS criteria have been met and no action has been taken.

XI. Field Duplicates

1. The following duplicate set(s) was analyzed with this SDG:

   a. 14G01501 and 14G01501D

2. Comment: The following table summarizes field duplicate results.

Compound	14G01501 ug/l	14G01501D ug/l	RPD
Xylene (total)	4	4	0

Comment: No action is taken based on field duplicate results.

XII. Internal Standards

One hundred percent of the results on the summary forms were checked to ensure that reported results met required quality control criteria.

1. All sample IS area counts were within a -50% to +100% control limit window from the associated calibration standard.

   Yes: __X__ No: ____

2. All sample IS retention times were within a ±30 sec. control limit window of the associated calibration standard IS retention times.

   Yes: __X__ No: ____

   Comment: IS criteria have been met and no action has been taken.

XIII. Target Compound Identification

Target compound identification results are not verified for Level C data validation.

1. Sample results were not verified for the following identification criteria:

   a. Compound relative retention times (RRT) were within ±0.06 RRT units of the standard relative retention time.

   b. All ions present in the standard mass spectrum at a relative intensity greater than 10% were present in the sample spectrum, and the relative intensities of these ions were within ±20%.

   c. All ions present at greater than 10% in the sample mass spectrum but not present in the standard mass spectrum were accounted for.

   Yes: ____ No: ____ N/A: __X__

XIV. Compound Quantitation and Reported CRQLS

Compound quantitation and reported CRQLs are not verified for Level C data validation.

1. All Form I sample results which were verified were correctly calculated and reported.

   Yes: ____ No: ____ N/A: __X__

2. All sample compounds had on-column concentrations within the upper calibration range of the method.

   Yes: __X__ No: ____ N/A: ____

3. All samples were analyzed only once (i.e., no samples required re-analysis or dilution).

   Yes: __X__ No: ____ N/A: ____

XV. Tentatively Identified Compounds

One hundred percent of the results on the summary forms were checked to ensure that TIC results met required quality control criteria.

1. A mass spectral search of the NIST library was conducted for the 10 largest volatile fraction peaks which were not target compounds, ISs, or system monitoring compounds, and the spectra for the three TIC candidates were included.

   Yes: ____ No: ____ N/A: __X__

2. Reported TICs met the following criteria:

   a. Ions present at greater than 10% abundance in the referenced spectrum were also present in the sample spectrum, and relative intensities were within ±20%.

   b. Ions present in the sample spectrum at greater than 10% abundance were also present in the reference spectra, or could be accounted for.

   Yes: ____ No: ____ N/A: __X__

3. TIC concentrations were calculated assuming an RRF value of 1.0.

Yes: ____ No ____ N/A: __X__

Comment: TICs were not reported for these samples.

XVI. System Performance

1. The instrumental and analytical systems used in the analysis of these samples maintained an acceptable level of performance.

Yes: __X__ No: ____

XVII. Overall Assessment of Data

The final validated results represent the compilation of all quality control qualification. With the exception of the quality control anomalies presented in Sections V, VI, and VII (Initial and Continuing Calibration, and Blanks) of this report and the resulting qualifiers, the analyses of environmental samples and quality control samples are valid within the constraints identified with the data quality flags, with the exception of 1,4-dioxane which was rejected due to initial calibration problems.

Organic Data Qualifiers

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

J - The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

N - The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."

NJ - The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

UJ - The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

R - The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

Summary of Organic Data Validation
Semivolatile Organic Compounds

Client:	ABB Environmental Services, Inc.
Project Name:	U.S. Naval Station Mayport, Mayport, Florida
Project Number:	CTO 028
Contract Laboratory:	Quality Analytical Laboratory
SDG Number:	M3035
Purchase Order Number:	SE4-21-017
NEESA Level:	C
Data Reviewer:	Nancy Weaver
Secondary Reviewer:	Linda Harding
Date Review Completed:	October 10, 1996

Contractor Sample Number	Laboratory Sample Number	Sample Matrix
14R036	MB671002	Water
14G01501	MB671003	Water
14G01501MS	MB671003MS	Water
14G01501MSD	MB671003MSD	Water
14G01501D	MB671004	Water
14G01601	MB747002	Water
14G01701	MB747003	Water
14G01701DL	MB747003DL	Water
14G01801	MB747004	Water
14G01801DL	MB747004DL	Water

TABLE OF CONTENTS

I. Validation Procedure Summary 1

II. Data Deliverables 1

III. Technical Holding Times 1

IV. GC/MS Instrument Performance Check 1

V. Initial Calibration (ICAL) 2

VI. Continuing Calibration (CCAL) 3

VII. Blanks 5
A. Laboratory Blanks 5
B. Field Blanks 6

VIII. Surrogate Spike Compounds 7

IX. Matrix Spikes/Matrix Spike Duplicates 7

X. Laboratory Control Samples (LCS) 8

XI. Field Duplicates 8

XII. Internal Standards (IS) 9

XIII. Target Compound Identification 9

XIV. Compound Quantitation and Reported CRQLS 10

XV. Tentatively Identified Compounds 11

XVI. System Performance 11

XVII. Overall Assessment of Data 11

Organic Data Qualifiers 12

I. Validation Procedure Summary

Data review and validation were performed in accordance with Naval Energy and Environmental Support Activity (NEESA) 20.2-047B (June 1988) using the USEPA National Functional Guidelines for Organic Data Review, (12/90, Revised 6/91) and criteria specified in the USEPA Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846, 3rd Edition (1986).

II. Data Deliverables

1. All required deliverables including QA/QC summary forms and all necessary raw data were present in legible form in the data package.

   Yes: __X__ No: ____

III. Technical Holding Times

Technical holding times for all samples were verified from raw data and chain of custody forms.

1. Technical holding times were within the allowable limits shown below:

   a. Water samples extracted ≤ 7 days from date of sample collection; analyzed ≤ 40 days from date of extraction.

   Yes: __X__ No: ____ N/A: ____

   b. Soil/sediment samples extracted ≤ 14 days from date of sample collection; analyzed ≤ 40 days from date of extraction.

   Yes: ____ No: ____ N/A: __X__

IV. GC/MS Instrument Performance Check

One hundred percent of the results on the summary forms were checked to ensure that reported results met required quality control criteria.

1. The DFTPP instrument performance check solution was analyzed at the beginning of each 12 hour period during sample analysis. All standards, samples, blanks and samples were analyzed within 12 hours of the injection of the tuning compound.

   Yes: __X__ No: ____

2. DFTPP ion abundance criteria for all instrument performance checks were within the quality control limits specified below.

Yes: __X__ No: ____

Decafluorotriphenylphosphine (DFTPP)

m/z	Ion Abundance Criteria
51	30.0-60.0% of m/z 198
68	Less than 2.0% of m/z 69
69	Present, Mass 69 relative abundance
70	Less than 2.0% of m/z 69
127	40.0 - 60.0 of m/z 198
197	Less than 1.0% of m/z 198
198	Base peak, 100% relative abundance
199	5.0 - 9.0 of m/z 198
275	10.0 - 30.0% of m/z 198
365	Greater than 1.00% of m/z 198
441	Present, but less than m/z 443
442	Greater than 40.0% of m/z 198
443	17.0 - 23.0% of m/z 442

Summary of Tuning

Date of Injection	Instrument ID	Matrix	Level (low or medium)	File/Batch No.
9/10/96	MS3	Water	Low	H0007175.D
9/16/96	MS3	Water	Low	H0007252.D
9/19/96	MS3	Water	Low	H0007287.D
9/20/96	MS3	Water	Low	H0007308.D

Comment: Tuning criteria have been met and no action has been taken.

V. Initial Calibration (ICAL)

One hundred percent of the results on the summary forms were checked to ensure that reported results met required quality control criteria.

1. An initial 5-point calibration was run for each compound at concentrations of 20, 50, 80, 120, and 160 ng per 2 ul injections.

Yes: __X__ No: ____

2. The initial calibration mean relative response factor (RRF) results were greater than or equal to 0.05 for each compound.

Yes: __X__ No: ____

3. The RRF percent relative standard deviation (% RSD) results from the initial calibration were less than or equal to 30% for all compounds.

Yes: __X__ No: ____

Comment: Initial calibration criteria have been met and no action has been taken.

VI. Continuing Calibration (CCAL)

One hundred percent of the results on the summary forms were checked to ensure that reported results met required quality control criteria.

1. A 50 ug/L continuing calibration standard containing all target compounds was analyzed at the beginning of each 12-hour analysis period following the analysis of the instrument performance check and prior to the analysis of any blanks or samples.

Yes: __X__ No: ____

2. The relative response factors (RRFs) were greater than or equal to 0.05 for each compound.

Yes: ____ No: __X__

3. The percent difference (%D) between the mean initial calibration RRF and the continuing calibration RRF were within ±25%.

Yes: ____ No: __X__

Comment: The following summarizes continuing calibration %D exceedences:

Semivolatile Continuing Calibration Summary Table SDG No. M3035								
CCAL Date and File/Batch Numbers of Stds.	Affected Analyte	%D	RRF	Affected Samples	Lab Value ug/l	Lab Qual	EDS Value ug/l	EDS Qual

H0007253.D 9/16/96	N-nitroso-di-n-propylamine	25.8	1.249	14G01601 14G01701 14G01801 14R036	10	U	10	UJ
H0007253.D 9/16/96	p-Phenylenediamine	31.0	0.083	14G01601 14G01701 14G01801 14R036	500	U	500	UJ
H0007253.D 9/16/96	1,3,5-Trinitrobenzene	34.5	0.839	14G01601 14G01701 14G01801 14R036	10	U	10	UJ
H0007253.D 9/16/96	Phenacetin	26.6	1.197	14G01601 14G01701 14G01801 14R036	10	U	10	UJ
H0007253.D 9/16/96	4-Nitroquinoline-1-oxide	43.5	0.054	14G01601 14G01701 14G01801 14R036	500	U	500	UJ
H0007253.D 9/16/96	Methapyrilene	44.7	0.841	14G01601 14G01701 14G01801 14R036	50	U	50	UJ
H0007253.D 9/16/96	Hexachlorophene	63.5	0.042	14G01601 14G01701 14G01801 14R036	500	U	500	R
H0007309.D 9/20/96	Benzoic Acid	27.8	0.256	14G01701DL 14G01801DL 14G01501D 14G01501	100 100 250 250	U	100 100 250 250	UJ
H0007309.D 9/20/96	1,3,5-Trinitrobenzene	41.8	0.488	14G01701DL 14G01801DL 14G01501D 14G01501	20 20 50 50	U	20 20 50 50	UJ

4. Comments: The following calibration calculations were verified during the validation process.

M3035 MS3 9/10/96 Naphthalene Mean RRF=(Sum RRF)/5 Mean RRF= (0.956+0.994+1.021+ 1.049+0.997)/5=1.003	M3035 MS3 9/10/96 Naphthalene %RSD=(Std.Deviation/Mean)*100 %RSD=(0.0345/1.003)*100 %RSD=3.4%	M3035 MS3 9/20/96 Benzoic Acid %D=(Mean RRF- RRF50/Mean RRF)*100 %D=(0.201-0.256/0.201) *100 %D=-27.4

VII. Blanks

A. Laboratory Blanks

One hundred percent of the results on the summary forms were checked to ensure that reported results met required quality control criteria.

1. Laboratory method blanks were analyzed for each matrix type, concentration level, extraction batch, and for each 12 hour time period on each GC/MS system used to analyze samples.

   Yes: X No: ____

2. All laboratory blanks were found to be free of contaminant target compounds at detectable concentrations.

   Yes: ____ No: X

   Comment: The following table summarizes laboratory blank results:

Semivolatile Laboratory Blank Summary Table
SDG No. M3035

Blank ID/ Date Analyzed	Affected Analyte	Conc. ug/l	Action Level** ug/l	Affected Sample	Lab Conc ug/l	Lab Qual	EDS Conc ug/l	EDS Qual
SBLKBS 9/16/96	None Found	--	--	--	--	--	--	--
SBLKC5 9/20/96	Di-n-butylphthalate	3J	30	14G01601	2	JB	10	U

** The "action level" is 10X the blank concentration for compounds defined to be common phthalate lab contaminants, and 5X the blank concentration for other target compound contaminants.

3. All laboratory blanks were free of tentatively identified compound (TIC) contamination.

Yes: ____ No: ____ N/A: __X__

4. If TICs were detected in the laboratory blanks, the associated samples were found to be free of those analytes at detectable concentrations.

Yes: ____ No: ____ N/A: __X__

B. Field Blanks

1. The field blanks associated with samples in the SDG met the following conditions:

a. All field blanks were found to be free of target analytes at detectable concentrations.

Yes: __X__ No: ____ N/A: ____

Comment: The following table summarizes laboratory blank results:

Semivolatile Field Blank Summary Table
SDG No. M3035

Blank ID/ Date Analyzed	Affected Analyte	Conc. ug/l	Action Level** ug/l	Affected Sample	Lab Conc ug/l	Lab Qual	EDS Conc ug/l	EDS Qual
14R036 9/16/96	None Found	--	--	--	--	--	--	--

** The "action level" is 10X the blank concentration for compounds defined to be common phthalate lab contaminants, and 5X the blank concentration for other target compound contaminants.

2. All field blanks were free of tentatively identified compound (TIC) contamination.

Yes: ____ No: ____ N/A: __X__

3. If TICs were detected in the field blanks, the associated samples were found to be free of those analytes at detectable concentrations.

Yes: ____ No: ____ N/A: __X__

Comment: TICs were not analyzed for the field blank sample.

VIII. Surrogate Spike Compounds

One hundred percent of the results on the summary forms were checked to ensure that reported results met required quality control criteria.

1. Surrogate compound recovery (%R) results met the criteria specified below in all samples.

   Yes: X No: ____

Surrogate Recovery Limits

	Water %R	Soil %R
NBZ (Nitrobenzene-d5)	35-114	23-120
FBP (2-Fluorobiphenyl)	43-116	30-115
TPH (Terphenyl-d14)	33-141	18-137
PHL (Phenol-d5)	10-94	24-113
2FP (2-Fluorophenol)	21-100	25-121
TBP (2,4,6-Tribromophenol)	10-123	19-122

2. Sample reanalysis was performed if surrogate results were outside of criteria.

   Yes: ____ No: ____ N/A: X

   Comment: Surrogate criteria have been met and no action has been taken.

IX. Matrix Spikes/Matrix Spike Duplicates

One hundred percent of the results on the summary forms were checked to ensure that reported results met required quality control criteria.

1. For every 20 samples in an SDG, one field sample of each type was spiked for MS/MSD analysis.

   Yes: X No: ____

2. MS/MSD Sample I.D.: 14G01501

3. MS/MSD sample results met with the criteria specified below.

   Yes: X No: ____ N/A: ____

MS/MSD CRITERIA

	Water		Soil/Sediment	
	%R	RPD	%R	RPD
Phenol	12-110	42	26-90	35
2-Chlorophenol	27-123	40	25-102	50
1,4-Dichlorobenzene	36-97	28	28-104	27
N-Nitroso-Di-n-propylamine	41-116	38	41-126	38
1,2,4-Trichlorobenzene	39-98	28	38-107	23
4-Chloro-3-methylphenol	23-97	42	26-103	33
Acenaphthene	46-118	31	31-137	19
4-Nitrophenol	10-80	50	11-114	50
2-4-Dinitrotoluene	24-96	38	28-89	47
Pentachlorophenol	9-103	50	17-109	47
Pyrene	26-127	31	35-142	36

4. 0 of 22 MS/MSD %R results were out of required quality control limits.
   0 of 11 MS/MSD RPD results were out of required quality control limits.

   Comment: MS/MSD criteria have been met and no action has been taken.

X. Laboratory Control Samples (LCS)

Laboratory control charts were included in the data packages.

1. Laboratory control charts were provided for each surrogate for reagent blank analyses per batch.

   Yes: __X__ No: ____ N/A: ____

2. The percent recoveries were within acceptable QC limits.

   Yes: __X__ No: ____ N/A: ____

   Comment: LCS criteria have been met and no action has been taken.

XI. Field Duplicates

1. The following duplicate set was analyzed with this SDG:

   a. 14G01501 and 14G01501D

2. Comment: The following tables summarize field duplicate results.

Semivolatile Field Duplicate Results SDG No. M3035			
Compound	14G01501 ug/L	14G01501D ug/L	RPD
Naphthalene	14	17	19
2-Methylnaphthalene	7	12	53
Acenaphthene	5	6	18
Fluorene	6	5	18
Phenanthrene	5	50U	NC
2,4-Dimethylphenol	50U	15	NC
2,6-Dinitrotoluene	50U	28	NC
Isosafrole	250U	9	NC
4-Aminobiphenyl	250U	14	NC
1,2-Diphenylhydrazine	50U	9	NC

Comment: No action is taken based on field duplicate results. The RPDs for several compounds were not calculated since one result was a non-detect.

XII. Internal Standards (IS)

One hundred percent of the results on the summary forms were checked to ensure that reported results met required quality control criteria.

1. All sample IS area counts were within a -50% to +100% control limit window from the associated calibration standard.

   Yes: __X__ No: ____

2. All sample IS retention times were within a ±30 sec. control limit window of the associated calibration standard IS retention times.

   Yes: __X__ No: ____

   Comment: IS criteria have been met and no action has been taken.

XIII. Target Compound Identification

Target compound identification results are not verified for Level C data validation.

1. Sample results were not verified for the following identification criteria:

a. Compound relative retention times (RRT) were within ±0.06 RRT units of the standard relative retention time.

b. All ions present in the standard mass spectrum at a relative intensity greater than 10% were present in the sample spectrum, and the relative intensities of these ions were within ±20%.

c. All ions present at greater than 10% in the sample mass spectrum but not present in the standard mass spectrum were accounted for.

Yes: ____ No: ____ N/A: __X__

XIV. Compound Quantitation and Reported CRQLS

Compound quantitation and reported CRQLs are not verified for Level C data validation.

1. All Form I sample results which were verified were correctly calculated and reported.

Yes: ____ No: ____ N/A: __X__

2. All sample compounds had on-column concentrations within the upper calibration range of the method.

Yes: ____ No: __X__ N/A: ____

Comment: Samples 14G01701 and 14G01801 were reanalyzed at 2X dilutions due to high concentrations of 2-methylnaphthalene. The laboratory flagged this compound with an "E" and the reviewer further qualified the results as estimated "J." The diluted results for this compound should be used for reporting purposes. All other results should be reported from the original analysis.

3. All samples were analyzed only once (i.e., no samples required re-analysis or dilution).

Yes: ____ No: __X__ N/A: ____

Comment: Samples 14G01701 and 14G01801 were analyzed at dilutions due to compounds exceeding the linear range. Samples 14G01501 and 14G01501D were analyzed at a dilution due to matrix interferences.

XV. Tentatively Identified Compounds

One hundred percent of the results on the summary forms were checked to ensure that TIC results met required quality control criteria.

1. A mass spectral search of the NIST library was conducted for the 20 largest semivolatile fraction peaks which were not target compounds, ISs, or surrogate compounds, and the spectra for the three TIC candidates were included.

   Yes: ____ No: ____ N/A: __X__

2. Reported TICs met the following criteria:

   a. Ions present at greater than 10% abundance in the referenced spectrum were also present in the sample spectrum, and relative intensities were within ±20%.

   b. Ions present in the sample spectrum at greater than 10% abundance were also present in the reference spectra, or could be accounted for.

   Yes: ____ No: ____ N/A: __X__

3. TIC concentrations were calculated assuming an RRF value of 1.0.

   Yes: ____ No ____ N/A: __X__

XVI. System Performance

1. The instrumental and analytical systems used in the analysis of these samples maintained an acceptable level of performance.

   Yes: __X__ No ____

XVII. Overall Assessment of Data

The final validated results represent the compilation of all quality control qualification. With the exception of the quality control anomalies presented in Sections VI, VII, and XIV (Continuing Calibration, Blanks, and Compound Quantitation) of this report and the resulting qualifiers, the analyses of environmental samples and quality control samples are valid within the constraints identified with the data quality flags with the exception of hexachlorophene which was rejected due to continuing calibration problems.

Organic Data Qualifiers

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

J - The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

N - The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."

