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FINAL BASE REALIGNMENT AND CLOSURE ENVIRONMENTAL SITE SCREENING REPORT STUDY AREA 3 NTC ORLANDO FL

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BASE REALIGNMENT AND CLOSURE ENVIRONMENTAL SITE SCREENING REPORT

STUDY AREA 3

NAVAL TRAINING CENTER ORLANDO, FLORIDA

UNIT IDENTIFICATION CODE: N65928
CONTRACT NO.: N62467-89-D-0317/107

JUNE 1997

SOUTHERN DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
NORTH CHARLESTON, SOUTH CAROLINA
29419-9010

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BASE REALIGNMENT AND CLOSURE ENVIRONMENTAL SITE SCREENING REPORT

STUDY AREA 3

NAVAL TRAINING CENTER ORLANDO, FLORIDA

Unit Identification Code: N65928

Contract No.: N62467-89-D-0317/107

Prepared by:

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June 1997

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-0317/107 are complete and accurate and comply with all requirements of this contract.

DATE: June 16, 1997

NAME AND TITLE OF CERTIFYING OFFICIAL: John Kaiser
Task Order Manager

NAME AND TITLE OF CERTIFYING OFFICIAL: Richard Allen
Project Technical Lead

(DFAR 252.227-7036)

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GLOSSARY

ABB-ES	ABB Environmental Services, Inc.
BTEX	benzene, toluene, ethylbenzene, and xylenes
CLP	Contract Laboratory program
DQO	data quality objective
FDEPG	Florida Department of Environmental Protection Groundwater Guidance
J	estimated
MCL	maximum contaminant level
$\mu g/\ell$	micrograms per liter
OPT	Orlando Partnering Team
PCE	tetrachloroethene
PVC	polyvinyl chloride
RBC	risk-based concentration
RRV	relative response values
SA	Study Area
SCG	soil cleanup goal
TAL	target analyte list
TCL	target compound list
USEPA	U.S. Environmental Protection Agency

1.0 STUDY AREA 3, HAZARDOUS MATERIALS STORAGE AREA AND BUILDINGS 2816 AND 2817

This report contains information gathered as a result of site screening activities conducted at Study Area (SA) 3. In March of 1997, after the review of site screening results, the Orlando Partnering Team (OPT) concluded that the site would require a groundwater-use restriction until future sampling of two monitoring wells indicates that maximum contaminant levels (MCLs) are not exceeded. The chemicals of concern are tetrachloroethene (PCE) and petroleum-related compounds. Other than the groundwater-use restriction, no further action is required.

1.1 SA 3, BACKGROUND AND CONDITIONS. SA 3 is located west of the intersection of Farragut Avenue and Dahlgren Street in the northwestern part of the Main Base (Figures 1 and 2). Building 73 is a fenced containment facility for hazardous materials. Buildings 2816 and 2817 are quonset hut-type storage buildings, formerly associated with Tactical Air Command Matador Missile Training activities and are also reported to have been used for spray painting and temporary storage of hazardous materials. It has been alleged that solvents used in the maintenance of flight simulators were open-dumped in the area. Aboveground fuel oil storage tanks are located on the north side of Buildings 2816 and 2817. The objective of the site screening was to evaluate the presence and extent of contamination associated with current and former activities in this study area.

1.2 SA 3, INVESTIGATION SUMMARY. The site screening investigations conducted at SA 3 are described below. The investigation consisted of a soil gas survey, installation of soil borings completed as monitoring wells, and soil and groundwater sampling and analysis.

Preliminary site screening activities at the Hazardous Materials Storage Area included a review of historical aerial photographs and utility blueprints and a walkover reconnaissance of the site. A review of aerial photographs indicates the former missile test cells were located in the area west of SA 3, currently occupied by Buildings 226 and 228. Fueling activities are also believed to have been centered in this area. Unidentified support activities appear to have occurred in the surrounding area, to the east, north, and northwest of Buildings 2816 and 2817. No indications of the alleged former septic system were observed during the review of sanitary sewer blueprints (refer to Naval Training Center Public Works drawing number 3680, 1978). A 3-inch-diameter polyvinyl chloride (PVC) plug was noted in the pavement northeast of Building 2817 during the walkover reconnaissance of the site. No other visible indications of a septic system were observed. No visible indications of spills or leakage were noted in the vicinity of the buildings or tanks in this study area.

1.2.1 Soil Gas Survey Fifty-two soil gas collectors were installed on 50-foot grid nodes within the area of interest. The purpose for the soil gas survey was to delineate potential soil or groundwater zones of contamination so that soil samples and monitoring wells could be optimally located. Results of soil gas analyses indicated high relative response values (RRV) for benzene, toluene, ethylbenzene, and xylenes (BTEX) compounds, cycloalkanes, and cycloalkenes along the north side of Building 2816, near the northeast corner of Building 73, and

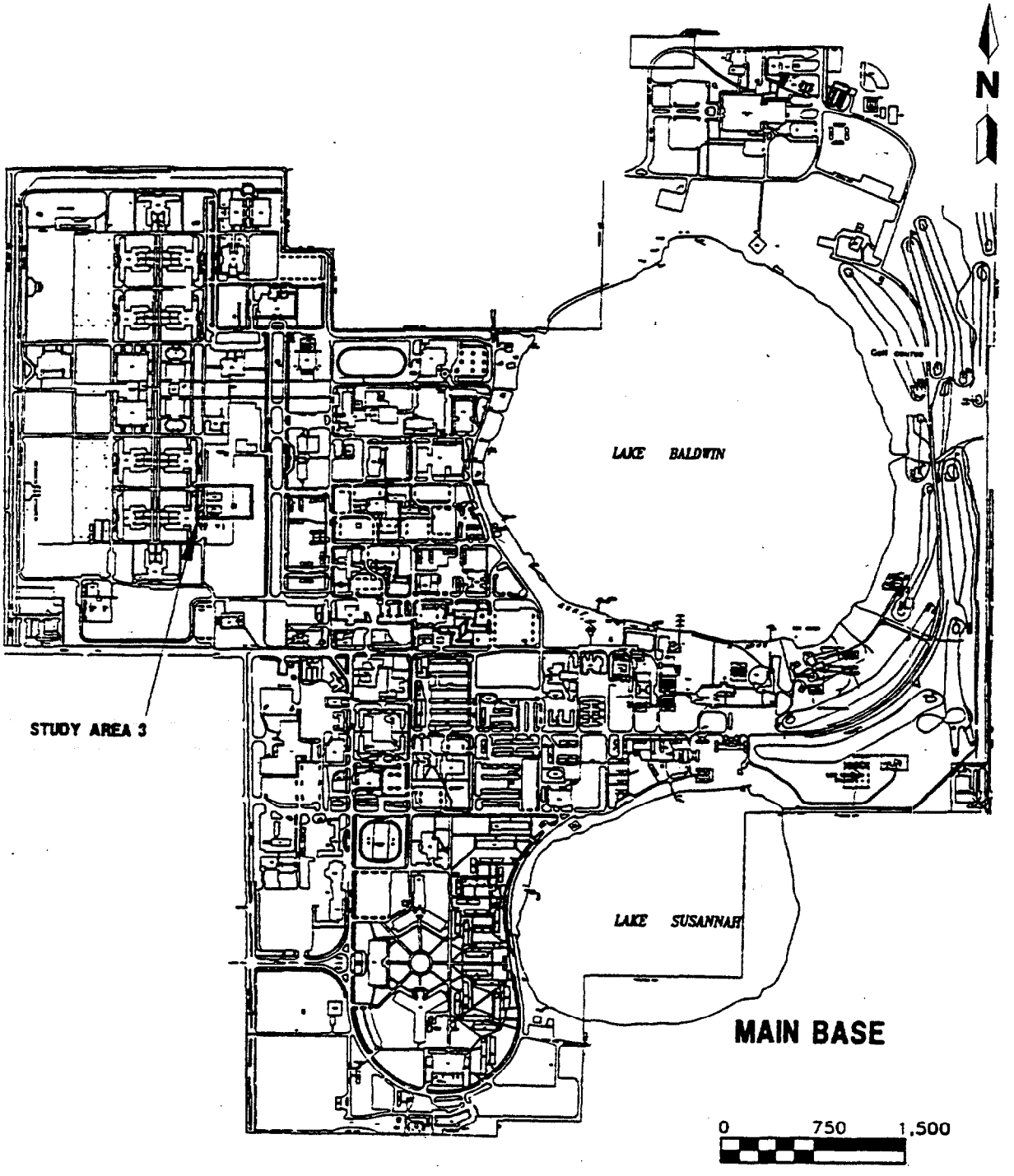

FIGURE 1
LOCATION OF STUDY AREA 3

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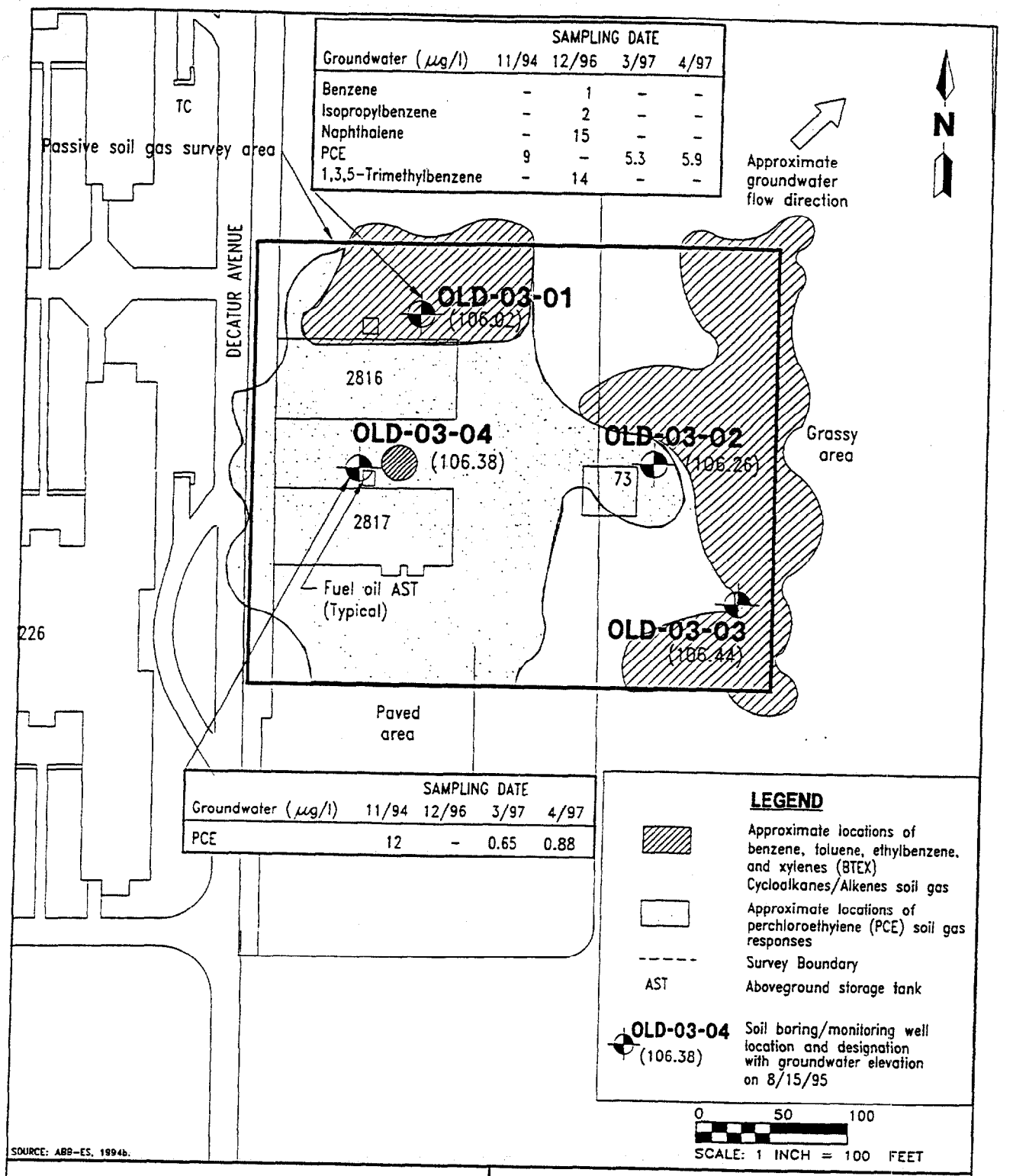
BASE REALIGNMENT AND CLOSURE ENVIRONMENTAL SITE SCREENING REPORT
STUDY AREA 3
NAVAL TRAINING CENTER
ORLANDO, FLORIDA



Groundwater (µg/l)	SAMPLING DATE 11/94	12/96	3/97	4/97
Benzene	-	1	-	-
Isopropylbenzene	-	2	-	-
Naphthalene	-	15	-	-
PCE	9	-	5.3	5.9
1,3,5-Trimethylbenzene	-	14	-	-

Groundwater (µg/l)	SAMPLING DATE 11/94	12/96	3/97	4/97
PCE	12	-	0.65	0.88

FIGURE 2
SOIL GAS SURVEY AREA, SOIL BORING AND MONITORING WELL LOCATIONS, HAZARDOUS MATERIALS STORAGE AREA AND BUILDINGS 2816 AND 2817

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BASE REALIGNMENT AND CLOSURE ENVIRONMENTAL SITE SCREENING REPORT
STUDY AREA 3
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ORLANDO, FLORIDA

near the southeast corner of the site. Elevated RRVs for cycloalkanes and cycloalkenes were also detected between Buildings 2816 and 2817. Elevated RRVs for PCE were observed at most locations in the paved area. These results are shown on Figure 2 and are included in more detail in Appendix A.

1.2.2 Soil Boring and Monitoring Well Installation Four groundwater monitoring wells (OLD-03-01, -02, -03, and -04) were installed at locations based on results of soil gas analyses (Figure 2). Boring logs and monitoring well construction diagrams for the four wells are presented in Appendix B. Soil samples were collected from the surface and subsurface at each of the locations. One groundwater sample was collected from each of the monitoring wells during the 1994 field activities. Samples were submitted for full suite Contract Laboratory program (CLP) target compound list (TCL) and target analyte list (TAL) laboratory analyses and analyzed in accordance with U.S. Environmental Protection Agency (USEPA) Level IV data quality objectives (DQOs).

Two of the monitoring wells (OLD-03-01 and OLD-03-04) were later resampled for low level volatile organics analysis in December 1996 due to OPT concerns of MCL exceedances of PCE in groundwater. Two additional sampling episodes (March 1997 and April 1997) for these two wells occurred due to exceedances of organoleptic standards (taste and odor) for several fuel-related compounds detected in December 1996. Details of the resampling and analytical results are presented below in Subsection 1.3.2.

1.3 SA 3, RESULTS. A summary of positive detections in soil and groundwater analytical results is presented in Appendix C as Tables C-1, Summary of Positive Detections in Surface Soil; C-2, Summary of Positive Detections in Subsurface Soil; and C-3, Summary of Positive Detections in Groundwater. A complete set of soil and groundwater analytical results is presented in Appendix D.

1.3.1 Surface and Subsurface Soil Analytical Results Aluminum, barium, beryllium, calcium, chromium, iron, magnesium, manganese, and vanadium were detected above background screening concentrations in surface soils, but at concentrations below the corresponding soil cleanup goals (SCGs) and residential risk-based concentrations (RBCs). PCE was detected at 7 J (estimated) micrograms per kilogram in surface soil sample 03S004. However, this concentration was below the corresponding leachability-based SCG. The leachability-based SCG applies, as PCE was initially detected at levels above the Florida MCL in groundwater in two monitoring wells at SA 3 (discussed in Subsection 1.3.2, below).

Calcium and sodium were detected above background screening concentrations in subsurface soil from boring 03B001, but at concentrations well below the corresponding residential RBC. No organic compounds were detected in subsurface soil at SA 3.

1.3.2 Groundwater Analytical Results, 1994 Sampling Copper, manganese, nickel, and zinc were detected in groundwater above background screening concentrations, but below the corresponding Florida Department of Environmental Protection Groundwater Guidance (FDEPG) and tap water RBCs.

During the initial sampling episode in 1994, PCE was detected in wells OLD-03-01 and OLD-03-04 at 9 micrograms per liter ($\mu g/\ell$) and 12 $\mu g/\ell$, respectively,

exceeding both the Florida MCL of 3 $\mu g/\ell$ and the Federal MCL of 5 $\mu g/\ell$. Other organic compounds detected at concentrations below FDEPG guidance and Federal MCLs include 1,1,1-trichloroethane (in well OLD-03-01); bis(2-ethylhexyl)-phthalate (wells OLD-03-01 and OLD-03-04), and Aroclor-1260 (well OLD-03-03).

1.3.3 Groundwater Analytical Results, Supplemental Sampling, 1996 and 1997 Due to OPT concerns regarding the PCE concentrations in groundwater at SA 3 and findings summarized in a review of U.S. Air Force records (ABB Environmental Services, Inc. [ABB-ES], 1995), additional site screening was completed in an adjacent study area (SA 44) resulting in no detections of PCE (ABB-ES, 1997). In addition, three episodes of resampling of monitoring wells OLD-03-01 and OLD-03-04 were completed on December 30, 1996, and on March 4 and April 10, 1997. Groundwater samples were submitted for low level CLP TCL volatiles analysis in accordance with USEPA Level IV DQOs. The results of these analyses are presented in Appendix C, Table C-3.

PCE was detected in monitoring well OLD-03-01 at concentrations up to 5.9 $\mu g/\ell$, versus 9 $\mu g/\ell$ in the 1994 sampling episode. PCE was detected at trace concentrations in monitoring well OLD-03-04 (concentrations up to 0.88 $\mu g/\ell$) versus 12 $\mu g/\ell$ in the earlier sampling episode. ABB-ES concludes from these data that PCE in groundwater is degrading naturally and will eventually degrade to concentrations below the MCL.

Several other fuel-related compounds were detected during the December 30, 1996, sampling episode: benzene was detected in well OLD-03-01 at a concentration of 1 $\mu g/\ell$, equalling the Florida MCL, and a trace of trichlorofluoromethane was detected in well OLD-03-04 (concentration of 0.2 J $\mu g/\ell$). In addition, isopropylbenzene, naphthalene, and 1,3,5-trimethylbenzene were detected in well OLD-03-01 at concentrations exceeding their respective Florida groundwater guidance concentrations for organoleptic (taste and odor) compounds. Organoleptic standards were established by the State for Class G-I and G-II aquifers, largely along Federal guidelines, to ensure that groundwater meets at least minimum criteria for taste and odor and does not pose a health risk. However, in two subsequent sampling episodes, these compounds were not detected in well OLD-03-01.

