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BASE REALIGNMENT AND CLOSURE ENVIRONMENTAL SITE SCREENING REPORT FOR STUDY AREA 53 NTC ORLANDO FL

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ABB ENVIRONMENTAL

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BASE REALIGNMENT AND CLOSURE ENVIRONMENTAL SITE SCREENING REPORT

STUDY AREA 53
KWIK SHOPPE

NAVAL TRAINING CENTER
ORLANDO, FLORIDA

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

JANUARY 1997

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

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STUDY AREA 53
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NAVAL TRAINING CENTER
ORLANDO, FLORIDA

Unit Identification Code: N65928

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

Prepared by:

ABB Environmental Services, Inc.
2590 Executive Center Circle, East
Tallahassee, Florida 32301

Prepared for:

Department of the Navy, Southern Division
Naval Facilities Engineering Command
2155 Eagle Drive
North Charleston, South Carolina 29418

Barbara Nwokike, Code 1873, Engineer-in-Charge

January 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: January 14, 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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Study Area 53, Kwik Shoppe
Naval Training Center
Orlando, Florida

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Base Realignment and Closure
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GLOSSARY

ABB-ES	ABB Environmental Services, Inc.
bls	below land surface
CLP	Contract Laboratory program
DQO	data quality objective
FDEP	Florida Department of Environmental Protection
FID	flame ionization detector
GC	gas chromatograph
GPR	ground-penetrating radar
$\mu g/\ell$	micrograms per liter
PCE	perchloroethylene
QC	quality control
RBC	risk-based concentration
SA	study area
SCG	soil cleanup goals
TCE	trichloroethene
TCL	target compound list
USEPA	U.S. Environmental Protection Agency
UST	underground storage tank

1.0 STUDY AREA (SA) 53, KWIK SHOPPE (BUILDING 7262), MCCOY ANNEX

This report contains information gathered as a result of site screening activities conducted at SA 53, the Kwik Shoppe, a coin-operated laundry and dry-cleaning facility once located in Building 7262 (Figures 1 and 2). Site screening investigations at SA 53 began on March 22, 1996, and were completed on June 14, 1996. Proposed field activities were presented in the Site Screening Plan, Air Force Sites, Addendum 2 (ABB Environmental Services, Inc. [ABB-ES], 1995).

1.1 BACKGROUND AND CONDITIONS. The focus of the site screening investigation at SA 53 was the area surrounding Building 7262, formerly used as a laundry, including an area where an underground storage tank (UST) or associated pipes may have been located.

Study Area 53 is located in the central portion of the McCoy Annex of the Naval Training Center in Orlando, Florida. The SA includes Building 7262, which was originally constructed as a laundry facility, and the surrounding area. Building 7262 has most recently been used as a convenience store and is currently unoccupied. The building is surrounded by grass on the north and west sides, and asphalt pavement to the east and south.

1.2 SA 53, INVESTIGATION SUMMARY. The objectives for the site screening activities were to identify whether USTs or pipelines were present at the site and evaluate what environmental media may have been affected during past uses of the site. To accomplish these objectives, the following field activities were completed:

- geophysics (pipe and cable locator and ground-penetrating radar)
- drain investigation
- soil screening
- surface soil sampling
- subsurface soil sampling
- temporary monitoring well installation
- groundwater sampling

In order to evaluate potential environmental impact from past site use, a geophysical survey was conducted over the potential UST location, the drain at the north end of Building 7262 was investigated, and soil and groundwater samples were collected from locations around Building 7262 and analyzed for various analytical parameters.

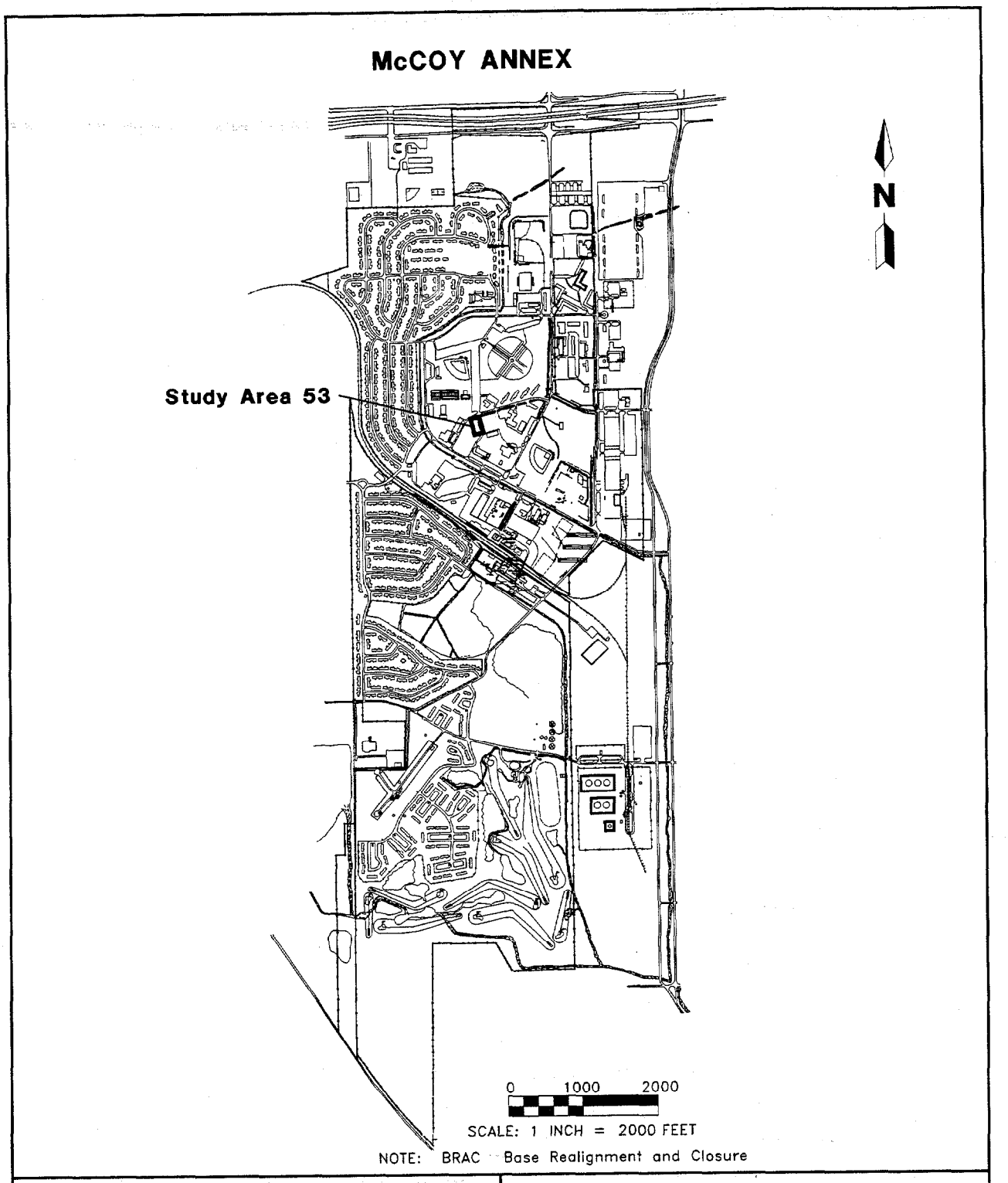

FIGURE 1
STUDY AREA LOCATION

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TECHNICAL MEMORANDUM
BRAC ENVIRONMENTAL
SITE SCREENING INVESTIGATION
STUDY AREA 53
NAVAL TRAINING CENTER
ORLANDO, FLORIDA