NJ - The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

UJ - The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

R - The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

Summary of Inorganic Data Validation
Metals/Cyanide

Client:	ABB Environmental Services, Inc.
Project Name:	U.S. Naval Station Mayport, Mayport, Florida
Project Number:	CTO 028
Contract Laboratory:	Quality Analytical Laboratory
SDG Number:	M3035
Purchase Order Number:	SE4-21-017
NEESA Level:	C
Data Reviewer:	Susan Dalla
Secondary Reviewer:	Nancy Weaver
Date Review Completed:	October 14, 1996

Contractor Sample Number	Laboratory Sample Number	Sample Matrix
14R036	MB671002	Water
14G01501	MB671003	Water
14G01501MS	MB671003MS	Water
14G01501MSD	MB671003MSD	Water
14G01501D	MB671004	Water
14G01601	MB747002	Water
14G01701	MB747003	Water
14G01801	MB747004	Water

TABLE OF CONTENTS

I. Validation Procedure Summary 1

II. Data Deliverables 1

III. Technical Holding Times 1

IV. Instrument Calibration and Calibration Verification 2

V. Blanks 3
A. Laboratory Blanks 3
B. Field Blanks 5

VI. Matrix Spike Sample Recovery 5

VII. Interference Check Samples 6

VIII. Laboratory Control Sample (LCS) 7

IX. Duplicate Sample Analysis 8
A. Laboratory Duplicates 8
B. Field Duplicates 9

X. Furnace Atomic Absorption QC 9

XI. ICP Serial Dilution 10

XII. Sample Result Verification 11

XIII. Additional Comments/Professional Judgment 12

Inorganic Data Qualifiers 13

APPENDIX A - Summary Tables and Work Sheets 14

I. Validation Procedure Summary

Data review and validation were performed in accordance with Naval Energy and Environmental Support Activity (NEESA) 20.2-047B (June 1988) using the USEPA Functional Guidelines for Inorganic Analyses (7/88) and criteria specified in the USEPA Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846, 3rd Edition (1986).

II. Data Deliverables

1. All required deliverables including QA/QC summary forms are present and in legible form in the data package.

   Yes: __X__ No: ____

2. Lab control charts were received and data points were within the control limit windows.

   Yes: __X__ No: ____ N/A: ____

   Note: If data points are outside of control limit windows, refer to the Laboratory Control Sample section VIII for any effect on data quality.

III. Technical Holding Times

Chain of custody records and sample preparation logs (Form 13) were checked for all samples to verify that technical holding time, and preservation criteria were met.

1. Technical holding times were within the allowable limits shown below:

   a. Analysis for all metals was completed within 180 days of sample collection; mercury was completed within 28 days; cyanide was completed within 14 days.

   Yes: __X__ No: ____

   Comment: Holding time criteria have been met and no action has been taken.

IV. Instrument Calibration and Calibration Verification

One hundred percent of the calibration results on the quality control summary forms were checked to ensure that reported results were within required quality control limits.

1. Instrument calibration for metals determined by inductively coupled plasma spectroscopy (ICP) was performed using a blank and one standard for each analyte.

   Yes: __X__ No: ____ N/A: ____

2. Instrument calibration for metals determined by graphite furnace atomic absorption spectroscopy (GFAA) was performed using a blank and three standards (one of which was at the CRDL).

   Yes: __X__ No: ____

3. Instrument calibration for mercury was performed using a blank and four standards.

   Yes: __X__ No: ____ N/A: ____

4. Instrument calibration for cyanide was performed using a blank and three standards (one of which was at the CRDL).

   Yes: __X__ No: ____ N/A: ____

5. Calibration verification was performed for each analyte at a-frequency of 10%.

   Yes: __X__ No: ____

6. A continuing calibration verification (CCV) was performed after the last analytical sample in each run.

   Yes: __X__ No: ____

7. Initial calibration verification (ICV) and CCV percent recovery (%R) values met the criteria specified below:

   a. For all metals except cyanide and mercury, %R results were between 90% and 110%.

Note: Due to possible rounding errors, allow results to fall within 1% of the contract windows (e.g. 89-111%).

Yes: __X__ No: ____

8. Correlation coefficients for GFAA analytes, mercury, and cyanide calibration curves were greater than or equal to 0.995.

Yes: ____ No: ____ N/A: __X__

Comment: Raw data was not provided for this Level C SDG; therefore, calibration curves were not available.

9. Comments: The following calibration calculations were verified during the validation process.

ICV or CCV	Analyte	Calculation %R=(Found/True)*100	%R
ICV	Barium	2546/2500 x 100	101.8
CCV	Barium	2535/2500 x 100	101.4
ICV	Arsenic	26.01/25.0 x 100	104.0
CCV	Arsenic	25.78/25.0 x 100	103.1
ICV	Mercury	5.14/5.0 x 100	102.8
CCV	Mercury	5.06/5.0 x 100	101.2
ICV	Cyanide	100.2/94.0 x 100	106.6
CCV	Cyanide	99.77/94.0 x 100	106.1

V. Blanks

A. Laboratory Blanks

One hundred percent of the laboratory blank results on the summary forms were checked to ensure that reported results were within required quality control limits.

1. Preparation blank analyses results have been reported for each matrix type for every extraction batch.

Yes: __X__ No: ____

2. Calibration blanks were run at a frequency of 10%.

Yes: __X__ No: ____

3. A calibration blank was analyzed immediately after every ICV and CCV, and after the last sample.

Yes: __X__ No: ____

4. All reported blank analyte results had absolute values less than the corresponding IDL values.

Yes: ____ No: __X__

The following sample results were qualified due to laboratory blanks that had target analytes where the absolute value of the reported results was greater than or equal to the corresponding IDL value; sample results were less than 5X the absolute value of the blank result.

Inorganic Laboratory Blank Summary Table
SDG No. M3035

Blank ID/ Date	Affected Analyte	Absolute Conc. ug/l	Action Level ug/l	Affected Sample	Lab Conc ug/l	Lab Qual	EDS Conc ug/l	EDS Qual
PBW 9/5/96	Cyanide	0.94	0.88U	14R036 14G01501 14G01501D	0.88 0.88 0.88	U U U	0.88 0.88 0.88	UJ UJ UJ
PBW 9/9/96	Beryllium	0.87	0.13U	14R036 14G01501 14G01501D	0.13 0.13 0.13	U U U	0.13 0.13 0.13	UJ UJ UJ
PBW 9/9/96	Copper	4.18	1.2U	14R036	1.2	U	1.2	UJ
PBW 9/9/96	Lead	1.3	0.75U	14R036 14G01501	0.75 0.75	U U	0.75 0.75	UJ UJ
PBW 9/9/96	Zinc	6.86	34.3	14R036 14G01501 14G01501D	3.6 8.0 3.0	B B B	6.9 8.0 6.9	UJ UJ UJ
PBW 9/9/96	Vanadium	1.77	1.7U	14R036 14G01501 14G01501D	1.7 1.7 1.7	U U U	1.7 1.7 1.7	UJ UJ UJ

PBW 9/16/96	Beryllium	0.72	0.13U	14G01601 14G01701 14G01801	0.13 0.13 0.13	U U U	0.13 0.13 0.13	UJ UJ UJ
PBW 9/16/96	Lead	0.93	4.65	14G01701 14G01801	1.4 0.89	B B	1.4 0.93	UJ UJ
PBW 9/16/96	Zinc	5.25	26.2	14G01601 14G01701 14G01801	9.2 12.1 18.6	B B B	9.2 12.1 18.6	UJ UJ UJ

5. All reported blank analyte results had absolute values less than or equal to the corresponding CRDL values.

   Yes: __X__ No: ____

B. Field Blanks

1. If analytes were detected in the blanks, the associated samples were found to be free of those analytes at detectable concentrations.

   Yes: __X__ No: ____ N/A: ____

2. Analytes were detected, but associated sample aliquot concentrations were greater than 5X the blank concentration.

   Yes: __X__ No: ____ N/A: ____

VI. Matrix Spike Sample Recovery

One hundred percent of the matrix spike (MS) sample results on the quality control summary forms were checked to ensure that reported results were within required quality control limits.

1. One field sample from each group of samples of a similar matrix and concentration level was spiked with each target analyte (except: Ca, Mg, K, Na on water samples and Al, Ca, Mg, K, and Na on soil/sediment samples) by the laboratory.

   Yes: __X__ No: ____

2. MS sample ID: 14G01501

3. For all target analytes, percent recovery (%R) results were within the limits of 75% - 125% (Note: MS %R limits do not apply when the sample concentration exceeded the spike concentration by a factor of 4 or more).

Yes: ____ No: __X__

Sample	Analyte	% Recovery	Qualifier
14R036	Thallium	11.1	R
14G01501	Thallium	11.1	R
14G01501D	Thallium	11.1	R
14G01601	Thallium	11.1	R
14G01701	Thallium	11.1	R
14G01801	Thallium	11.1	R

Comment: Cyanide results were flagged with a "N" by the laboratory because the MS recovery was 125.4%. This is within the 1% allowed for rounding differences, and the "N" flags have been crossed out by the reviewer.

4. The following spike calculations were verified during the validation process.

Instrument or Method	Analyte	Calculation %R=(SSR-SR/SA)*100	%R
ICP	Barium	(2150-118.5)/2000 x 100	101.6
GFAA	Thallium	(5.55-0.0)/50.0 x 100	11.1
CV	Mercury	(1.98-0.0)/2.0 x 100	99.0
CA	Cyanide	(125.4-0.0)/100 x 100	125.4

VII. Interference Check Samples

One hundred percent of the ICS results on the quality control summary forms were checked to ensure that reported results were within required quality control limits.

1. ICP ICSs (solutions A and AB) were analyzed at the beginning and end of each sample analysis run (or a minimum of twice per 8-hour shift, whichever was more frequent).

Yes: __X__ No: ____ N/A: ____

2. Solution AB analyte recovery results were within the control limits of 80%-120%.

Yes: X No: ____ N/A: ____

3. Concentrations of Ca, Fe, and Mg in the samples are less than or equal to their respective concentration in ICS solution A or AB.

Yes: ____ No: ____ N/A: X

4. Cr, Cu, Ni, and V are present in a sample(s) at concentrations less than 10,000 ug/L.

Yes: X No: ____ N/A: ____

5. Comments: ICP ICSs criteria have been met and no action has been taken. The following ICS calculations were verified during the validation process.

Analyte	Calculation %R=(Found Soln AB/True Soln AB)*100	%R
Barium	475.4/500 x 100	95.1

VIII. Laboratory Control Sample (LCS)

One hundred percent of the LCS results on the quality control summary forms were checked to ensure that reported results were within required quality control limits.

1. A laboratory control sample was analyzed for each SDG for each matrix type.

Yes: X No: ____

2. Aqueous LCS recovery results were within the control limits of 80% to 120% (except for Sb and Ag which have no required limits).

Yes: X No: ____ N/A: ____

3. Soil LCS recovery results were within the required control limits specified on the laboratory Form VII-IN and control charts.

Yes: ____ No: ____ N/A: X

Comment: LCS criteria have been met and no action has been taken.

4. The following LCS calculations were verified during the validation process.

Instrument or Method	Analyte	Calculation %R=(Found/True)*100	%R
ICP	Barium	2522/2500 x 100	100.9
GFAA	Arsenic	97.6/100 x 100	97.6
CV	Mercury	4.94/5.0 x 100	98.8
CA	Cyanide	100.2/94.0 x 100	106.6

IX. Duplicate Sample Analysis

One hundred percent of the duplicate results on the quality control summary forms were checked to ensure that reported results were within required quality control limits.

A. Laboratory Duplicates

1. For each SDG, one duplicate sample was analyzed from each group of samples of a similar matrix type and concentration level.

   Yes: __X__ No: ____

   MSD ID: 14G01501

2. For duplicate analyte concentrations greater than 5X the CRDL, the relative percent difference (RPD) between the two reported results was less than 20% for aqueous samples (35% for soil samples).

   Yes: __X__ No: ____

3. For duplicate analyte concentrations less than 5X the CRDL, the difference between the two reported results was less than the CRDL value for aqueous samples, or less than 2X the CRDL value for soil samples. RPDs for samples with values less than the CRDL are not calculated.

   Yes: __X__ No: ____

4. Laboratory duplicate criteria have been met and no action has been taken.

5. The following duplicate calculations were verified during the validation process.

Instrument or Method	Analyte	Calculation RPD=[S-D/(S+D/2)]*100 D = S - Dup	RPD or Difference
ICP	Copper	27.06-11.22	15.8 (±25)
GFAA	Lead	0-0	NC
CV	Mercury	0-0	NC
CA	Cyanide	0-0	NC

B. Field Duplicates

1. The following duplicate sets were analyzed with this SDG:

   a. 14G01501 and 14G01501D

2. Comment: Field duplicate criteria have been met and no action has been taken.

X. Furnace Atomic Absorption QC

One hundred percent of the AA summary data was checked to ensure that reported results were within required quality control limits.

1. Duplicate injections for AA analytes with concentrations greater than the CRDL had RSD results < 20%.

   Yes: _____ No: _____ N/A: __X__

   Comment: RSD results are contained in the raw data which is not provided for Level C review.

2. For each sample, all AA analytical spike recovery results were between 85% and 115%.

   Yes: _____ No: __X__

   Comment: Analytical spike recovery of selenium exceeded acceptance criteria for sample 14G01601 (65%). Selenium results in this sample have been qualified as estimated "UJ" due to the possibility of interference.

3. For each sample, all AA results were within the appropriate calibration range, or were diluted to meet this criteria.

Yes: X No: ____ N/A: ____

4. Sample analyte results where the analytical spike recovery was <40% were diluted once and reanalyzed.

Yes: ____ No: ____ N/A: X

5. Samples having analyte concentrations greater than or equal to 50% of the spike concentrations, and spike %R results <85% or >115% were quantitated by MSA.

Yes: ____ No: ____ N/A: X

6. MSA analyses with correlation coefficients less than 0.995 were rerun once.

Yes: ____ No: ____ N/A: X

7. MSA spike values met the criteria specified below:

a. Spike 1 was approximately 50% of the sample concentration.
b. Spike 2 was approximately 100% of the sample concentration.
c. Spike 3 was approximately 150% of the sample concentration.

Yes: ____ No: ____ N/A: X

XI. ICP Serial Dilution

ICP serial dilution results were not provided by the laboratory.

1. ICP serial dilution analysis was performed on one sample from each SDG of a similar matrix type and concentration level.

Yes: ____ No: ____ N/A: X

2. For each analyte in the serial dilution sample which was minimally a factor of 50 above the IDL in the original sample, the serial dilution result agreed within 10% of the original determination after correction for dilution.

Yes: ____ No: ____ N/A: X

XII. Sample Result Verification

Ten percent of all reported sample results were not verified since the raw data is not provided for a Level C data package.

1. All sample results which were verified were correctly calculated and reported.

   Yes: ____ No: ____ N/A: __X__

   Comment: Calculations and transcriptions can not be verified without the raw data.

2. All sample results fall within the calibrated range of the instrument for AA and cyanide.

   Yes: __X__ No: ____ N/A: ____

3. All reported concentrations were above the CRDL.

   Yes: ____ No: __X__ N/A: ____

   Comment: The "B" qualifier applied by the laboratory for results between the CRDL and the IDL were amended with a "J" qualifier.

4. Sample results on Form 1 were reported down to the IDL not CRDL for all analytes.

   Yes: __X__ No: ____ N/A: ____

5. Reported sample results that were analyzed by ICP for As, Pb, Se, and Tl were at least 5X the ICP IDL.

   Yes: ____ No: ____ N/A: __X__

6. Sample weights, volumes and dilutions were taken into account when reporting detection limits on Form 1.

   Yes: __X__ No: ____ N/A: ____

7. IDLs were present and found to be less than CRDL.

   Yes: __X__ No: ____ N/A: ____

8. All CRDLs and IDLs were included on Form X.

Yes: __X__ No: ____ N/A: ____

9. Raw data were free of anomalies (e.g. baseline shifts, negative absorbances/emissions, omissions, etc.). If no, please describe anomalies in the comments section below.

Yes: ____ No: ____ N/A: __X__

Comment: Raw data is not provided for Level C review.

XIII. Additional Comments/Professional Judgment

The final validated results represent the compilation of all quality control qualification. With the exception of the quality control anomalies presented in Sections V.A.4, VI.3, X.2, and XII.3 and the resulting qualifiers, the analyses of environmental samples and quality control samples are valid within the constraints identified with the data quality flags. All false positive/negative results and matrix interferences are summarized on Table A-1 and A-3, respectively.

Inorganic Data Qualifiers

U - The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

J - The associated value is an estimated quantity.

R - The data are unusable. (Note: Analyte may or may not be present.)

UJ - The material was analyzed for, but was not detected. The associated value is an estimate and may be inaccurate or imprecise.

APPENDIX A

Summary Tables and Work Sheets

Table A-1
Review of False Positive/Negative Results

Sample	Parameter	False Positive or Negative	Rationale	Reported		Validated	
				Conc. (ug/L)	Qual	Conc. (ug/L)	Qual
14R036	Beryllium	N	3	0.13	U	0.13	UJ
14G01501	Beryllium	N	3	0.13	U	0.13	UJ
14G01501D	Beryllium	N	3	0.13	U	0.13	UJ
14G01601	Beryllium	N	3	0.13	U	0.13	UJ
14G01701	Beryllium	N	3	0.13	U	0.13	UJ
14G01801	Beryllium	N	3	0.13	U	0.13	UJ
14R036	Copper	N	3	1.2	U	1.2	UJ
14R036	Lead	N	3	0.75	U	0.75	UJ
14G01501	Lead	N	3	0.75	U	0.75	UJ
14G01701	Lead	P	2	1.4	B	1.4	UJ
14G01801	Lead	P	2	0.89	B	0.93	UJ
14R036	Zinc	P	2	3.6	B	6.9	UJ
14G01501	Zinc	P	2	8.0	B	8.0	UJ
14G01501D	Zinc	P	2	3.0	B	6.9	UJ
14G01601	Zinc	P	2	9.2	B	9.2	UJ
14G01701	Zinc	P	2	12.1	B	12.1	UJ
14G01801	Zinc	P	2	18.6	B	18.6	UJ
14R036	Vanadium	N	3	1.7	U	1.7	UJ
14G01501	Vanadium	N	3	1.7	U	1.7	UJ
14G01501D	Vanadium	N	3	1.7	U	1.7	UJ
14R036	Cyanide	N	3	0.88	U	0.88	UJ
14G01501	Cyanide	N	3	0.88	U	0.88	UJ
14G01501D	Cyanide	N	3	0.88	U	0.88	UJ

Rationale 1 = Professional judgement
2 = Blank contamination (laboratory or field)
3 = Prep Blank - negative value > IDL

Table A-3
Matrix Interferences (Inorganics)

Sample	Parameter	Initial	Re-analysis ID	Final	Was the Re-analysis Needed?	Most Appropriate Result	Comment
14R036	Thallium	%R=11.1	NA	NA	NO	0.79R	VI.3
14G01501	Thallium	%R=11.1	NA	NA	NO	3.2R	VI.3
14G01501D	Thallium	%R=11.1	NA	NA	NO	0.79R	VI.3
14G01601	Thallium	%R=11.1	NA	NA	NO	0.79R	VI.3
14G01701	Thallium	%R=11.1	NA	NA	NO	0.79R	VI.3
14G01801	Thallium	%R=11.1	NA	NA	NO	0.79R	VI.3
14G01601	Selenium	%R=65.0	NA	NA	NO	1.5 UJ	X.2