No other organic compounds were detected during the supplemental sampling episodes.

1.4 SA 3, CONCLUSIONS AND RECOMMENDATIONS. Surface soil and subsurface soil at SA 3 do not have any contaminants at concentrations exceeding regulatory criteria.

Groundwater in the vicinity of well OLD-03-01 currently has PCE at concentrations slightly exceeding State and Federal MCLs. Other fuel-related compounds detected during the December 30, 1996, sampling episode in well OLD-03-01 were not detected in two subsequent sampling rounds. ABB-ES concludes that PCE is degrading through natural processes and should, within a period of several years, degrade to concentrations below regulatory criteria.

ABB-ES concludes from the site screening investigation and multiple episodes of groundwater sampling and analysis that SA 3 is suitable for transfer, but recommends that a groundwater restriction in the surficial aquifer be imposed in

an area within a radius of 50 feet from well OLD-03-01 until a groundwater monitoring program has confirmed that PCE concentrations have naturally attenuated below the State MCL. The groundwater monitoring program shall consist of quarterly sampling until two successive sampling episodes have confirmed that the MCL for PCE has not been exceeded. ABB-ES recommends that SA 3 be made eligible for transfer and that the site be reclassified from 7/Grey to 4/Dark Green.

The undersigned members of the Base Realignment and Closure team concur with the findings and recommendations of the preceding investigation.

STUDY AREA 3

U.S. Environmental Protection Agency, Region IV	8/6/97 Date
Florida Department of Environmental Protection	8/6/97 Date
U.S. Department of the Navy	8/6/97 Date

REFERENCES

ABB Environmental Services, Inc. (ABB-ES). 1995. Site Screening Plan, Groups I through V Study Areas and Miscellaneous Additional Sites, Naval Training Center (NTC), Orlando, Florida. Prepared for Southern Division, Naval Facilities Engineering Command (SOUTHNAVFACENGCOM), North Charleston, South Carolina (September).

ABB-ES. 1997. Base Realignment and Closure Environmental Site Screening Report, Study Area 44, Naval Training Center (NTC), Orlando, Florida. Prepared for SOUTHNAVFACENGCOM, North Charleston, South Carolina (June).

APPENDIX A

SOIL GAS SURVEY

FINAL REPORT ON THE FINDINGS OF THE PETREX SOIL GAS SURVEYS STUDY AREA 3 NAVAL TRAINING CENTER (NTC) ORLANDO, FLORIDA

1.0 EXECUTIVE SUMMARY

The information contained herein has been extracted from the Northeast Research Institute, LLC (NERI) report so that only information pertinent to Study Area (SA) 3 at NTC, Orlando is included. The complete report contains detailed information on quality assurance and quality control procedures, thermal desorption-mass spectrometry, and data tables. In addition, only those figures (Plates 17 through 20) relevant to SA 3 are included. This document may be obtained from ABB Environmental Services, Inc. (ABB-ES), Orlando, Florida.

In August and September 1994, ABB-ES subcontracted Northeast Research Institute, LLC (NERI) to conduct a PETREX passive soil gas survey at the U.S. Navy NTC in Orlando, Florida. The purpose for this survey was to assist in site screening activities to assess the environmental impact from past site use at SA 3, the former Missile Training Range. The area was screened for volatile and semivolatile organic compounds (VOCs and SVOCs) that may be present in the soil gas.

BTEX, the cycloalkane/alkene petroleum hydrocarbons, and tetrachloroethene (PCE) were detected in soil gas at the study area. The distribution of the compound occurrences were mapped and potential source areas were identified. Relatively high levels for all compounds were detected at SA 3, indicating potentially significant chemical occurrences beyond the site of investigation.

2.0 INTRODUCTION

SA 3, located to the east of the NTC Recruit Training Command, was used at one time as a rocket launch test area and is presently occupied by three buildings: Building 2817, the Facility Management Office; Building 2817, Hazardous Materials Storage; and Building 73, Flammable Materials Storage.

3.0 OBJECTIVES

The objectives of this soil gas survey were to

- collect and report VOCs and SVOCs as constituents of the soil gas;
- map the areal extent of the reported compounds in order to exhibit areas of potential subsurface contamination; and
- attempt to determine the extent of potential source areas of the reported compounds in the subsurface.

4.0 OVERVIEW OF THE PETREX TECHNIQUE

Each PETREX soil gas sampler consists of two or three activated charcoal adsorption elements (collectors) housed in a resealable glass container in an inert atmosphere.

Soil gas sample collection is performed by unsealing the sampler and exposing the collector to the soil gas of the subsurface environment at the base of a shallow borehole. Sample collection proceeds via free vapor diffusion through the opening of the uncapped sampler container. Following a controlled period of time, the sampler is retrieved from the borehole, resealed, and submitted for analysis.

One collector from each soil gas sampler is analyzed by Thermal Desorption/Mass Spectrometry (TD-MS). Selected second collectors may be analyzed by Thermal Desorption-Gas Chromatography/Mass Spectrometry (TD-GC/MS) for compound confirmation. At least 10 percent of samplers used in any project are three collector samplers. The third collector is used for setting instrument sensitivity prior to analysis.

Compounds are identified by comparison to standard reference spectra run on the same instrument. The mass spectral ion count of the appropriate indicator peak(s) for each compound or group of compounds is then plotted as relative response on a map and contoured using a variety of standard geostatistical analyses.

5.0 SCOPE OF WORK

A total of 45 PETREX soil gas samplers was utilized for this survey. At a majority of the sampler locations, a 2-inch diameter by 12-inch deep hole was excavated into the surface soil using a core shovel. After the sampler was lowered into the hole, the hole was backfilled with the soil plug taken from the shovel. Each sampler location was marked with a pin flag and ribbon flagging to help locate it during retrieval.

At the remaining sampler locations, located in asphalt, a 1-inch diameter by 18 inch deep hole was excavated through the asphalt into the underlying soil using an electric rotary hammer drill equipped with a carbide-tipped bit. A 2-foot length of 18-gauge galvanized steel wire was attached to the sampler, and the sampler was lowered into the borehole. A ball of aluminum foil was packed to within 1 inch of the surface, and the last inch was filled with quick-setting cement.

Field procedures for this survey also included decontamination of the borehole equipment between sampler locations to prevent cross contamination. The methods employed are detailed below.

- Equipment (core shovel head and drill bit) was washed thoroughly with laboratory detergent and potable water using a nylon brush to remove particulate matter.

- Equipment was rinsed thoroughly with deionized/organic-free water.

- Equipment was rinsed with a 10 percent solution of pesticide-grade isopropanol.

- Equipment was rinsed again with deionized/organic-free water and air-dried.

Retrieval of samplers placed in soil entailed removing the soil plug from the hole and lifting out the sampler, which was then cleaned, sealed and labeled with the sampler location number. Samplers placed beneath asphalt were retrieved by first chipping away the cement patch to expose the retrieval wire, then pulling gently on the wire to lift the sampler out of the borehole. The retrieval wire was removed from the sampler, and the sampler was then cleaned, sealed, and labeled.

6.0 FIELD ACTIVITIES

Between August 15 and August 19, 1994, two NERI field geologists, assisted by ABB-ES personnel, conducted PETREX soil gas sampling onsite. A total of 45 PETREX samplers was placed onsite. The samplers were placed in approximate 50-foot square grids, as shown on Plate 17, Sample Locations Map.

Two sets of time calibration samplers were installed at three established sampling points in the study area. One set of these time calibration samplers was retrieved after 2 days and analyzed to check on the loading rate of VOCs onto the collectors. After reviewing the results from these time calibration samplers, it was determined to retrieve the second set of time calibration samplers after an additional 7 days of exposure in the field. Based on the results of these time calibration samplers, it was decided to retrieve all of the survey samplers after a further 7 days.

After an exposure period of approximately 14 to 16 days, the samplers were retrieved by a NERI field geologist between August 31 and September 2, 1994, and returned to NERI's Lakewood, Colorado, laboratory for analysis by TD-MS.

7.0 DISCUSSION

The soil gas response levels discussed below are described as elevated and moderate relative to the entire data set. The ion count values that have been reported represent qualitative soil gas values that were evaluated relative to the other sampler locations.

Ion count values are the unit of measure generated by the MS to illustrate the relative intensities associated with each of the reported compounds. These response levels do not represent an actual concentration of the reported compounds but are used to differentiate source areas from migration/dispersion pathways.

SA 3 was used at one time as a rocket launch test area and is presently occupied by three buildings: Building 2817, the Facility Management Office; Building 2817, Hazardous Materials Storage; and Building 73, Flammable Materials Storage. Plate 17 displays the locations of the 52 samplers placed at SA 3.

7.1 BTEX RELATIVE RESPONSE MAP. The distribution of BTEX as detected in soil gas is shown on Plate 18. High response levels were detected in the paved area north of Building 2816 and in isolated occurrences in the area east of Building 73. Lower response levels were detected throughout the grassy area in the vicinity of Building 73. BTEX occurrences extend beyond the survey boundaries, and have not been defined.

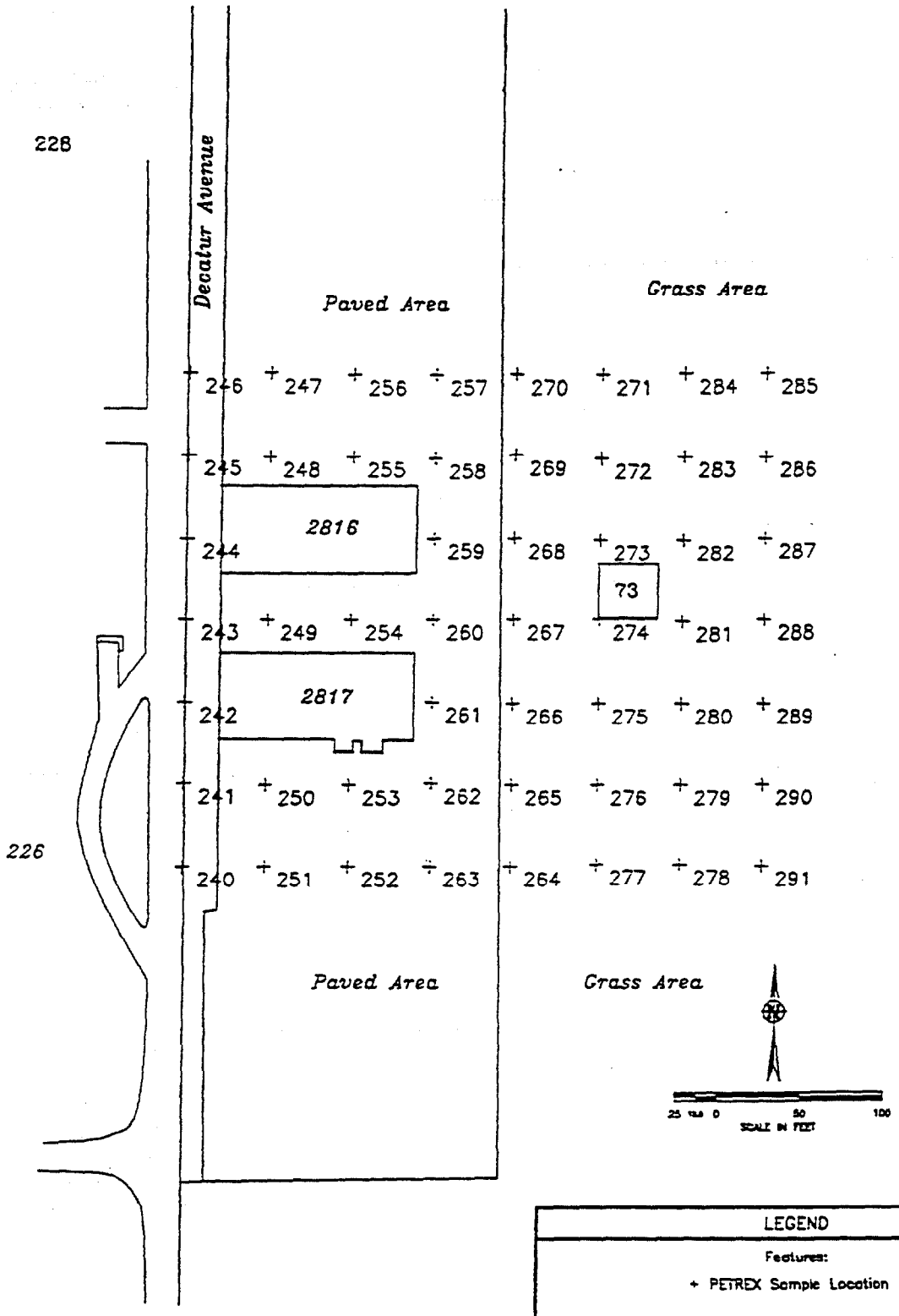
7.2 CYCLOALKANES/ALKENES RELATIVE RESPONSE MAP. High response levels of the cycloalkanes/alkenes were detected north of Buildings 2816, 2817 and 73, and along the eastern edge of the survey area. The high response levels detected along the survey boundaries may be indicating potential off-site sources. Lower response levels were detected throughout the grassy area in the vicinity of Building 73; the lower response levels detected north of Building 2816 indicate potential migration towards the northeast. The distribution of cycloalkanes/alkenes extends beyond the survey boundaries and is shown on Plate 19.

7.3 TETRACHLOROETHENE RELATIVE RESPONSE MAP. The distribution of PCE is shown on Plate 20. Relatively high soil gas response values were detected in the vicinity of Buildings 2816 and 2817. The lower response values detected indicate that migration may be occurring from the potential source area beyond the survey boundaries towards the north, south, and west. Lower response levels were also detected in the vicinity of Building 73.

8.0 CONCLUSIONS

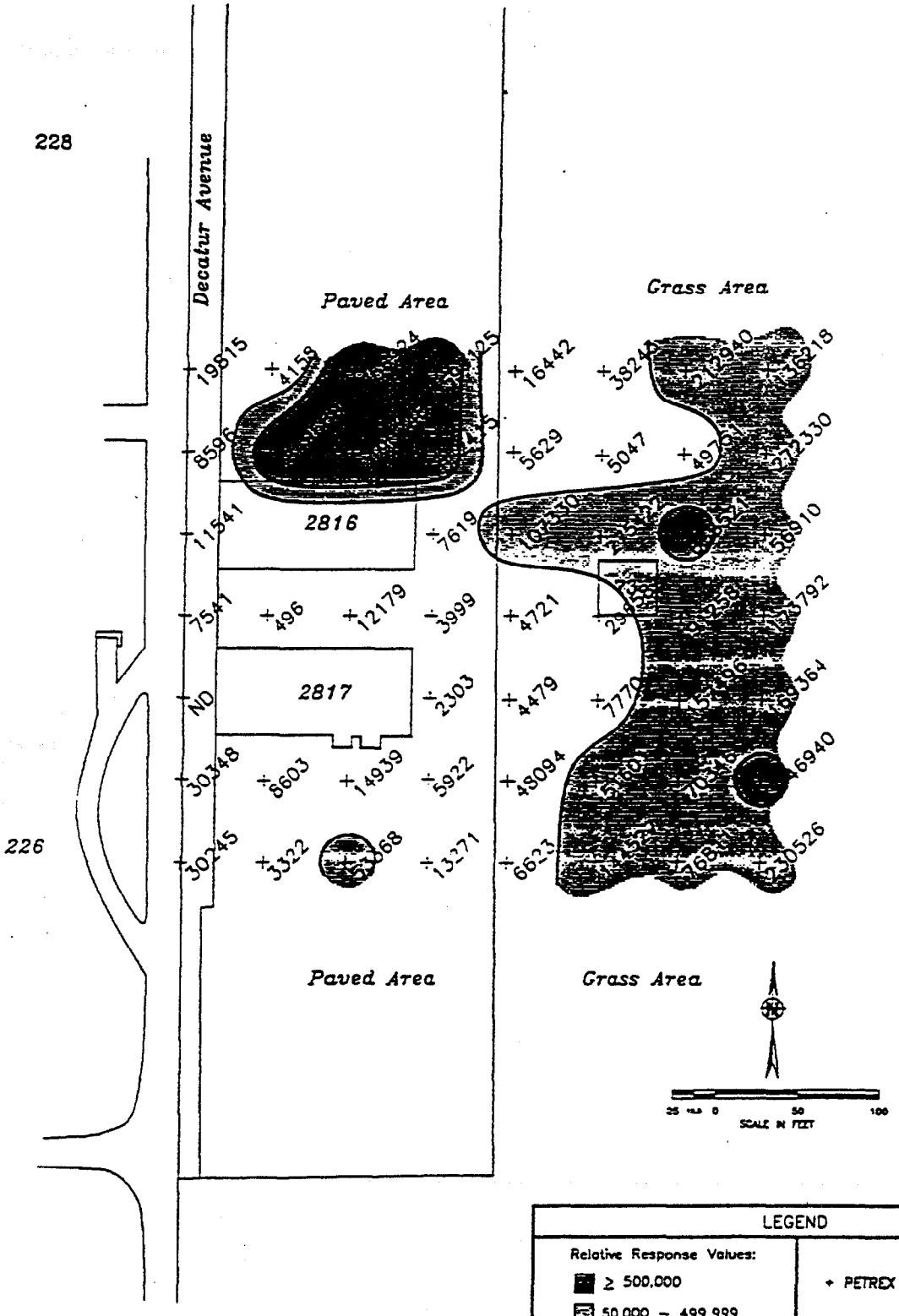
BTEX, the cycloalkane/alkene petroleum hydrocarbons, and PCE were detected in soil gas. The distribution of the compound occurrences were mapped, and potential source areas were identified. VOCs were detected at a significant number of sample locations at this site. Relatively high levels for all compounds were detected at SA 3. The areal distribution of the compounds detected extend beyond the survey boundaries at this site, and the levels detected at SA 3 may indicate potentially significant chemical occurrences beyond the site of investigation.

Because soil gas emanation rates are site- and chemical-specific, the environmental significance of the soil gas response values must be determined relative to compound concentrations in subsurface soil and/or groundwater. Changes in soil gas response in orders of magnitude may be used to plan future investigative studies and to aid in characterizing the behavior (migration, attenuation) of the chemicals in the subsurface. The PETREX method is extremely sensitive and often detects compounds in the low part per billion to part per trillion range; therefore, areas depicted as background by the PETREX method generally do not represent environmentally significant contaminant levels in the subsurface.