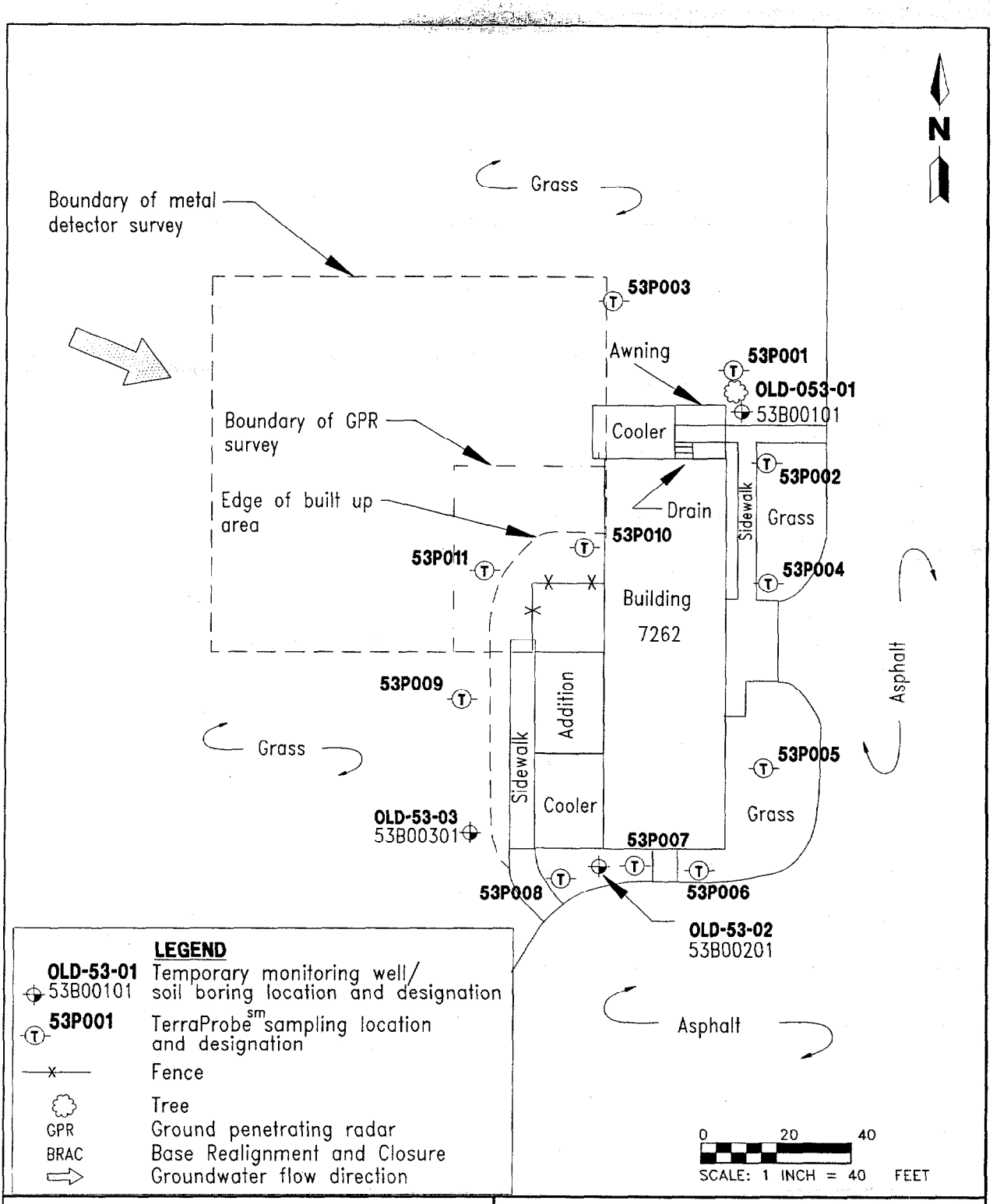

FIGURE 2
SAMPLE LOCATIONS
BUILDING 7262
MCCOY ANNEX

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TECHNICAL MEMORANDUM
BRAC ENVIRONMENTAL
SITE SCREENING INVESTIGATION
STUDY AREA 53
NAVAL TRAINING CENTER
ORLANDO, FLORIDA

Soil samples analyzed onsite were analyzed in accordance with U.S. Environmental Protection Agency (USEPA) Level II data quality objectives (DQOs). Soil and groundwater samples submitted for laboratory analysis were analyzed in accordance with USEPA Level IV DQOs.

1.2.1 Geophysical Survey On March 22, 1996, ABB-ES personnel established a survey grid in the northwestern part of the site in the area where building drawings had indicated the location of oil supply lines for a boiler. A geophysical survey was conducted on the same day. The geophysical techniques included a metal detector survey with a pipe and cable locator and ground penetrating radar (GPR).

The metal detector relies on electromagnetic induction to provide real-time indications of distortions of the earth's magnetic field produced by buried metallic objects (steel and other metallic materials). A 9,600-square-foot area at the northwest corner of Building 7262 was surveyed with the metal detector. The survey lines were spaced 10 feet apart and oriented west to east to minimize the influence of the building.

Following the metal detector survey, a GPR survey was completed in the area near Building 7262 to determine if any pipes or USTs had been masked by electromagnetic interference near the building. The GPR technique is effective in mapping buried utilities and nonmagnetic buried objects. The 1,600-square-foot survey area was biased towards the built up area adjacent to the west side of Building 7262. The survey lines for the GPR survey were spaced 5 feet apart and oriented south to north.

1.2.2 Drain Investigation ABB-ES personnel inspected the drain at the north end of Building 7262. A pipe exited the west side of the drain, in the direction of a sewer line connected to Building 7262 shown on utility maps of the area. Because the drain appeared to be connected to the sewer system, no samples were collected.

1.2.3 Soil Screening For onsite screening, 9 samples were collected from surface soil locations (sample numbers 53P00101 through 53P00901), and 98 samples were collected from 11 subsurface soil sample locations (53P001 through 53P011).

Table 1 presents a summary of the sampling and analysis program for SA 53.

Table 1
Summary of Sampling and Analysis Program

Base Realignment and Closure
Site Screening Investigation
Study Area 53, Kwik Shoppe
Naval Training Center
Orlando, Florida

Matrix	Onsite Screening	Confirmatory Sample[1]	Offsite Analysis
Surface Soil	9	0	[2]2
Subsurface Soil	98	11	[1]3
Groundwater	0	0	[1]3

[1] Analyzed for target compound list (TCL) volatile organic compound (VOCs).
[2] Analyzed for TCL VOCs and semivolatile organic compound, and target analyte list inorganics.