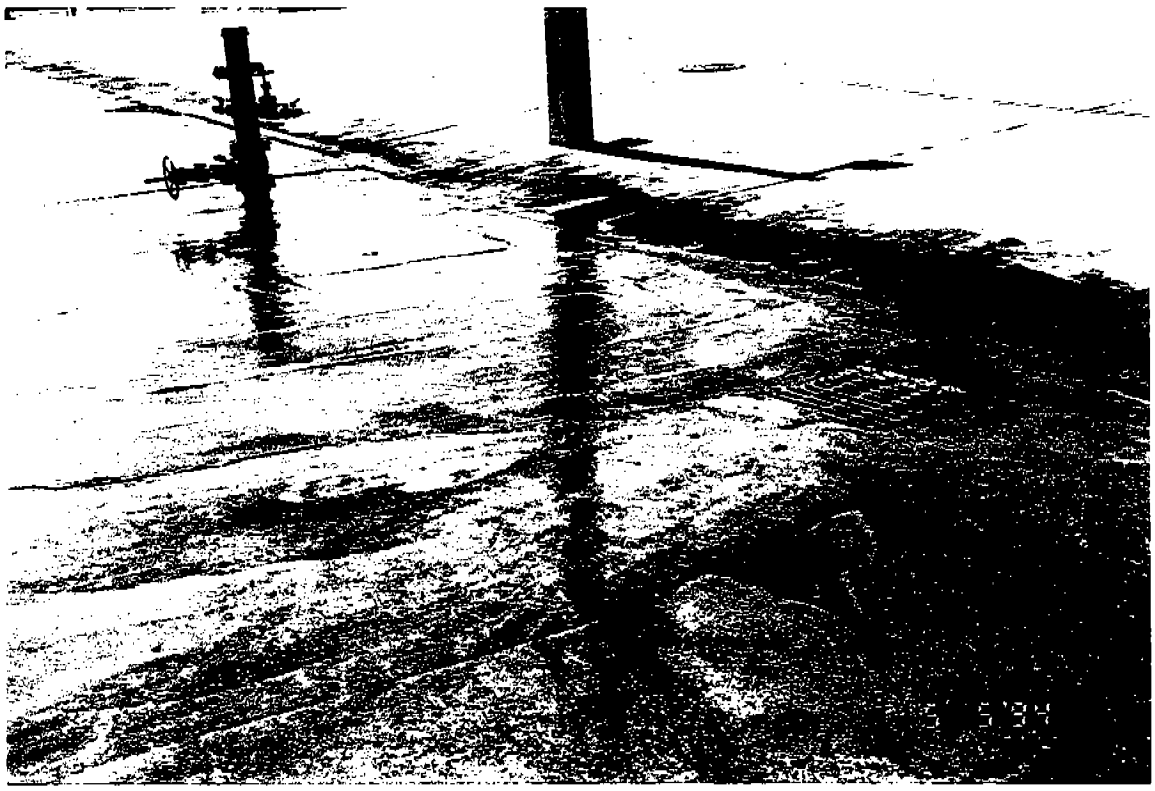
APPENDIX C

PHOTOGRAPHS

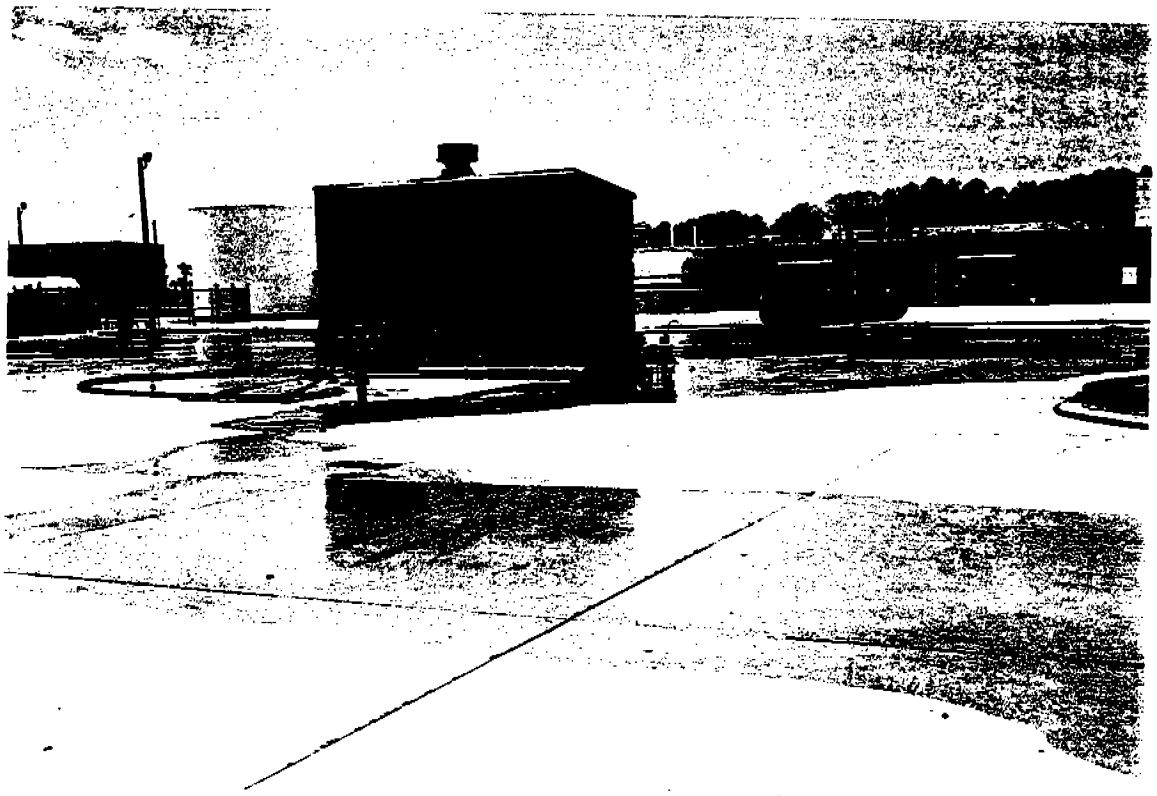
SWMU 14, FIREFIGHTING TRAINING CENTER (FTC): View looking north from south side of Baltimore Street at smoke plume from a petroleum fire during training at the southern firefighting training area (circa 1995).

SWMU 14, FTC: View looking southwest of southern firefighting training area immediately after training activities. A square drain in the foreground collects firefighting training wastewater.. A sand-bagged drain structure (top right of photograph) prevents firefighting training wastewater from entering a stormwater drainage system (May 5, 1994).

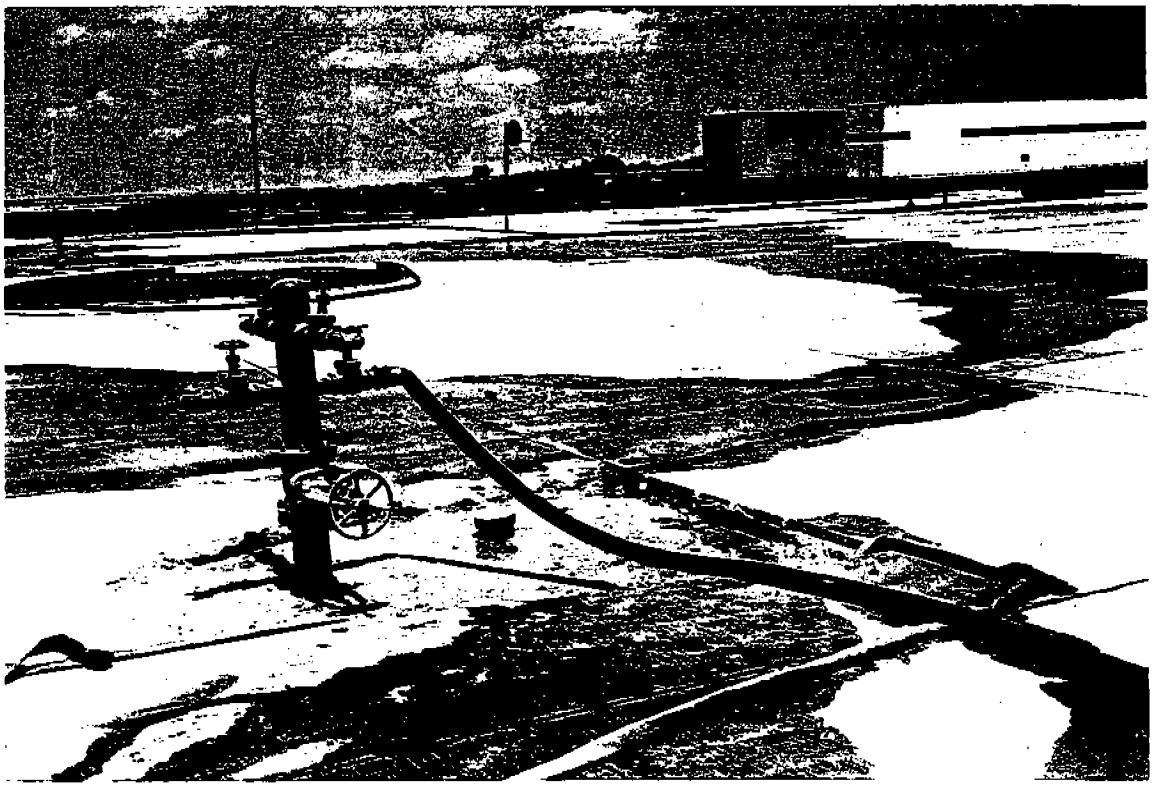
SWMU 14, FTC: View looking north from the southwestern edge of the FTC. Photograph shows sandbags bordering the stormwater drain (top right of previous photograph), petroleum-stained concrete, the western half of the southern firefighting training area, the helicopter mockup at the northern burn area, and a water supply tree (right of first light pole) (May 5, 1994).



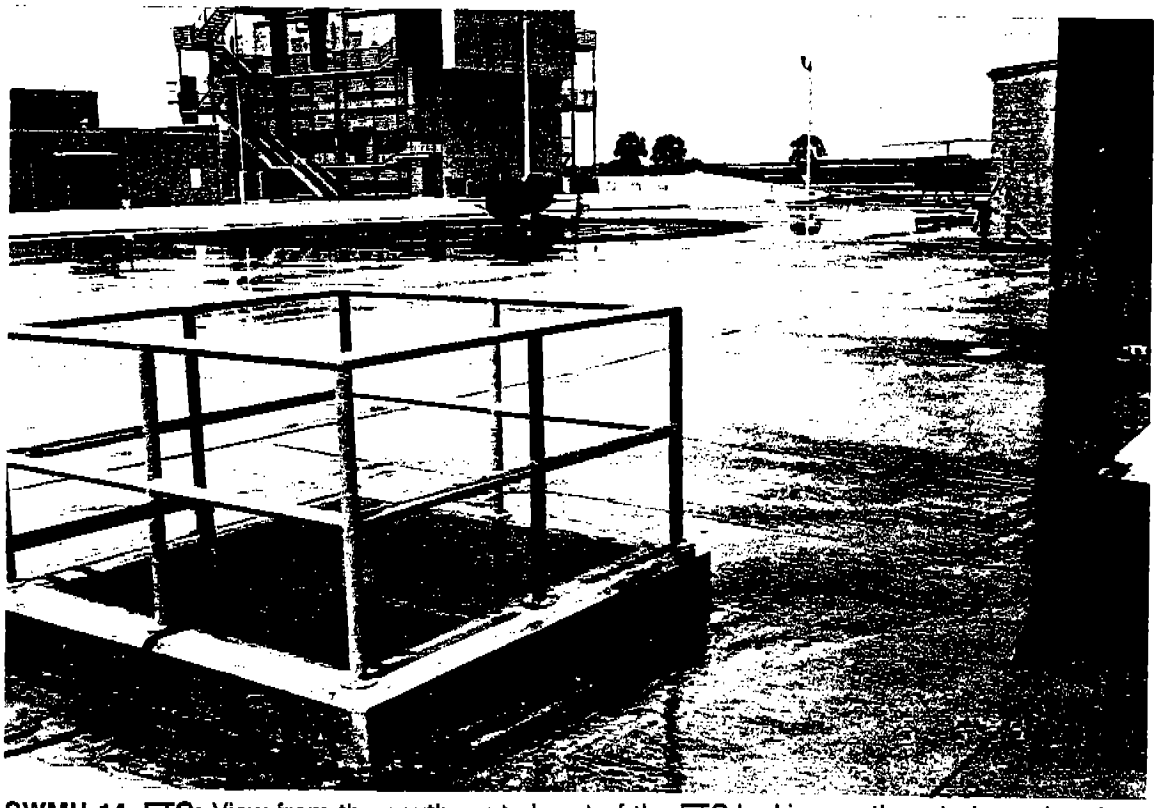
SWMU 14, FTC: View looking southwest from southwest side of the northern firefighting training area. The water supply tree is the one shown in the previous photograph. Dark petroleum stain and oil sheen contrast with the unstained concrete. Square drain collects firefighting training wastewater (May 5, 1994).



SWMU 14, FTC: View looking west from east side of the FTC at southern firefighting training area and a mockup of an airplane after firefighting training activities. Photograph shows runoff from training activities and construction at the base of a water supply tree (located in front of small gray building) (May 5, 1994).



SWMU 14, FTC: View looking northeast from the gray building (previous photograph) at the water supply tree. Concrete is approximately 5 inches thick. A square drain that collects firefighting training wastewater is located to the northeast (right) of the water supply tree. A former firefighting training tank, which has been recently cut off to near the concrete surface, is in the top left of the photograph (May 5, 1994).



SWMU 14, FTC: View from the south-central part of the FTC looking northwest at a water storage sump (full), the southern firefighting training area (airplane mockup), and northern firefighting training area (helicopter mockup) after training activities (May 5, 1994).

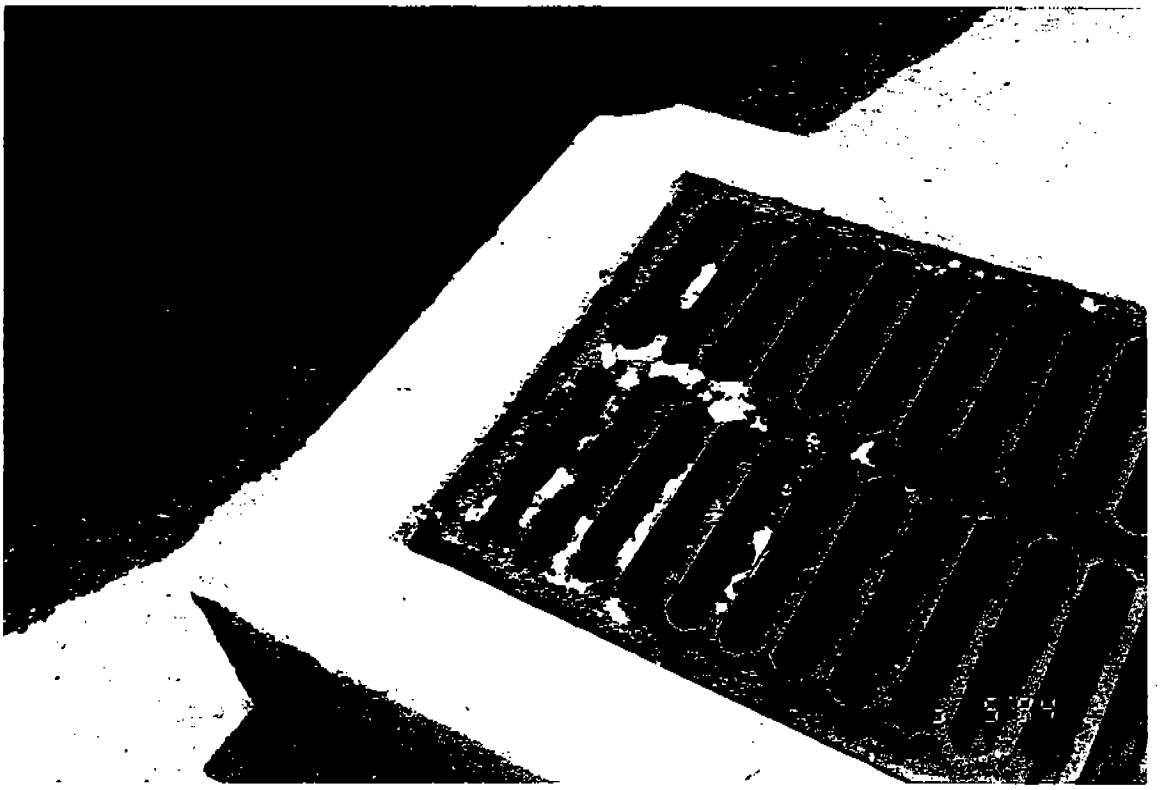
SWMU 14, FTC: View from the southwest corner of the southern firefighting training area looking south at the western part of the FTC after firefighting training activities. Petroleum staining of concrete is evident along the western boundary of the training area. The sandbagged protected stormwater drain is in the top center of the photograph (May 5, 1994).

SWMU 14, FTC: View looking west from the east side of the northern firefighting training area. Photograph shows the containment curb of the northern firefighting training area, petroleum staining, and temporary monitoring well MPT-14-MW16S. The water is from a recent rainfall event(s) (February 6, 1997).

SWMU 14, FTC: Closeup view inside the northern firefighting training area looking west at a crack in the concrete, petroleum staining, and temporary monitoring well MPT-14-MW16S. The water is from a recent rainfall event(s); no petroleum sheen was observed. Pollen was observed along the edge of the water line (February 6, 1997).

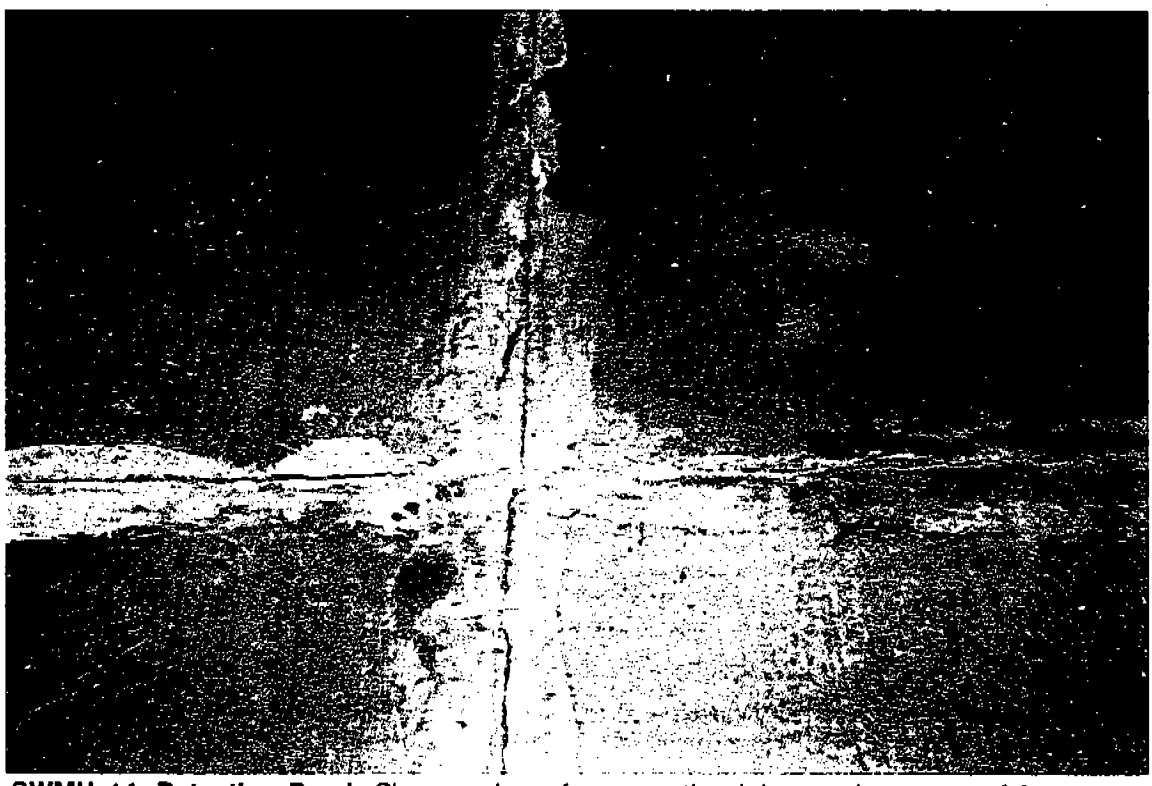
SWMU 14, FTC: View looking east from the northwest side of the FTC at the northern firefighting training area. Water in the northern firefighting training area is from a recent rainfall event(s). A new wet trainer (top left of photograph) has been constructed near the site. The FTC administration and classroom buildings are in the background. Firefighting training wastewater is collected in a 10,000-gallon sump near the small building at the northwest corner of the FTC administration and classroom building. A concrete detention pond that also accumulates firefighting training wastewater and stormwater is located to the south of the small building (February 6, 1997).

SWMU 14, Detention Pond: View looking southwest from the northwest end of FTC administration and classroom building at the concrete detention pond. An overflow drain is located on the northwest side of the detention pond. The drain for the detention pond (not visible, covered by water) is located to the east of the overflow drain. Petroleum staining of the concrete is visible at the water's edge. The two buildings in the background were formerly used to simulate a fire in a compartment onboard a ship (May 5, 1994).

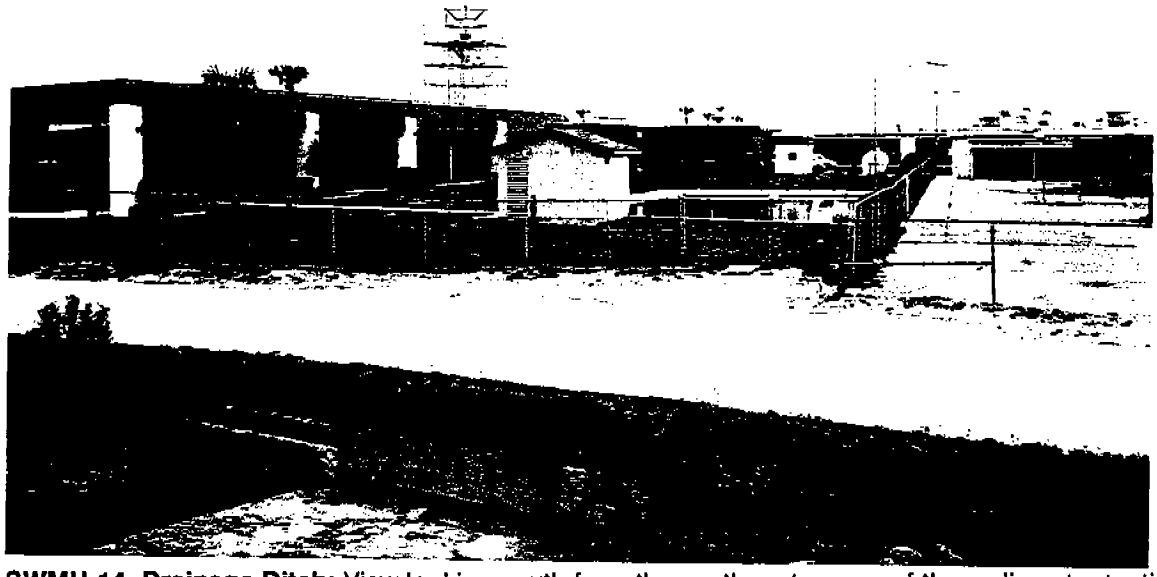


SWMU 14, Detention Pond: Closeup view of the overflow drain (May 5, 1994).