LEGEND
Features:
+ PETREX Sample Location

Northeast Research Institute LLC 605 Parfet Street Suite 100 Lakewood, Colorado 80215 (303) 238-0090	Drawn By: JCS Checked By: Project Manager: CAS	Project #: 2158E Date: October 5, 1994 File Name: 2158-3_1.dwg	ABB Environmental Services, Inc. Naval Training Center Study Area 3 Orlando, Florida PETREX FINGERPRINT TECHNOLOGY
Sample Locations Plate 17			



LEGEND	
Relative Response Values:	Features:
≥ 500,000	+ PETREX Sample Location
50,000 – 499,999	

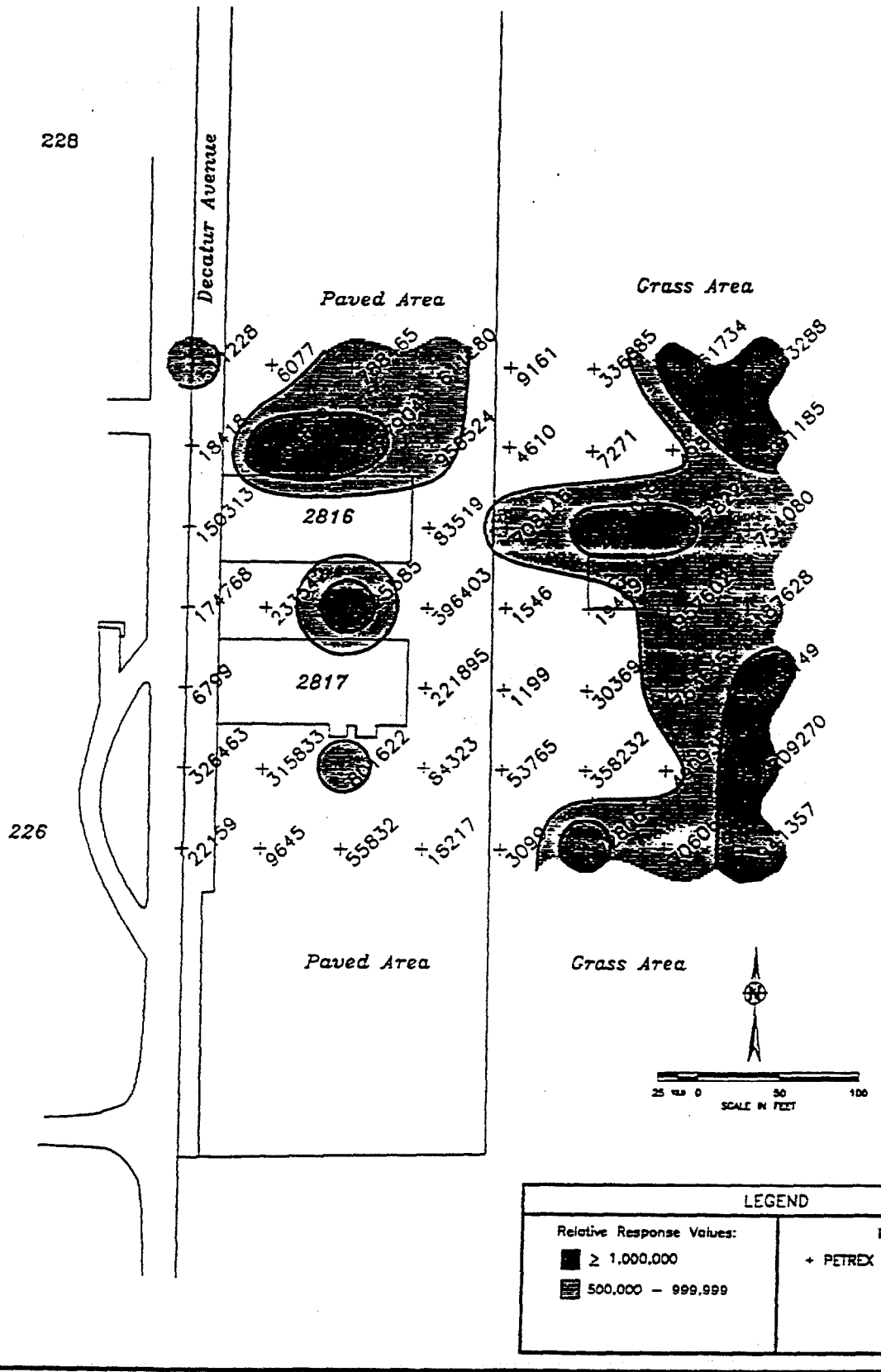
NERI
Northeast Research Institute LLC
605 Parfet Street
Suite 100
Lakewood, Colorado 80215
(303) 238-0090

Drawn By: JCS	Project #: 2158E	ABB Environmental Services, Inc.
Checked By:	Date: October 5, 1994	Naval Training Center Study Area 3 Orlando, Florida
Project Manager: CAS	File Name: 2158-3_2.dwg	

Relative Response

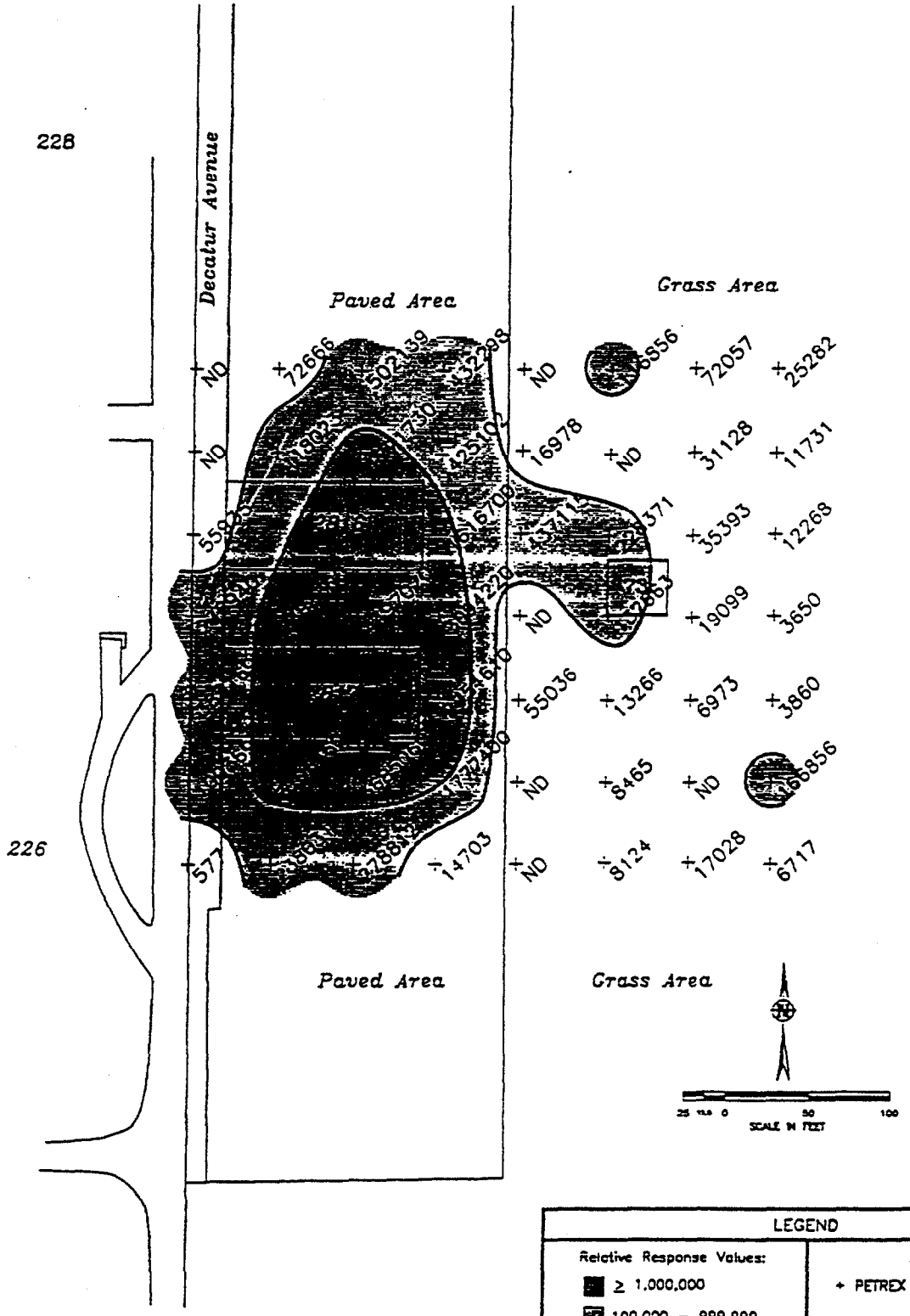
Benzene, Toluene, Ethylbenzene, Xylene(s)

Plate 18



LEGEND	
Relative Response Values:	Features:
≥ 1,000,000	+ PETREX Sample Location
500,000 – 999,999	

NRI Northwest Research Institute LLC, 505 Parfet Street, Suite 100, Lakewood, Colorado 80215, (303) 238-0090	Drawn By: JCS	Project #: 2158E	ABB Environmental Services, Inc.	Relative Response
	Checked By:	Date: October 5, 1994	Naval Training Center Study Area 3, Orlando, Florida	Cycloalkanes/Alkenes
	Project Manager: CAS	File Name: 2158-3_3.dwg		Plate 19



LEGEND	
Relative Response Values:	Features:
≥ 1,000,000	+ PETREX Sample Location
100,000 – 999,999	

NERI
Northeast Research Institute LLC
605 Parfet Street
Suite 100
Lakewood, Colorado 80215
(303) 238-0060

Drawn By: JCS	Project #: 2158E	ABB Environmental Services, Inc.
Checked By:	Date: October 5, 1994	Naval Training Center Study Area 3 Orlando, Florida
Project Manager: CAS	File Name: 2158-3_4.dwg	

Relative Response
Tetrachloroethene

Plate 20

APPENDIX B

BORING LOGS, MONITORING WELL INSTALLATION DIAGRAMS, AND GROUNDWATER SAMPLE FIELD DATA SHEETS

Project: BRAC NTC, Orlando, Group I, Site Screening	**Well ID:** OLD-03-01		**Boring ID:** 03B001
Client: SOUTHNAVFACENGCOM	**Contractor:** Groundwater Protection, Inc.		**Job No.:** CTO-107
Northing: 1540863.99	**Easting:** 548776.31	**Date started:** 10/20/94	**Compltd:** 10/20/94
Method: 6.25" Hollow stem auger	**Casing dia.:** 2 in.	**Screened int.:** 7-17 ft. bls	**Protection level:** D
TOC elev.: 119.49 Ft.	**Type of OVM:** Porta FID	**Total dpth:** 18.0Ft.	**Dpth to** ∇ 12.0± Ft.
ABB Rep.: S. Grietens	**Well development date:** 11/04/94		**Site:** Study Area 03

Depth Ft.	Laboratory Sample ID.	Sample	Recovery	Headspace (ppm)	Soil/Rock Description and comments	Lithologic symbol	Soil class.	Blows/6-in.	Well diag.
					QUARTZ SAND: Asphalt, lime rock, (fill)		SP	posthole	
					QUARTZ SAND: Tan, clean fill, fine/medium grained.				
					QUARTZ SAND: Light brown/tan, fine/medium grained, good sorting, good rounding, with trace fines.				
				0				1,5,5,5	
5			50%						
				0				2,2,4,5	
			80%						
	03B00101			0				4,5,6,6	
			90%						
10				0				3,4,8,9	
			100%						
				0				3,5,6,6	
			80%						
				0	QUARTZ SAND: Same as 2.5 to 14 feet with trace silts and trace phosphates.			2,4,6,12	
15			90%		QUARTZ SAND: Black, same as 2.5 to 14 feet.				
				0				4,4,6,8	
			95%						
20									

 ABB ENVIRONMENTAL SERVICES, INC.

Project: BRAC NTC, Orlando, Group I, Site Screening	**Well ID:** OLD-03-02		**Boring ID:** 03B002
Client: SOUTHNAVFACENGCOM	**Contractor:** Groundwater Protection, Inc.		**Job No.:** CTO-107
Northing: 1540584.43	**Easting:** 548942.83	**Date started:** 10/20/94	**Compltd:** 10/20/94
Method: 6.25" Hollow stem auger	**Casing dia.:** 2 in.	**Screened int.:** 7-17 ft. bls	**Protection level:** D
TOC elev.: 117.89 Ft.	**Type of OVM:** Porta FID	**Total dpth:** 18.0Ft.	**Dpth to** ∇ 12.0± Ft.
ABB Rep.: S. Grietens	**Well development date:** 11/04/94		**Site:** Study Area 03

Depth Ft.	Laboratory Sample ID.	Sample	Recovery	Headspace (ppm)	Soil/Rock Description and comments	Lithologic symbol	Soil class.	Blows/6-in.	Well diag.
					GUARTZ SAND: Tan/brown, fine/medium grained, good sorting, good to moderate rounding with trace fines.		SP	posthole	
				0				1,2,1,2	
5			100%						
				0				1,3,2,3	
			90%		GUARTZ SAND: Brown/black, same as .5 to 7 feet, with trace silts.				
	03B00201			0				2,2,2,3	
			90%						
10				0				3,4,3,4	
			70%						
				0				3,5,6,7	
			90%						
				0				2,4,6,8	
15			85%						
				0				5,10,11,13	
			100%						
20									

 ABB ENVIRONMENTAL SERVICES, INC.

Project: BRAC NTC, Orlando, Group I, Site Screening	**Well ID:** OLD-03-03		**Boring ID:** 03B003
Client: SOUTHNAVFACENGCOM	**Contractor:** Groundwater Protection, Inc.		**Job No.:** CTO-107
Ything: 1540472.23	**Easting:** 548997.85	**Date started:** 10/21/94	**Compltd:** 10/21/94
Method: 6.25" Hollow stem auger	**Casing dia.:** 2 in.	**Screened int.:** 7-17 ft. bls	**Protection level:** D
TOC elev.: 118.15 Ft.	**Type of OVM:** Porta FID	**Total dpth:** 18.0Ft.	**Dpth to** ∇ 12.0± Ft.
ABB Rep.: S. Grietens	**Well development date:** 11/04/94, 11/09/94		**Site:** Study Area 03

Depth Ft.	Laboratory Sample ID.	Sample	Recovery	Headspace (ppm)	Soil/Rock Description and comments	Lithologic symbol	Soil class.	Blows/6-in.	Well diag.
					QUARTZ SAND: Tan/brown, fine/medium grained, good sorting, good to moderate rounding with trace fines.		SP	posthole	
				0				1,2,2,2	
5			90%						
				0				1,2,1,2	
			65%		QUARTZ SAND: Brown/black, same as .5 to 7 feet, with trace silts.				
	03B00301			0				1,3,4,4	
			65%						
10				0				3,5,7,12	
			90%						
				0				4,9,12,15	
			90%						
				0				4,7,10,12	
15			95%						
				0				6,10,17,23	
			100%						

 ABB ENVIRONMENTAL SERVICES, INC.

Project: BRAC NTC, Orlando, Group I, Site Screening	**Well ID:** OLD-03-04	**Boring ID:** 03B004
Client: SOUTHNAVFACENGCOM	**Contractor:** Groundwater Protection, Inc.	**Job No.:** CTO-107
Northing: 1540587.55	**Easting:** 548737.96	**Date started:** 10/21/94 **Completed:** 10/21/94
Method: 6.25" Hollow stem auger	**Casing dia.:** 2 in.	**Screened int.:** 7-17 ft. bls **Protection level:** D
TOC elev.: 119.22 Ft.	**Type of OVM:** Porta FID	**Total depth:** 18.0Ft. **Depth to** ▽ 12.0± Ft.
ABB Rep.: S. Grietens	**Well development date:** 11/04/94	**Site:** Study Area 03

Depth Ft.	Laboratory Sample ID.	Sample	Recovery	Headspace (ppm)	Soil/Rock Description and comments	Lithologic symbol	Soil class.	Blows/6-in.	Well diag.
					QUARTZ SAND: Tan/brown, fine/medium grained, good sorting, good to moderate rounding with trace fines.		SP	posthole	
				0				2,3,5,7	
5			50%						
				0				2,2,3,3	
			90%		QUARTZ SAND: Brown/black, same as .5 to 7 feet, with trace silts.				
	03B00401			0				2,2,3,3	
			85%						
10				0				2,3,3,4	
			95%						
				0				2,5,8,11	
			100%						
				0				2,4,5,7	
15			90%						
				0				5,8,11,13	
			95%						
20									

 ABB ENVIRONMENTAL SERVICES, INC.

GROUNDWATER SAMPLE FIELD DATA

Project: NTC-ORLANDO - SA 3
Point of Interest: OU-03-01
Project Number: 8325.10
Date: 11/10/94
Sample Location ID: OB00101
Time: Start: 1830 End: 1910
Signature of Sampler: [illegible] RK WSO

Water Level/Well Data

Well Depth 17 Ft. ___ Measured X Historical

X Top of Well ___ Top of Protective Casing ___ ___

Well Riser Stick-up (from ground) — Ft.

Protective Casing/Well Difference — Ft.

Protective Casing ___ Ft.

Depth to Water 12.3 Ft.