During April and May 1996, the field team collected surface and subsurface soil samples at 11 locations around the perimeter of Building 7262. The surface soil samples (0-1 foot) were collected with hand augers. The subsurface soil samples were collected at a 5-foot interval to a maximum depth of 47 feet with TerraProbe℠ direct-push soil samplers. Gray clay was encountered at each TerraProbe℠ location from 45 to 47 feet below land surface (bls). Investigation below this depth was terminated to prevent cross contamination of deeper strata underlying the clay unit.

The majority of the soil samples were field screened for perchloroethylene (PCE) and trichloroethene (TCE) with an HNu, Inc. Model 311 gas chromatograph (GC). The remainder of the samples were analyzed for a wider range of organic compounds with a Hewlett Packard 5890 GC with a purge-and-trap concentrator. No flame ionization detector (FID) response was noted during screening of the soil samples. Appropriate quality control (QC) samples were collected and analyzed onsite. Selected samples were sent to an offsite laboratory for confirmatory analysis.

1.2.4 Surface Soil Sampling Two surface soil samples (53P01001 and 53P011-01) were collected with hand augers from the built-up area adjacent to the west side of Building 7262 to determine if any contamination had resulted from UST operations. One sample, 53P01001, was collected from the middle of the built-up area. Sample 53P01101 was collected adjacent to west side of the built-up area. No FID response was noted at the surface soil sample locations. Appropriate QC samples were collected and submitted for laboratory analysis. Surface soil samples were submitted for Contract Laboratory program (CLP) target compound list (TCL) volatile organic compounds, TCL semivolatile organic compounds, and target analyte list metals.

1.2.5 Subsurface Soil Sampling Three soil borings were completed with hand augers at SA 53. One subsurface soil sample was collected from each boring (sample numbers 53B00101 through 53B00301) from the interval directly above the water table (4 to 5 feet bls). No FID response was noted during soil boring completion activities. Appropriate QC samples were collected and submitted for laboratory analysis.

One boring, 53B001, was placed at the northeast corner of Building 7262 to determine background conditions at the site. Boring 53B002 was located at the south end of Building 7262 to evaluate the area of most positive field screening results. The third boring, 53B003, was placed to the west of Building 7262 in an area with no field screening data. Subsurface soil samples were analyzed for CLP TCL volatile organic compounds.

1.2.6 Groundwater Sampling Three temporary monitoring wells were installed at locations OLD-53-01, OLD-53-02 and OLD-53-03, in the hand-augered soil borings. The borings were advanced to approximately 4 feet below the water table, which is approximately 4 to 5 feet bls. A slotted 2-inch diameter well screen was lowered into each boring and the annular space was filled with filter sand. After purging, groundwater samples were collected (sample numbers 53G00101 through 53G00301) using the low-flow technique. The well screen was then withdrawn and the boring backfilled with granular bentonite. Appropriate QC samples were collected and submitted for laboratory analysis. The subsurface soil and groundwater samples were analyzed for CLP TCL volatile organic compounds.

1.3 SA 53, RESULTS. The field GC soil screening results are presented as Attachment A, which includes A-1, Summary of Field GC Screening; A-2, Summary of Positive Detections in Surface Soil Analytical Results, TerraProbe℠ Confirmation Samples; and A-3, Summary of Positive Detections in Subsurface Soil Analytical Results, TerraProbe℠ Confirmation Samples. The results of the soil and groundwater analyses are presented as Attachment B, which includes B-1, Summary of Positive Detections in Soil Analytical Results and B-2, Summary of Positive Detections in Groundwater Analytical Results. Attachment C contains the Summary of Analytical Results, including C-1, Summary of Confirmation Sample Analytical Results; C-2, Summary of Soil Analytical Results; and C-3, Summary of Groundwater Analytical Results.

The surface and subsurface soil analytical results were evaluated by comparing their detected concentrations to (1) their respective site-specific (McCoy Annex) soil background concentrations; (2) Florida Department of Environmental Protection's (FDEP's) soil cleanup goals (SCGs) for residential soils, and (3) USEPA Region III risk-based concentrations (RBCs) for residential and industrial soil. Groundwater analytical results were compared to basewide groundwater background concentrations, FDEP's groundwater guideline values, Federal MCLs, and USEPA Region III RBCs. The significant findings from this investigation follow.

1.3.1 Geophysical Survey Data from the metal detector survey provided no evidence of buried metallic materials, including pipes or tanks. The GPR survey did not indicate the presence of tanks or pipes in the survey area.

1.3.2 Drain Investigation ABB-ES personnel inspected the drain at the north end of Building 7262. A pipe exited the west side of the drain, in the direction of a sewer line connected to Building 7262 (shown on utility maps of the area). Since the drain appeared to be connected to the sewer system, no samples were collected.

1.3.3 Soil Screening Onsite soil screening analytical results indicate concentrations of PCE in 13 of the soil screening samples (53P00604, 53P00701, 53P00703, 53P00704, 53P00707, 53P00803, 53P00807, 53P00808, 53P00902, 53P00903, 53P00904, 53P00907, and 53P01107). None of the corresponding samples analyzed offsite (53P00604, 53P00704, 53P00808, 53P00907, and 53P01107) had PCE detections.

Volatile organic compounds detected in soil screening confirmatory samples include acetone (53P00907), xylenes (53P01107), and TCE (53P00604, 53P00704, 53P00808, 53P00907, and 53P01107). All volatile organic compound detections in these confirmatory samples were below their corresponding screening criteria.

1.3.4 Surface Soil Sampling Analytical results in both surface soil samples (53P01001 and 53P01101) indicate concentrations of copper and zinc exceeding their respective background screening concentrations. Manganese and zinc exceeded background screening concentrations in one sample (53P01001) or its duplicate. None of the analytes detected exceeded their corresponding residential RBC or SCG values.

Volatile organics detected in surface soil samples included ethylbenzene and xylenes. All volatile organic compound detections were below their corresponding screening criteria. Leachability-based SCG values do not apply, as no organic compounds were present in groundwater above FDEP groundwater guidance concentrations (see below).

1.3.5 **Subsurface Soil Sampling** Volatile organics detected in subsurface soil samples included ethylbenzene, methylene chloride, and xylenes. All volatile organic compound detections were below their corresponding screening criteria. Leachability-based SCG values do not apply, as no organic compounds were present in groundwater above FDEP groundwater guidance concentrations (see below).

1.3.6 **Groundwater Sampling** The volatile organic compound TCE was detected in one groundwater sample (53G00201). The TCE concentration detected in this sample was equivalent to the FDEP guidance value of 3 micrograms per liter ($\mu g/\ell$), is below the Federal maximum contaminant level of 5 $\mu g/\ell$, and is higher than the USEPA Region III RBC (tapwater) of 1.1 $\mu g/\ell$ c (carcinogenic).

1.4 **SA 53, CONCLUSIONS AND RECOMMENDATIONS**. The geophysical survey conducted at SA 53 did not detect underground pipes or tanks.