SWMU 14, Detention Pond: View looking east from the northwest end of the concrete detention pond at the detention pond drain grate. A temporary monitoring well, MPT-14-MW15S, was placed near the drain. Construction joints between the concrete sections of the detention pond contrast with the detention pond surface because the material was recently applied (February 6, 1997).

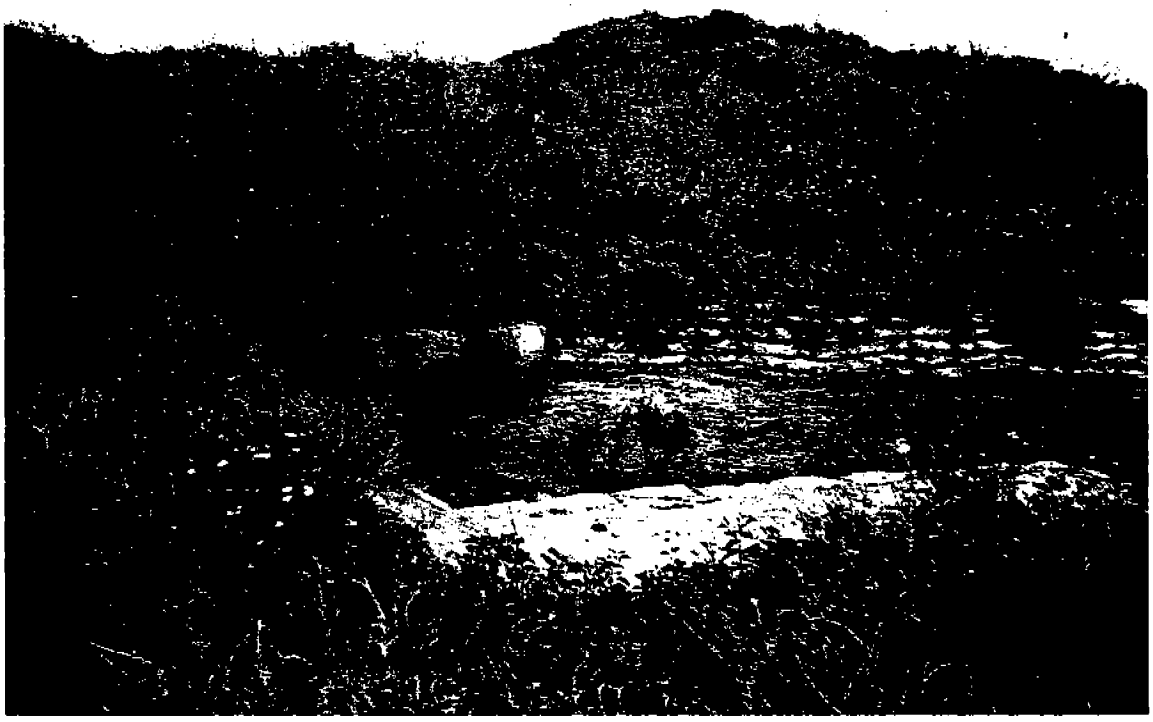


SWMU 14, Detention Pond: Closeup view of construction joints at the corner of four concrete sections. The joint compound appears to have cracked since application. The recently applied joint compound appears to be stained. This may be a result of the upwelling of petroleum from beneath the detention pond (February 6, 1997).



SWMU 14, Drainage Ditch: View looking south from the southwest corner of the sediment retention pond that drains into the drainage ditch that formerly received firefighting training wastewater and stormwater runoff from the detention pond. The detention pond is to the right of the small white building in the center of the photograph.

SWMU 14, Drainage Ditch: View looking southeast from the northwest corner of the sediment retention pond.



SWMU 14, Drainage Ditch: View looking northwest from the northwest corner of the sediment retention pond. View of headwall for the northern drain pipe located beneath the sand dunes. Water flows through the northern drain pipe to the drainage ditch.

SWMU 14, Drainage Ditch: View looking north from the top of the sand dune above the northern drain pipe. View of the drainage ditch leading to the St. Johns River.

APPENDIX D

NATURAL ATTENUATION DECISION SUPPORT COMPUTER SIMULATION

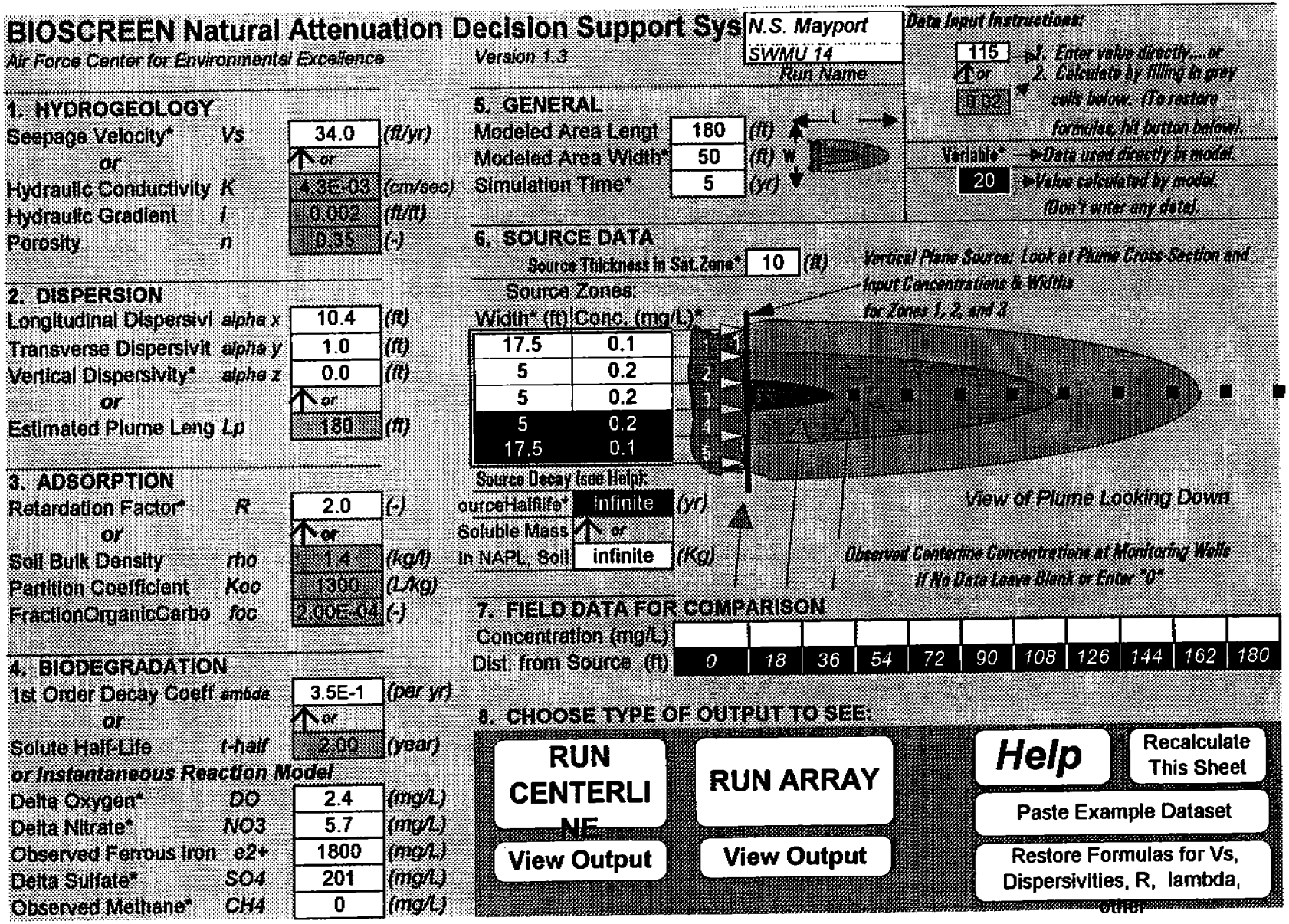
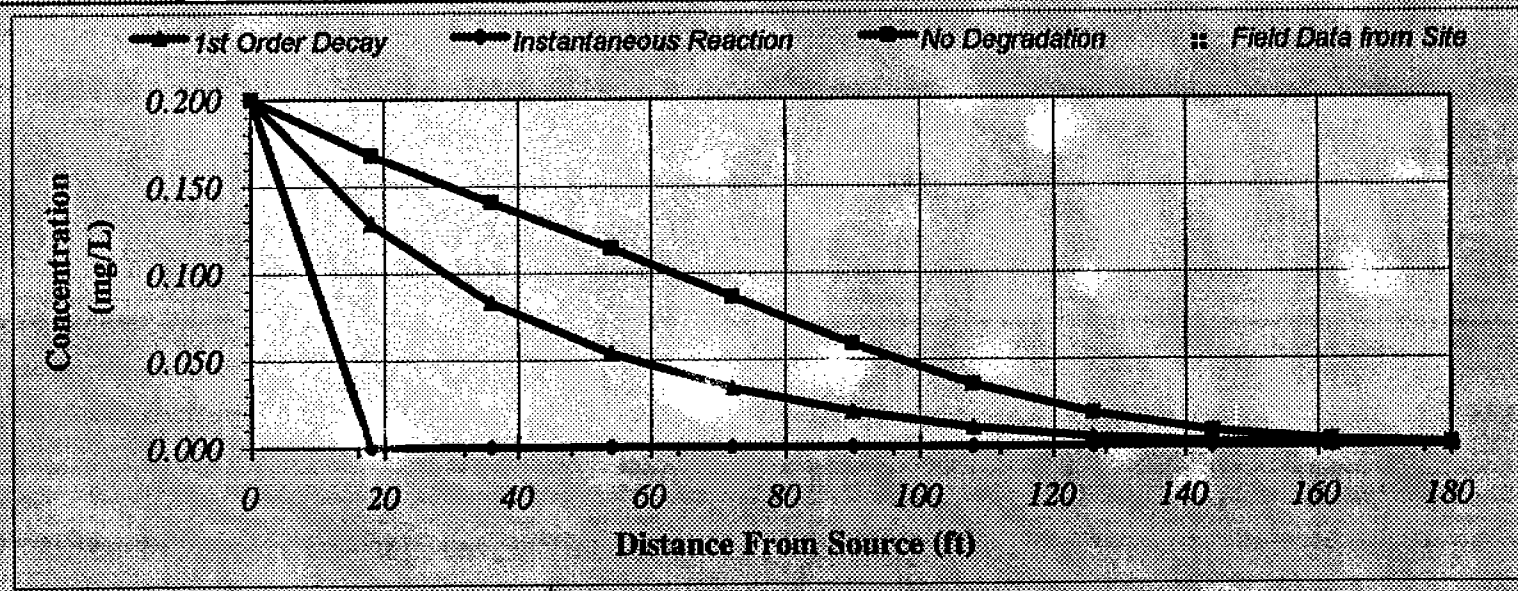


Figure 1. BIOSCREEN Input Screen: Infinite Source at SWMU 14, NAVSTA Mayport, Florida .

DISSOLVED HYDROCARBON CONCENTRATION ALONG PLUME CENTERLINE (mg/L at Z=0)

TYPE OF MODEL	Distance from Source (ft) 0	18	36	54	72	90	108	126	144	162	180
No Degradation	0.200	0.168	0.141	0.114	0.086	0.059	0.036	0.019	0.009	0.003	0.001
1st Order Decay	0.200	0.128	0.083	0.054	0.034	0.020	0.011	0.005	0.002	0.001	0.000
Inst. Reaction	0.200	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Field Data from Site											



Calculate Next Timestep
Animation Prev Timestep

Time: 5 Years

Return to Input

Recalculate This Sheet

Figure 2. Centerline Output: Infinite Source at SWMU 14, NAVSTA Mayport, Florida.

DISSOLVED HYDROCARBON CONCENTRATIONS IN PLUME (mg/L at Z=0)

Transverse Distance (ft) Y \ Distance from Source (ft)	0	18	36	54	72	90	108	126	144	162	180
25	0.100	0.047	0.045	0.042	0.035	0.026	0.017	0.009	0.004	0.002	0.001
13	0.100	0.112	0.104	0.089	0.069	0.048	0.030	0.016	0.007	0.003	0.001
0	0.200	0.168	0.141	0.114	0.086	0.059	0.036	0.019	0.009	0.003	0.001
-13	0.100	0.112	0.104	0.089	0.069	0.048	0.030	0.016	0.007	0.003	0.001
-25	0.100	0.047	0.045	0.042	0.035	0.026	0.017	0.009	0.004	0.002	0.001

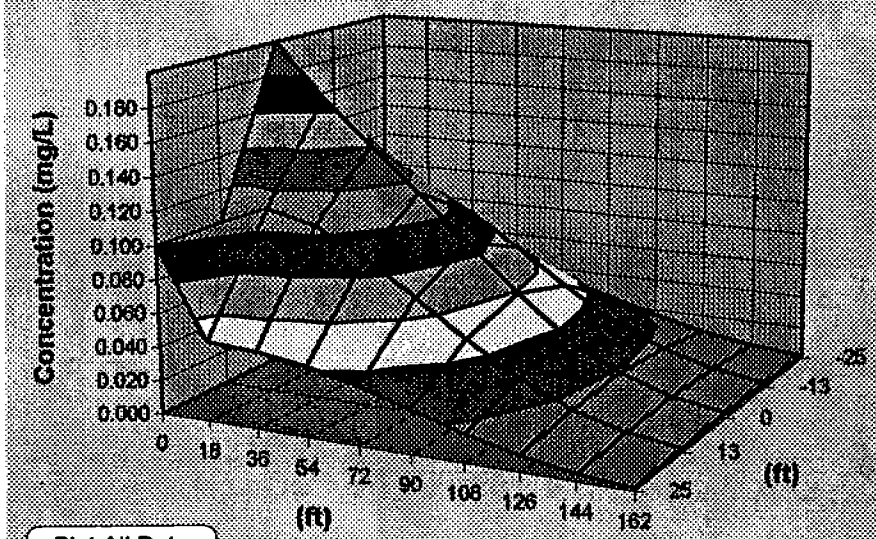
Model to Display:

- No Degradation Model
- 1st Order Decay Model
- Instantaneous Reaction Model

Time: 5 Years

Target Level: 0.007 mg/L

Displayed Model: No Degradation



Plot All Data

Plot Data > Target

Plume and Source Masses (Order-of-Magnitude Accuracy)

Plume Mass If No Biodegradation	0.1	(Kg)
Actual Plume Mass	0.1	(Kg)
= Plume Mass Removed by Biodeg	0.0	(Kg)
	0 %	

Change in Electron Acceptor/Byproduct Masses:

Oxygen	Nitrate	Iron II	Sulfate	Methane	
na	na	na	na	na	(Kg)

Original Mass in Source (Time = 0 Years)	infinite	(Kg)
Mass in Source Now (Time = 0 Years)	Infinite	(Kg)
Current Volume of Groundwater in Plume	0.8	(ac-ft)
Flowrate of Water Through Source Zone	0.137	(ac-ft/yr)

Mass HELP

Recalculate

Figure 3. No Degradation: Infinite Source at SWMU 14 NAVSTA Mayport, Florida.

DISSOLVED HYDROCARBON CONCENTRATIONS IN PLUME (mg/L at Z=0)

Transverse Distance (ft) Ψ	Distance from Source (ft) 0	18	36	54	72	90	108	126	144	162	180
25	0.100	0.036	0.027	0.020	0.014	0.009	0.005	0.003	0.001	0.000	0.000
13	0.100	0.085	0.062	0.042	0.027	0.016	0.009	0.004	0.002	0.001	0.000
0	0.200	0.128	0.083	0.054	0.034	0.020	0.011	0.005	0.002	0.001	0.000
-13	0.100	0.085	0.062	0.042	0.027	0.016	0.009	0.004	0.002	0.001	0.000
-25	0.100	0.036	0.027	0.020	0.014	0.009	0.005	0.003	0.001	0.000	0.000

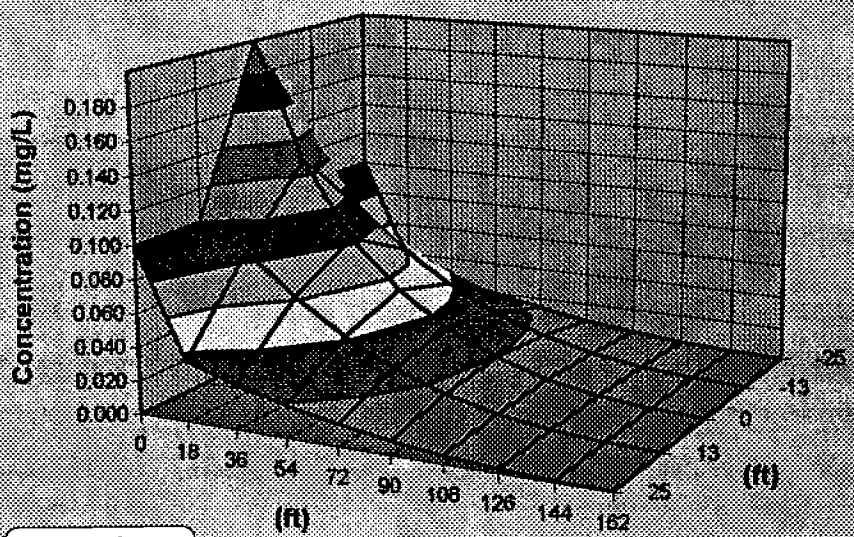
Model to Display:

- No Degradation Model
- 1st Order Decay Model
- Instantaneous Reaction Model

Time: 5 Years

Target Level: 0.007 mg/L

Displayed Model: 1st Order Decay



Plot All Data

Plot Data > Target

Plume and Source Masses (Order-of-Magnitude Accuracy)

Plume Mass if No Biodegradation	0.1	(Kg)
- Actual Plume Mass	0.0	(Kg)
= Plume Mass Removed by Biodeg	0.1	(Kg) (72 %)

Change in Electron Acceptor/Byproduct Masses:

Oxygen	Nitrate	Iron II	Sulfate	Methane	
na	na	na	na	na	(Kg)

Original Mass in Source (Time = 0 Years)	infinite	(Kg)
Mass in Source Now (Time = 6Years)	Infinite	(Kg)
Current Volume of Groundwater in Plume	0.7	(ac-ft)
Flowrate of Water Through Source Zone	0.137	(ac-ft/yr)

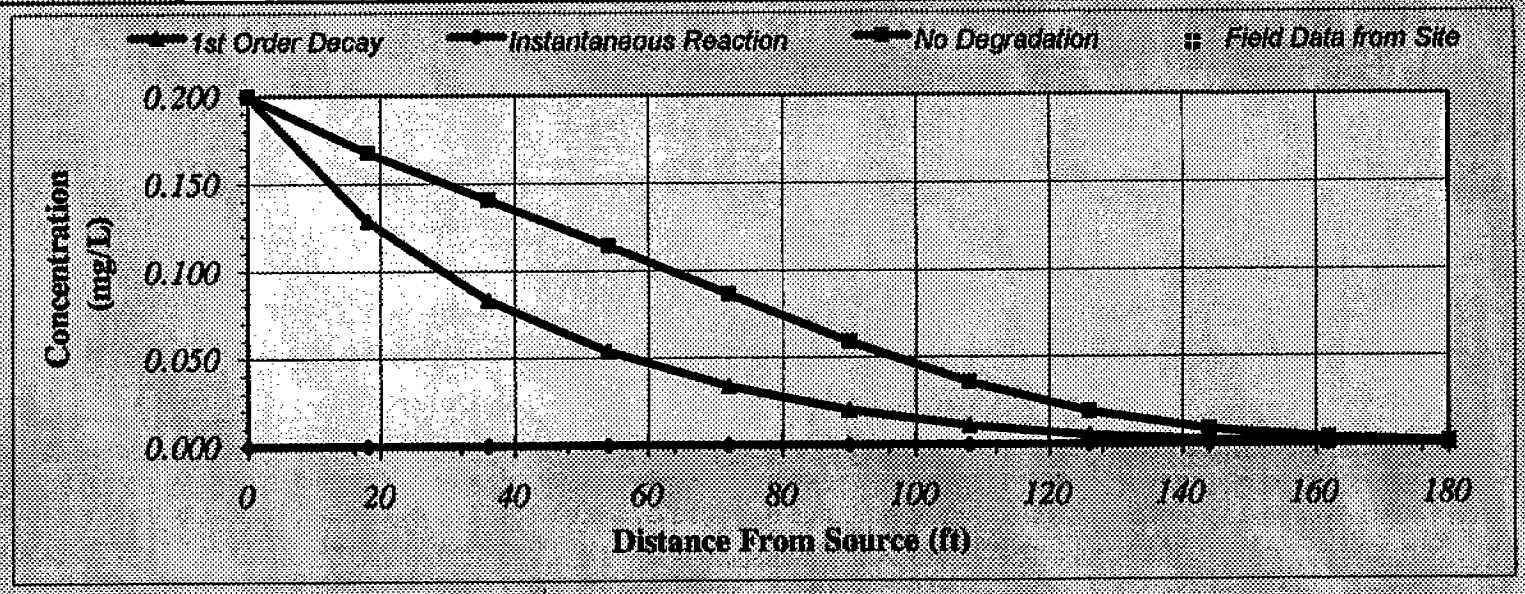
Mass HELP

Recalculate

Figure [illegible] 1st Order Decay: Infinite Source at SWMU 14 NAVSTA Mayport, Florida.