Well Material: X PVC ___ SS ___

Well Locked?: X Yes ___ No

Well Dia. X 2 inch ___ 4 inch ___ 6 inch ___ ___

Water Level Equip. Used: X Elect. Cond. Probe ___ Float Activated ___ Press. Transducer ___ ___

Height of Water Column 4.7 Ft. X [X .16 Gal/Ft. (2 in.) ___ .65 Gal/Ft. (4 in.) ___ 1.5 Gal/Ft. (6 in.) ___ ___ Gal/Ft. (___ in.)] = [1 Gal/Vol; 2 Total Gal Purged]

Well Integrity:

	Yes	No
Prot. Casing Secure	X	
Concrete Collar Intact	X	
Other	X	

Equipment Documentation

Purging/Sampling Equipment Used:

(✓ If Used For) Purging	Sampling		Equipment ID
—	X	Peristaltic Pump	
—	—	Submersible Pump	
—	—	Bailer	
—	—	PVC/Silicon Tubing	
—	—	Teflon/Silicon Tubing	
—	—	Airlift	
—	—	Hand Pump	
—	—	In-line Filter	
—	—	Press/Vac Filter	
—	—		

Decontamination Fluids Used: (✓ All That Apply at Location)

- ___ Methanol (100%)
- ___ 25% Methanol/75% ASTM Type II water
- ___ Deionized Water
- ___ Liquinox Solution
- ___ Hexane
- ___ HNO_3/D.I. Water Solution
- ___ Potable Water
- ___ None
- ___ ___
- ___ ___

Field Analysis Data

Ambient Air VOC 0 ppm Well Mouth 0 ppm Field Data Collected ___ In-line X In Container

Sample Observations: ___ Turbid X Clear ___ Cloudy ___ Colored ___ Odor

Purge Data	@ 2.5 L Gal.	@ 5 L Gal.	@ 7.5 L Gal.	@ 10 L Gal.	@ ___ Gal.
Temperature, Deg. C	26	26.5	26.0	26	
pH, units	7.14	7.02	7.0	7.05	
Specific Conductivity (umhos/cm. @ 25 Deg. C.)	170	170	170	170	
Oxidation - Reduction, +/- mv	—	—	—	—	
Dissolved Oxygen, ppm	—	—	—	—	
TURB	<1	<1	<1	<1	

Sample Collection Requirements (✓ If Required at this Location)

Analytical Parameter	✓ If Field Filtered	Preservation Method	Volume Required	✓ If Sample Collected	Sample Bottle IDs
VOA		HCL			/ / /
SVOA		4DC			/ / /
Pest/PCB		4DC			/ / /
Inorganics		HNO_3			/ / /
Explosives		4°C			/ / /
TPH		H_2SO_4			/ / /
TOC		H_2SO_4			/ / /
Nitrate		H_2SO_4			/ / /

Notes: FULL SUITE CLP/TCL/TAL

GROUNDWATER SAMPLE FIELD DATA

Project: WTC ORLANDO
Project Number: 08545.10
Sample Location ID: OLD-03-01 (03GC0102)
Time: Start: 1014 End: 1050

Point of Interest: SA 3
Date: 12-30/96
Signature of Sampler: [illegible]

Water Level/Well Data

Well Depth 17.37 ft. — X Measured / ___ Historical — X Top of Well / ___ Top of Protective Casing

Well Riser Stick-up (from ground) NA ft. — Protective NA ft. Casing/Well Difference

Protective NA ft. Casing

Depth to Water 14.18 ft. — Well Material: X PVC / ___ SS — Well Locked?: X Yes / ___ No — Well Dia. X 2 inch / ___ 4 inch / ___ 6 inch — Water Level Equip. Used: X Elect. Cond. Probe / ___ Float Activated / ___ Press. Transducer

Height of Water Column 3.19 ft. X X .16 Gal/ft. (2 in.) / ___ .65 Gal/ft. (4 in.) / ___ 1.5 Gal/ft. (6 in.) / ___ Gal/ft. (__ in.) = 0.51 Gal/Vol; 2.5 Total Gal Purged

Well Integrity: Prot. Casing Secure — Yes NA / No ___; Concrete Collar Intact — Yes NA / No ___; Other ___ — Yes NA / No ___

Equipment Documentation

Purging/Sampling Equipment Used:

(✓ If Used For) Purging	Sampling		Equipment ID
X	X	Peristaltic Pump	
___	___	Submersible Pump	
___	___	Bailer	
___	___	PVC/Silicon Tubing	
___	___	Teflon/Silicon Tubing	
___	___	Airlift	
___	___	Hand Pump	
___	___	In-line Filter	
___	___	Press/Vac Filter	

Decontamination Fluids Used: (✓ All That Apply at Location)

- ___ Methanol (100%)
- ___ 25% Methanol/75% ASTM Type II water
- X Deionized Water
- ___ Liquinox Solution
- ___ Hexane
- ___ HNO_3/D.I. Water Solution
- ___ Potable Water
- ___ None

Field Analysis Data

Ambient Air VOC Ø ppm Well Mouth Ø ppm Field Data Collected ___ In-line / X In Container

Sample Observations: ___ Turbid / X Clear / ___ Cloudy / ___ Colored / ___ Odor

Purge Data	@ 0.5 Gal.	@ 1.0 Gal.	@ 1.5 Gal.	@ 2.0 Gal.	@ 2.5 Gal.
Temperature, Deg. C	25.0	25.0	24.5	25.0	25.0
pH, units	6.65	6.67	6.67	6.69	6.67
Specific Conductivity (umhos/cm. @ 25 Deg. C.)	180	180	179	180	181
~~Oxidation-Reduction, +/-mv~~					
~~Dissolved Oxygen, ppm~~ NTU	34.1	22.2	15.46	9.73	7.30

Sample Collection Requirements (✓ If Required at this Location)

Analytical Parameter	✓ If Field Filtered	Preservation Method	Volume Required	✓ If Sample Collected	Sample Bottle IDs
VOA	___	HCL	___	✓	___ / ___ / ___ / ___
SVOA	___	4OC	___	___	___ / ___ / ___ / ___
Pest/PCB	___	4OC	___	___	___ / ___ / ___ / ___
Inorganics	___	HNO_3	___	___	___ / ___ / ___ / ___
Explosives	___	4°C	___	___	___ / ___ / ___ / ___
TPH	___	H_2SO_4	___	___	___ / ___ / ___ / ___
TOC	___	H_2SO_4	___	___	___ / ___ / ___ / ___
Nitrate	___	H_2SO_4	___	___	___ / ___ / ___ / ___

Notes: ___

GROUNDWATER SAMPLE FIELD DATA

Project: NTC ORLANDO - SITE SCREENING
Point of Interest: SA-03
Project Number: 08545.10
Date: 3-4-97
Sample Location ID: OLD-03-01 03G00103
Time: Start: 1055 End: 1125
Signature of Sampler: William D. Olsen

Water Level/Well Data

Well Depth 16.38 Ft. — X Measured ___ Historical — X Top of Well ___ Top of Protective Casing

Well Riser Stick-up (from ground) NA Ft.

Protective Casing/Well Difference NA Ft.

Protective Casing NA Ft.

Depth to Water 16.02 Ft.

Well Material: X PVC ___ SS

Well Locked?: X Yes ___ No

Well Dia. X 2 inch ___ 4 inch ___ 6 inch

Water Level Equip. Used: X Elect. Cond. Probe ___ Float Activated ___ Press. Transducer

Height of Water Column .36 Ft. X X .16 Gal/Ft. (2 in.) ___ .65 Gal/Ft. (4 in.) ___ 1.5 Gal/Ft. (6 in.) ___ Gal/Ft. (___ in.) = 0.05 Gal/Vol; 0.5 Total Gal Purged

Well Integrity: Prot. Casing Secure — Yes X; Concrete Collar Intact — Yes X; Other — Yes X

Equipment Documentation

Purging/Sampling Equipment Used:

(✓ If Used For) Purging	Sampling		Equipment ID
X	X	Peristaltic Pump	
		Submersible Pump	
		Bailer	
		PVC/Silicon Tubing	
X	X	Teflon/Silicon Tubing	
		Airlift	
		Hand Pump	
		In-line Filter	
		Press/Vac Filter	

Decontamination Fluids Used: (✓ All That Apply at Location)

- ___ Methanol (100%)
- ___ 25% Methanol/75% ASTM Type II water
- X Deionized Water
- ___ Liquinox Solution
- ___ Hexane
- ___ HNO_3/D.I. Water Solution
- ___ Potable Water
- ___ None

Field Analysis Data

Ambient Air VOC Ø ppm Well Mouth Ø ppm Field Data Collected ___ In-line X In Container

Sample Observations: ___ Turbid X Clear ___ Cloudy ___ Colored ___ Odor

Purge Data	@ ___ Gal.	@ ___ Gal.	@ ___ Gal.	@ ___ Gal.	@ ___ Gal.
Temperature, Deg. C	28.4	26.8	26.8		
pH, units	6.58	6.59	6.58		
Specific Conductivity	162	165	160		
~~Turbidity @ 25 Deg. C~~ NTU	16.75	11.50	8.21		
~~Oxidation - Reduction, mv~~					
~~Dissolved Oxygen, ppm~~					

Sample Collection Requirements (✓ If Required at this Location)

Analytical Parameter	✓ If Field Filtered	Preservation Method	Volume Required	✓ If Sample Collected	Sample Bottle IDs
VOA 524.2		HCL	3x40ml	✓	/ / /
SVOA		4°C			/ / /
Pest/PCB		4°C			/ / /
Inorganics		HNO_3			/ / /
Explosives		4°C			/ / /
TPH		H_2SO_4			/ / /
TOC		H_2SO_4			/ / /
Nitrate		H_2SO_4			/ / /

Notes:

GROUNDWATER SAMPLE FIELD DATA

Project: NTC ORLANDO Site Survey
Point of Interest: SA3
Project Number: 08545.10
Date: 4-10-97
Sample Location ID: OLD-93-01 (B3G0104)
Time: Start: 1145 End: 1233
Signature of Sampler: [illegible]

Water Level/Well Data

Well Depth 18.00 ft. — X Measured / ___ Historical — X Top of Well / ___ Top of Protective Casing

Well Riser Stick-up (from ground) NA ft.

Protective Casing/Well Difference NA ft.

Protective Casing NA ft.

Depth to Water 16.70 ft.

Well Material: X PVC / ___ SS

Well Locked?: X Yes / ___ No

Well Dia. X 2 inch / ___ 4 inch / ___ 6 inch

Water Level Equip. Used: X Elect. Cond. Probe / ___ Float Activated / ___ Press. Transducer

Height of Water Column 0.3 ft. X X .16 Gal/ft. (2 in.) / ___ .65 Gal/ft. (4 in.) / ___ 1.5 Gal/ft. (6 in.) / ___ Gal/ft. (___ in.) = 0.5 Gal/Vol / ___ Total Gal Purged

Well Integrity: Yes / No
Prot. Casing Secure ___ / ___
Concrete Collar Intact ___ / ___
Other ___ / ___

Equipment Documentation

Purging/Sampling Equipment Used:

(✓ If Used For) Purging	Sampling		Equipment ID
___	___	Peristaltic Pump	___
___	___	Submersible Pump	___
___	___	Bailer	___
___	___	PVC/Silicon Tubing	___
___	___	Teflon/Silicon Tubing	___
___	___	Airlift	___
___	___	Hand Pump	___
___	___	In-line Filter	___
___	___	Press/Vac Filter	___
___	___		___

Decontamination Fluids Used:

(✓ All That Apply at Location)
___ Methanol (100%)
___ 25% Methanol/75% ASTM Type II water
___ Deionized Water
___ Liquinox Solution
___ Hexane
___ HNO_3/D.I. Water Solution
___ Potable Water
___ None
___ ___
___ ___

Field Analysis Data

Ambient Air VOC ___ ppm Well Mouth ___ ppm

Field Data Collected ___ In-line / ___ In Container

Sample Observations: ___ Turbid / ___ Clear / ___ Cloudy / ___ Colored / ___ Odor

Purge Data	@ 0.5 Gal.	@ 1.0 Gal.	@ 1.5 Gal.	@ 2.0 Gal.	@ 2.5 Gal.
Temperature, Deg. C	26	25	25	25	24
pH, units	6.11	6.21	6.36	6.45	6.38
Specific Conductivity Turb	150	143	142	145	141
~~(umhos/cm, @ 25 Deg. C)~~	7200	7200	7200	7200	7200
~~Oxidation-Reduction, mv~~					
~~Dissolved Oxygen, ppm~~					

Sample Collection Requirements

(✓ If Required at this Location)

Analytical Parameter	✓ If Field Filtered	Preservation Method	Volume Required	✓ If Sample Collected	Sample Bottle IDs
VOA	___	HCL	3x40ml	✓	___/___/___/___
SVOA	___	4°C	___	___	___/___/___/___
Pest/PCB	___	4°C	___	___	___/___/___/___
Inorganics	___	HNO_3	___	___	___/___/___/___
Explosives	___	4°C	___	___	___/___/___/___
TPH	___	H_2SO_4	___	___	___/___/___/___
TOC	___	H_2SO_4	___	___	___/___/___/___
Nitrate	___	H_2SO_4	___	___	___/___/___/___

Notes: ___

GROUNDWATER SAMPLE FIELD DATA

Project: ATZ - GRAVEL SA 3
Point of Interest: OLD - 03 - 02
Project Number: 8345.10
Date: 11/11/94
Sample Location ID: 03-02-01
Time: Start: 745 End: 830
Signature of Sampler: [illegible] PL 5: [illegible]

Water Level/Well Data

Well Depth 17 Ft. — ___ Measured; X Horizontal — X Top of Well; ___ Top of Protective Casing — Well Riser Stick-up (from ground) ___ Ft. — Protective Casing/Well Difference ___ Ft. — Protective Casing ___ Ft.

Depth to Water 10.6 Ft. — Well Material: X PVC; ___ SS — Well Locked?: X Yes; ___ No — Well Dia. X 2 inch; ___ 4 inch; ___ 6 inch — Water Level Equip. Used: X Elect. Cond. Probe; ___ Float Activated; ___ Press. Transducer

Height of Water Column 6 Ft. X X .16 Gal/Ft. (2 in.); ___ .65 Gal/Ft. (4 in.); ___ 1.5 Gal/Ft. (6 in.); ___ Gal/Ft. (__ in.) = 1.2 Gal/Vol; 2.5 Total Gal Purged

Well Integrity: Prot. Casing Secure — Yes X, No ___; Concrete Collar Intact — Yes X, No ___; Other ___ — Yes X, No ___

Equipment Documentation

Purging/Sampling Equipment Used:

(✓ If Used For) Purging	Sampling		Equipment ID
___	X	Peristaltic Pump	
___	___	Submersible Pump	
___	___	Bailer	
___	___	PVC/Silicon Tubing	
___	___	Teflon/Silicon Tubing	
___	___	Airlift	
___	___	Hand Pump	
___	___	In-line Filter	
___	___	Press/Vac Filter	

Decontamination Fluids Used: (✓ All That Apply at Location)

- ___ Methanol (100%)
- ___ 25% Methanol/75% ASTM Type II water
- ___ Deionized Water
- ___ Liquinox Solution
- ___ Hexane
- ___ HNO_3/D.I. Water Solution
- ___ Potable Water
- ___ None

Field Analysis Data

Ambient Air VOC 0 ppm Well Mouth 0 ppm Field Data Collected: ___ In-line; X In Container

Sample Observations: ___ Turbid; X Clear; ___ Cloudy; ___ Colored; ___ Odor

Purge Data	@ 2.5 L Gal.	@ 5 L Gal.	@ 7.5 L Gal.	@ 10 L Gal.	@ ___ Gal.
Temperature, Deg. C	26.5	26	26	26	
pH, units	6.8	6.8	6.5	6.7	
Specific Conductivity (umhos/cm. @ 25 Deg. C.)	52	50	49	50	
Oxidation - Reduction, +/- mv	--	-	-	-	
Dissolved Oxygen, ppm	-	-	-	-	
	TURB	45	45	45	45

Sample Collection Requirements (✓ If Required at this Location)

Analytical Parameter	✓ If Field Filtered	Preservation Method	Volume Required	✓ If Sample Collected	Sample Bottle IDs
VOA	___	HCL	___	___	___/___/___/___
SVOA	___	4°C	___	___	___/___/___/___
Pest/PCB	___	4°C	___	___	___/___/___/___
Inorganics	___	HNO_3	___	___	___/___/___/___
Explosives	___	4°C	___	___	___/___/___/___
TPH	___	H_2SO_4	___	___	___/___/___/___
TOC	___	H_2SO_4	___	___	___/___/___/___
Nitrate	___	H_2SO_4	___	___	___/___/___/___

Notes: SAMPLED FOR FULL SUITE CLP TCL/TAL

GROUNDWATER SAMPLE FIELD DATA

Project: NTC-OACWAO SA-3
Point of Interest: OLD-03-03
Project Number: 8:3/5/10
Date: 11/11/92
Sample Location ID: 03G00301
Time: Start: 0900 End: 1000
Signature of Sampler: D. Whitt

Water Level/Well Data

Well Depth 17 Ft. — ___ Measured / X Historical — X Top of Well / ___ Top of Protective Casing — Well Riser Stick-up (from ground) ___ Ft. — Protective Casing/Well Difference ___ Ft. — Protective Casing ___ Ft.

Depth to Water 11.02 Ft. — Well Material: X PVC / ___ SS — Well Locked?: X Yes / X No — Well Dia. X 2 inch / ___ 4 inch / ___ 6 inch — Water Level Equip. Used: X Elect. Cond. Probe / ___ Float Activated / ___ Press. Transducer

Height of Water Column 6 Ft. X — X .16 Gal/Ft. (2 in.) / ___ .65 Gal/Ft. (4 in.) / ___ 1.5 Gal/Ft. (6 in.) / ___ Gal/Ft. (___ in.) = 1.2 Gal/Vol; 2.5 Total Gal Purged

Well Integrity:	Yes	No
Prot. Casing Secure	X	
Concrete Collar Intact	X	
Other	X	

Equipment Documentation

Purging/Sampling Equipment Used:

(✓ If Used For) Purging	Sampling		Equipment ID
	X	Peristaltic Pump	
		Submersible Pump	
		Bailer	
		PVC/Silicon Tubing	
		Teflon/Silicon Tubing	
		Airlift	
		Hand Pump	
		In-line Filter	
		Press/Vac Filter	

Decontamination Fluids Used: (✓ All That Apply at Location)

- ___ Methanol (100%)
- ___ 25% Methanol/75% ASTM Type II water
- ___ Deionized Water
- ___ Liquinox Solution
- ___ Hexane
- ___ HNO_3/D.I. Water Solution
- ___ Potable Water
- ___ None

Field Analysis Data

Ambient Air VOC 0 ppm Well Mouth 0 ppm Field Data Collected ___ In-line / X In Container

Sample Observations: ___ Turbid / ___ Colored / ___ Clear / ___ Odor / ___ Cloudy } NA

Purge Data	@ 2.5 L Gal.	@ 5 L Gal.	@ 7.5 L Gal.	@ 10 L Gal.	@ 12.5 L Gal.
Temperature, Deg. C	26	26	26	26	26
pH, units	6.5	5.9	6.03	6.06	6.07
Specific Conductivity (umhos/cm. @ 25 Deg. C.)	62	62	61	60	61
Oxidation - Reduction, +/- mv	—	—	—	—	—
Dissolved Oxygen, ppm	—	—	—	—	—

TURB NA

Sample Collection Requirements

(✓ If Required at this Location)

Analytical Parameter	✓ If Field Filtered	Preservation Method	Volume Required	✓ If Sample Collected	Sample Bottle IDs
VOA		HCL			/ / /
SVOA		4OC			/ / /
Pest/PCB		4OC			/ / /
Inorganics		HNO_3			/ / /
Explosives		4°C			/ / /
TPH		H_2SO_4			/ / /
TOC		H_2SO_4			/ / /
Nitrate		H_2SO_4			/ / /

Notes:

SAMPLES PCL POLC SOTTE
CLP TCL/TAL

GROUNDWATER SAMPLE FIELD DATA

Project: NTC-ORLANDO SA 3 Point of Interest: OU-03-04
Project Number: 8545.10 Date: 11/10/94
Sample Location ID: ~~OU 03-04~~ 03GW01
Time: Start: 2000 End: 2030 Signature of Sampler: [illegible]

Water Level/Well Data

Well Depth 16.6 Ft. — ___ Measured / X Historical — X Top of Well / ___ Top of Protective Casing — Well Riser Stick-up (from ground) ___ Ft. — Protective Casing/Well Difference ___ Ft. — Protective Casing ___ Ft.