Soil screening, surface soil, and subsurface soil samples collected at SA 53 did not contain concentrations of analytes greater than their respective screening criteria.

One groundwater sample collected at the south end of Building 7262 had a reported concentration of TCE of 3 $\mu g/\ell$, which exceeded the USEPA Region III RBC for tap water of 1.1 $\mu g/\ell$ c (carcinogenic pathway), was equal to the FDEP guidance value and was below the Federal MCL. However, this concentration does not appear to represent a significant environmental concern because TCE was detected in only one groundwater sample (53G00201 in well OLD-53-02) at a concentration of concern. A temporary well upgradient from the TCE detection, OLD-53-03, did not detect TCE, nor did any of the soil samples taken in the immediate vicinity (locations 53P006, 53P007 and 53P008).

Based on information available and evaluation of the site screening data for this study area, ABB-ES recommends the following:

- a classification of 3/Light Green for SA 53, because evidence indicates the storage, release, disposal, and/or migration of hazardous substances or petroleum products, but at concentrations that do not require a removal or remedial action.

- SA 53 is suitable for transfer with no further requirement for evaluation.

The undersigned members of the Orlando Partnering Team concur with the findings and recommendations of the site screening program for SA 53.

STUDY AREA 53

Nancy Rodriguez	1/23/97
U.S. Environmental Protection Agency, Region IV	Date
John Mitchell	1/23/97
Florida Department of Environmental Protection	Date
Wayne Howell	1/23/97
U.S. Department of the Navy	Date

REFERENCE

ABB Environmental Services, Inc., 1995, Site Screening Plan, Former Air Force Sites, Addendum 2, Naval Training Center, Orlando, Florida: prepared for Southern Division, Naval Facilities Engineering Command, Charleston, South Carolina, December.

ATTACHMENT A

SUMMARY OF SOIL SCREENING RESULTS

A-1 Summary of Field GC Screening
A-2 Summary of Positive Detections in Surface Soil Analytical Results, Terraprobe℠ Confirmation Samples
A-3 Summary of Positive Detections in Subsurface Soil Analytical Results, Terraprobe℠ Confirmation Samples

ATTACHMENT A-1

SUMMARY OF FIELD GC SCREENING

Table A-1
Summary of Field GC Screening

Base Realignment and Closure
Site Screening Investigation
Study Area 53, Kwik Shoppe
Naval Training Center
Orlando, Florida

Sample ID	Sampling Date	FID (ppm)	Depth (ft bls)	TCE	PCE (ppb)	Vinyl Chloride	1,1-DCE	t-1,2-DCE	c-1,2-DCE	Benzene	Toluene	Ethylbenzene	m/p-Xylene	o-Xylene
53P00101	05/01/96	0	0-1	U	U	NA	NA	NA	NA	NA	NA	NA	NA	NA
53P00102	04/26/96	0	5-7	U	U	NA	NA	NA	NA	NA	NA	NA	NA	NA
53P00103	04/26/96	0	10-12	U	U	NA	NA	NA	NA	NA	NA	NA	NA	NA
53P00104	04/26/96	0	15-17	U	U	NA	NA	NA	NA	NA	NA	NA	NA	NA
53P00105	04/26/96	0	20-22	U	U	NA	NA	NA	NA	NA	NA	NA	NA	NA
53P00106	04/26/96	0	25-27	U	U	NA	NA	NA	NA	NA	NA	NA	NA	NA
53P00107	04/26/96	0	30-32	U	U	NA	NA	NA	NA	NA	NA	NA	NA	NA
53P00108	04/26/96	0	35-37	U	U	NA	NA	NA	NA	NA	NA	NA	NA	NA
53P00109	04/26/96	0	40-42	U	U	NA	NA	NA	NA	NA	NA	NA	NA	NA
53P00110	04/26/96	0	45-47	U	U	NA	NA	NA	NA	NA	NA	NA	NA	NA
53P00201	05/01/96	0	0-1	U	U	NA	NA	NA	NA	NA	NA	NA	NA	NA
53P00202	05/01/96	0	5-7	U	U	NA	NA	NA	NA	NA	NA	NA	NA	NA
53P00203	05/01/96	0	10-12	U	U	NA	NA	NA	NA	NA	NA	NA	NA	NA
53P00204	05/01/96	0	15-17	U	U	NA	NA	NA	NA	NA	NA	NA	NA	NA
53P00205	05/01/96	0	20-22	U	U	NA	NA	NA	NA	NA	NA	NA	NA	NA
53P00206	05/01/96	0	25-27	U	U	NA	NA	NA	NA	NA	NA	NA	NA	NA
53P00207	05/01/96	0	30-32	U	U	NA	NA	NA	NA	NA	NA	NA	NA	NA
53P00208	05/01/96	0	35-37	U	U	NA	NA	NA	NA	NA	NA	NA	NA	NA
53P00209	05/01/96	0	40-42	U	U	NA	NA	NA	NA	NA	NA	NA	NA	NA
53P00210	05/01/96	0	45-47	U	U	NA	NA	NA	NA	NA	NA	NA	NA	NA
53P00301	05/02/96	0	0-1	U	U	U	U	U	U	U	U	U	U	U
53P00302	05/02/96	0	5-7	U	U	U	U	U	U	U	U	U	U	U
53P00303	05/02/96	0	10-12	U	U	U	U	U	U	U	U	U	U	U
53P00304	05/02/96	0	15-17	U	U	U	U	U	U	U	U	U	U	U
53P00305	05/02/96	0	20-22	U	U	U	U	U	U	U	U	U	U	U
53P00306	05/02/96	0	25-27	U	U	U	U	U	U	U	U	U	U	U

See notes at end of table.

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Table A-1 (Continued)
Summary of Field GC Screening

Base Realignment and Closure
Site Screening Investigation
Study Area 53, Kwik Shoppe
Naval Training Center
Orlando, Florida