DISSOLVED HYDROCARBON CONCENTRATION ALONG PLUME CENTERLINE (mg/L at Z=0)

TYPE OF MODEL	Distance from Source (ft)										
	0	18	36	54	72	90	108	126	144	162	180
No Degradation	0.200	0.168	0.141	0.114	0.086	0.059	0.036	0.019	0.009	0.003	0.001
1st Order Decay	0.200	0.128	0.083	0.054	0.034	0.020	0.011	0.005	0.002	0.001	0.000
Inst. Reaction	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Field Data from Site											



Calculate Next Timestep
Animation Prev Timestep

Time: 5 Years

Return to Input

Recalculate This Sheet

Figure 7. Centerline Output: Defined Source at SWMU 14, NAVSTA Mayport, Florida.

DISSOLVED HYDROCARBON CONCENTRATIONS IN PLUME (mg/L at Z=0)

Transverse Distance (ft) Y \ Distance from Source (ft)	0	18	36	54	72	90	108	126	144	162	180
25	0.100	0.047	0.045	0.042	0.035	0.026	0.017	0.009	0.004	0.002	0.001
13	0.100	0.112	0.104	0.089	0.069	0.048	0.030	0.016	0.007	0.003	0.001
0	0.200	0.168	0.141	0.114	0.086	0.059	0.036	0.019	0.009	0.003	0.001
-13	0.100	0.112	0.104	0.089	0.069	0.048	0.030	0.016	0.007	0.003	0.001
-25	0.100	0.047	0.045	0.042	0.035	0.026	0.017	0.009	0.004	0.002	0.001

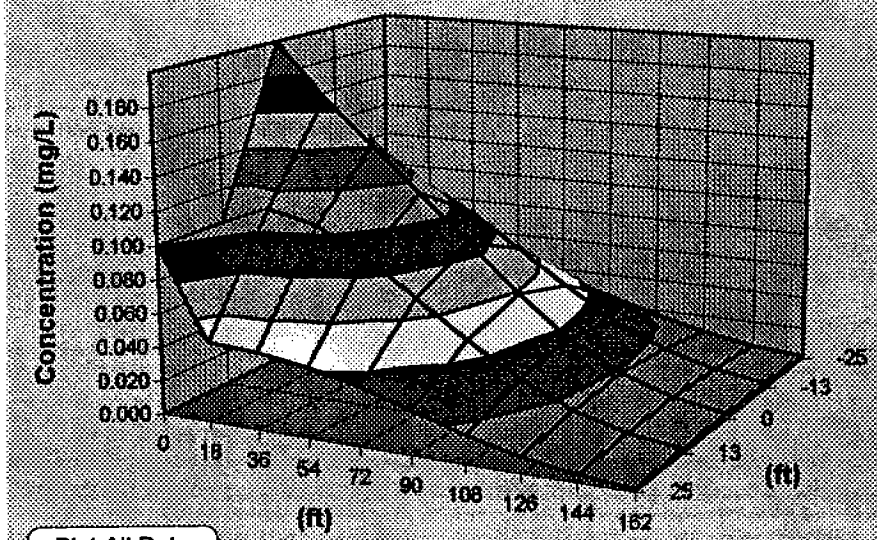
Model to Display:

- No Degradation Model
- 1st Order Decay Model
- Instantaneous Reaction Model

Time: 5 Years

Target Level: 0.007 mg/L

Displayed Model: No Degradation



Plot All Data

Plot Data > Target

Plume and Source Masses (Order-of-Magnitude Accuracy)

Plume Mass if No Biodegradation	0.1	(Kg)
Actual Plume Mass	0.1	(Kg)
- Plume Mass Removed by Biodeg	0.0	(Kg)
	0 %	

Change in Electron Acceptor/Byproduct Masses:

Oxygen	Nitrate	Iron II	Sulfate	Methane	
na	na	na	na	na	(Kg)

Original Mass in Source (Time = 0 Years)	107.2	(Kg)
Mass in Source Now (Time = 5Years)	107.1	(Kg)
Current Volume of Groundwater in Plume	0.8	(ac-ft)
Flowrate of Water Through Source Zone	0.137	(ac-ft/yr)

Mass HELP

Recalculate

Figure [illegible] Degradation: Defined [illegible] SWMU 14 NAVSTA Mayport, Florida.

DISSOLVED HYDROCARBON CONCENTRATIONS IN PLUME (mg/L at Z=0)

Transverse Distance (ft) Y \ Distance from Source (ft)	0	18	36	54	72	90	108	126	144	162	180
25	0.100	0.036	0.027	0.020	0.014	0.009	0.005	0.003	0.001	0.000	0.000
13	0.100	0.085	0.062	0.042	0.027	0.016	0.009	0.004	0.002	0.001	0.000
0	0.200	0.128	0.083	0.054	0.034	0.020	0.011	0.005	0.002	0.001	0.000
-13	0.100	0.085	0.062	0.042	0.027	0.016	0.009	0.004	0.002	0.001	0.000
-25	0.100	0.036	0.027	0.020	0.014	0.009	0.005	0.003	0.001	0.000	0.000

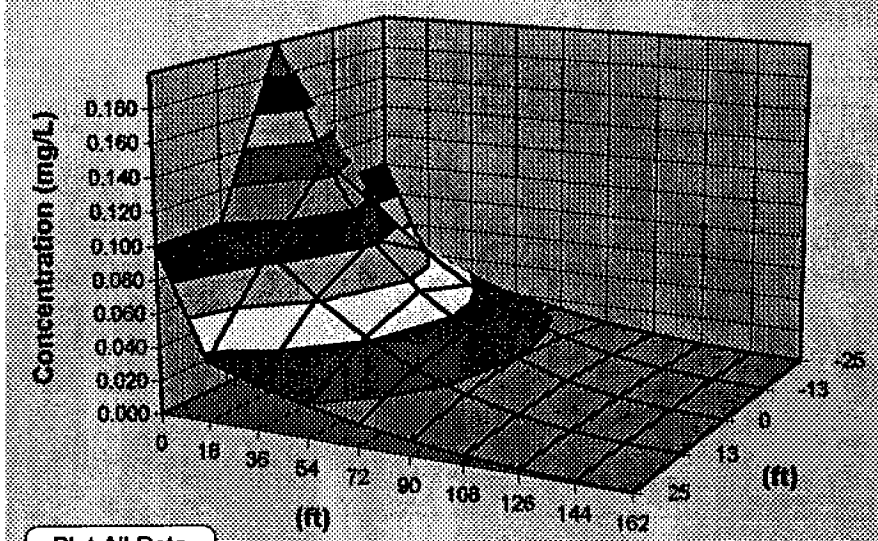
Model to Display:

- No Degradation Model
- 1st Order Decay Model
- Instantaneous Reaction Model

Time: 5 Years

Target Level: 0.007 mg/L

Displayed Model: 1st Order Decay



Plot All Data

Plot Data > Target

Plume and Source Masses (Order-of-Magnitude Accuracy)

Plume Mass if No Biodegradation	0.1	(Kg)
- Actual Plume Mass	0.0	(Kg)
= Plume Mass Removed by Biodeg	0.1	(Kg)
	(72 %)	

Change in Electron Acceptor/Byproduct Masses:

Oxygen	Nitrate	Iron II	Sulfate	Methane	
na	na	na	na	na	(Kg)

Original Mass in Source (Time = 0 Years)	107.2	(Kg)
Mass in Source Now (Time = 5 Years)	107.1	(Kg)
Current Volume of Groundwater in Plume	0.7	(ac-ft)
Flowrate of Water Through Source Zone	0.137	(ac-ft/yr)

Mass HELP

Recalculate

Figure 9. First Order Decay: Defined Source at SWMU 14 NAVSTA Mayport, Florida.

DISSOLVED HYDROCARBON CONCENTRATIONS IN PLUME (mg/L at Z=0)

Transverse Distance (ft) Y	Distance from Source (ft) 0	18	36	54	72	90	108	126	144	162	180
25	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
13	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
-13	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
-25	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

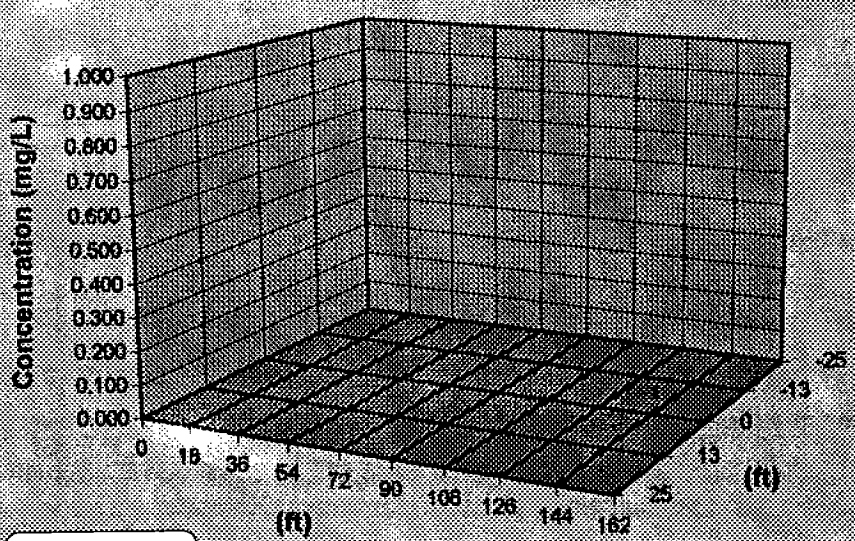
Model to Display:

- No Degradation Model
- 1st Order Decay Model
- Instantaneous Reaction Model

Time: 5 Years

Target Level: 0.007 mg/L

Displayed Model: Inst. Reaction



Plot All Data

Plot Data > Target

Plume and Source Masses (Order of Magnitude Accuracy)

Plume Mass if No Biodegradation	67.8	(Kg)
- Actual Plume Mass	0.0	(Kg)
= Plume Mass Removed by Biodeg	67.8	(Kg) (100 %)

Change in Electron Acceptor/Byproduct Masses:

Oxygen	Nitrate	Iron II	Sulfate	Methane	
-1.3	-3.0	+958.7	-107.1	+0.0	(Kg)

Original Mass in Source (Time = 0 Years)	107.2	(Kg)
Mass in Source Now (Time = 0 Years)	39.4	(Kg)
Current Volume of Groundwater in Plume	0.0	(ac-ft)
Flowrate of Water Through Source Zone	0.137	(ac-ft/yr)

Mass HELP

Recalculate

Figure [illegible] Instantaneous Reaction: Defined Source at SWMU 14 NAVSTA Mayport, Florida.

DISSOLVED HYDROCARBON CONCENTRATIONS IN PLUME (mg/L at Z=0)

Transverse Distance (ft) Y	Distance from Source (ft) 0	18	36	54	72	90	108	126	144	162	180
25	0.100	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
13	0.100	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.200	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
-13	0.100	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
-25	0.100	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

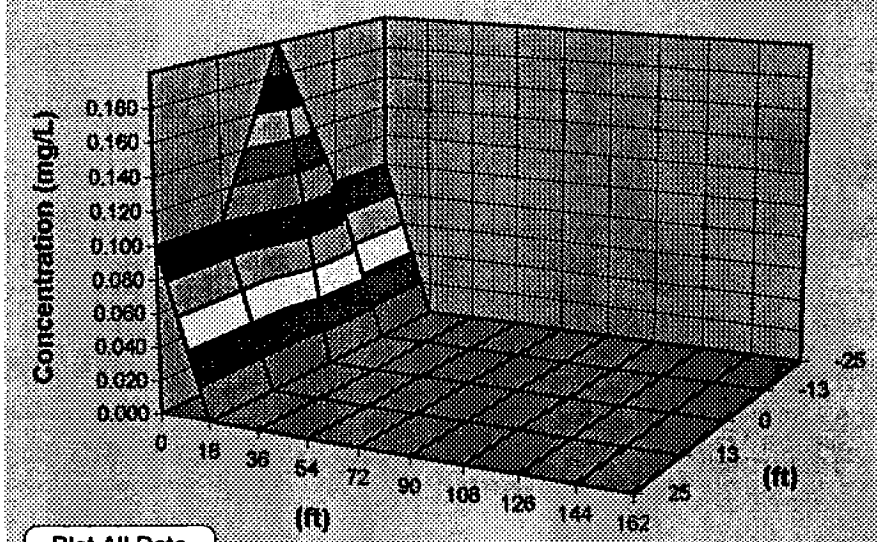
Model to Display:

- No Degradation Model
- 1st Order Decay Model
- Instantaneous Reaction Model

Time: 5 Years

Target Level: 0.007 mg/L

Displayed Model: Inst. Reaction



Plot All Data

Plot Data > Target

Plume and Source Masses (Order-of-Magnitude Accuracy)

Plume Mass If No Biodegradation	107.3	(Kg)
- Actual Plume Mass	0.0	(Kg)
= Plume Mass Removed by Biodeg	107.2	(Kg) (100 %)

Change in Electron Acceptor/Byproduct Masses:

Oxygen	Nitrate	Iron II	Sulfate	Methane	
-2.0	-4.8	+1516.8	-169.4	+0.0	(Kg)

Original Mass in Source (Time = 0 Years)	infinite	(Kg)
Mass in Source Now (Time = 0 Years)	Infinite	(Kg)
Current Volume of Groundwater in Plume	0.1	(ac-ft)
Flowrate of Water Through Source Zone	0.137	(ac-ft/yr)

Mass HELP

Recalculate

Figure 5. Instantaneous Reaction: Infinite Source at SWMU 14 NAVSTA Mayport, Florida.

BIOSCREEN Natural Attenuation Decision Support Sys

Air Force Center for Environmental Excellence — *Version 1.3*

N.S. Mayport
SWMU 14
Run Name

Data Input Instructions:
115 — *1. Enter value directly....or*
or — *2. Calculate by filling in grey*
0.02 — *cells below. (To restore formulas, hit button below).*
Variable* — *Data used directly in model.*
20 — *Value calculated by model. (Don't enter any data).*

1. HYDROGEOLOGY

Seepage Velocity*	Vs	34.0	(ft/yr)
or		or	
Hydraulic Conductivity	K	4.3E-03	(cm/sec)
Hydraulic Gradient	I	0.002	(ft/ft)
Porosity	n	0.35	(-)

2. DISPERSION

Longitudinal Dispersivi	alpha x	10.4	(ft)
Transverse Dispersivit	alpha y	1.0	(ft)
Vertical Dispersivity*	alpha z	0.0	(ft)
or		or	
Estimated Plume Leng	Lp	180	(ft)

3. ADSORPTION

Retardation Factor*	R	2.0	(-)
or		or	
Soil Bulk Density	rho	1.4	(kg/l)
Partition Coefficient	Koc	1300	(L/kg)
FractionOrganicCarbo	foc	2.00E-04	(-)

4. BIODEGRADATION

1st Order Decay Coeff	lambda	3.5E-1	(per yr)
or		or	
Solute Half-Life	t-half	2.00	(year)
or Instantaneous Reaction Model			
Delta Oxygen*	DO	2.4	(mg/L)
Delta Nitrate*	NO3	5.7	(mg/L)
Observed Ferrous Iron	e2+	1800	(mg/L)
Delta Sulfate*	SO4	201	(mg/L)
Observed Methane*	CH4	0	(mg/L)

5. GENERAL

Modeled Area Lengt	180	(ft)
Modeled Area Width*	50	(ft)
Simulation Time*	5	(yr)

6. SOURCE DATA

Source Thickness in Sat Zone* 10 (ft)

Vertical Plane Source: Look at Plume Cross-Section and Input Concentrations & Widths for Zones 1, 2, and 3

Source Zones:

	Width* (ft)	Conc. (mg/L)*
1	17.5	0.1
2	5	0.2
3	5	0.2
4	5	0.2
5	17.5	0.1

Source Decay (see Help):
ourceHalflife* 3 - >1000 (yr)
Soluble Mass or
In NAPL, Soil 107 (Kg)

View of Plume Looking Down

Observed Centerline Concentrations at Monitoring Wells If No Data Leave Blank or Enter "0"

7. FIELD DATA FOR COMPARISON

Dist. from Source (ft)	0	18	36	54	72	90	108	126	144	162	180
Concentration (mg/L)											

8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN CENTERLINE — View Output
RUN ARRAY — View Output
Help
Recalculate This Sheet
Paste Example Dataset
Restore Formulas for Vs, Dispersivities, R, lambda, other

Figure [illegible] BIOSCREEN Input Screen: Defined Source at SWMU 14, NAVSTA Mayport, Florida .

APPENDIX E

TECHNICAL LITERATURE, OXYGEN RELEASE COMPOUND®

Enhanced Degradation of Dissolved Benzene and Toluene Using a Solid Oxygen-Releasing Compound

by Gino C. Bianchi-Mosquera, Richelle M. Allen-King, and Douglas M. Mackay

Abstract

A field test to evaluate the applicability of an oxygen-releasing compound (ORC) to the remediation of ground water contaminated with benzene and toluene was conducted in the Borden Aquifer in Ontario, Canada. Benzene and toluene were injected as organic substrates to represent BTEX compounds, bromide was used as a tracer, and nitrate was added to avoid nitrate-limited conditions.

The fate of the solutes was monitored along four lines of monitoring points and wells. Two lines studied the behavior of the solutes upgradient and downgradient of two large-diameter well screens filled with briquets containing ORC and briquets without ORC. One line was used to study the solute behavior upgradient and downgradient of columns of ORC powder placed directly in the saturated zone. The remaining line was a control.

The results indicate that ORC in both briquet and powder form can release significant amounts of oxygen to contaminated ground water passing by it. In the formulation used in this work, oxygen release persisted for at least 10 weeks. Furthermore, the study indicates that the enhancement of the available dissolved oxygen content of at least 4 mg/L each of the ground water by ORC can support biodegradation of benzene and toluene dissolved in ground water. Such concentrations are typical of those encountered at sites contaminated with petroleum hydrocarbons; therefore, these results suggest that there is promise for ORC to enhance in situ biodegradation of BTEX contaminants at such sites using passive (nonpumping) systems to contact the contaminated ground water with the oxygen source.

Introduction

Thousands of sites throughout the United States contain ground water that is contaminated with gasoline derivatives such as benzene, toluene, ethylbenzene, and xylenes. This group of compounds are described collectively as BTEX compounds. Many studies have shown that BTEX compounds present in ground water will degrade under aerobic conditions, i.e., when there is oxygen present in the system (e.g., Barker et al. 1987). However, it is also commonly known that BTEX-degrading bacteria will consume oxygen during BTEX metabolism, which often results in the system becoming anaerobic (Berwanger and Barker 1988). Anaerobic degradation of some BTEX constituents is possible, particularly under denitrifying conditions, but results have been mixed (Acton and Barker 1992). Thus, to ensure rapid BTEX degradation, it is critical to maintain an adequate oxygen supply to the ground water. The intent of the field experiment described below was to determine whether a proprietary solid peroxide formulation (referred to as an oxygen-releasing compound or ORC) could provide dissolved oxygen (D.O.) to BTEX-contaminated ground water in a controlled, steady manner and result in enhanced BTEX biodegradation.

Site Characteristics

The Borden Aquifer in Ontario Canada, was selected for the field experiment. The site is located immediately east of the natural gra

Pages 120–12

References

Bednas, M.E., and D.S. Russell. 1967. Determination of natural gas leakage via gas chromatography of drill core samples. *Journal of Gas Chromatography* 5: 592-94.

Brooks, R.H., and A.T. Corey. 1966. Properties of porous media affecting fluid flow. *Journal Irrigation and Drainage Division, ASCE* 92: 61-88.

Colenutt, B.A., and D.N. Davies. 1980. The sampling and gas chromatographic analysis of organic vapours in landfill sites. *International Journal of Environmental Analytical Chemistry* 7: 223-29.

Holbrook, T. 1988. Combining two field methods of soil gas analysis to define the horizontal and vertical extent of soil contamination. *Proceedings: Petroleum hydrocarbons and organic chemicals in ground water: Prevention, detection, and restoration*, 91-104. Dublin, Ohio: NWWA/API.

Kampbell, D.H., J.T. Wilson, and D.W. Ostendorf. 1989. Simplified soil gas sensing techniques for plume mapping and remediation monitoring. In *Petroleum contaminated soils*, ed. Paul T. Kostecki and Edward J. Calabrese, 125-39. Chelsea, Massachusetts: Lewis Publishers.

Leach, L.E., F.P. Beck, J.T. Wilson, and D.H. Kampbell. 1988. Aseptic subsurface sampling techniques for hollow-stem auger drilling. *Proceedings: Petroleum hydrocarbons and organic chemicals in ground water: Prevention, detection, and restoration*, 31-51. Dublin, Ohio: NWWA/API.