Depth to Water 11.6 Ft. — Well Material: X PVC / ___ SS — Well Locked?: X Yes / ___ No — Well Dia. X 2 inch / ___ 4 inch / ___ 6 inch — Water Level Equip. Used: X Elect. Cond. Probe / ___ Float Activated / ___ Press. Transducer

Height of Water Column 5 Ft. X — X .16 Gal/Ft. (2 in.) / ___ .65 Gal/Ft. (4 in.) / ___ 1.5 Gal/Ft. (6 in.) / ___ Gal/Ft. (___ in.) = [1 Gal/Vol / 2 Total Gal Purged]

Well Integrity:	Yes	No
Prot. Casing Secure	X	
Concrete Collar Intact	X	
Other		

Equipment Documentation

Purging/Sampling Equipment Used :

(✓ If Used For) Purging	Sampling		Equipment ID
	X	Peristaltic Pump	
		Submersible Pump	
		Bailer	
		PVC/Silicon Tubing	
		Teflon/Silicon Tubing	
		Airlift	
		Hand Pump	
		In-line Filter	
		Press/Vac Filter	

Decontamination Fluids Used :

(✓ All That Apply at Location)
___ Methanol (100%)
___ 25% Methanol/75% ASTM Type II water
___ Deionized Water
___ Liquinox Solution
___ Hexane
___ HNO_3/D.I. Water Solution
___ Potable Water
___ None

Field Analysis Data

Ambient Air VOC 0 ppm Well Mouth 0 ppm Field Data Collected ___ In-line / X In Container

Sample Observations: ___ Turbid / ___ Colored / X Clear / ___ Odor / ___ Cloudy

Purge Data	@ 2.5L	@ 5L	@ 7.5	@ 10L	@ ___ Gal.
Temperature, Deg. C	26.5	26.5	26.5	26.5	
pH, units	6.6	6.5	6.5	6.5	
Specific Conductivity (umhos/cm. @ 25 Deg. C.)	170	165	160	161	
Oxidation - Reduction, +/- mv	—	—	—	—	
Dissolved Oxygen, ppm	—	—	—	—	
TURB	<5	<5	<5	<5	

Sample Collection Requirements (✓ If Required at this Location)

Analytical Parameter	✓ If Field Filtered	Preservation Method	Volume Required	✓ If Sample Collected	Sample Bottle IDs
VOA		HCL			/ / /
SVOA		4°C			/ / /
Pest/PCB		4°C			/ / /
Inorganics		HNO_3			/ / /
Explosives		4°C			/ / /
TPH		H_2SO_4			/ / /
TOC		H_2SO_4			/ / /
Nitrate		H_2SO_4			/ / /

Notes:

SAMPLED FOR FULL SUITE
CLP TCL/TAL

GROUNDWATER SAMPLE FIELD DATA

Project: NTC ORLANDO
Point of Interest: SA3
Project Number: 08545.16 204
Date: 12-30/96
Sample Location ID: OLD-03-04 (036-00402)
Time: Start: 1103 End: 1155
Signature of Sampler: W. D. Olsen

Water Level/Well Data

Well Depth 16.85 ft. — X Measured / ___ Historical — X Top of Well / ___ Top of Protective Casing / ___ ___

Well Riser Stick-up (from ground) NA ft.

Protective Casing/Well Difference NA ft.

Protective Casing NA ft.

Depth to Water 13.52 ft.

Well Material: X PVC / ___ SS / ___

Well Locked?: X Yes / ___ No

Well Dia. X 2 inch / ___ 4 inch / ___ 6 inch / ___ ___

Water Level Equip. Used: X Elect. Cond. Probe / ___ Float Activated / ___ Press. Transducer / ___ ___

Height of Water Column 3.33 ft. X [X .16 Gal/ft. (2 in.) / ___ .65 Gal/ft. (4 in.) / ___ 1.5 Gal/ft. (6 in.) / ___ ___ Gal/ft. (___ in.)] = [0.53 Gal/Vol / 1.5 Total Gal Purged]

Well Integrity:

	Yes	No
Prot. Casing Secure	NA	
Concrete Collar Intact	NA	
Other ___	NA	

Equipment Documentation

Purging/Sampling Equipment Used:

(✓ If Used For) Purging	Sampling		Equipment ID
X	X	Peristaltic Pump	
		Submersible Pump	
		Bailer	
		PVC/Silicon Tubing	
		Teflon/Silicon Tubing	
		Airlift	
		Hand Pump	
		In-line Filter	
		Press/Vac Filter	

Decontamination Fluids Used:

(✓ All That Apply at Location)
- ___ Methanol (100%)
- ___ 25% Methanol/75% ASTM Type II water
- X Deionized Water
- ___ Liquinox Solution
- ___ Hexane
- ___ HNO_3/0.1 Water Solution
- ___ Potable Water
- ___ None
- ___ ___
- ___ ___

Field Analysis Data

Ambient Air VOC Ø ppm Well Mouth Ø ppm Field Data Collected ___ In-line / X In Container

Sample Observations: ___ Turbid / ___ Colored / X Clear / ___ Odor / ___ Cloudy

Purge Data	@ .5 Gal.	@ .75 Gal.	@ 1.0 Gal.	@ 1.25 Gal.	@ 1.5 Gal.
Temperature, Deg. C	25.0	25.5	25.5	25.0	25.0
pH, units	6.45	6.52	6.59	6.64	6.64
Specific Conductivity (umhos/cm. @ 25 Deg. C.)	305	302	305	300	300
~~Oxidation - Reduction, mv~~					
~~Dissolved Oxygen, ppm~~ NTU	14.53	9.90	6.87	5.05	3.86

Sample Collection Requirements
(✓ If Required at this Location)

Analytical Parameter	✓ If Field Filtered	Preservation Method	Volume Required	✓ If Sample Collected	Sample Bottle IDs
VOA		HCL		✓	/ / /
SVOA		4OC			/ / /
Pest/PCB		4OC			/ / /
Inorganics		HNO_3			/ / /
Explosives		4°C			/ / /
TPH		H_2SO_4			/ / /
TOC		H_2SO_4			/ / /
Nitrate		H_2SO_4			/ / /

Notes: ___

GROUNDWATER SAMPLE FIELD DATA

Project: NTC ORLANDO - SITE SCREENING
Point of Interest: SA-03
Project Number: 08545.10
Date: 3-4/97
Sample Location ID: 03G00403 RPt (SD-03-04)
Time: Start: 0957 End: 1050
Signature of Sampler: W. D. Olson

Water Level/Well Data

Well Depth 16.58 ft. — X Measured ___ Historical — X Top of Well ___ Top of Protective Casing ___ ___

Well Riser Stick-up (from ground) NA ft. — Protective Casing/Well Difference NA ft. — Protective Casing NA ft.

Depth to Water 15.38 ft. — Well Material: X PVC ___ SS ___ — Well Locked?: X Yes ___ No — Well Dia. X 2 inch ___ 4 inch ___ 6 inch ___ ___ — Water Level Equip. Used: X Elect. Cond. Probe ___ Float Activated ___ Press. Transducer ___ ___

Height of Water Column 1.2 ft. X X .16 Gal/ft. (2 in.) ___ .65 Gal/ft. (4 in.) ___ 1.5 Gal/ft. (6 in.) ___ ___ Gal/ft. (___ in.) = 0.19 Gal/Vol; 1 Total Gal Purged

Well Integrity: Prot. Casing Secure — Yes ✓ No ___; Concrete Collar Intact — Yes ✓ No ___; Other ___ — Yes ✓ No ___

Equipment Documentation

Purging/Sampling Equipment Used:

(✓ If Used For) Purging	Sampling		Equipment ID
X	X	Peristaltic Pump	
		Submersible Pump	
		Bailer	
		PVC/Silicon Tubing	
X	X	Teflon/Silicon Tubing	
		Airlift	
		Hand Pump	
		In-line Filter	
		Press/Vac Filter	

Decontamination Fluids Used: (✓ All That Apply at Location)

- ___ Methanol (100%)
- ___ 25% Methanol/75% ASTM Type II water
- X Deionized Water
- ___ Liquinox Solution
- ___ Hexane
- ___ HNO_3/D.I. Water Solution
- ___ Potable Water
- ___ None

Field Analysis Data

Ambient Air VOC Ø ppm — Well Mouth Ø ppm — Field Data Collected: ___ In-line X In Container — Sample Observations: ___ Turbid ___ Colored X Clear ___ Odor ___ Cloudy

Purge Data	@ .2 Gal.	@ .4 Gal.	@ .6 Gal.	@ .8 Gal.	@ 1 Gal.
Temperature, Deg. C	27.3	26.4	26.2	27.2	26.9
pH, units	6.16	6.16	6.36	6.32	6.32
Specific Conductivity	251	248	240	240	241
~~Turbidity @ 25 Deg. C~~ NTU	7200	40.8	14.17	5.28	3.16
~~Oxidation-Reduction, mv~~					
~~Dissolved Oxygen, ppm~~					

Sample Collection Requirements (✓ If Required at this Location)

Analytical Parameter	✓ If Field Filtered	Preservation Method	Volume Required	✓ If Sample Collected	Sample Bottle IDs
VOA 524.2		HCL	3X40ml	X	/ / /
SVOA		4OC			/ / /
Pest/PCB		4OC			/ / /
Inorganics		HNO_3			/ / /
Explosives		4°C			/ / /
TPH		H_2SO_4			/ / /
TOC		H_2SO_4			/ / /
Nitrate		H_2SO_4			/ / /

Notes: ___

GROUNDWATER SAMPLE FIELD DATA

Project: WTC ORLANDO SITE SCREENING
Project Number: 09545.10
Sample Location ID: OLD3903-04 ~~BG~~ DRHC4
Time: Start: 1050 End: 1123

Point of Interest: SA3
Date: 4.10.97
Signature of Sampler: [illegible]

Water Level/Well Data

Well Depth 16.80 Ft. — X Measured / ___ Historical

X Top of Well / ___ Top of Protective Casing

Well Riser Stick-up (from ground) 2m Ft.

Protective Casing/Well Difference NA Ft.

Protective Casing NA Ft.

Depth to Water 10.88 Ft.

Well Material: X PVC / ___ SS

Well Locked?: X Yes / ___ No

Well Dia. X 2 inch / ___ 4 inch / ___ 6 inch

Water Level Equip. Used: X Elect. Cond. Probe / ___ Float Activated / ___ Press. Transducer

Height of Water Column 0.72 Ft. X [X .16 Gal/Ft. (2 in.) / ___ .65 Gal/Ft. (4 in.) / ___ 1.5 Gal/Ft. (6 in.) / ___ Gal/Ft. (___ in.)] = [0.11 Gal/Vol / 3 Total Gal Purged]

Well Integrity:	Yes	No
Prot. Casing Secure	✓	
Concrete Collar Intact	✓	
Other		

Equipment Documentation

Purging/Sampling Equipment Used:

(✓ If Used For) Purging	Sampling		Equipment ID
X	X	Peristaltic Pump	
		Submersible Pump	
		Bailer	
		PVC/Silicon Tubing	
X	X	Teflon/Silicon Tubing	
		Airlift	
		Hand Pump	
		In-line Filter	
		Press/Vac Filter	

Decontamination Fluids Used:

(✓ All That Apply at Location)

- ___ Methanol (100%)
- ___ 25% Methanol/75% ASTM Type II water
- X Deionized Water
- ___ Liquinox Solution
- ___ Hexane
- ___ HNO_3/0.1 Water Solution
- ___ Potable Water
- ___ None

Field Analysis Data

Ambient Air VOC Ø ppm Well Mouth Ø ppm

Field Data Collected ___ In-line / X In Container

Sample Observations: ___ Turbid / X Clear / ___ Cloudy / ___ Colored / ___ Odor

Purge Data	@ 1.5 Gal.	@ 1.75 Gal.	@ 2 Gal.	@ 2.25 Gal.	@ 3 Gal.
Temperature, Deg. C	25	24	25	25	25
pH, units	5.47	5.75	5.90	5.91	6.01
Specific Conductivity	213	312	310	309	210
Turb (umhos/cm. ~~@ 25 Deg. C.~~)	8.04	4.25	1.94	1.28	1.07
~~Oxidation + Reduction, +/- mv~~					
~~Dissolved Oxygen, ppm~~					

Sample Collection Requirements (✓ If Required at this Location)

Analytical Parameter	✓ If Field Filtered	Preservation Method	Volume Required	✓ If Sample Collected	Sample Bottle IDs
VOA		HCL	3x 40ml	✓	/ / /
SVOA		4OC			/ / /
Pest/PCB		4OC			/ / /
Inorganics		HNO_3			/ / /
Explosives		4°C			/ / /
TPH		H_2SO_4			/ / /
TOC		H_2SO_4			/ / /
Nitrate		H_2SO_4			/ / /

Notes:

APPENDIX C

SUMMARY OF POSITIVE DETECTIONS TABLES

C-1 Summary of Positive Detections in Surface Soil
C-2 Summary of Positive Detections in Subsurface Soil
C-3 Summary of Positive Detections in Groundwater

APPENDIX C

C-1 SUMMARY OF POSITIVE DETECTIONS IN SURFACE SOIL

Appendix C

Table C-1. Summary of Positive Detections in Surface Soil Analytical Results, Study Area 3

Naval Training Center, Orlando
Orlando, FL

Identifier	Background Screening [1]		SCG [2]		RBC [3] for Residential Soil		RBC [3] for Industrial Soil		03S00101		03S00201		03S00301		03S00401	
Sampling Date									20-Oct-94		20-Oct-94		21-Oct-94		21-Oct-94	
Feet bls									1		1		1		1	
Volatile Organics, ug/kg																
Tetrachloroethene			12000 / 30 [4]		12,000 c		110,000 c								7	J
Inorganics, mg/kg																
Aluminum	2,088		75,000		78,000 n		1,000,000 n		1450		3280		4010		4330	
Arsenic	1		0.8		0.43 c/23 n		3.8 c/610 n		0.51	B	0.76	B	0.82	B	0.69	J
Barium	8.7		5,200		5,500 n		140,000 n		4	J	12.4	J	19.7	J	22.7	J
Beryllium	0.09		0.2		0.15		1.3				0.04	B	0.13	B	0.05	B
Cadmium	1.6		37		39 n		1000 n						0.78	B		
Calcium	25,295		ND		1,000,000		1,000,000		2090		1860		142000		571	B
Chromium	4.6		290		390 n		10,000 n		1.4	B	3.4		7.2		3.6	
Copper	4.1		ND		3,100 n		82,000 n						0.86	B		
Iron	712		ND		23,000 n		610,000 n		530		716		966		942	
Lead	14.5		500		400		400		1.1		3		3.1		3.5	
Magnesium	328		ND		460,468		460,468		54.1	J	69.6	J	954	B	71.1	J
Manganese	8.1		370		1800 n		47,000 n		1.9	B	3.1	B	21		3.7	
Vanadium	3.1		490		550 n		14,000 n		1.4	B	2.3	B	9.9	B	2.6	B
Zinc	17.2		23,000		23,000 n		610,000 n				3.4	B	3.1	B	2.1	B

Appendix C

Table C-1. Summary of Positive Detections in Surface Soil Analytical Results, Study Area 3

Naval Training Center, Orlando
Orlando, FL

NOTES:

[1] The background screening value is twice the average of detected concentrations for inorganic analytes.

[2] SCG = Soil Cleanup Goals for Florida (Florida Department of Environmental Protection memorandum, September 29, 1995). Arsenic value is as revised in Applicability of Soil Cleanup Goals for Florida (FDEP memorandum, January 19, 1996). Values indicated are from a residential scenario.
Chromium values are for Chromium VI.

[3] RBC = Risk-Based Concentration Table, USEPA Region III, May 1996, R.L. Smith. RBC for chromium is based on chromium VI. RBC for lead is not available, value is Interim Guidance on Establishing Soil Lead Cleanup Levels at Superfund Sites (OSWER directive 9355-4-12). For essential nutrients (calcium, magnesium), screening values were derived based on recommended daily allowances (RDAs).
RBC for alpha and gamma-chlordane are based on chlordane.

[4] Residential / leaching. The leaching value is presented for tetrachloroethene as it is the only organic compound present in soil and also present in groundwater above Florida Groundwater Guidance Concentrations.

n = noncarcinogenic pathway
c = carcinogenic pathway
ND = Not determined.
bls = below land surface
DDT = dichlorodiphenyltrichloroethane.
mg/kg = milligrams per kilogram.
ug/kg = micrograms per kilogram.
PCB = polychlorinated biphenyl.
OSWER = Office of Solid Waste and Emergency Response.
USEPA = U.S. Environmental Protection Agency.
B = Reported concentration is between the instrument detection limit (IDL) and Contract Required Detection Limit (CRDL).
J = Reported concentration is an estimated quantity.
All inorganics results expressed in milligrams per kilogram (mg/kg) soil dry weight; organics in micrograms per kilogram (ug/kg) soil dry weight.
Blank space indicates analyte/compound was not detected at the reporting limit.