Sample ID	Sampling Date	FID (ppm)	Depth (ft bls)	TCE	PCE (ppb)	Vinyl Chloride	1,1-DCE	t-1,2-DCE	c-1,2-DCE	Benzene	Toluene	Ethylbenzene	m/p-Xylene	o-Xylene
53P00307	05/02/96	0	30-32	U	U	U	U	U	U	U	U	U	U	U
53P00308	05/02/96	0	37-39	U	U	U	U	U	U	U	U	U	U	U
53P00309	05/02/96	0	40-42	U	U	U	U	U	U	U	U	U	U	U
53P00310	05/02/96	0	45-47	U	U	U	U	U	U	U	U	U	U	U
53P00401	05/01/96	0	0-1	U	U	NA	NA	NA	NA	NA	NA	NA	NA	NA
53P00402	05/01/96	0	5-7	U	U	NA	NA	NA	NA	NA	NA	NA	NA	NA
53P00403	05/01/96	0	10-12	U	U	NA	NA	NA	NA	NA	NA	NA	NA	NA
53P00404	05/01/96	0	15-17	U	U	NA	NA	NA	NA	NA	NA	NA	NA	NA
53P00405	05/01/96	0	20-22	U	U	NA	NA	NA	NA	NA	NA	NA	NA	NA
53P00406	05/01/96	0	25-27	U	U	NA	NA	NA	NA	NA	NA	NA	NA	NA
53P00407	05/01/96	0	30-32	U	U	NA	NA	NA	NA	NA	NA	NA	NA	NA
53P00408	05/01/96	0	35-37	U	U	NA	NA	NA	NA	NA	NA	NA	NA	NA
53P00409	05/01/96	0	40-42	U	U	NA	NA	NA	NA	NA	NA	NA	NA	NA
53P00410	05/01/96	0	45-47	U	U	NA	NA	NA	NA	NA	NA	NA	NA	NA
53P00501	04/25/96	0	0-1	U	U	NA	NA	NA	NA	NA	NA	NA	NA	NA
53P00502	04/25/96	0	5-7	U	U	NA	NA	NA	NA	NA	NA	NA	NA	NA
53P00503	04/25/96	0	10-12	U	U	NA	NA	NA	NA	NA	NA	NA	NA	NA
53P00504	04/25/96	0	15-17	U	U	NA	NA	NA	NA	NA	NA	NA	NA	NA
53P00505	04/25/96	0	20-22	U	U	NA	NA	NA	NA	NA	NA	NA	NA	NA
53P00506	04/25/96	0	25-27	U	U	NA	NA	NA	NA	NA	NA	NA	NA	NA
53P00507	04/25/96	0	30-32	U	U	NA	NA	NA	NA	NA	NA	NA	NA	NA
53P00508	04/25/96	0	35-37	U	U	NA	NA	NA	NA	NA	NA	NA	NA	NA
53P00509	04/25/96	0	40-42	U	U	NA	NA	NA	NA	NA	NA	NA	NA	NA
53P00510	04/25/96	0	45-47	U	U	NA	NA	NA	NA	NA	NA	NA	NA	NA
53P00601	04/25/96	0	0-1	U	U	NA	NA	NA	NA	NA	NA	NA	NA	NA
53P00602	04/25/96	0	5-7	U	U	NA	NA	NA	NA	NA	NA	NA	NA	NA

See notes at end of table.

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Table A-1 (Continued)
Summary of Field GC Screening

Base Realignment and Closure
Site Screening Investigation
Study Area 53, Kwik Shoppe
Naval Training Center
Orlando, Florida

Sample ID	Sampling Date	FID (ppm)	Depth (ft bls)	TCE	PCE (ppb)	Vinyl Chloride	1,1-DCE	t-1,2-DCE	c-1,2-DCE	Benzene	Toluene	Ethylbenzene	m/p-Xylene	o-Xylene
53P00603	04/25/96	0	10-12	U	U	NA	NA	NA	NA	NA	NA	NA	NA	NA
53P00604	04/25/96	0	15-17	U	**1.0**	NA	NA	NA	NA	NA	NA	NA	NA	NA
53P00605	04/25/96	0	20-22	U	U	NA	NA	NA	NA	NA	NA	NA	NA	NA
53P00606	04/25/96	0	25-27	U	U	NA	NA	NA	NA	NA	NA	NA	NA	NA
53P00607	04/25/96	0	30-32	U	U	NA	NA	NA	NA	NA	NA	NA	NA	NA
53P00608	04/25/96	0	35-37	U	U	NA	NA	NA	NA	NA	NA	NA	NA	NA
53P00609	04/25/96	0	40-42	U	U	NA	NA	NA	NA	NA	NA	NA	NA	NA
53P00610	04/25/96	0	45-47	U	U	NA	NA	NA	NA	NA	NA	NA	NA	NA
53P00701	04/19/96	0	0-1	U	**< 1**	NA	NA	NA	NA	NA	NA	NA	NA	NA
53P00702	04/19/96	0	5-7	U	U	NA	NA	NA	NA	NA	NA	NA	NA	NA
53P00703	04/19/96	0	10-12	U	**< 1**	NA	NA	NA	NA	NA	NA	NA	NA	NA
53P00704	04/19/96	0	15-17	U	**1.24**	NA	NA	NA	NA	NA	NA	NA	NA	NA
53P00705	04/19/96	0	20-22	U	U	NA	NA	NA	NA	NA	NA	NA	NA	NA
53P00706	04/19/96	0	25-27	U	U	NA	NA	NA	NA	NA	NA	NA	NA	NA
53P00707	04/19/96	0	30-32	U	**1.41**	NA	NA	NA	NA	NA	NA	NA	NA	NA
53P00708	04/19/96	0	35-37	U	U	NA	NA	NA	NA	NA	NA	NA	NA	NA
53P00709	04/19/96	0	40-42	U	U	NA	NA	NA	NA	NA	NA	NA	NA	NA
53P00710	04/19/96	0	45-47	U	U	NA	NA	NA	NA	NA	NA	NA	NA	NA
53P00801	04/18/96	0	0-1	U	U	NA	NA	NA	NA	NA	NA	NA	NA	NA
53P00802	04/18/96	0	5-7	U	U	NA	NA	NA	NA	NA	NA	NA	NA	NA
53P00803	04/18/96	0	10-12	U	**< 1**	NA	NA	NA	NA	NA	NA	NA	NA	NA
53P00804			15-17	NS										
53P00805	04/18/96	0	20-22	U	U	NA	NA	NA	NA	NA	NA	NA	NA	NA
53P00806	04/18/96	0	25-27	U	U	NA	NA	NA	NA	NA	NA	NA	NA	NA
53P00807	04/18/96	0	30-32	U	**< 1**	NA	NA	NA	NA	NA	NA	NA	NA	NA
53P00808	04/18/96	0	35-37	U	**< 1**	NA	NA	NA	NA	NA	NA	NA	NA	NA

See notes at end of table.

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Table A-1 (Continued)
Summary of Field GC Screening

Base Realignment and Closure
Site Screening Investigation
Study Area 53, Kwik Shoppe
Naval Training Center
Orlando, Florida