Ostendorf, D.W. 1990. Long term fate and transport of immiscible aviation gasoline in the subsurface environment. *Water Science and Technology* 22: 37-44.

Ostendorf, D.W., and D.H. Kampbell. 1991. Biodegradation of hydrocarbon vapors in the unsaturated zone. *Water Resources Research* 27: 453-62.

Ostendorf, D.W., D.H. Kampbell, J.T. Wilson, and J.H. Sammons. 1989. Mobilization of aviation gasoline from a residual phase. *Research Journal of the Water Pollution Control Federation* 61: 1684-90.

Ostendorf, D.W., E.E. Moyer, R.J. Richards, E.S. Hinlein, Y. Xie, and R.V. Rajan. 1992. LNAPL distribution and hydrocarbon vapor transport in the capillary fringe. EPA/600/R-92/247. Washington, D.C.: Government Printing Office.

Ostendorf, D.W., E.E. Moyer, Y. Xie, and R.V. Rajan. 1993a. Hydrocarbon vapor diffusion in intact core sleeves. *Ground Water Monitoring and Remediation* 13, no. 1: 139-50.

Ostendorf, D.W., L.E. Leach, E.S. Hinlein, and Y. Xie. 1991. Field sampling of residual aviation gasoline in sandy soil. *Ground Water Monitoring Review* 11, no. 2: 107-20.

Ostendorf, D.W., R.J. Richards, and F.P. Beck. 1993b. LNAPL retention in sandy soil. *Ground Water* 31, no. 2: 285-92.

Reid, R.C., J.M. Prausnitz, and B.E. Poling. 1987. *The properties of gases and liquids*. New York: McGraw-Hill.

Swallow, J.A., and P.M. Gschwend. 1983. Volatilization of organic compounds from unconfined aquifers. *Proceedings: Third international symposium on aquifer restoration and ground water monitoring*, 327-33. Dublin, Ohio: NWWA.

Thorburn, S., B.A. Colenutt, and S.G. Douglass. 1979. The sampling and gas chromatographic analysis of gases from landfill sites. *International Journal of Environmental Analytical Chemistry* 6: 245-54.

Tolman, K.J., and G.M. Thompson. 1989. Mobile soil gas sampling and analysis: Applications and limitations. *Proceedings: Third national outdoor action conference*, 251-62. Dublin, Ohio: NWWA.

Wallingford, E.D., F.A. DiGiano, and C.T. Miller. 1988. Evaluation of a carbon adsorption method for sampling gasoline vapors in the subsurface. *Ground Water Monitoring Review* 8, no. 4: 85-92.

Biographical Sketches

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dient experiment conducted by Mackay et al. (1986). For information on the general geology and hydrogeological characteristics of the site, the reader is referred to Mackay et al. (1986), Sudicky (1986), and MacFarlane (1983). For purposes of this paper, it is sufficient to note that the relatively uniform sandy aquifer is unconfined; water table elevation at this site varies between ground surface and 2 m below ground surface, and hydraulic gradient in the area varies between approximately 0.0035 and 0.0054 throughout the year in response to snowmelt and precipitation.

In previous studies of the fate and transport of BTEX in the Borden Aquifer, it has been shown that biodegradation occurs most rapidly when oxygen is the electron acceptor. These studies also demonstrated that BTEX biodegradation during uncontrolled migration is limited primarily by oxygen availability (Barker et al. 1987). When sufficient oxygen and nutrients are available, biodegradation is controlled by growth of naturally occurring BTEX-degrading microorganisms (Allen 1991). However, when excess oxygen was supplied under natural conditions, nitrogen availability limited the BTEX biodegradation rate. This rate limitation was removed when nitrogen, supplied as nitrate, was added (Allen 1991). Nitrogen-limited aerobic degradation of aromatic compounds in ground water samples has also been observed by Aelion and Bradley (1991) and by Armstrong et al. (1991). When anaerobic, denitrifying conditions were induced in the Borden Aquifer by nitrate addition, benzene was recalcitrant, and toluene, ethylbenzene, and xylenes were shown to be incompletely biodegraded (Barbaro et al. 1993).

Since the BTEX-degrading capabilities of the microbes indigenous to the Borden Aquifer have already been shown to be limited primarily by the availability of dissolved oxygen, the Borden site serves as the simplest case for field testing the ORC. If the use of ORC did not lead to an increase in the available oxygen and therefore a decrease in benzene and toluene concentrations at this site, it would seem unlikely that it could offer promise elsewhere.

Because of knowledge gained from previous experiments conducted at the site (e.g., Barker et al. 1987), no effort was made in this study to confirm that the disappearance of benzene and toluene was in fact due to biodegradation. Thus, throughout the following discussion, it is assumed that the transformation process that is acting on these compounds is biologically mediated.

ORC Characteristics

ORC is currently provided by the manufacturer Plant Research Laboratories (Corona del Mar, California) as a fine-grained powder. Because the powder itself is relatively impermeable to water, an alternate formulation was desired which would allow water to flow through a porous solid source. One such formulation was previously co-developed by Dr. S. Koenigsberg from Plant Research Laboratories (PRL) and Professor R. Borden (North Carolina State University). In that method, ORC powder was mixed with cement to create "ORC concrete." The concrete mixture was formed or broken into small cubical briquet-shaped forms, approximately 2 inches by 2 inches by 2 inches in dimension. As described below, both types of ORC formulations were tested in this experiment.

According to the manufacturer, the total available oxygen in the ORC powder used in this work was 6.5 percent (±0.3 percent) by weight; after incorporation into the concrete, the available oxygen content remaining in the ORC was 5.2 percent (±0.3 percent) by weight (Plant Research Laboratories, unpublished data). PRL reports that pure ORC powder, when activated by hydration, has a two-phase oxygen release profile. In the first phase, after a brief lag time, the ORC begins releasing oxygen at a rate approximating first order kinetics. The duration of the first phase, as described below, depends on environmental conditions. The second phase involves a slower release rate that approximates zeroth order kinetics. Placement of ORC in concrete tends to truncate the rapid first order release phase and results in a more constant oxygen release throughout the entire lifetime of the ORC.

Laboratory studies conducted by PRL indicated that the release rate was increased by certain environmental factors, including microbial activity, lower pH, and higher temperature. Therefore, it was expected that actual field oxygen release rates (as determined by dissolved oxygen measurements) would differ somewhat from laboratory results. Laboratory oxygen release experiments with samples of the ORC concrete used in this work suggested that oxygen would be produced for approximately 13 months in a clay matrix and for approximately 30 months in a loam matrix. These times are about four to five times longer than those estimated for the pure ORC powder.

Based on the laboratory studies conducted by PRL using the ORC concrete and ORC powder that were used for this study, it was expected that the oxygen release rates were approximately the following (in mg of O_2 per day per gram of ORC): 0.21 for the first 25 days and 0.12 for the next 375 days (ORC concrete), and 1.6 for the first 4 days and 0.4 for the next 150 days (ORC powder). The behavior of the ORC at the end of the second phase is presently unknown, but presumably the oxygen production diminished relatively quickly as the last of the available oxygen was released.

Experimental Design

The experimental design was chosen to maximize the information that could be obtained from a short duration test (Figure 1). A 5-m-wide source was used to inject benzene, toluene, potassium nitrate (as a nutrient), and sodium bromide (as a ground water tracer) into the saturated zone. For this initial demonstration, nitrate was added to decrease both the cost and duration of the experiment. The target injection concentrations for benzene and toluene were 4 mg/L for each compound. The target injection concentrations of the inorganic salts were 25 mg/L nitrate and 300 mg/L bromide.

The source was made of 16 5-foot sections of 10-inch O.D. PVC well screen jetted to approximately

5 feet below ground surface. The screens were installed adjacent to each other, perpendicular to the direction of flow. As shown in Figure 1, the field site consisted of lines of monitoring points or wells oriented along the natural ground water flow direction. Samples were collected upgradient and downgradient of the oxygen source within each line (briquet or pure powder). Two lines were used as controls to determine the benzene and toluene degradation behavior at the site in the absence of ORC.

The experiment was designed to be interpreted after steady-state concentration distributions were achieved or approached, i.e., similar to the methods typically used to interpret laboratory column tests of transformation reactions. Thus, a significant difference between the steady-state distributions for benzene and toluene downgradient of an ORC source and that downgradient of the comparable position in the control line could be taken as evidence of enhancement of transformation of the two compounds by the ORC source. This simple comparative approach assumes that other solute transport processes are similar along the flowpaths to be compared (advection, dispersion, and sorption), an assumption that seems warranted in the relatively homogeneous Borden Aquifer. Since sorption and retardation of benzene and toluene are known to be slight in the Borden Aquifer (Barker et al. 1987), it was expected that the primary limit to the approach to steady state would be the acclimation of the native microorganisms to the injected substrates.

Background samples were collected from a drive point sampler located approximately 4 m upgradient of the source wells. The transport of the organic solutes was monitored along lines of monitoring points (¼-inch stainless steel sampling points with a 1-inch screen) and drive points (1-foot stainless steel screens) placed approximately 4 feet below the ground surface.

As stated previously, the lines of monitoring points and wells were oriented along the expected natural-gradient flow direction. However, to minimize effects of temporal variations in the gradient due to snowmelt and other localized factors, two parallel lines of sheet-piling were driven 5 feet into the ground on both sides of the field setup. As an additional method to maintain a constant flow direction, two extraction wells were used to extract ground water at approximately 1.5 gallons per minute (gpm) each; the extraction rate and well locations were selected based on 2-D modeling results.

Water table elevation data were not collected during the experiment. Given the very small average regional gradient (0.0043), the low pumping rate (1.5 gpm per extraction well), and the short distance between monitoring points (approximately 40 to 50 cm along a monitoring line), the absolute value of the head differences between the available monitoring points would have been on the order of, or smaller than, the error inherent in the head measurements.

Briquet Section

Two types of briquets were used: those prepared with cement mixed with ORC (ORC-concrete briquets),

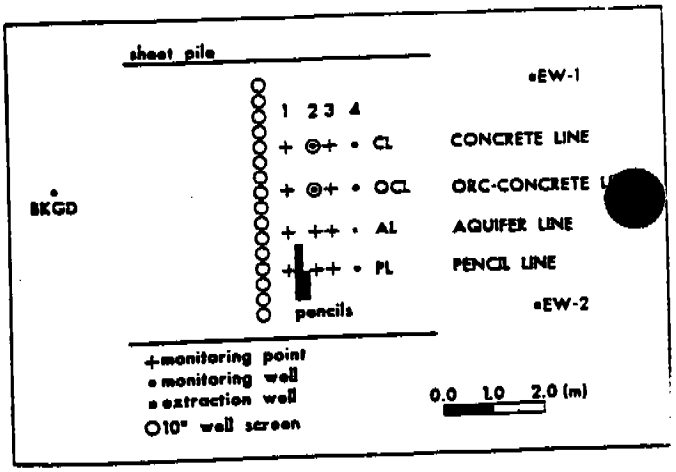

Figure 1. Site plan and monitoring locations.

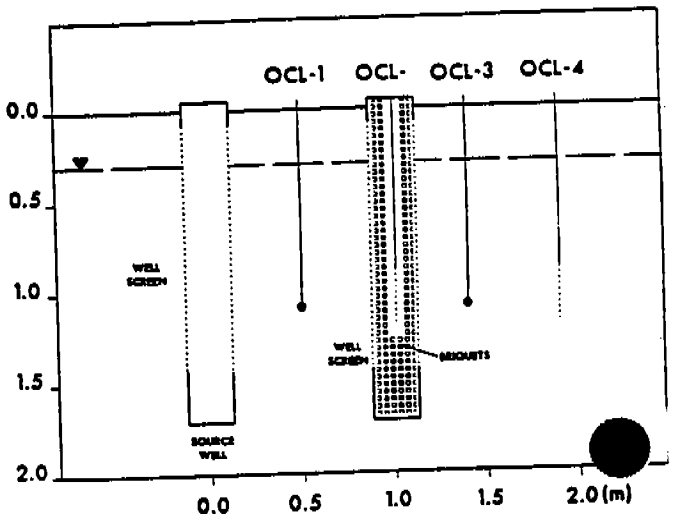

Figure 2. Cross section of the site along the ORC-Concrete Line.

and those prepared with cement only (concrete briquets). The ORC-concrete briquets containec approximately 20 percent by weight ORC powder. The briquets were placed in two well screens installed in a manner similar to that used for the source wells. The well screen in the Concrete Line contained concrete briquets. Its purpose was to serve as a reference for the ORC-Concrete Line, within which the well screen wa filled with ORC-concrete briquets. Figure 2 shows cross section of the site along the ORC-Concrete Line

Pencil Section

In one section of the site, rows of ORC "pencils were placed in the ground, to a depth of approximatel 5 feet. The pencils were installed by driving a ¾-inc steel casing into the ground, jetting out the interior san with water, and pouring 350 mL of an approximate 60 percent vol/vol ORC water slurry into the empt casing. The casing was then removed using a j another 150 mL of ORC slurry were added to fill th hole. As shown in Figure 1, pencils were installed rows perpendicular to the direction of flow. Each pen was approximately 6 inches away from the nearest pen

within a row; rows were also installed 6 inches apart. There was a 3-inch stagger in the pencil locations between the rows. Figure 3 shows a cross section of the site along the Pencil Line.

Sample Collection and Analysis

Samples were collected using a sampling manifold specifically designed for this study. Sample bottles were placed in line, between the sampling point and a peristaltic pump, so that air did not contact the sample at any time. A flow-through cell was placed immediately before the pump. This cell contained pH, temperature, and conductivity meters. The manifold was built mostly of ⅛-inch O.D. stainless steel, but a few short lengths of Viton and Tygon tubing were used to facilitate attaching it to the sampling points. A volume equal to three times the volume of the sampling point was purged from each point before any samples were collected. Geochemical parameters such as D.O., pH, temperature, and conductivity were analyzed in the field. D.O. was measured using an iodometric method (APHA et al. 1985) modified by diluting the reagent to accommodate a 100-mL sample. The estimated detection limit was 0.1 mg/L.

Benzene and toluene in the samples were concentrated by liquid-liquid extraction using pentane as the organic phase. The pentane contained 25 mg/L of m-fluorotoluene as an internal standard. Sample extracts were analyzed for benzene and toluene using a Shimadzu GC-9A equipped with a flame-ionization detector. The method detection limit was estimated to be 1.0 μg/L. None of the laboratory blanks analyzed contained benzene or toluene above the detection limit. The average error in the analyses, determined from laboratory spike samples, was less than 10 percent for benzene and toluene.

Bromide samples were analyzed in the laboratory using a Corning bromide ion specific electrode and a Markson pH/mV meter. At least five standards were used to generate the calibration curves. Although no formal method was used to estimate the detection limit of the method as applied in this work, the analyses suggested that it was below 0.5 mg/L.

Results and Discussion

Solute Injection

Solute injection started two days after the ORC sources were installed. For convenience, this is referred to hereafter as Day 0. Initially, injections were conducted every other day to dose the aquifer with benzene, toluene, and nitrate. This last compound was included to promote the growth of microorganisms. Bromide injection started on Day 13. Hereafter, benzene and toluene are referred to as B/T.

After Day 25, the injection frequency was increased to once per day. More frequent injections result in more constant solute concentrations across the site, which

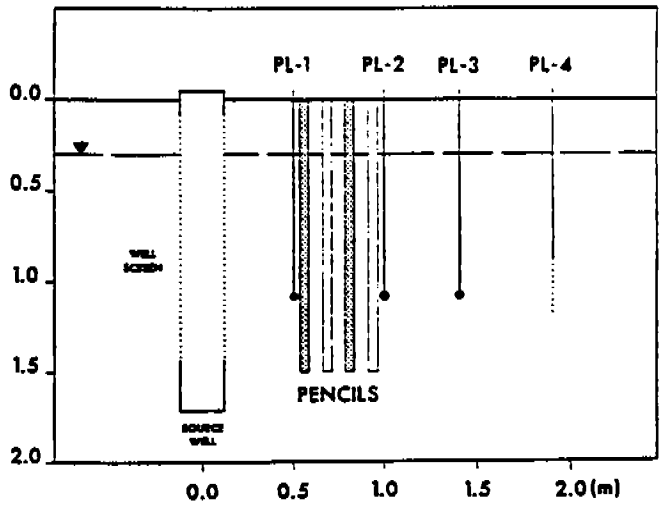

Figure 3. Cross section of the site along the Pencil Line. Blank pencils represent offset described in the text.

ease data interpretation (i.e., variations in solute concentrations resulting from injection pulsing can be differentiated from the concentration decreases resulting from transformation processes). In addition to increasing the injection frequency by a factor of two, the B/T, bromide, and nitrate concentrations were reduced by a factor of two. Thus the average rate of mass injection remained the same. The daily solute injections continued for approximately 12 days, ending on Day 37.

Although the injection frequency was changed, as described previously, the method of B/T injection was consistent throughout the experiments. Benzene concentrations were 3947 ± 284 μg/L and toluene 3810 ± 264 μg/L (standard deviations of about 7 percent) in the source wells on Day 15. As discussed above, injection concentrations for all solutes were cut in half on Day 25. Although source well concentrations were not subsequently monitored, it was assumed that the injected B/T concentrations for each individual injection round were relatively constant throughout the experiment, i.e., the same mass of B/T/NO_3/Br was introduced into each of the 16 source wells.

Ground Water Velocities

Ground water velocities, estimated from simple 2-D modeling using FLOWPATH (Waterloo Hydrogeologic Software, Waterloo, Ontario), range from 20 to 30 cm/day in the experimental zone. Due to the semi-continuous injection technique, bromide breakthrough curves (plots of bromide concentration vs. time) were difficult to interpret by anything other than the most simple method; i.e., the ground water velocity was estimated as the distance from the injection well to the monitoring point divided by the time of arrival of the bromide pulse. Figure 4 shows a typical breakthrough curve for bromide. The bromide data obtained from the various sampling locations indicated that average linear ground water velocities varied from 25 cm/day to 38 cm/day, in reasonable agreement with the velocities calculated by the model.

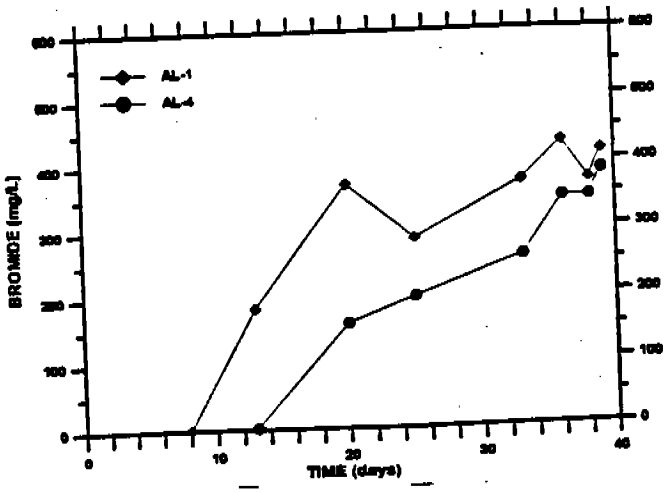

Figure 4. Typical bromide breakthrough curve.

Spatial Distribution of Dissolved Oxygen, Benzene, and Toluene

Aquifer Line (no ORC)

The monitoring points in this line sampled ground water that did not flow past any portion of the site containing ORC powder or ORC-concrete briquets (Figure 1). Figure 5a shows that the D.O. concentrations in the Aquifer Line were similar to the background D.O. concentrations measured upgradient of the source wells. Figures 5b and 5c show the benzene and toluene concentrations, respectively, along the Aquifer Line. The benzene concentrations decreased by approximately 20 to 25 percent along this line for a given sampling date.

Toluene concentrations were relatively high at the first monitoring point (AL-1) before Day 33, demonstrating behavior similar to benzene. However, Figure 5c shows that toluene concentrations decreased significantly with time at AL-1. The toluene concentration decreased from approximately 750 to 2700 μg/L on or before Day 33 to less than 500 μg/L after Day 33 at all monitoring points. These data suggest that the concentrations were decreasing before the solutes reached AL-1, and that these lower values were subsequently observed at downgradient points.

Since the solute injection technique remained constant throughout the experiment, the decline in concentration after Day 25 is indicative of mass removal. D.O. was not detected after Day 25 in any of the Aquifer Line samples; thus, the toluene removal is most likely occurring under anaerobic conditions and is probably due to denitrification (degradation in which NO_3 rather than O_2 is the electron acceptor). The fact that toluene is showing the effect, while benzene apparently does not, is consistent with previous research that indicates that toluene is degraded under denitrifying conditions and that benzene is recalcitrant.