Table C-1. Summary of Positive Detections in Groundwater Analytical Results
Study Area 3

Naval Training Center
Orlando, FL

NOTES:

[1] Groundwater background screening value is twice the average of detected concentrations for inorganic analytes.
[2] RBC = Risk-Based Concentration Table, USEPA Region III, May 1996, R.L. Smith. RBC for chromium is based on chromium VI. RBC for lead is not available, value is treatment technology action limit for lead in drinking water distribution system identified in Drinking Water Standards and Health Advisories (USEPA, 1996). For essential nutrients (calcium, magnesium, potassium, and sodium) screening values were derived based on recommended daily allowances (RDAs).
[3] Secondary Standard.
[4] Systemic Toxicant
[5] Primary Standard
[6] Organoleptic

n = noncarcinogenic pathway
c = carcinogenic pathway
ND = Not determined.
NA = Not analyzed.
ID = identifier
USEPA = U.S. Environmental Protection Agency.
FDEPG = Florida Department of Environmental Protection, Groundwater Guidance Concentrations, June 1994.
FEDMCL= Federal Maximum Contaminant Levels, Primary Drinking Water Regulations and Health Advisories, October 1996.
B = Reported concentration is between the instrument detection limit (IDL) and the contract required detection limit (CRDL).
J = Reported concentration is an estimated quantity.
ug/l = micrograms per liter.
Bold/shaded numbers indicate exceedance of groundwater guidance and background.
Blank space indicates analyte/compound was not detected at the reporting limit.

APPENDIX C

C-2 SUMMARY OF POSITIVE DETECTIONS IN SUBSURFACE SOIL

Appendix C

Table C-2. Summary of Positive Detections in Subsurface Soil Analytical Results
Study Area 3

Naval Training Center, Orlando
Orlando, FL

Identifier	Background Screening [1]		SCG [2]		RBC [3] for Residential Soil		RBC [3] for Industrial Soil		03B00101		03B00201		03B00301		03B00301D		03B00401	
Sampling Date									20-Oct-94		20-Oct-94		21-Oct-94		21-Oct-94		21-Oct-94	
Feet bls									8		8		8		8		8	
Inorganics, mg/kg																		
Aluminum	2,119		NA		78,000 n		1,000,000 n		103		1540		300		351		166	
Barium	3.6		NA		5,500		140,000 n		0.2	J	0.25	J					0.25	J
Calcium	115		NA		1,000,000		1,000,000		244	B	37	J	14.3	J	13.9	J	22.4	J
Chromium	3.7		NA		390 n		10,000 n				2.5		0.69	B	0.53	B		
Iron	264		NA		23,000 n		610,000 n		86.3		47.2		50.2		50.3		65.5	
Lead	3.9		NA		400		400				0.71		0.43	B	0.36	B	0.35	B
Manganese	2.1		NA		1,800 n		47,000 n		0.61	B			0.73	B	0.7	B	0.35	B
Vanadium	3.4		NA		550 n		14,000 n				0.67	B						

Appendix C

Table C-2. Summary of Positive Detections in Subsurface Soil Analytical Results
Study Area 3

Naval Training Center, Orlando
Orlando, FL

NOTES:

[1] The background screening value is twice the average of detected concentrations for inorganic analytes.

[2] SCG = Soil Cleanup Goals for Florida (Florida Department of Environmental Protection memorandum, September 29, 1995).

[3] RBC = Risk-Based Concentration Table, USEPA Region III, May 1996, R.L. Smith. RBC for chromium is based on chromium VI. RBC for lead is not available, value is Interim Guidance on Establishing Soil Lead Cleanup Levels at Superfund Sites (OSWER directive 9355-4-12). For essential nutrients (calcium and sodium), screening values were derived based on recommended daily allowances (RDAs).

bls = below land surface
n = noncarcinogenic pathway
c = carcinogenic pathway
NA = Not applicable.
bls = below land surface
mg/kg = milligrams per kilogram.
OSWER = Office of Solid Waste and Emergency Response.
USEPA = U.S. Environmental Protection Agency.
B = Reported concentration is between the instrument detection limit (IDL) and Contract Required Detection Limit (CRDL).
J = Reported concentration is an estimated quantity.
All inorganics results expressed in milligrams per kilogram (mg/kg) soil dry weight.
Blank space indicates analyte/compound was not detected at the reporting limit.

APPENDIX C

C-3 SUMMARY OF POSITIVE DETECTIONS IN GROUNDWATER

Table C-3. Summary of Positive Detections in Groundwater Analytical Results
Study Area 3

Naval Training Center
Orlando, FL

Well ID					OLD-03-04			
Sample ID	Background [1]	FDEPG	Primary FEDMCL	RBC [2] for Tap Water	03G00401	03G00402	03G00403	03G00404
Sampling Date					10-Nov-94	30-Dec-96	4-Mar-97	10-Apr-97
Volatile Organics, ug/L								
Benzene		1 [5]	5	0.36 c				
Ethylbenzene		30 [3] / 700 [5]	700	1300 n				
Isopropylbenzene		0.8 [6]	ND	ND				
Methylene chloride								
Naphthalene		6.8 [6]	ND	1500 n				
n-Propylbenzene		ND	ND	ND				
Tetrachloroethene		3 [5]	5	1.1 c	[redacted]		0.65	0.88
Trichlorofluoromethane		2100 [5]	ND	1300 n				0.2 J
Toluene		40 [3] / 1000 [5]	1000	750 n				
1,1,1-Trichloroethane		200 [5]	200	1.6 c				
1,3,5-Trimethylbenzene		10 [6]	ND	300 n				
Xylene (total)		20 [3] / 10,000 [5]	10000	12,000 n				
Semivolatile Organics, ug/L								
bis(2-Ethylhexyl)phthalate		6 [6]	ND	4.8 c	1	NA	NA	NA
Pesticides/PCBs, ug/L								
Aroclor-1260		0.5 [5]	0.5	4.8 c		NA	NA	NA
Inorganics, ug/L								
Aluminum	4,067	200 [3]	ND	37,000 n	292	NA	NA	NA
Barium	31.4	2,000 [5]	2,000	2,600 n	0.79 B	NA	NA	NA
Calcium	36,830	ND	ND	1,000,000	26100	NA	NA	NA
Chromium	7.8	100 [5]	100	180 n	2.4 B	NA	NA	NA
Copper	5.4	1,000 [3]	ND	1,500 n	15 B	NA	NA	NA
Iron	1,227	300 [3]	ND	11,000 n	69.6 B	NA	NA	NA
Lead	4	15 [5]	15	15		NA	NA	NA
Magnesium	4,560	ND	ND	118,807	2390 B	NA	NA	NA
Manganese	17	50 [3]	ND	840 n	1.6 B	NA	NA	NA
Nickel		100 [5]	100	730 n		NA	NA	NA
Potassium	5,400	ND	ND	297,016	2140 B	NA	NA	NA
Sodium	18,222	160,000 [5]	ND	396,022	3040 B	NA	NA	NA
Vanadium	21	49 [4]	ND	260 n	3.9 B	NA	NA	NA
Zinc	4	5,000 [3]	ND	11,000 n	2.1 B	NA	NA	NA

Table C-3. Summary of Positive Detections in Groundwater Analytical Results
Study Area 3

Naval Training Center
Orlando, FL

Well ID					OLD-03-01				OLD-03-02	OLD-03-03
Sample ID	Background [1]	FDEPG	Primary FEDMCL	RBC [2] for Tap Water	03G00101	03G00102	03G00103	03G00104	03G00201	03G00301
Sampling Date					10-Nov-94	30-Dec-96	4-Mar-97	10-Apr-97	11-Nov-94	11-Nov-94
Volatile Organics, ug/L										
Benzene		1 [5]	5	0.36 c		[redacted]				
Ethylbenzene		30 [3] / 700 [5]	700	1300 n		6				
Isopropylbenzene		0.8 [6]	ND	ND		[redacted]				
Methylene chloride							0.23 J			
Naphthalene		6.8 [6]	ND	1500 n		[redacted]				
n-Propylbenzene		ND	ND	ND		4				
Tetrachloroethene		3 [5]	5	1.1 c	[redacted]		[redacted]	[redacted]		
Trichlorofluoromethane		2100 [5]	ND	1300 n						
Toluene		40 [3] / 1000 [5]	1000	750 n		4				
1,1,1-Trichloroethane		200 [5]	200	1.6 c	8					
1,3,5-Trimethylbenzene		10 [6]	ND	300 n		[redacted]				
Xylene (total)		20 [3] / 10,000 [5]	10000	12,000 n		7				
Semivolatile Organics, ug/L										
bis(2-Ethylhexyl)phthalate		6 [6]	ND	4.8 c	1	NA	NA	NA		
Pesticides/PCBs, ug/L										
Aroclor-1260		0.5 [5]	0.5	4.8 c		NA	NA	NA		0.49 J
Inorganics, ug/L										
Aluminum	4,067	200 [3]	ND	37,000 n	90.1 B	NA	NA	NA	468	117 B
Barium	31.4	2,000 [5]	2,000	2,600 n		NA	NA	NA	2.6 B	11 B
Calcium	36,830	ND	ND	1,000,000	28800	NA	NA	NA	6600	8020
Chromium	7.8	100 [5]	100	180 n		NA	NA	NA		
Copper	5.4	1,000 [3]	ND	1,500 n		NA	NA	NA		
Iron	1,227	300 [3]	ND	11,000 n	8 B	NA	NA	NA	18.9 B	12.6 B
Lead	4	15 [5]	15	15		NA	NA	NA	1.6 B	2.3 B
Magnesium	4,560	ND	ND	118,807	1860 B	NA	NA	NA	467 B	276 B
Manganese	17	50 [3]	ND	840 n	3.2 B	NA	NA	NA	5.7 B	31
Nickel		100 [5]	100	730 n	11.9 B	NA	NA	NA		12.2 B
Potassium	5,400	ND	ND	297,016	1130 B	NA	NA	NA	1450 B	377 B
Sodium	18,222	160,000 [5]	ND	396,022	2200 B	NA	NA	NA	776 B	1390 B
Vanadium	21	49 [4]	ND	260 n	2.8 B	NA	NA	NA	4.2 B	
Zinc	4	5,000 [3]	ND	11,000 n	3.2 B	NA	NA	NA	1.1 B	4.6 B

APPENDIX D

SUMMARY OF ANALYTICAL RESULTS TABLES

D-1 Summary of Surface Soil Analytical Results
D-2 Summary of Subsurface Soil Analytical Results
D-3 Summary of Groundwater Analytical Results, 1994 Sampling
D-4 Summary of Groundwater Analytical Results, Supplemental Sampling, 1996 and 1997

APPENDIX D

D-1 SUMMARY OF SURFACE SOIL ANALYTICAL RESULTS

Appendix D

Table D-1. Summary of Surface Soil Analytical Results
Study Area 3

Naval Training Center, Orlando
Orlando, FL

Sample ID	03S00101		03S00201		03S00301		03S00401	
Lab ID	G6090001		G6090002		G6096001		G6096002	
Sampling Date	20-Oct-94		20-Oct-94		21-Oct-94		21-Oct-94	
Volatile organics, ug/kg								
1,1,1-Trichloroethane	10	U	10	U	10	U	10	U
1,1,2,2-Tetrachloroethane	10	U	10	U	10	U	10	U
1,1,2-Trichloroethane	10	U	10	U	10	U	10	U
1,1-Dichloroethane	10	U	10	U	10	U	10	U
1,1-Dichloroethene	10	U	10	U	10	U	10	U
1,2-Dichloroethane	10	U	10	U	10	U	10	U
1,2-Dichloroethene (total)	10	U	10	U	10	U	10	U
1,2-Dichloropropane	10	U	10	U	10	U	10	U
2-Butanone	10	U	10	U	10	U	10	U
2-Hexanone	10	U	10	U	10	U	10	U
4-Methyl-2-pentanone	10	U	10	U	10	U	10	U
Acetone	7	UJ	10	U	10	U	16	UJ
Benzene	10	U	10	U	10	U	10	U
Bromodichloromethane	10	U	10	U	10	U	10	U
Bromoform	10	U	10	U	10	U	10	U
Bromomethane	10	U	10	U	10	U	10	U
Carbon disulfide	10	U	10	U	10	U	10	U
Carbon tetrachloride	10	U	10	U	10	U	10	U
Chlorobenzene	10	U	10	U	10	U	10	U
Chloroethane	10	U	10	U	10	U	10	U
Chloroform	10	U	10	U	10	U	10	U
Chloromethane	10	U	10	U	10	U	10	U
cis-1,3-Dichloropropene	10	U	10	U	10	U	10	U
Dibromochloromethane	10	U	10	U	10	U	10	U
Ethylbenzene	10	U	10	U	10	U	10	U
Methylene chloride	8	UJ	10	UJ	10	U	11	UJ
Styrene	10	U	10	U	10	U	10	U
Tetrachloroethene	10	U	10	U	10	U	7	J
Toluene	10	U	10	U	10	U	10	U
trans-1,3-Dichloropropene	10	U	10	U	10	U	10	U
Trichloroethene	10	U	10	U	10	U	10	U
Vinyl chloride	10	U	10	U	10	U	10	U
Xylene (total)	10	U	10	U	10	U	10	U
Semivolatile Organics, ug/kg								
1,2,4-Trichlorobenzene	340	U	350	U	350	U	340	U
1,2-Dichlorobenzene	340	U	350	U	350	U	340	U
1,3-Dichlorobenzene	340	U	350	U	350	U	340	U
1,4-Dichlorobenzene	340	U	350	U	350	U	340	U
2,2'-oxybis(1-Chloropropane)	340	U	350	U	350	U	340	U
2,4,5-Trichlorophenol	860	U	880	U	880	U	860	U
2,4,6-Trichlorophenol	340	U	350	U	350	U	340	U
2,4-Dichlorophenol	340	U	350	U	350	U	340	U
2,4-Dimethylphenol	340	U	350	U	350	U	340	U
2,4-Dinitrophenol	860	U	880	U	880	U	860	U
2,4-Dinitrotoluene	340	U	350	U	350	U	340	U
2,6-Dinitrotoluene	340	U	350	U	350	U	340	U
2-Chloronaphthalene	340	U	350	U	350	U	340	U
2-Chlorophenol	340	U	350	U	350	U	340	U
2-Methylnaphthalene	340	U	350	U	350	U	340	U
2-Methylphenol	340	U	350	U	350	U	340	U

Appendix D

Table D-1. Summary of Surface Soil Analytical Results
Study Area 3

Naval Training Center, Orlando
Orlando, FL

Sample ID	03S00101		03S00201		03S00301		03S00401	
Lab ID	G6090001		G6090002		G6096001		G6096002	
Sampling Date	20-Oct-94		20-Oct-94		21-Oct-94		21-Oct-94	
2-Nitroaniline	860	U	880	U	880	U	860	U
2-Nitrophenol	340	U	350	U	350	U	340	U
3,3'-Dichlorobenzidine	340	U	350	U	350	U	340	U
3-Nitroaniline	860	U	880	U	880	U	860	U
4,6-Dinitro-2-methylphenol	860	U	880	U	880	U	860	U
4-Bromophenyl-phenylether	340	U	350	U	350	U	340	U
4-Chloro-3-methylphenol	340	U	350	U	350	U	340	U
4-Chloroaniline	340	U	350	U	350	U	340	U
4-Chlorophenyl-phenylether	340	U	350	U	350	U	340	U
4-Methylphenol	340	U	350	U	350	U	340	U
4-Nitroaniline	860	U	880	U	880	U	860	U
4-Nitrophenol	860	U	880	U	880	U	860	U
Acenaphthene	340	U	350	U	350	U	340	U
Acenaphthylene	340	U	350	U	350	U	340	U
Anthracene	340	U	350	U	350	U	340	U
Benzo(a)anthracene	340	U	350	U	350	U	340	U
Benzo(a)pyrene	340	U	350	U	350	U	340	U
Benzo(b)fluoranthene	340	U	350	U	350	U	340	U
Benzo(g,h,i)perylene	340	U	350	U	350	U	340	U
Benzo(k)fluoranthene	340	U	350	U	350	U	340	U
bis(2-Chloroethoxy)methane	340	U	350	U	350	U	340	U
bis(2-Chloroethyl)ether	340	U	350	U	350	U	340	U
bis(2-Ethylhexyl)phthalate	340	U	350	U	350	U	340	U
Butylbenzylphthalate	340	U	350	U	350	U	340	U
Carbazole	340	U	350	U	350	U	340	U
Chrysene	340	U	350	U	350	U	340	U
Di-n-butylphthalate	510	U	430	U	610	U	540	U
Di-n-octylphthalate	340	U	350	U	350	U	340	U
Dibenz(a,h)anthracene	340	U	350	U	350	U	340	U
Dibenzofuran	340	U	350	U	350	U	340	U
Diethylphthalate	340	U	350	U	350	U	340	U
Dimethylphthalate	340	U	350	U	350	U	340	U
Fluoranthene	340	U	350	U	350	U	340	U
Fluorene	340	U	350	U	350	U	340	U
Hexachlorobenzene	340	U	350	U	350	U	340	U
Hexachlorobutadiene	340	U	350	U	350	U	340	U
Hexachlorocyclopentadiene	340	U	350	U	350	U	340	U
Hexachloroethane	340	U	350	U	350	U	340	U
Indeno(1,2,3-cd)pyrene	340	U	350	U	350	U	340	U
Isophorone	340	U	350	U	350	U	340	U
N-Nitroso-di-n-propylamine	340	U	350	U	350	U	340	U
N-Nitrosodiphenylamine (1)	340	U	350	U	350	U	340	U
Naphthalene	340	U	350	U	350	U	340	U
Nitrobenzene	340	U	350	U	350	U	340	U
Pentachlorophenol	860	U	880	U	880	U	860	U
Phenanthrene	340	U	350	U	350	U	340	U
Phenol	340	U	350	U	350	U	340	U
Pyrene	340	U	350	U	350	U	340	U
Pesticides/PCBs, ug/kg								
4,4'-DDD	3.4	U	3.5	U	3.5	U	3.4	U
4,4'-DDE	3.4	U	3.5	U	3.5	U	3.4	U