Sample ID	Sampling Date	FID (ppm)	Depth (ft bls)	TCE	PCE (ppb)	Vinyl Chloride	1,1-DCE	t-1,2-DCE	c-1,2-DCE	Benzene	Toluene	Ethylbenzene	m/p-Xylene	o-Xylene
53P00809	04/18/96	0	40-42	U	U	NA	NA	NA	NA	NA	NA	NA	NA	NA
53P00810	04/18/96	0	45-47	U	U	NA	NA	NA	NA	NA	NA	NA	NA	NA
53P00901	04/18/96	0	0-1	U	U	NA	NA	NA	NA	NA	NA	NA	NA	NA
53P00902	04/17/96	0	5-7	U	**< 1**	NA	NA	NA	NA	NA	NA	NA	NA	NA
53P00903	04/17/96	0	10-12	U	**< 1**	NA	NA	NA	NA	NA	NA	NA	NA	NA
53P00904	04/17/96	0	15-17	U	**< 1**	NA	NA	NA	NA	NA	NA	NA	NA	NA
53P00905	04/17/96	0	20-22	U	U	NA	NA	NA	NA	NA	NA	NA	NA	NA
53P00906	04/18/96	0	25-27	U	U	NA	NA	NA	NA	NA	NA	NA	NA	NA
53P00907	04/18/96	0	30-32	U	**1.75**	NA	NA	NA	NA	NA	NA	NA	NA	NA
53P00908	04/18/96	0	35-37	U	U	NA	NA	NA	NA	NA	NA	NA	NA	NA
53P00909	04/18/96	0	40-42	U	U	NA	NA	NA	NA	NA	NA	NA	NA	NA
53P00910	04/18/96	0	45-47	U	U	NA	NA	NA	NA	NA	NA	NA	NA	NA
53P01001	04/16/96	0	0-1	AO										
53P01002	04/16/96	0	5-7	U	U	NA	NA	NA	NA	NA	NA	NA	NA	NA
53P01003	04/16/96	0	10-12	U	U	NA	NA	NA	NA	NA	NA	NA	NA	NA
53P01004	04/16/96	0	15-17	U	U	NA	NA	NA	NA	NA	NA	NA	NA	NA
53P01005	04/16/96	0	20-22	U	U	NA	NA	NA	NA	NA	NA	NA	NA	NA
53P01006	04/16/96	0	25-27	U	U	NA	NA	NA	NA	NA	NA	NA	NA	NA
53P01007	04/16/96	0	30-32	U	U	NA	NA	NA	NA	NA	NA	NA	NA	NA
53P01008	04/16/96	0	35-37	U	U	NA	NA	NA	NA	NA	NA	NA	NA	NA
53P01009	04/16/96	0	40-42	U	U	NA	NA	NA	NA	NA	NA	NA	NA	NA
53P01010	04/16/96	0	45-47	U	U	NA	NA	NA	NA	NA	NA	NA	NA	NA
53P01101	04/16/96	0	0-1	AO										
53P01102	04/16/96	0	5-7	U	U	NA	NA	NA	NA	NA	NA	NA	NA	NA
53P01103	04/16/96	0	10-12	U	U	NA	NA	NA	NA	NA	NA	NA	NA	NA
53P01104	04/16/96	0	15-17	U	U	NA	NA	NA	NA	NA	NA	NA	NA	NA

See notes at end of table.

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Table A-1 (Continued)
Summary of Field GC Screening

Base Realignment and Closure
Site Screening Investigation
Study Area 53, Kwik Shoppe
Naval Training Center
Orlando, Florida

Sample ID	Sampling Date	FID (ppm)	Depth (ft bls)	TCE	PCE (ppb)	Vinyl Chloride	1,1-DCE	t-1,2-DCE	c-1,2-DCE	Benzene	Toluene	Ethylbenzene	m/p-Xylene	o-Xylene
53P01105	04/16/96	0	20-22	U	U	NA	NA	NA	NA	NA	NA	NA	NA	NA
53P01106	04/16/96	0	25-27	U	U	NA	NA	NA	NA	NA	NA	NA	NA	NA
53P01107	04/16/96	0	30-32	U	<1	NA	NA	NA	NA	NA	NA	NA	NA	NA
53P01108	04/16/96	0	35-37	U	U	NA	NA	NA	NA	NA	NA	NA	NA	NA
53P01109	04/16/96	0	40-42	U	U	NA	NA	NA	NA	NA	NA	NA	NA	NA
53P01110	04/16/96	0	45-47	U	U	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes: U = below detection limits.
NA = not analyzed for that compound.
NS = not sampled.
AO = analyzed offsite.

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ATTACHMENT A-2

SUMMARY OF POSITIVE DETECTIONS IN SURFACE SOIL ANALYTICAL RESULTS, TERRAPROBE℠ CONFIRMATION SAMPLES

Attachment A

A-2. Summary of Positive Detections in Surface Soil Analytical Results, Terraprobe Samples
Study Area 53

Naval Training Center, Orlando
Orlando, FL

Identifier	Background Screening [1]		SCG [2]		RBC [3] for Residential Soil		RBC [3] for Industrial Soil		53P01001		53P01001D		53P01101	
Sampling Date									16-Apr-96		16-Apr-96		16-Apr-96	
Feet bls									0-1		0-1		0-1	
Volatile Organics, ug/kg														
Ethylbenzene			1,400,000		7,800,000	n	200,000,000	n	1	J	1	J		
Xylene (total)			13,000,000		160,000,000	n	1,000,000,000	n	5	J	6	J	2	J
Semivolatile Organics, ug/kg														
bis(2-Ethylhexyl)phthalate			48,000		46,000	c	410,000	c	81	J	92	J	51	J
Inorganics, mg/kg														
Aluminum	4,870		75,000		78,000	n	1,000,000	n	3800	J	3580	J	2940	J
Antimony			26		31	n	820	n					2.7	B
Barium	21.6		5,200		5,500	n	140,000	n	22.4	J	21.1	J	7.2	J
Beryllium	0.46		0.2		0.15	c	1.3	c	0.08	B	0.08	B	0.09	B
Cadmium			37		39	n	1,000	n	0.79	B	0.39	B		
Calcium	33,568		ND		1,000,000		1,000,000		1360		1050	B	1810	
Chromium	7.7		290		390	n	10,000	n	4.6		6.3		2.9	
Copper	2.6		ND		3,100	n	82,000	n	8		7.1		9.5	
Iron	843		ND		23,000	n	610,000	n	494	J	507	J	332	J
Lead	21.3		500		400		400		14.1		11.4		7.6	
Magnesium	381		ND		460,468		460,468		208	B	190	B	116	B
Manganese	10.8		370		1800	n	47,000	n	12.8		11.1		1.3	B
Mercury	0.05		23		23	n	610	n			0.06	B		
Vanadium	4.9		490		550	n	14,000	n	3.1	B	3	B	2.5	B
Zinc	4.6		23,000		23,000	n	610,000	n	40.4	J	34.7	J	8.7	J

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Attachment A

A-2. Summary of Positive Detections in Surface Soil Analytical Results, Terraprobe Samples
Study Area 53

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). 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 and magnesium) screening values were derived based on recommended daily allowances (RDAs).

n = noncarcinogenic pathway
c = carcinogenic pathway
ND = Not determined.
bls = below land surface
PCB = polychlorinated biphenyl.
mg/kg = milligrams per kilogram.
ug/kg = micrograms 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; organics in micrograms per kilogram (ug/kg) soil dry weight.
Blank space indicates analyte/compound was not detected at the reporting limit.