Potassium to nitrate ratios in samples collected on Day 35 appear to confirm that nitrate was preferentially removed between the source wells and the first row of monitoring points. If nitrate was not removed, there should have been a 1:1 molar correspondence between

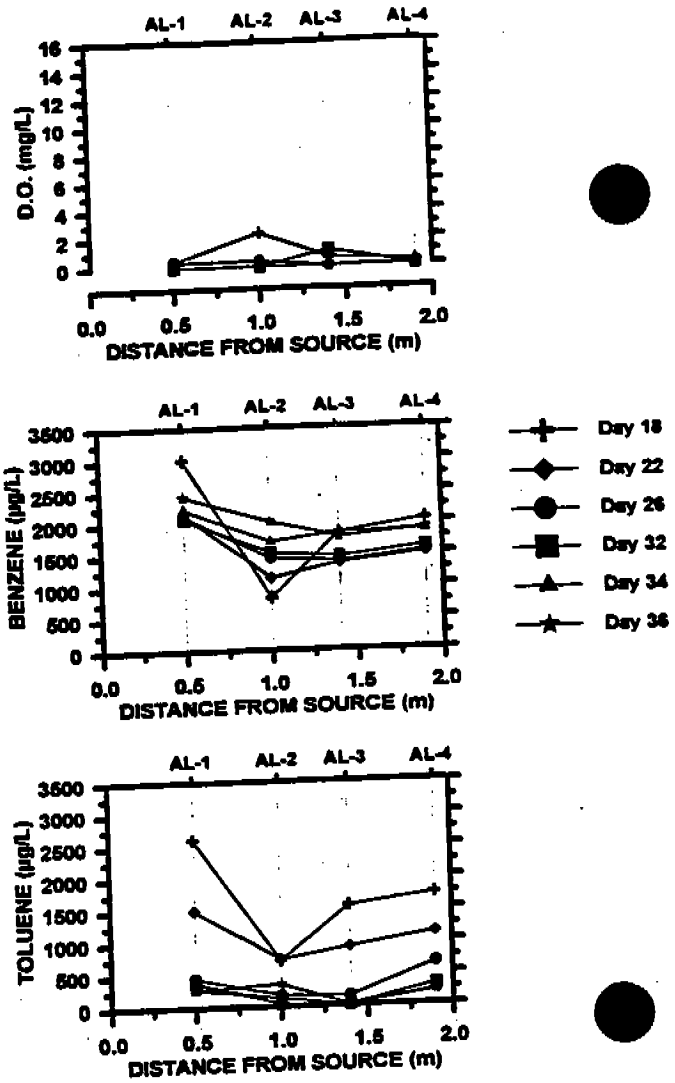

Figure 5. Concentration of (a) D.O., (b) benzene, and (c) t[illegible]ene along the Aquifer Line.

the two ions since KNO_3 was used in the injection solu[illegible]tions as the nitrate source (background values for bot[illegible] are very low in the Borden ground water). Howeve[illegible] there was an apparent excess of potassium with respe[illegible] to nitrate, with a molar ratio of 2:1 (OCL-1) on Day 3[illegible]

Concrete Line (no ORC)

Figure 6a shows that the D.O. concentrations in t[illegible] Concrete Line were also similar to the background D.[illegible] concentrations measured upgradient of the source wel[illegible] Figures 6b and 6c present the benzene and toluene co[illegible]centrations, respectively, along the Concrete Line, [illegible] which the well screen contained concrete briquets wi[illegible]out ORC. As was the case for the Aquifer Line, t[illegible] benzene values decreased approximately 20 percent [illegible] 25 percent across the transport path. Except for [illegible] Day 22 samples, which showed concentrations at [illegible] first monitoring point apparently much higher than [illegible] other sampling dates, toluene concentrations were a[illegible] relatively high at the first monitoring point, de[illegible]ing behavior similar to benzene. After Day 2[illegible] was depleted to less than 1500 μg/L in all of the sam[illegible] points for the remainder of the experiment. The rec[illegible]tion in concentration after Day 26 may be due to nat[illegible]

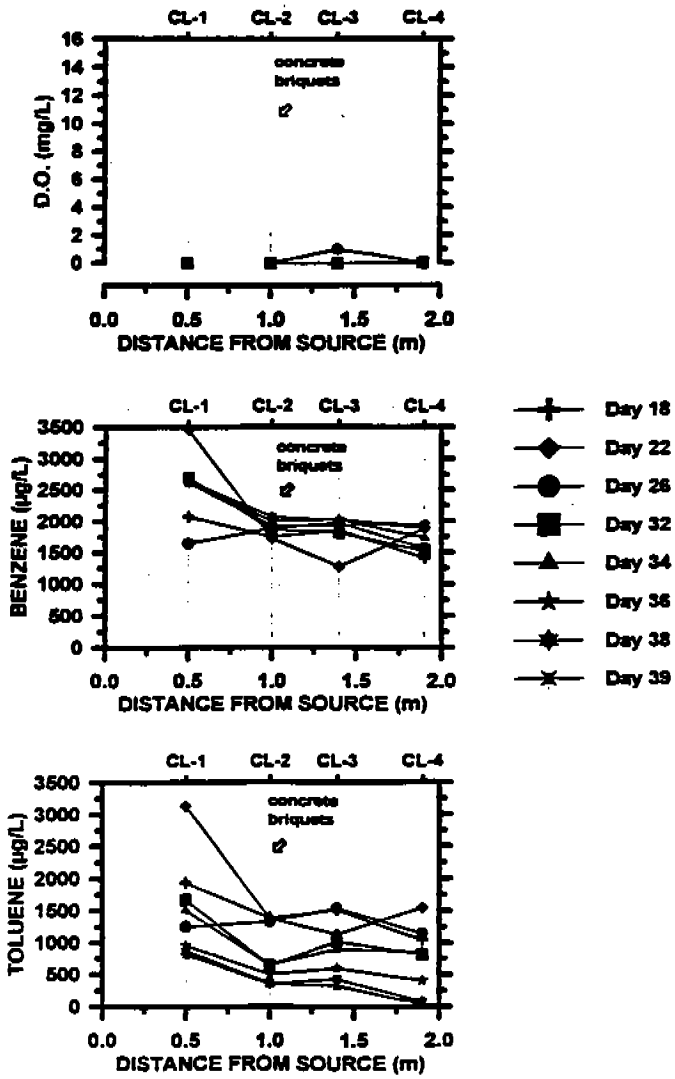

Figure 6. Concentration of (a) D.O., (b) benzene, and (c) toluene along the Concrete Line.

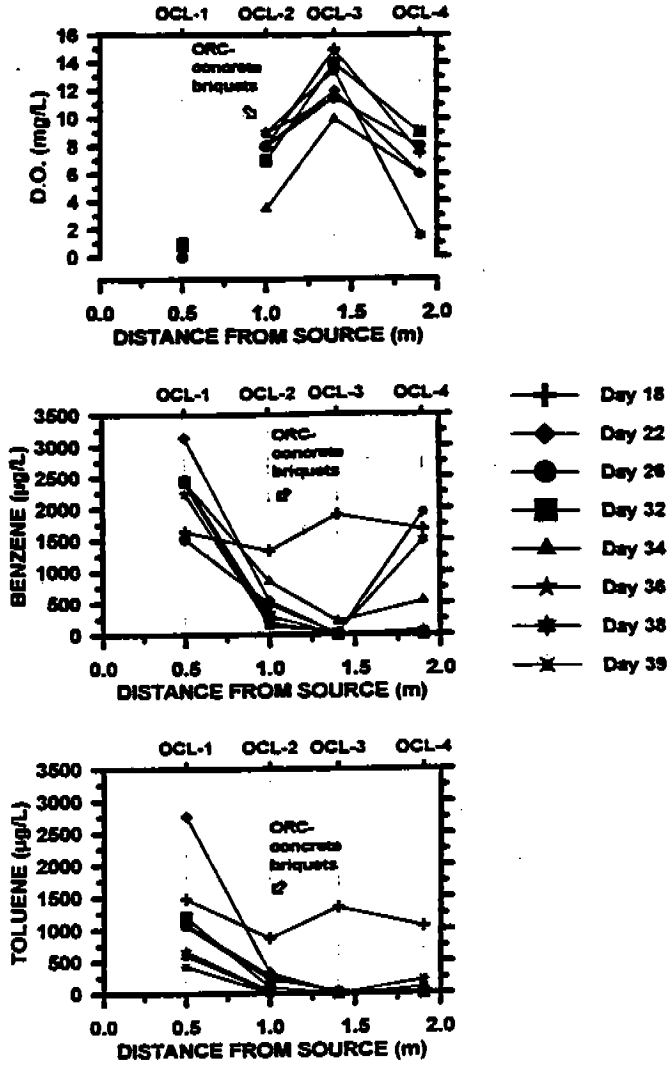

Figure 7. Concentration of (a) D.O., (b) benzene, and (c) toluene along the ORC-Concrete Line.

degradation of toluene under denitrifying conditions primarily upgradient of CL-1.

These results indicate that, in the absence of oxygen amendment, there was a small decrease in benzene concentrations and a maximum of 50 percent decrease in toluene concentrations in the Concrete Line, when compared to concentrations at the first monitoring point (CL-1). Any significant additional reduction in B/T in the ORC-Concrete Line, discussed below, would likely be due to aerobic degradation.

ORC-Concrete Line

Assuming an average linear ground water velocity of 32 cm/day (from the bromide temporal data) and the oxygen release rates cited above for the ORC concrete, the expected D.O. concentration in ground water passing through the well screen containing ORC-concrete briquets was approximately 93 mg/L for the first 25 days and 56 mg/L for the remainder of the experiment. Using the Henry's law constant for oxygen provided by Metcalf & Eddy (1979), the solubility of oxygen in water (7 C) exposed to a pure oxygen atmosphere can be calculated to be approximately 58 mg/L. Since very small bubbles were observed in the screens containing ORC concrete, it is likely that oxygen in excess of its water solubility was released by the ORC, which is consistent with the estimate presented above. The approximately 35 mg/L of D.O. that bubbled out of solution during the first 25 days would volatilize approximately less than 1 percent of the dissolved benzene or toluene.

Based on transformation stoichiometry, it was expected that approximately 3.1 g of O_2 would be required for complete mineralization of 1 g of benzene or toluene. However, some of the carbon would be used for biomass growth, rather than mineralization, thus reducing the oxygen required for degradation. Allen (1991) measured a biomass carbon incorporation of 15 to 40 percent for toluene in Borden sand, which corresponds to an oxygen demand of 2.1 to 2.8 g O_2 per gram of toluene. Thus, it would be expected that the target benzene and toluene injection concentrations of approximately 4 mg/L per compound would require approximately 16.8 to 22.4 mg/L of O_2, with a maximum 25 mg/L of O_2 for complete mineralization. Since oxygen water solubility is approximately 58 mg/L at 7 C, and assuming biotransformation is essentially instantaneous, the complete mineralization of B/T should leave approximately 33 to 41 mg/L D.O. within the well screen containing

ORC-concrete briquets. The exact magnitude of this number would be affected by (1) the ground water velocity, (2) the concentration of benzene and toluene, (3) the mass of benzene and toluene degraded, and (4) the degree of saturation and mixing within the screen.

D.O. concentrations within the ORC-concrete well screen (OCL-2) were as high as 19 mg/L initially (Day 4). Figure 7a shows that D.O. later stabilized to 8 to 9 mg/L (Day 18 to Day 38). These concentrations are approximately 24 to 58 percent of the maximum expected D.O. (33 mg/L). Given the low sampling frequency during the initial phases of the experiment, it is possible that D.O. may have been greater before the B/T arrived at the well screen or during the acclimation of the native microorganisms to the B/T (i.e., before significant biotransformation occurred). D.O. concentrations in this line were also high at the points downgradient of the well screen containing ORC-concrete briquets: 9 to 15 mg/L at OCL-3, and 6 to 9 mg/L at OCL-4. Thus, even when there were significant oxygen sinks present in the ground water (i.e., B/T), the ORC concrete released enough oxygen to generate an oxygen plume that migrated at least 1 m from the well screen.

This latter possibility is supported by the monitoring results from Day 68, 37 days after B/T/NO_3/Br injection ceased. On this day, D.O. was found to be 45.6 mg/L within the screen (OCL-2), consistent with oxygen solubility at 7 C (58 mg/L), and 4.9 mg/L 0.5 m downgradient (OCL-4). The D.O. for Day 68 within the screen is also fairly close to the expected D.O. (during the zeroth order release phase) in the absence of an oxygen sink (55 mg/L). These data illustrate that the ORC-concrete briquets were capable of producing and sustaining very elevated concentrations of D.O. for at least 10 weeks after the ORC briquets were placed in the ground.

Figures 7b and 7c present the benzene and toluene data, respectively, along the ORC-Concrete Line. Both figures show relatively uniform and high concentrations of B/T on Day 18, indicating that extensive biodegradation had not occurred. After this date, Figures 7b and 7c indicate that B/T concentrations decreased significantly, in many cases to below the detection limit at OCL-2 and at other points further downgradient of the oxygen source.

Figures 7b and 7c also indicate that B/T concentrations at OCL-4 increased over time after about Day 34, rising to fairly high values by Day 39. However, the D.O. values at OCL-4 remained steady through Day 36 at about 8 mg/L, then apparently dropped by Day 38 to 1.5 mg/L. Unfortunately, due to equipment failure, it was not possible to measure D.O. on Day 39. On Day 68, the D.O. in OCL-4 remained low (0.2 mg/L).

Note, however, that the high B/T concentrations observed at OCL-4 were not detected in prior sampling of upgradient monitoring points. This suggests that the B/T detected at OCL-4 on the later dates did not flow through the ORC-concrete well screen or by sampling point OCL-3. The low observed D.O. would also be consistent with this hypothesis. It is probable that, despite our efforts to minimize such effects, the ground

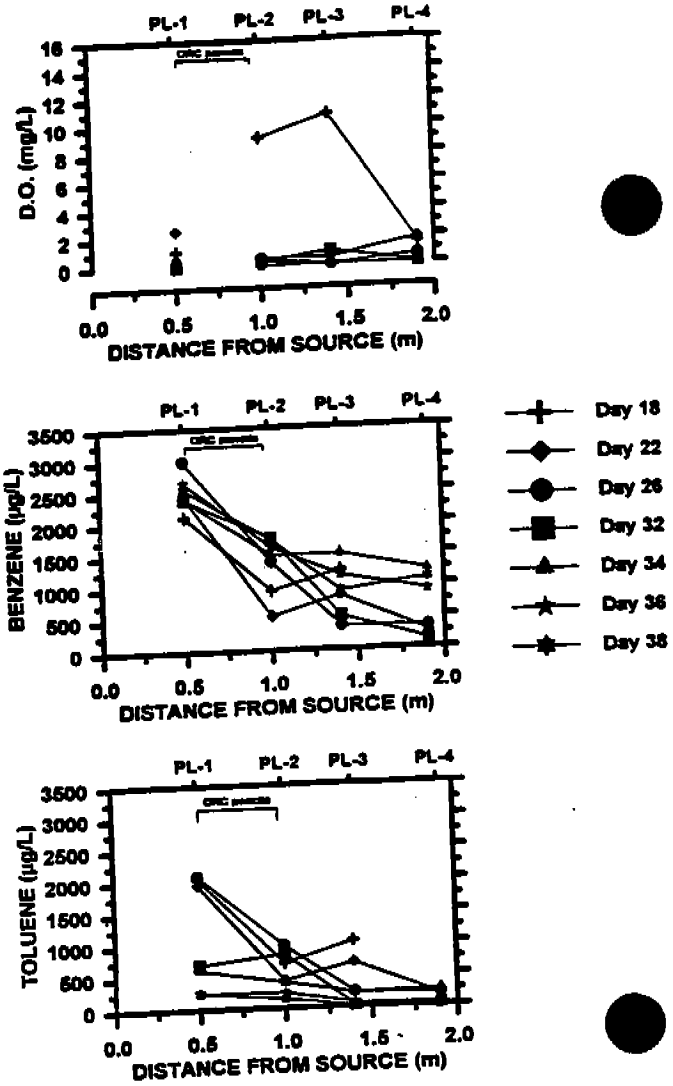

Figure 8. Concentration of (a) D.O., (b) benzene, and (c) toluene along the Pencil Line.

water flow paths were changing somewhat over the course of the experiment, perhaps due to time and areal variations in percolation of snowmelt.

Pencil Line

The D.O. concentration in ground water flowing past the pencils can be estimated making the same assumptions that were made for the ORC-Concrete Line. For the pure powder, however, the oxygen release rates are approximately 1.6 mg of O_2 per day per gram of ORC for the first four days and 0.4 mg of O_2 per day per gram of ORC for the next 150 days. Thus, the expected D.O. concentrations in ground water were approximately 27 mg/L for the first four days and 6.8 mg/L for the remainder of the experiment. These lower values were due to the smaller mass of ORC present in the pencil when compared to the mass of ORC present in the briquets. Given the estimated D.O. demand discussed above for the B/T concentrations used in the experiment the D.O. in the vicinity and downgradient of the pencil should have been approximately 11 mg/L initially but would be expected to drop below the detection limit after four days or so.

Figure 8a shows that initial D.O. levels immediately downgradient of the pencils (PL-2), were greater than

8 mg/L until Day 20, when they dropped to less than 1 mg/L. The D.O. level approximately 0.5 m downgradient of the pencils (PL-3) was also high initially (10 mg/L on Day 13), but decreased to less than 1 mg/L on Day 20. These D.O. concentrations are within the expected range discussed above; however, the initial high release rate from the pencils in the field was maintained for a period of time greater than predicted by the laboratory data provided by PRL.

Figures 8b and 8c show the benzene and toluene concentrations, respectively, along the Pencil Line. The benzene concentrations decreased along the transport path more significantly than in the Aquifer Line, but the decrease was not as sharp as in the case of the ORC-Concrete Line. Benzene concentration appeared to decrease by 50 to 85 percent along the flow path relative to the concentration at PL-1. Prior to Day 33, toluene behavior was similar to benzene, with a sharp decline of 50 to 85 percent along the Pencil Line. After Day 33, the toluene concentration at PL-1 declined significantly probably due to denitrification. Although the absolute decrease in toluene concentration was not as great after Day 33, the decline was significant relative to the concentration measured at PL-1.

Summary and Conclusions

A field test was conducted at the Borden site to evaluate the applicability of an oxygen-releasing compound (ORC), in briquet and powdered form, to the remediation of ground water contaminated with gasoline components. The fate of the solutes was monitored along four lines of monitoring points and wells. Two lines studied the behavior of the solutes upgradient and downgradient of two large-diameter well screens filled with ORC-concrete briquets or concrete briquets. One line was used to study the solute behavior upgradient and downgradient of columns of ORC powder placed in the saturated zone. The remaining line was a control.

The results for the ORC in briquet form indicated that the ORC-concrete briquets raised the D.O. level in the contaminated ground water which passed by them. During part of the experiment, the benzene and toluene concentrations within and downgradient of the screen decreased significantly, apparently due to aerobic degradation resulting from the added oxygen. After the injection of benzene and toluene ceased, the D.O. levels rose to 45.6 mg/L, which is near the D.O. predicted by laboratory release rates under the field conditions (55 mg/L) within the briquet screen, indicating that the O_2 production continued after at least 10 weeks.

The results for the ORC in pencil form indicated that the pencils also released oxygen to water. However, at least in the configuration tested, the D.O. values were not as high as those observed in the briquet section of the experiment. Furthermore, it appeared that the oxygen generated by the pencils was consumed by microbial metabolism almost immediately. There was significant degradation of benzene and toluene, but unlike with the briquets, not to below detection limit. These results are somewhat biased by the geometry and ORC mass of the pencil network, which could not produce sufficient oxygen to support the degradation of B/T. A more extensive network of pencils might have led to complete degradation of the B/T.

Overall, this field study indicates that ORC can be used to introduce dissolved oxygen into ground water flowing past it. Furthermore, the study indicates that the enhancement of the D.O. content of the ground water by ORC can lead to biodegradation of at least 4 mg/L each of benzene and toluene dissolved in ground water. Such concentrations are typical of those encountered at sites contaminated with petroleum hydrocarbons; thus the controlled studies conducted as part of this project suggest that there is promise for the use of ORC in passive (non-pumping) systems to enhance in situ biodegradation of BTEX contaminants at such sites. Additional work is necessary to examine the long-term behavior of the ORC and to evaluate other methods of contacting ORC with contaminated ground water.

Acknowledgments

Funding for this work was provided in part by a contract from Plant Research Laboratories, Corona del Mar, California. Additional support was provided by the Waterloo Centre for Groundwater Research at the University of Waterloo, Waterloo, Ontario. Other support was provided by the Groundwater and Soil Remediation Program sponsored by Environment Canada and Energy, Mines, and Resources Canada. The authors would like to thank Eric Mewhinney, Dave Thomas, and Paul Johnson for their diligent field support, as well as other University of Waterloo faculty, staff, and field technicians that participated in this project.

Editor's Note: The use of brand names in peer-reviewed papers is for identification purposes only and does not constitute endorsement by the authors, their employers, or the Ground Water Publishing Co.

References

Acton, D.W., and J.F. Barker. 1992. In situ biodegradation potential of aromatic hydrocarbons in anaerobic groundwaters. *J. Contaminant Hydrology* 9: 325-52.