Appendix D

Table D-1. Summary of Surface Soil Analytical Results
Study Area 3

Naval Training Center, Orlando
Orlando, FL

Sample ID	03S00101		03S00201		03S00301		03S00401	
Lab ID	G6090001		G6090002		G6096001		G6096002	
Sampling Date	20-Oct-94		20-Oct-94		21-Oct-94		21-Oct-94	
4,4'-DDT	3.4	U	3.5	U	3.5	U	3.4	U
Aldrin	1.8	U	1.8	U	1.8	U	1.8	U
alpha-BHC	1.8	U	1.8	U	1.8	U	1.8	U
alpha-Chlordane	1.8	U	1.8	U	1.8	U	1.8	U
Aroclor-1016	34	U	35	U	35	U	34	U
Aroclor-1221	69	U	71	U	71	U	69	U
Aroclor-1232	34	U	35	U	35	U	34	U
Aroclor-1242	34	U	35	U	35	U	34	U
Aroclor-1248	34	U	35	U	35	U	34	U
Aroclor-1254	34	U	35	U	35	U	34	U
Aroclor-1260	34	U	35	U	35	U	34	U
beta-BHC	1.8	U	1.8	U	1.8	U	1.8	U
delta-BHC	1.8	U	1.8	U	1.8	U	1.8	U
Dieldrin	3.4	U	3.5	U	3.5	U	3.4	U
Endosulfan I	1.8	U	1.8	U	1.8	U	1.8	U
Endosulfan II	3.4	U	3.5	U	3.5	U	3.4	U
Endosulfan sulfate	3.4	U	3.5	U	3.5	U	3.4	U
Endrin	3.4	U	3.5	U	3.5	U	3.4	U
Endrin aldehyde	3.4	U	3.5	U	3.5	U	3.4	U
Endrin ketone	3.4	U	3.5	U	3.5	U	3.4	U
gamma-BHC (Lindane)	1.8	U	1.8	U	1.8	U	1.8	U
gamma-Chlordane	1.8	U	1.8	U	1.8	U	1.8	U
Heptachlor	1.8	U	1.8	U	1.8	U	1.8	U
Heptachlor epoxide	1.8	U	1.8	U	1.8	U	1.8	U
Methoxychlor	18	U	18	U	18	U	18	U
Toxaphene	180	U	180	U	180	U	180	U
Inorganics, mg/kg								
Aluminum	1450		3280		4010		4330	
Antimony	4	U	4.1	U	4.1	U	4	U
Arsenic	0.51	B	0.76	B	0.82	B	0.69	J
Barium	4	J	12.4	J	19.7	J	22.7	J
Beryllium	0.04	U	0.04	B	0.13	B	0.05	B
Cadmium	0.6	U	0.62	U	0.78	B	0.6	U
Calcium	2090		1860		142000		571	B
Chromium	1.4	B	3.4		7.2		3.6	
Cobalt	0.62	U	0.63	U	0.63	U	0.62	U
Copper	0.35	U	0.36	U	0.86	B	0.44	U
Iron	530		716		966		942	
Lead	1.1		3		3.1		3.5	
Magnesium	54.1	J	69.6	J	954	B	71.1	J
Manganese	1.9	B	3.1	B	21		3.7	
Mercury	0.02	U	0.02	U	0.03	U	0.03	U
Nickel	1.9	U	2	U	1.9	U	1.9	U
Potassium	62	U	63.8	U	63.1	U	62	U
Selenium	0.41	U	0.42	U	0.41	UJ	0.41	U
Silver	0.53	U	0.55	U	0.54	U	0.53	U
Sodium	3.9	U	3.8	U	47.1	U	11.4	U
Thallium	0.27	U	0.27	U	0.27	U	0.27	U
Vanadium	1.4	B	2.3	B	9.9	B	2.6	B
Zinc	0.4	U	3.4	B	3.1	B	2.1	B

APPENDIX D

D-2 SUMMARY OF SUBSURFACE SOIL ANALYTICAL RESULTS

Appendix D

Table D-2. Summary of Subsurface Soil Analytical Results
Study Area 3

Naval Training Center, Orlando
Orlando, FL

Sample ID	03B00101		03B00201		03B00301		03B00301D		03B00401	
Lab ID	G6090003		G6090004		G6096004		G6096003		G6096005	
Sampling Date	20-Oct-94		20-Oct-94		21-Oct-94		21-Oct-94		21-Oct-94	
Volatile Organics, ug/kg										
1,1,1-Trichloroethane	11	U	12	U	12	U	12	U	12	U
1,1,2,2-Tetrachloroethane	11	U	12	U	12	U	12	U	12	U
1,1,2-Trichloroethane	11	U	12	U	12	U	12	U	12	U
1,1-Dichloroethane	11	U	12	U	12	U	12	U	12	U
1,1-Dichloroethene	11	U	12	U	12	U	12	U	12	U
1,2-Dichloroethane	11	U	12	U	12	U	12	U	12	U
1,2-Dichloroethene (total)	11	U	12	U	12	U	12	U	12	U
1,2-Dichloropropane	11	U	12	U	12	U	12	U	12	U
2-Butanone	11	U	12	U	12	U	12	U	12	U
2-Hexanone	11	U	12	U	12	U	12	U	12	U
4-Methyl-2-pentanone	11	U	12	U	12	U	12	U	12	U
Acetone	14	UJ	17	UJ	15	UJ	20	UJ	18	UJ
Benzene	11	U	12	U	12	U	12	U	12	U
Bromodichloromethane	11	U	12	U	12	U	12	U	12	U
Bromoform	11	U	12	U	12	U	12	U	12	U
Bromomethane	11	U	12	U	12	U	12	U	12	U
Carbon disulfide	11	U	12	U	12	U	12	U	12	U
Carbon tetrachloride	11	U	12	U	12	U	12	U	12	U
Chlorobenzene	11	U	12	U	12	U	12	U	12	U
Chloroethane	11	U	12	U	12	U	12	U	12	U
Chloroform	11	U	12	U	12	U	12	U	12	U
Chloromethane	11	U	12	U	12	U	12	U	12	U
cis-1,3-Dichloropropene	11	U	12	U	12	U	12	U	12	U
Dibromochloromethane	11	U	12	U	12	U	12	U	12	U
Ethylbenzene	11	U	12	U	12	U	12	U	12	U
Methylene chloride	11	UJ	11	UJ	10	UJ	11	UJ	10	UJ
Styrene	11	U	12	U	12	U	12	U	12	U
Tetrachloroethene	11	U	12	U	12	U	12	U	12	U
Toluene	11	U	12	U	12	U	12	U	12	U
trans-1,3-Dichloropropene	11	U	12	U	12	U	12	U	12	U
Trichloroethene	11	U	12	U	12	U	12	U	12	U
Vinyl chloride	11	U	12	U	12	U	12	U	12	U
Xylene (total)	11	U	12	U	12	U	12	U	12	U
Semivolatile organics, ug/kg										
1,2,4-Trichlorobenzene	360	U	390	U	390	U	400	U	400	U
1,2-Dichlorobenzene	360	U	390	U	390	U	400	U	400	U
1,3-Dichlorobenzene	360	U	390	U	390	U	400	U	400	U
1,4-Dichlorobenzene	360	U	390	U	390	U	400	U	400	U
2,2'-oxybis(1-Chloropropane)	360	U	390	U	390	U	400	U	400	U
2,4,5-Trichlorophenol	900	U	980	U	980	U	1000	U	1000	U
2,4,6-Trichlorophenol	360	U	390	U	390	U	400	U	400	U
2,4-Dichlorophenol	360	U	390	U	390	U	400	U	400	U
2,4-Dimethylphenol	360	U	390	U	390	U	400	U	400	U
2,4-Dinitrophenol	900	U	980	U	980	U	1000	U	1000	U
2,4-Dinitrotoluene	360	U	390	U	390	U	400	U	400	U
2,6-Dinitrotoluene	360	U	390	U	390	U	400	U	400	U
2-Chloronaphthalene	360	U	390	U	390	U	400	U	400	U
2-Chlorophenol	360	U	390	U	390	U	400	U	400	U
2-Methylnaphthalene	360	U	390	U	390	U	400	U	400	U
2-Methylphenol	360	U	390	U	390	U	400	U	400	U

Appendix D

Table D-2. Summary of Subsurface Soil Analytical Results
Study Area 3

Naval Training Center, Orlando
Orlando, FL

Sample ID	03B00101		03B00201		03B00301		03B00301D		03B00401	
Lab ID	G6090003		G6090004		G6096004		G6096003		G6096005	
Sampling Date	20-Oct-94		20-Oct-94		21-Oct-94		21-Oct-94		21-Oct-94	
2-Nitroaniline	900	U	980	U	980	U	1000	U	1000	U
2-Nitrophenol	360	U	390	U	390	U	400	U	400	U
3,3'-Dichlorobenzidine	360	U	390	U	390	U	400	U	400	U
3-Nitroaniline	900	U	980	U	980	U	1000	U	1000	U
4,6-Dinitro-2-methylphenol	900	U	980	U	980	U	1000	U	1000	U
4-Bromophenyl-phenylether	360	U	390	U	390	U	400	U	400	U
4-Chloro-3-methylphenol	360	U	390	U	390	U	400	U	400	U
4-Chloroaniline	360	U	390	U	390	U	400	U	400	U
4-Chlorophenyl-phenylether	360	U	390	U	390	U	400	U	400	U
4-Methylphenol	360	U	390	U	390	U	400	U	400	U
4-Nitroaniline	900	U	980	U	980	U	1000	U	1000	U
4-Nitrophenol	900	U	980	U	980	U	1000	U	1000	U
Acenaphthene	360	U	390	U	390	U	400	U	400	U
Acenaphthylene	360	U	390	U	390	U	400	U	400	U
Anthracene	360	U	390	U	390	U	400	U	400	U
Benzo(a)anthracene	360	U	390	U	390	U	400	U	400	U
Benzo(a)pyrene	360	U	390	U	390	U	400	U	400	U
Benzo(b)fluoranthene	360	U	390	U	390	U	400	U	400	U
Benzo(g,h,i)perylene	360	U	390	U	390	U	400	U	400	U
Benzo(k)fluoranthene	360	U	390	U	390	U	400	U	400	U
bis(2-Chloroethoxy)methane	360	U	390	U	390	U	400	U	400	U
bis(2-Chloroethyl)ether	360	U	390	U	390	U	400	U	400	U
bis(2-Ethylhexyl)phthalate	360	U	390	U	390	U	400	U	400	U
Butylbenzylphthalate	360	U	390	U	390	U	400	U	400	U
Carbazole	360	U	390	U	390	U	400	U	400	U
Chrysene	360	U	390	U	390	U	400	U	400	U
Di-n-butylphthalate	540	U	560	U	570	U	560	U	700	U
Di-n-octylphthalate	360	U	390	U	390	U	400	U	400	U
Dibenz(a,h)anthracene	360	U	390	U	390	U	400	U	400	U
Dibenzofuran	360	U	390	U	390	U	400	U	400	U
Diethylphthalate	360	U	390	U	390	U	400	U	400	U
Dimethylphthalate	360	U	390	U	390	U	400	U	400	U
Fluoranthene	360	U	390	U	390	U	400	U	400	U
Fluorene	360	U	390	U	390	U	400	U	400	U
Hexachlorobenzene	360	U	390	U	390	U	400	U	400	U
Hexachlorobutadiene	360	U	390	U	390	U	400	U	400	U
Hexachlorocyclopentadiene	360	U	390	U	390	U	400	U	400	U
Hexachloroethane	360	U	390	U	390	U	400	U	400	U
Indeno(1,2,3-cd)pyrene	360	U	390	U	390	U	400	U	400	U
Isophorone	360	U	390	U	390	U	400	U	400	U
N-Nitroso-di-n-propylamine	360	U	390	U	390	U	400	U	400	U
N-Nitrosodiphenylamine (1)	360	U	390	U	390	U	400	U	400	U
Naphthalene	360	U	390	U	390	U	400	U	400	U
Nitrobenzene	360	U	390	U	390	U	400	U	400	U
Pentachlorophenol	900	U	980	U	980	U	1000	U	1000	U
Phenanthrene	360	U	390	U	390	U	400	U	400	U
Phenol	360	U	390	U	390	U	400	U	400	U
Pyrene	360	U	390	U	390	U	400	U	400	U
Pesticides/PCBs, ug/kg										
4,4'-DDD	3.6	U	3.9	U	3.9	U	3.9	U	3.9	U
4,4'-DDE	3.6	U	3.9	U	3.9	U	3.9	U	3.9	U

Appendix D

Table D-2. Summary of Subsurface Soil Analytical Results
Study Area 3

Naval Training Center, Orlando
Orlando, FL

Sample ID	03B00101		03B00201		03B00301		03B00301D		03B00401	
Lab ID	G6090003		G6090004		G6096004		G6096003		G6096005	
Sampling Date	20-Oct-94		20-Oct-94		21-Oct-94		21-Oct-94		21-Oct-94	
4,4'-DDT	3.6	U	3.9	U	3.9	U	3.9	U	3.9	U
Aldrin	1.8	U	2	U	2	U	2	U	2	U
alpha-BHC	1.8	U	2	U	2	U	2	U	2	U
alpha-Chlordane	1.8	U	2	U	2	U	2	U	2	U
Aroclor-1016	36	U	39	U	39	U	39	U	39	U
Aroclor-1221	73	U	79	U	79	U	79	U	79	U
Aroclor-1232	36	U	39	U	39	U	39	U	39	U
Aroclor-1242	36	U	39	U	39	U	39	U	39	U
Aroclor-1248	36	U	39	U	39	U	39	U	39	U
Aroclor-1254	36	U	39	U	39	U	39	U	39	U
Aroclor-1260	36	U	39	U	39	U	39	U	39	U
beta-BHC	1.8	U	2	U	2	U	2	U	2	U
delta-BHC	1.8	U	2	U	2	U	2	U	2	U
Dieldrin	3.6	U	3.9	U	3.9	U	3.9	U	3.9	U
Endosulfan I	1.8	U	2	U	2	U	2	U	2	U
Endosulfan II	3.6	U	3.9	U	3.9	U	3.9	U	3.9	U
Endosulfan sulfate	3.6	U	3.9	U	3.9	U	3.9	U	3.9	U
Endrin	3.6	U	3.9	U	3.9	U	3.9	U	3.9	U
Endrin aldehyde	3.6	U	3.9	U	3.9	U	3.9	U	3.9	U
Endrin ketone	3.6	U	3.9	U	3.9	U	3.9	U	3.9	U
gamma-BHC (Lindane)	1.8	U	2	U	2	U	2	U	2	U
gamma-Chlordane	1.8	U	2	U	2	U	2	U	2	U
Heptachlor	1.8	U	2	U	2	U	2	U	2	U
Heptachlor epoxide	1.8	U	2	U	2	U	2	U	2	U
Methoxychlor	18	U	20	U	20	U	20	U	20	U
Toxaphene	180	U	200	U	200	U	200	U	200	U
Inorganics, mg/kg										
Aluminum	103		1540		300		351		166	
Antimony	4.2	U	4.6	U	4.6	U	4.7	U	4.6	U
Arsenic	0.41	U	0.44	U	0.02	UJ	0.45	UJ	0.02	UJ
Barium	0.2	J	0.25	J	0.15	U	0.16	U	0.25	J
Beryllium	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
Cadmium	0.63	U	0.68	U	0.69	U	0.7	U	0.69	U
Calcium	244	B	37	J	14.3	J	13.9	J	22.4	J
Chromium	0.4	U	2.5		0.69	B	0.53	B	0.43	U
Cobalt	0.65	U	0.7	U	0.71	U	0.72	U	0.71	U
Copper	0.37	U	0.4	U	0.41	U	0.42	U	0.41	U
Iron	86.3		47.2		50.2		50.3		65.5	
Lead	0.18	U	0.71		0.43	B	0.36	B	0.35	B
Magnesium	4	UJ	4.3	UJ	4.3	UJ	4.4	U	4.3	UJ
Manganese	0.61	B	0.24	U	0.73	B	0.7	B	0.35	B
Mercury	0.02	U	0.03	U	0.04	U	0.04	U	0.03	U
Nickel	2	U	2.2	U	2.2	U	2.2	U	2.2	U
Potassium	65.5	U	70.8	U	71.1	U	72.8	U	70.9	U
Selenium	0.43	U	0.46	UJ	0.46	UJ	0.48	U	0.46	UJ
Silver	0.56	U	0.61	U	0.61	U	0.63	U	0.61	U
Sodium	10	U	3.7	U	3.7	U	3.8	U	3.7	U
Thallium	0.28	U	0.3	U	0.31	U	0.31	U	0.31	U
Vanadium	0.58	U	0.67	B	0.63	U	0.64	U	0.63	U
Zinc	0.29	U	0.31	U	0.32	U	0.32	U	0.32	U

APPENDIX D

D-3 SUMMARY OF GROUNDWATER ANALYTICAL RESULTS, 1994 SAMPLING

Appendix D

Table D-3. Summary of Groundwater Analytical Results, 1994 Sampling Study Area 3

Naval Training Center, Orlando
Orlando, FL

Sample ID	03G00101		03G00201		03G00301		03G00401	
Lab ID	G6248001		G6248002		G6248003		G6248004	
Sampling Date	10-Nov-94		11-Nov-94		11-Nov-94		10-Nov-94	
Volatile organics, ug/L								
1,1,1-Trichloroethane	8		1	U	1	U	1	U
1,1,2,2-Tetrachloroethane	1	U	1	U	1	U	1	U
1,1,2-Trichloroethane	1	U	1	U	1	U	1	U
1,1-Dichloroethane	1	U	1	U	1	U	1	U
1,1-Dichloroethene	1	U	1	U	1	U	1	U
1,2-Dibromo-3-chloropropane	1	U	1	U	1	U	1	U
1,2-Dibromoethane	1	U	1	U	1	U	1	U
1,2-Dichloroethane	1	U	1	U	1	U	1	U
1,2-Dichloropropane	1	U	1	U	1	U	1	U
2-Butanone	5	UR	5	UR	5	UR	5	UR
2-Hexanone	5	UR	5	UR	5	UR	5	UR
4-Methyl-2-pentanone	5	U	5	U	5	U	5	U
Acetone	5	UR	5	UR	5	UR	5	UR
Benzene	1	U	1	U	1	U	1	U
Bromochloromethane	1	U	1	U	1	U	1	U
Bromodichloromethane	1	U	1	U	1	U	1	U
Bromoform	1	U	1	U	1	U	1	U
Bromomethane	1	U	1	U	1	U	1	U
Carbon disulfide	1	U	1	U	1	U	1	U
Carbon tetrachloride	1	U	1	U	1	U	1	U
Chlorobenzene	1	U	1	U	1	U	1	U
Chloroethane	1	U	1	U	1	U	1	U
Chloroform	1	U	1	U	1	U	1	U
Chloromethane	1	U	1	U	1	U	1	U
cis-1,2-Dichloroethene	1	U	1	U	1	U	1	U
cis-1,3-Dichloropropene	1	U	1	U	1	U	1	U
Dibromochloromethane	1	U	1	U	1	U	1	U
Ethylbenzene	1	U	1	U	1	U	1	U
Methylene chloride	1	U	1	U	1	U	1	U
Styrene	1	U	1	U	1	U	1	U
Tetrachloroethene	9		1	U	1	U	12	
Toluene	1	U	1	U	1	U	1	U
trans-1,2-Dichloroethene	1	U	1	U	1	U	1	U
trans-1,3-Dichloropropene	1	U	1	U	1	U	1	U
Trichloroethene	1	U	1	U	1	U	1	U
Vinyl chloride	1	U	1	U	1	U	1	U
Xylene (total)	1	U	1	U	1	U	1	U
Semivolatile organics, ug/L								
1,2,4-Trichlorobenzene	10	U	10	U	10	U	10	U
1,2-Dichlorobenzene	1	U	1	U	1	U	1	U
1,3-Dichlorobenzene	1	U	1	U	1	U	1	U
1,4-Dichlorobenzene	1	U	1	U	1	U	1	U
2,2'-oxybis(1-Chloropropane)	10	U	10	U	10	U	10	U
2,4,5-Trichlorophenol	25	U	25	U	25	U	25	U
2,4,6-Trichlorophenol	10	U	10	U	10	U	10	U
2,4-Dichlorophenol	10	U	10	U	10	U	10	U
2,4-Dimethylphenol	10	U	10	U	10	U	10	U
2,4-Dinitrophenol	25	U	25	U	25	U	25	U
2,4-Dinitrotoluene	10	U	10	U	10	U	10	U
2,6-Dinitrotoluene	10	U	10	U	10	U	10	U
2-Chloronaphthalene	10	U	10	U	10	U	10	U