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ATTACHMENT A-3

SUMMARY OF POSITIVE DETECTIONS IN SUBSURFACE SOIL ANALYTICAL RESULTS, TERRAPROBE℠ CONFIRMATION SAMPLES

Attachment A

A-3. Summary of Positive Detections in Subsurface Soil Analytical Results, Terraprobe Samples
Study Area 53

Naval Training Center, Orlando
Orlando, FL

Identifier	SCG [1]		RBC [2] for Residential Soil		RBC [2] for Industrial Soil		53P00604		53P00704		53P00808		53P00907		53P01107	
Sampling Date							25-Apr-96		19-Apr-96		18-Apr-96		18-Apr-96		16-Apr-96	
Feet bls							15-17		15-17		35-37		30-32		30-32	
Volatile Organics, ug/kg																
Acetone	NA		200,000,000	n	7,800,000	n							100			
Tetrachloroethene	30		110,000	c	12,000	c	4	J	13		2	J	15		4	J
Xylene (total)	NA		1,000,000,000	n	160,000,000	n									2	J

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Attachment A

A-3. Summary of Positive Detections in Subsurface Soil Analytical Results, Terraprobe Samples
Study Area 53

Naval Training Center, Orlando
Orlando, FL

NOTES:

[1] SCG = Soil Cleanup Goals for Florida (Florida Department of Environmental Protection memorandum, September 29, 1995).
[2] RBC = Risk-Based Concentration Table, USEPA Region III, May 1996, R.L. Smith.

n = noncarcinogenic pathway
c = carcinogenic pathway
bls = below land surface
ug/kg = micrograms per kilogram.
USEPA = U.S. Environmental Protection Agency.
J = Reported concentration is an estimated quantity.
All organics results expressed in micrograms per kilogram (ug/kg) soil dry weight.
Blank space indicates analyte/compound was not detected at the reporting limit.

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ATTACHMENT B

SUMMARY OF POSITIVE DETECTIONS IN ANALYTICAL RESULTS

B-1 Summary of Positive Detections in Soil Analytical Results
B-2 Summary of Positive Detections in Groundwater Analytical Results

ATTACHMENT B-1

SUMMARY OF POSITIVE DETECTIONS IN SOIL ANALYTICAL RESULTS

Attachment B

B-1. Summary of Positive Detections in Soil Analytical Results, Study Area 53

Naval Training Center, Orlando
Orlando, FL

Identifier	SCG [1]		RBC [2] for Residential Soil		RBC [2] for Industrial Soil		53B00101		53B00201		53B00301	
Sampling Date							14-Jun-96		14-Jun-96		14-Jun-96	
Feet bls							3-4		3-4		3-4	
Volatile Organics, ug/kg												
Ethylbenzene	NA		200,000,000	n	7,800,000	n	4	J	2	J		
Methylene chloride	NA		760,000	c	85,000	c	3	J	2	J	2	J
Xylene (total)	NA		1,000,000,000	n	160,000,000	n	29		12		3	J

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Attachment B

B-1. Summary of Positive Detections in Soil Analytical Results, Study Area 53

Naval Training Center, Orlando
Orlando, FL

NOTES:

[1] SCG = Soil Cleanup Goals for Florida (Florida Department of Environmental Protection memorandum, September 29, 1995).
[2] RBC = Risk-Based Concentration Table, USEPA Region III, May 1996, R.L. Smith.

n = noncarcinogenic pathway
c = carcinogenic pathway
bls = below land surface
ug/kg = micrograms per kilogram.
USEPA = U.S. Environmental Protection Agency.
J = Reported concentration is an estimated quantity.
Organics results expressed in micrograms per kilogram (ug/kg) soil dry weight.
Blank space indicates analyte/compound was not detected at the reporting limit.

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ATTACHMENT B-2

SUMMARY OF POSITIVE DETECTIONS IN GROUNDWATER ANALYTICAL RESULTS

Attachment B

B-2. Summary of Positive Detections in Groundwater Analytical Results
Study Area 53

Naval Training Center, Orlando
Orlando, FL

Sample ID	FDEPG	FEDMCL	RBC [2] for Tap Water	53G00201
Sampling Date				6/14/96
Volatile Organics, ug/L				
Tetrachloroethene	3	5	1.1 c	3

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Attachment B

B-2. Summary of Positive Detections in Groundwater Analytical Results
Study Area 53

Naval Training Center, Orlando
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.

c = carcinogenic pathway
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, February 1996.
ug/l = micrograms per liter.
Bold/shaded numbers indicate contaminant concentrations at or above groundwater guidance and background.

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ATTACHMENT C

SUMMARY OF ANALYTICAL RESULTS

C-1 Summary of Confirmation Sample Analytical Results
C-2 Summary of Soil Analytical Results
C-3 Summary of Groundwater Analytical Results

ATTACHMENT C-1

SUMMARY OF CONFIRMATION SAMPLE ANALYTICAL RESULTS

Attachment C

C-1. Summary of Confirmation Sample Analytical Results

Study Area 53

Naval Training Center, Orlando
Orlando, FL

Sample ID	53P00107		53P00207		53P00404		53P00503		53P00604		53P00704		53P00808		53P00907		53P01001		53P01001D	
Lab ID	MA858003		MA864003		MA864004		MA857004		MA857003		MA785005		MA785006		MA785007		MA753003		MA753004	
Sampling Date	4/26/96		5/1/96		5/1/96		4/25/96		4/25/96		4/19/96		4/18/96		4/18/96		4/16/96		4/16/96	
Volatile organics, ug/kg																				
1,1,1-Trichloroethane	12	U	12	U	12	U	12	U	12	U	12	U	13	U	12	U	12	U	11	U
1,1,2,2-Tetrachloroethane	12	U	12	U	12	U	12	U	12	U	12	U	13	U	12	U	12	U	11	U
1,1,2-Trichloroethane	12	U	12	U	12	U	12	U	12	U	12	U	13	U	12	U	12	U	11	U
1,1-Dichloroethane	12	U	12	U	12	U	12	U	12	U	12	U	13	U	12	U	12	U	11	U
1,1-Dichloroethene	12	U	12	U	12	U	12	U	12	U	12	U	13	U	12	U	12	U	11	U
1,2-Dichloroethane	12	U	12	U	12	U	12	U	12	U	12	U	13	U	12	U	12	U	11	U
1,2-Dichloroethene (total)	12	U	12	U	12	U	12	U	12	U	12	U	13	U	12	U	12	U	11	U
1,2-Dichloropropane	12	U	12	U	12	U	12	U	12	U	12	U	13	U	12	U	12	U	11	U
2-Butanone	12	U	12	U	12	U	12	U	12	U	12	U	13	U	12	U	12	U	11	U
2-Hexanone	12	U	12	U	12	U	12	U	12	U	12	U	13	U	12	U	12	U	11	U
4-Methyl-2-pentanone	12	U	12	U	12	U	12	U	12	U	12	U	13	U	12	U	12	U	11	U
Acetone	16	U	19	U	12	U	18	U	19	U	12	U	18	U	100		12	U	11	U
Benzene	12	U	12	U	12	U	12	U	12	U	12	U	13	U	12	U	12	U	11	U
Bromodichloromethane	12	U	12	U	12	U	12	U	12	U	12	U	13	U	12	U	12	U	11	U
Bromoform	12	U	12	U	12	U	12	U	12	U	12	U	13	U	12	U	12	U	11	U
Bromomethane	12	U	12	U	12	U	12	U	12	U	12	U	13	U	12	U	12	U	11	U
Carbon disulfide	12	U	12	U	12	U	12	U	12	U	12	U	13	U	12	U	12	U	11	U
Carbon tetrachloride	12	U	12	U	12	U	12	U	12	U	12	U	13	U	12	U	12	U	11	U
Chlorobenzene	12	U	12	U	12	U	12	U	12	U	12	U	13	U	12	U	12	U	11	U
Chloroethane	12	U	12	U	12	U	12	U	12	U	12	U	13	U	12	U	12	U	11	U
Chloroform	12	U	12	U	12	U	12	U	12	U	12	U	13	U	12	U	12	U	11	U
Chloromethane	12	U	12	U	12	U	12	U	12	U	12	U	13	U	12	U	12	U	11	U
cis-1,3-Dichloropropene	12	U	12	U	12	U	12	U	12	U	12	U	13	U	12	U	12	U	11	U
Dibromochloromethane	12	U	12	U	12	U	12	U	12	U	12	U	13	U	12	U	12	U	11	U
Ethylbenzene	12	U	12	U	12	U	12	U	12	U	12	U	13	U	12	U	1	J	1	J
Methylene chloride	12	U	12	U	12	U	12	U	12	U	12	U	13	U	12	U	12	U	11	U
Styrene	12	U	12	U	12	U	12	U	12	U	12	U	13	U	12	U	12	U	11	U
Tetrachloroethene	12	U	12	U	12	U	12	U	4	J	13		2	J	15		12	U	11	U
Toluene	12	U	12	U	12	U	12	U	12	U	12	U	13	U	12	U	12	U	11	U
trans-1,3-Dichloropropene	12	U	12	U	12	U	12	U	12	U	12	U	13	U	12	U	12	U	11	U
Trichloroethene	12	U	12	U	12	U	12	U	12	U	12	U	13	U	12	U	12	U	11	U
Vinyl chloride	12	U	12	U	12	U	12	U	12	U	12	U	13	U	12	U	12	U	11	U