Aelion, C.M., and P.M. Bradley. 1991. Aerobic biodegradation potential of subsurface microorganisms from a jet fuel-contaminated aquifer. *Applied and Environmental Microbiology* 57, no. 1: 57-63.

Allen, R.M. 1991. Fate and transport of dissolved monoaromatic hydrocarbons during steady infiltration through soil. Ph. D. thesis, Department of Earth Sciences, University of Waterloo.

APHA, AWWA, and WPCF. 1985. Azide modification to iodometric method for dissolved oxygen determination, Section 421b. In *Standard methods for the examination of water and wastewater.* 16th ed., 418-19. Washington, D.C.: American Public Health Association.

Armstrong, A.Q., R.E. Hodson, H.M. Hwang, and D.L. Lewis. 1991. Environmental factors affecting toluene degradation in ground water at a hazardous waste site. *Environ. Toxicol. Chem.* 10: 147-58.

Barbaro, J., J.F. Barker, L.A. Lemon, and C.I. Mayfield. 1993. Biotransformation of BTEX under anaerobic denitrifying conditions: Field and laboratory observations. *J. Contaminant Hydrology* 11: 245-72.

Barker, J.F., G.C. Patrick, and D. Major. 1987. Natural attenuation of aromatic hydrocarbons in a shallow sand aquifer. *Ground Water Monitoring Review* 7, no. 1: 64-71.

Berwanger, D.J., and J.F. Barker. 1988. Aerobic biodegradation of aromatic and chlorinated hydrocarbons commonly detected in landfill leachates. *Water Poll. Res. J. Canada* 23, no. 3: 460-75.

MacFarlane, D., J. Cherry, R. Gillham, and E. Sudicky. 1983. Migration of contaminants in groundwater at a landfill: A case study. 1. Groundwater flow and plume delineation. *J. Hydrology* 63: 1-29.

Mackay, D.M., D.L. Freyberg, P.L. McCarty, P.V. Roberts, and J.A. Cherry. 1986. A natural gradient experiment on solute transport in a sand aquifer: I. Approach and overview of plume movement. *Water Resources Research* 22, no. 13: 2017-30.

Metcalf & Eddy Inc. 1979. *Wastewater engineering: Treatment, disposal, reuse.* 2nd ed. New York: McGraw-Hill.

Sudicky, E.A. 1986. A natural gradient experiment on solute transport in a sand aquifer: Spatial variability of hydraulic conductivity and its role in the dispersion process. *Water Resources Research* 22, no. 13: 2069-82.

Thomas, R.G. 1990. Volatilization from water. In *Handbook of chemical property estimation methods*, ed. W.J. Lyman, W.F. Reehl, and D.H. Rosenblatt, chapter 15. Washington, D.C.: American Chemical Society.

Biographical Sketches

Gino Bianchi-Mosquera *is principal geochemist at Stollar Bianchi (140 Ravenna Dr., Long Beach, CA 90803). He received a B.A. degree in geochemistry from Occidental College in Los Angeles, California, an M.S. degree in geochemistry from The Pennsylvania State University, and a D. Env. d from the University of California, Los Angeles, in 1982, 1 and 1993, respectively. His research interests include the transport and fate of organic compounds in the subsurface, and the design and evaluation of new aquifer cleanup techniques.*

Richelle M. Allen-King *is an assistant professor in the Geology Department at Washington State University (Pullman, WA 99164). She received a B.A. in chemistry from the University of California, San Diego, in 1983, a Ph.D. in earth sciences from the University of Waterloo in 1991, and recently completed a post-doc in the Waterloo Centre for Groundwater Research. Her dissertation research concerned the fate and transport of dissolved BTEX during infiltration in sandy soil. Her research focuses on processes which affect the transport of organic chemicals in the subsurface.*

Douglas Mackay *is adjunct professor in the Centre for Groundwater Research at the University of Waterloo (Waterloo, Ontario N2L 3G1), Canada, and a visiting scientist at the UCLA Department of Civil Engineering. From 1986 to mid-1990 he was a faculty member in the environmental science and engineering program of the UCLA School of Public Health. His research focuses on field studies of transport and fate of organic chemicals in ground water and ground water decontamination technologies. Mackay received a B.S. in engineering and M.S. and Ph.D. degrees in civil engineering from Stanford University in 1970, 1973, and 1981, respectively.*

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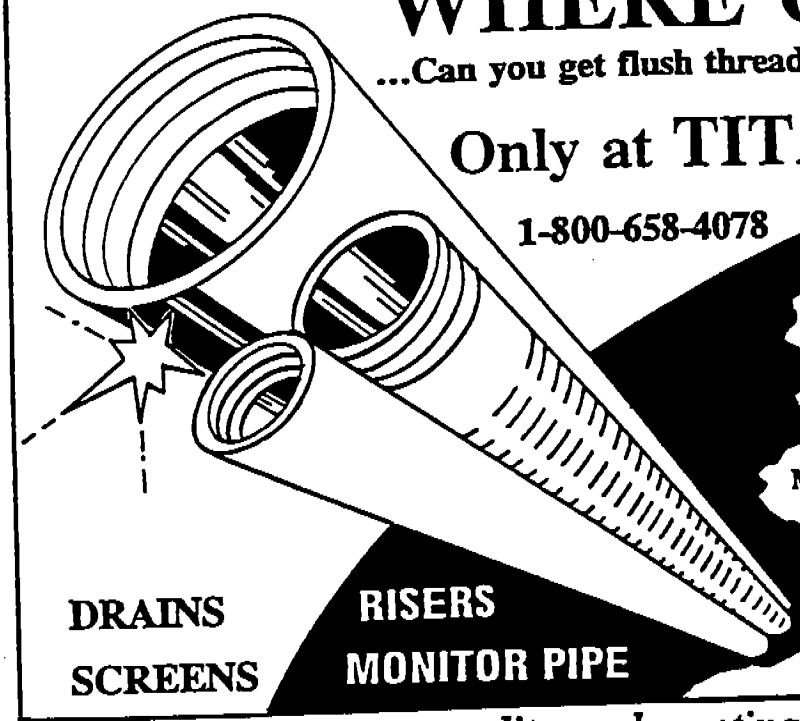

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APPENDIX F

RESPONSE TO REGULATORY COMMENTS

1.0 INTRODUCTION

ABB Environmental Services, Inc. (ABB-ES), under the Comprehensive Long-term Environmental Action, Navy Contract No. N62467-89-D-0317, is conducting a Resource Conservation and Recovery Act Facility Investigation on behalf of the U.S. Navy at U.S. Naval Station (NAVSTA) Mayport, Florida. This investigation is being conducted in accordance with the Hazardous and Solid Waste Amendment permit No. FL9-170-024-260, issued by the U.S. Environmental Protection Agency (USEPA) on March 25, 1988, and revised and reissued June 15, 1993.

The purpose of this document is to respond to comments by the Florida Department of Environmental Protection (FDEP) concerning the draft report entitled *Interim Measure Performance Specifications, Group III, Solid Waste Management Unit (SWMU) 14*, NAVSTA Mayport, Florida (ABB-ES, 1997). The USEPA has stated that their concerns have been sufficiently discussed during NAVSTA Mayport Partnering Team meetings.

The following is correspondence received from the FDEP:

- July 2, 1997, Correspondence from James H. Cason, P.G. Remedial Project Manager, FDEP, to Mr. David Driggers, Department of the Navy, Southern Division, Naval Facilities Engineering Command, Subject: Draft Interim Measure Performance Specifications, Group III, SWMU 14, NAVSTA Mayport.

Below are point-by-point responses to the FDEP's comments.

<u>Comment 1</u>. **There is a number of minor typographical/graphic errors which will not be enumerated here. I have met with ABB and reviewed them.**

Comment acknowledged, typographical errors will be corrected.

<u>Comment 2</u>. **Table 3-1, pages 3-6 and 3-7: it appears that the "__" designation is used erroneously in the Flame Ionization Detector, Charcoal Filtered column.**

The "__" designation will be replaced with the notation "NF" to indicate that the filtered measurement was not made for some of the samples on pages 3-6 and 3-7 of Table 3-1.

<u>Comment 3</u>. **Figures 3-1, 3-2 and 3-3: It appears that these figures were constructed from the unfiltered OVA-FID readings. This should be confirmed and stated within the report, if not on the figures. On Figure 3-1, please check the placement of MPT-14-Q56 (330 ppm) as it is within the 50/150 ppm contour. Data from MPT-14-Q070 (Figures 3-1, 3-2 and 3-3) and A14Q70 (Table 3-1), as presented, does not represent data from that depth. Other similar instances of this nature exist and have been discussed with ABB.**

It was stated in Subsection 3.3.1, Field Screening Results, that the charcoal filter may have become saturated with organic vapors or moisture and was not effective in capturing organic vapors produced from the volatilization of petroleum. The following statement will be added to clarify the use of the unfiltered OVA results:

- Because filtered OVA measurements may not be accurate, the unfiltered OVA measurements were used to construct the isoconcentrations depicted on Figures 3-1 through 3-4.

Isoconcentrations and measurement for individual sample locations will be reviewed and corrected.

Comment 4. **Figures 3-3 and 3-4: Please evaluate the applicability of these data, considering the soil samples may have been collected from below the water table. Modify or delete as necessary.**

The TerraProbe℠ and hand-augured soil borings were terminated when the water table was encountered. Therefore, the last sampling interval was generally slightly above or just below the water table. Assuming that the water table fluctuates 1 to 2 feet, it is likely that the deeper sample intervals would be above or below the water table at some point in time.

Comment 5. **Section 4.4.1, Soil Interim Measure: this section was prepared from provisional information provided by the Department, and I commend the Navy for this approach. Unfortunately, some of those data have been revised. I have forwarded the latest (and perhaps final) edition of the Tonner-Navarro and Roberts paper dated June 18, 1997 and will be working with ABB to help correlate any changes or new information.**

The draft document will be revised to include values and terminology used in the most recent version of the Tonner-Navarro paper.

Comment 6. **The statement is made in several places in the document regarding the utilization of the existing concrete surface an institutional control. I have no objection to this approach; however, the Navy should be fully cognizant of the limitations imposed on this area if this will be the remedy for the contamination at this site.**

Comment acknowledged.

Comment 7. **Page 4-7: Please elaborate, perhaps using appropriate parameter ranges, on the statement that "the groundwater beneath SWMU 14 appears to contains sufficient electron acceptors ... for aerobic biodegradation to occur."**

Measurements of purge water parameters are provided in Tables 3-16 and 3-17 of the Interim Measure Performance Specification report for SWMU 14 (ABB-ES, 1997), and attached to this appendix (Table 1, Attachment A) is a summary of groundwater quality parameters measured during groundwater sampling events conducted in 1995 for the Group III RFI (ABB-ES, 1996). The data in these two tables will be referenced in the following discussion on the adequacy of electron acceptors and nutrients for biodegradation to occur at the subject site.

Three factors that are necessary to maintain microorganisms' metabolic processes are the presence of carbon, electron acceptors, and inorganic nutrients (Nyer, 1992). Sources of carbon can be from natural sources (Table 1, Attachment A) or from synthetic chemicals such as the petroleum and related products detected in soil and groundwater samples at SWMU 14 (ABB-ES, 1996 and 1997).

Biodegradation of organic compounds is reliant upon enzymes. The biochemical pathways that generate enzymes can be divided into three groups:

- fermentation, when oxidation occurs in the absence of added electron acceptors;
- aerobic respiration, when molecular (dissolved) oxygen serves as the electron acceptor; and
- anaerobic respiration, when a compound other than oxygen (i.e. nitrate, sulfate, iron, or carbonate) serves as the electron acceptor (Nyer, 1992).

The document entitled *Proposed Air Force Guidelines for Successfully Supporting the Intrinsic Remediation (Natural Attenuation) Option at Fuel Hydrocarbon Sites* (Wiedemeier, et al., 1994) describes general assumptions that can be used to assess whether or not natural attenuation is a viable option for a petroleum impacted site.

Dissolved oxygen is the most thermodynamically favored electron acceptor used in the biodegradation of fuel. Each 1 milligram per liter (mg/ℓ) of dissolved oxygen consumed by microbes destroys approximately 0.29 mg/ℓ of petroleum compounds. Anaerobic bacteria generally cannot function at dissolved oxygen levels greater than 0.5 mg/ℓ. Dissolved oxygen was measured at 0.8 to 4.9 mg/ℓ (Table 3-17). Aerobic biodegradation occurs primarily on the outer edge of the microbiological treatment zone.

After dissolved oxygen has been depleted within the microbiological treatment zone, nitrate may be used as an electron acceptor for anaerobic degradation. One mg/ℓ of nitrate-nitrogen and nitrate results in the destruction of approximately 0.9 and 0.21 mg/ℓ of petroleum. Measurements of ammonia as nitrogen, total Kjeldahl nitrogen are provided in Table 1. Nitrogen is a nutrient and is found in the microorganisms' proteins, microbial cell wall, and nucleic acids (Nyer, 1992).

Sulfate is used as an electron acceptor after the dissolved oxygen and nitrate have been depleted. Each 1 mg/ℓ of sulfate will destroy approximately 0.22 mg/ℓ of petroleum. Measurements of sulfate are provided in Table 1 (Attachment A of this appendix).

Ferrous iron may also be used as an electron acceptor during anaerobic degradation of petroleum. Each 1 mg/ℓ of ferrous iron degrades approximately 0.047 mg/ℓ of petroleum. Measurements of iron (total) are provided in Table 1. Iron is a nutrient that is used in the functions of enzymes and coenzymes (Nyer, 1992).

Phosphorous (Table 1, Attachment A) is a major nutrient that is used by organisms to synthesize phospholipids and nucleic acids (Nyer, 1992). Phosphorous is also responsible for the energy transfer that occurs during biosynthesis reactions that require energy expenditures.

Sodium (Table 1, Attachment A) is required by bacteria that grow in salt water environments (Nyer, 1992).

The site-specific measurements of dissolved oxygen, sulfate, nitrogen, and iron were used in the BIOSCREEN model (Newell and McLeod, 1996) to simulate

biodegradation of petroleum at SWMU 14. The results of the simulation suggest that sufficient electron acceptors are present for the biodegradation to occur.

Comment 8. **Section 5.1.2, Groundwater Interim Measure, page 5-2: was the potentiometric map prepared from measurements made in 1977.**

This is a typographical error and should be 1997 (Please refer to Figure 3-5).

Comment 9. **Section 5.2 Drainage Ditch: please elaborate on the proposed cap, perhaps by an oversketch of the lower photograph of SWMU 14, Drainage Ditch, page C-10 or by providing general specifications. This would help justify the capping and better define the description of "small areas" described on page 5-3.**

Details for the construction of the proposed cap (gunite) at the SWMU 14 drainage ditch are to be included as an amendment to the Operational Plan for Interim Measures at Group III SWMUs 14, 23, 24, and 25, NAVSTA Mayport (Draft), prepared by Bechtel Environmental, Inc., (Bechtel) (1997). The construction details are to be prepared by a subcontractor to Bechtel and presented to the NAVSTA Mayport partnering team for review.

Comment 10. **References: It appears that the reference for the Florida Groundwater Guidance Concentrations, June 1994, is missing. Additionally, the date of the Jeng et al., reference is June 15, 1992.**

Comment acknowledged. The reference will be added and the typographical error revised in the final version of the report.

REFERENCES

ABB Environmental Services, Inc. (ABB-ES). 1996. *Resource Conservation and Recovery Act Facility Investigation Group III SWMUs, U.S. Naval Station (NAVSTA) Mayport (Final)*. Prepared for Southern Division, Naval Facilities Engineering Command (SOUTHNAVFACENGCOM), North Charleston, South Carolina (December).

ABB-ES. 1997. *Interim Measure Performance Specifications, Group III. Solid Waste Management Unit (SWMU) 14, U.S. Naval Station (NAVSTA) Mayport (Draft)*. Prepared for SOUTHNAVFACENGCOM, North Charleston, South Carolina (February).

Bechtel Environmental, Inc. 1997. *Operational Plan for Interim Measures at Group III SWMUs 14, 23, 24, and 25, NAVSTA Mayport (Draft)*. Prepared for SOUTHNAVFACENGCOM, North Charleston, South Carolina (August).

Newell, Charles, and McLeod Kevin. 1996. BIOSCREEN, natural attenuation decision support system, Version 1.3. EPA/600/R-96/087. National Risk Management Research Laboratory, Office of Research and Development, U.S. Environmental Protection Agency, Cincinnati, Ohio (August).

Nyer, Evan K. 1992. *Groundwater Treatment Technologies*. 2nd ed. New York: Van Nostrand Reinhold.

Wiedemeier, Todd H., John T. Wilson, Donald H. Campbell, and Ross N. Miller. 1994. "Proposed Air Force Guidelines for Successfully Supporting the Intrinsic Remediation (Natural Attenuation) Option at Fuel Hydrocarbon Sites." Outdoor Action Conference, Minneapolis, Minnesota (May).

ATTACHMENT A

TABLE

Table 1
Groundwater Quality Parameters Measured in Groundwater Samples Collected at the Fleet Training Center, SWMU 14

Response to Regulatory Comments
Group III, SWMU 14
U. S. Naval Station
Mayport, Florida

Analytical Batch Number:	RA0240	RA0240	MB7470	RA0240	RA0240	MB7470	MB7470
Sample Location:	MPT-14-MW01S	MPT-14-MW02S	MPT-14-MW03S	MPT-14-MW04S	MPT-14-MW05S	MPT-14-MW06S	MPT-14-MW07S
Location Number:	14G00101	14G00201	14G00301	14G00401	14G00501	14G00601	14G00701
Date Sampled:	14-JUNE-95	14-JUNE-95	15-JUN-95	13-JUNE-95	15-JUNE-95	15-JUN-95	18-JUN-95
Groundwater Quality (mg/ℓ)							
Alkalinity as $CaCO_3$	282	382	338	224	252	204	300
Ammonia-N	0.6	2.4	1.6	0.4	0.6	--	1.2
Chloride	31	27.9	24.1	20	24.1	21.9	20.8
Hardness as $CaCO_3$	269	378	327	235	286	264	311
Nitrate/Nitrite-N	--	--	--	--	--	--	--
Oil and grease	--	--	--	--	--	--	--
Phosphorous-P, total	0.6	0.26	0.34	0.24	0.34	--	0.26
Sulfate	4.7	11.7	7.86	34.1	22.3	49.4	12.1
Sulfide	--	--	--	--	--	--	--
Total dissolved solids	352	440	414	308	359	332	380
Total Kjeldahl nitrogen	1.1	2.7	2.6	0.8	1.3	--	1.5
Total organic carbon	13.2	17.5	29.4	4.4	13.7	3.0	20.6
Inorganic Analytes (μg/ℓ)							
Iron	1,090	1,020	591	343	1,040	--	732
Sodium	19,900	18,400	15,400	14,800	15,200	15,000	13,800

See notes at end of table.

Table 1 (Continued)
Groundwater Quality Parameters Measured in Groundwater Samples Collected at the Fleet Training Center, SWMU 14

Response to Regulatory Comments
Group III, SWMU 14
U. S. Naval Station
Mayport, Florida

Analytical Batch Number:	RA0240	RA0440	RA0440	RA0240	RA0240	RA0440	RA0440
Sample Location:	MPT-14-MW08S	MPT-14-MW09S	MPT-14-MW10S	MPT-14-MW11S	MPT-14-MW12S	MPT-14-MW13S	MPT-14-MW14S
Location Number:	14G00801	14G00001	14G01001	14G01101	14G01201	14G01301	14G01401
Date Sampled:	15-JUNE-95	17-JUN-95	17-JUN-95	17-JUN-95	15-JUN-95	18-JUN-95	17-JUN-95
Groundwater Quality (mg/ℓ)							
Alkalinity as $CaCO_3$	228	287	182	229	234	291	214
Ammonia-N	0.6	2.2	--	0.7	--	0.9	0.3
Chloride	23.3	27	25.2	40.6	13.1	17.7	18.4
Hardness as $CaCO_3$	251	289	169	293	192	276	165
Nitrate/Nitrite-N	--	--	--	--	--	--	--
Oil and grease	--	--	--	--	--	--	--
Phosphorous-P, total	0.46	0.37	0.31	0.2	0.18	0.24	0.16
Sulfate	15	22.9	35.8	21.7	153	2.4	26.6
Sulfide	--	--	--	--	--	--	--
Total dissolved solids	320	382	275	344	524	334	311
Total Kjeldahl nitrogen	1.0	2.5	0.3	0.8	--	1.1	0.5
Total organic carbon	13.8	12.7	3.8	7.3	4.0	7.5	5.8
Inorganic Analytes (μg/ℓ)							
Iron	692	1,480	--	1,910	67.3 J	264	279
Sodium	14,700	16,800	16,200	19,100	16,100	11,500	14,300

Notes: SWMU = solid waste management unit.
mg/ℓ = milligrams per liter.
-- = Concentration of analyte, if present, was less than detection limit.
μg/ℓ = micrograms per liter.
J = estimated value.
$CaCO_3$ = calcium carbonate.