Table D-3. Summary of Groundwater Analytical Results, 1994 Sampling Study Area 3

Naval Training Center, Orlando
Orlando, FL

Sample ID	03G00101		03G00201		03G00301		03G00401	
Lab ID	G6248001		G6248002		G6248003		G6248004	
Sampling Date	10-Nov-94		11-Nov-94		11-Nov-94		10-Nov-94	
2-Chlorophenol	10	U	10	U	10	U	10	U
2-Methylnaphthalene	10	U	10	U	10	U	10	U
2-Methylphenol	10	U	10	U	10	U	10	U
2-Nitroaniline	25	U	25	U	25	U	25	U
2-Nitrophenol	10	U	10	U	10	U	10	U
3,3'-Dichlorobenzidine	10	U	10	U	10	U	10	U
3-Nitroaniline	25	U	25	U	25	U	25	U
4,6-Dinitro-2-methylphenol	25	U	25	U	25	U	25	U
4-Bromophenyl-phenylether	10	U	10	U	10	U	10	U
4-Chloro-3-methylphenol	10	U	10	U	10	U	10	U
4-Chloroaniline	10	U	10	U	10	U	10	U
4-Chlorophenyl-phenylether	10	U	10	U	10	U	10	U
4-Methylphenol	10	U	10	U	10	U	10	U
4-Nitroaniline	25	U	25	U	25	U	25	U
4-Nitrophenol	25	U	25	U	25	U	25	U
Acenaphthene	10	U	10	U	10	U	10	U
Acenaphthylene	10	U	10	U	10	U	10	U
Anthracene	10	U	10	U	10	U	10	U
Benzo(a)anthracene	10	U	10	U	10	U	10	U
Benzo(a)pyrene	0.1	U	0.1	U	0.1	U	0.1	U
Benzo(b)fluoranthene	10	U	10	U	10	U	10	U
Benzo(g,h,i)perylene	10	U	10	U	10	U	10	U
Benzo(k)fluoranthene	10	U	10	U	10	U	10	U
bis(2-Chloroethoxy)methane	10	U	10	U	10	U	10	U
bis(2-Chloroethyl)ether	10	U	10	U	10	U	10	U
bis(2-Ethylhexyl)phthalate	1		1	U	1	U	1	
Butylbenzylphthalate	10	U	10	U	10	U	10	U
Carbazole	10	U	10	U	10	U	10	U
Chrysene	10	U	10	U	10	U	10	U
Di-n-butylphthalate	10	U	10	U	10	U	10	U
Di-n-octylphthalate	10	U	10	U	10	U	10	U
Dibenz(a,h)anthracene	10	U	10	U	10	U	10	U
Dibenzofuran	10	U	10	U	10	U	10	U
Diethylphthalate	10	U	10	U	10	U	10	U
Dimethylphthalate	10	U	10	U	10	U	10	U
Fluoranthene	10	U	10	U	10	U	10	U
Fluorene	10	U	10	U	10	U	10	U
Hexachlorobenzene	1	U	1	U	1	U	1	U
Hexachlorobutadiene	10	U	10	U	10	U	10	U
Hexachlorocyclopentadiene	10	U	10	U	10	U	10	U
Hexachloroethane	10	U	10	U	10	U	10	U
Indeno(1,2,3-cd)pyrene	10	U	10	U	10	U	10	U
Isophorone	10	U	10	U	10	U	10	U
N-Nitroso-di-n-propylamine	10	U	10	U	10	U	10	U
N-Nitrosodiphenylamine (1)	10	U	10	U	10	U	10	U
Naphthalene	10	U	10	U	10	U	10	U
Nitrobenzene	10	U	10	U	10	U	10	U
Pentachlorophenol	1	U	1	U	1	U	1	U
Phenanthrene	10	U	10	U	10	U	10	U
Phenol	10	U	10	U	10	U	10	U
Pyrene	10	U	10	U	10	U	10	U
Pesticides/PCBs, ug/L								

Appendix D

Table D-3. Summary of Groundwater Analytical Results, 1994 Sampling
Study Area 3

Naval Training Center, Orlando
Orlando, FL

Sample ID	03G00101		03G00201		03G00301		03G00401	
Lab ID	G6248001		G6248002		G6248003		G6248004	
Sampling Date	10-Nov-94		11-Nov-94		11-Nov-94		10-Nov-94	
4,4'-DDD	0.1	U	0.1	U	0.1	U	0.1	U
4,4'-DDE	0.1	U	0.1	U	0.1	U	0.1	U
4,4'-DDT	0.1	U	0.1	U	0.1	U	0.1	U
Aldrin	0.05	U	0.05	U	0.05	U	0.05	U
alpha-BHC	0.05	U	0.05	U	0.05	U	0.05	U
alpha-Chlordane	0.05	U	0.05	U	0.05	U	0.05	U
Aroclor-1016	0.5	U	0.5	U	0.5	U	0.5	U
Aroclor-1221	0.5	U	0.5	U	0.5	U	0.5	U
Aroclor-1232	0.5	U	0.5	U	0.5	U	0.5	U
Aroclor-1242	0.5	U	0.5	U	0.5	U	0.5	U
Aroclor-1248	0.5	U	0.5	U	0.5	U	0.5	U
Aroclor-1254	0.5	U	0.5	U	0.5	U	0.5	U
Aroclor-1260	0.5	U	0.5	U	0.49	J	0.5	U
beta-BHC	0.05	U	0.05	U	0.05	U	0.05	U
delta-BHC	0.05	U	0.05	U	0.05	U	0.05	U
Dieldrin	0.1	U	0.1	U	0.1	U	0.1	U
Endosulfan I	0.05	U	0.05	U	0.05	U	0.05	U
Endosulfan II	0.1	U	0.1	U	0.1	U	0.1	U
Endosulfan sulfate	0.1	U	0.1	U	0.1	U	0.1	U
Endrin	0.1	U	0.1	U	0.1	U	0.1	U
Endrin aldehyde	0.1	U	0.1	U	0.1	U	0.1	U
Endrin ketone	0.1	U	0.1	U	0.1	U	0.1	U
gamma-BHC (Lindane)	0.05	U	0.05	U	0.05	U	0.05	U
gamma-Chlordane	0.05	U	0.05	U	0.05	U	0.05	U
Heptachlor	0.05	U	0.05	U	0.05	U	0.05	U
Heptachlor epoxide	0.05	U	0.05	U	0.05	U	0.05	U
Methoxychlor	0.5	U	0.5	U	0.5	U	0.5	U
Toxaphene	5	U	5	U	5	U	5	U
Inorganics, ug/L								
Aluminum	90.1	B	468		117	B	292	
Antimony	1.9	U	2.8	UJ	1.2	U	1.2	U
Arsenic	1.5	U	1.5	U	1.5	U	1.5	U
Barium	0.5	U	2.6	B	11	B	0.79	B
Beryllium	0.2	U	0.2	U	0.2	U	0.2	U
Cadmium	2.1	U	2.1	U	2.1	U	2.1	U
Calcium	28800		6600		8020		26100	
Chromium	1.9	U	1.9	U	1.9	U	2.4	B
Cobalt	2.6	U	2.6	U	2.6	U	2.6	U
Copper	1.5	U	2.3	U	1.5	U	15	B
Iron	8	B	18.9	B	12.6	B	69.6	B
Lead	1.3	U	1.6	B	2.3	B	1.3	U
Magnesium	1860	B	467	B	276	B	2390	B
Manganese	3.2	B	5.7	B	31		1.6	B
Mercury	0.08	U	0.02	U	0.02	U	0.02	U
Nickel	11.9	B	9.1	U	12.2	B	9.1	U
Potassium	1130	B	1450	B	377	B	2140	B
Selenium	2	U	2	U	2	U	2	U
Silver	2.2	U	2.2	U	2.2	U	2.2	U
Sodium	2200	B	776	B	1390	B	3040	B
Thallium	1.3	U	1.3	U	1.3	U	1.3	U
Vanadium	2.8	B	4.2	B	2.5	U	3.9	B
Zinc	3.2	B	1.1	B	4.6	B	2.1	B

APPENDIX D

D-4 SUMMARY OF GROUNDWATER ANALYTICAL RESULTS, SUPPLEMENTAL SAMPLING, 1996 AND 1997

Appendix D

Table D-4. Summary of Groundwater Analytical Results, Supplemental Sampling, 1996 and 1997
Study Area 3

Naval Training Center, Orlando
Orlando, FL

Sample ID	03G00102		03G00103		03G00104		03G00402		03G00403		03G00404	
Lab ID	J9602002-002		C7C050130003		C7D140110006		J9602002-003		C7C050130003		C7D140110005	
Sampling Date	30-Dec-96		4-Mar-97		10-Apr-97		30-Dec-96		10-Apr-97		10-Apr-97	
Volatile organics, ug/L												
1,1,1,2-Tetrachloroethane	1	U	0.5	U	0.5	U	1	U	0.5	U	0.5	U
1,1,1-Trichloroethane	1	U	0.5	U	0.5	U	1	U	0.5	U	0.5	U
1,1,2,2-Tetrachloroethane	1	U	0.5	U	0.5	U	1	U	0.5	U	0.5	U
1,1,2-Trichloroethane	1	U	0.5	U	0.5	U	1	U	0.5	U	0.5	U
1,1-Dichloroethane	1	U	0.5	U	0.5	U	1	U	0.5	U	0.5	U
1,1-Dichloroethene	1	U	0.5	U	0.5	U	1	U	0.5	U	0.5	U
1,1-Dichloropropene	1	U	0.5	U	0.5	U	1	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	1	U	0.5	U	0.5	U	1	U	0.5	U	0.5	U
1,2,3-Trichloropropane	1	U	0.5	U	0.5	U	1	U	0.5	U	0.5	U
1,2,4-Trichlorobenzene	1	U	0.5	U	0.5	U	1	U	0.5	U	0.5	U
1,2,4-Trimethylbenzene	1	U	0.5	U	0.5	U	1	U	0.5	U	0.5	U
1,2-Dibromo-3-chloropropane	1	U	0.5	U	0.5	U	1	U	0.5	U	0.5	U
1,2-Dibromoethane	1	U	0.5	U	0.5	U	1	U	0.5	U	0.5	U
1,2-Dichlorobenzene	1	U	0.5	U	0.5	U	1	U	0.5	U	0.5	U
1,2-Dichloroethane	1	U	0.5	U	0.5	U	1	U	0.5	U	0.5	U
1,2-Dichloropropane	1	U	0.5	U	0.5	U	1	U	0.5	U	0.5	U
1,3,5-Trimethylbenzene	14		0.5	U	0.5	U	1	U	0.5	U	0.5	U
1,3-Dichlorobenzene	1	U	0.5	U	0.5	U	1	U	0.5	U	0.5	U
1,3-Dichloropropane	1	U	0.5	U	0.5	U	1	U	0.5	U	0.5	U
1,4-Dichlorobenzene	1	U	0.5	U	0.5	U	1	U	0.5	U	0.5	U
2,2-Dichloropropane	1	U	0.5	U	0.5	U	1	U	0.5	U	0.5	U
2-Chlorotoluene	1	U	0.5	U	0.5	U	1	U	0.5	U	0.5	U
4-Chlorotoluene	1	U	0.5	U	0.5	U	1	U	0.5	U	0.5	U
Benzene	1		0.5	U	0.5	U	1	U	0.5	U	0.5	U
Bromobenzene	1	U	0.5	U	0.5	U	1	U	0.5	U	0.5	U
Bromochloromethane	1	U	0.5	U	0.5	U	1	U	0.5	U	0.5	U
Bromodichloromethane	1	U	0.5	U	0.5	U	1	U	0.5	U	0.5	U
Bromoform	1	U	0.5	U	0.5	U	1	U	0.5	U	0.5	U
Bromomethane	1	U	0.5	U	0.5	U	1	U	0.5	U	0.5	U
Carbon tetrachloride	1	U	0.5	U	0.5	U	1	U	0.5	U	0.5	U
Chlorobenzene	1	U	0.5	U	0.5	U	1	U	0.5	U	0.5	U
Chlorodibromomethane	1	U	0.5	U	0.5	U	1	U	0.5	U	0.5	U
Chloroethane	1	U	0.5	U	0.5	U	1	U	0.5	U	0.5	U
Chloroform	1	U	0.5	U	0.5	U	1	U	0.5	U	0.5	U
Chloromethane	1	U	0.5	U	0.5	U	1	U	0.5	U	0.5	U
cis-1,2-Dichloroethene	1	U	0.5	U	0.5	U	1	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	1	U	0.5	U	0.5	U	1	U	0.5	U	0.5	U
Dibromomethane	1	U	0.5	U	0.5	U	1	U	0.5	U	0.5	U
Dichlorodifluoromethane	1	U	0.5	U	0.5	U	1	U	0.5	U	0.5	U
Ethylbenzene	6		0.5	U	0.5	U	1	U	0.5	U	0.5	U
Hexachlorobutadiene	1	U	0.5	U	0.5	U	1	U	0.5	U	0.5	U
Isopropylbenzene	2		0.5	U	0.5	U	1	U	0.5	U	0.5	U
Methylene chloride	1	U	0.23	J	0.5	U	1	U	0.5	U	0.5	U
n-Butylbenzene	1	U	0.5	U	0.5	U	1	U	0.5	U	0.5	U
n-Propylbenzene	4		0.5	U	0.5	U	1	U	0.5	U	0.5	U
Naphthalene	15		0.5	U	0.5	U	1	U	0.5	U	0.5	U
p-Isopropyltoluene	1	U	0.5	U	0.5	U	1	U	0.5	U	0.5	U
sec-Butylbenzene	1	U	0.5	U	0.5	U	1	U	0.5	U	0.5	U

Appendix D

Table D-4. Summary of Groundwater Analytical Results, Supplemental Sampling, 1996 and 1997
Study Area 3

Naval Training Center, Orlando
Orlando, FL

Sample ID	03G00102		03G00103		03G00104		03G00402		03G00403		03G00404	
Lab ID	J9602002-002		C7C050130003		C7D140110006		J9602002-003		C7C050130003		C7D140110005	
Sampling Date	30-Dec-96		4-Mar-97		10-Apr-97		30-Dec-96		10-Apr-97		10-Apr-97	
Styrene	1	U	0.5	U	0.5	U	1	U	0.5	U	0.5	U
tert-Butylbenzene	1	U	0.5	U	0.5	U	1	U	0.5	U	0.5	U
Tetrachloroethene	1	U	5.3		5.9		1	U	0.65		0.88	
Toluene	4		0.5	U	0.5	U	1	U	0.5	U	0.5	U
trans-1,2-Dichloroethene	1	U	0.5	U	0.5	U	1	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	1	U	0.5	U	0.5	U	1	U	0.5	U	0.5	U
Trichloroethene	1	U	0.5	U	0.5	U	1	U	0.5	U	0.5	U
Trichlorofluoromethane	1	U	0.5	U	0.5	U	1	U	0.5	U	0.2	J
Vinyl chloride	1	U	0.5	U	0.5	U	1	U	0.5	U	0.5	U
Xylenes (total)	7		0.5	U	0.5	U	1	U	0.5	U	0.5	U

Query Results

14 THUNDERSTORM & HIGH WIND event (s) occurred in **Roane County, Tennessee** between **01/01/1993** and **05/31/1999**.

*Click on **Location or County** to display Details.*

Mag: Magnitude
Dth: Deaths
Inj: Injuries
PrD: Property Damage
CrD: Crop Damage

Location or County	Date	Time	Type	Mag	Dth	Inj	PrD	CrD
Tennessee								
1 Eastern Roane	01/24/1993	0900	Thunderstorm Winds	N/A	0	0	1K	0
2 TNZ68>74;85>87;100>102	01/28/1994	0130	High Winds	0 kts.	0	0	500K	0
3 Kingston	05/09/1995	1455	Thunderstorm Winds	N/A	0	0	5K	0
4 Rockwood	05/09/1995	1510	Thunderstorm Winds	N/A	0	0	01	0
5 Southern Roane Co	05/10/1995	2110	Thunderstorm Winds	N/A	0	0	1K	0
6 Rockwood	05/14/1995	0600	Thunderstorm Winds	N/A	0	0	2K	0
7 Oliver Springs	05/18/1995	1745	Thunderstorm Winds	N/A	0	0	5K	0
8 Rockwood	06/11/1995	1515	Thunderstorm Winds	N/A	0	0	1K	0
9 Kingston	06/30/1995	1500	Thunderstorm Winds	N/A	0	0	2K	0
10 Kingston	08/01/1995	1615	Thunderstorm Winds	N/A	0	0	10K	0
11 Countywide	08/01/1995	1800	Thunderstorm Winds	N/A	0	0	10K	0
12 TNZ036 - 039>044 - 067>074 - 083>087 - 099>102	10/05/1995	0030	High Winds	0 kts.	0	0	2M	0
13 TNZ013 - 036 - 040 - 041 - 047 - 066 - 067 - 073 - 074 - 083 - 085	11/11/1995	1000	High Winds	0 kts.	0	0	50K	0
14 Countywide	03/20/1998	02:00 AM	Tstm Wind/hail	0 kts.	0	0	0	10K
				TOTALS:	0	0	3M	10K

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