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Attachment C

C-1. Summary of Confirmation Sample Analytical Results

Study Area 53

Naval Training Center, Orlando
Orlando, FL

Sample ID	53P00107		53P00207		53P00404		53P00503		53P00604		53P00704		53P00808		53P00907		53P01001		53P01001D	
Lab ID	MA858003		MA864003		MA864004		MA857004		MA857003		MA785005		MA785006		MA785007		MA753003		MA753004	
Sampling Date	4/26/96		5/1/96		5/1/96		4/25/96		4/25/96		4/19/96		4/18/96		4/18/96		4/16/96		4/16/96	
Xylene (total)	12	U	12	U	12	U	12	U	12	U	12	U	13	U	12	U	5	J	6	J
Semivolatile organics, ug/kg																				
1,2,4-Trichlorobenzene	NA		NA		NA		NA		NA		NA		NA		NA		400	U	360	U
1,2-Dichlorobenzene	NA		NA		NA		NA		NA		NA		NA		NA		400	U	360	U
1,3-Dichlorobenzene	NA		NA		NA		NA		NA		NA		NA		NA		400	U	360	U
1,4-Dichlorobenzene	NA		NA		NA		NA		NA		NA		NA		NA		400	U	360	U
2,2'-oxybis(1-Chloropropane)	NA		NA		NA		NA		NA		NA		NA		NA		400	U	360	U
2,4,5-Trichlorophenol	NA		NA		NA		NA		NA		NA		NA		NA		990	U	900	U
2,4,6-Trichlorophenol	NA		NA		NA		NA		NA		NA		NA		NA		400	U	360	U
2,4-Dichlorophenol	NA		NA		NA		NA		NA		NA		NA		NA		400	U	360	U
2,4-Dimethylphenol	NA		NA		NA		NA		NA		NA		NA		NA		400	U	360	U
2,4-Dinitrophenol	NA		NA		NA		NA		NA		NA		NA		NA		990	U	900	U
2,4-Dinitrotoluene	NA		NA		NA		NA		NA		NA		NA		NA		400	U	360	U
2,6-Dinitrotoluene	NA		NA		NA		NA		NA		NA		NA		NA		400	U	360	U
2-Chloronaphthalene	NA		NA		NA		NA		NA		NA		NA		NA		400	U	360	U
2-Chlorophenol	NA		NA		NA		NA		NA		NA		NA		NA		400	U	360	U
2-Methylnaphthalene	NA		NA		NA		NA		NA		NA		NA		NA		400	U	360	U
2-Methylphenol	NA		NA		NA		NA		NA		NA		NA		NA		400	U	360	U
2-Nitroaniline	NA		NA		NA		NA		NA		NA		NA		NA		990	U	900	U
2-Nitrophenol	NA		NA		NA		NA		NA		NA		NA		NA		400	U	360	U
3,3'-Dichlorobenzidine	NA		NA		NA		NA		NA		NA		NA		NA		400	U	360	U
3-Nitroaniline	NA		NA		NA		NA		NA		NA		NA		NA		990	U	900	U
4,6-Dinitro-2-methylphenol	NA		NA		NA		NA		NA		NA		NA		NA		990	U	900	U
4-Bromophenyl-phenylether	NA		NA		NA		NA		NA		NA		NA		NA		400	U	360	U
4-Chloro-3-methylphenol	NA		NA		NA		NA		NA		NA		NA		NA		400	U	360	U
4-Chloroaniline	NA		NA		NA		NA		NA		NA		NA		NA		400	U	360	U
4-Chlorophenyl-phenylether	NA		NA		NA		NA		NA		NA		NA		NA		400	U	360	U
4-Methylphenol	NA		NA		NA		NA		NA		NA		NA		NA		400	U	360	U
4-Nitroaniline	NA		NA		NA		NA		NA		NA		NA		NA		990	U	900	U
4-Nitrophenol	NA		NA		NA		NA		NA		NA		NA		NA		990	U	900	U
Acenaphthene	NA		NA		NA		NA		NA		NA		NA		NA		400	U	360	U
Acenaphthylene	NA		NA		NA		NA		NA		NA		NA		NA		400	U	360	U
Anthracene	NA		NA		NA		NA		NA		NA		NA		NA		400	U	360	U

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Attachment C

C-1. Summary of Confirmation Sample Analytical Results

Study Area 53

Naval Training Center, Orlando
Orlando, FL

Sample ID	53P00107	53P00207	53P00404	53P00503	53P00604	53P00704	53P00808	53P00907	53P01001	53P01001D
Lab ID	MA858003	MA864003	MA864004	MA857004	MA857003	MA785005	MA785006	MA785007	MA753003	MA753004
Sampling Date	4/26/96	5/1/96	5/1/96	4/25/96	4/25/96	4/19/96	4/18/96	4/18/96	4/16/96	4/16/96
Benzo(a)anthracene	NA	NA	NA	NA	NA	NA	NA	NA	400 U	360 U
Benzo(a)pyrene	NA	NA	NA	NA	NA	NA	NA	NA	400 U	360 U
Benzo(b)fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	400 U	360 U
Benzo(g,h,i)perylene	NA	NA	NA	NA	NA	NA	NA	NA	400 U	360 U
Benzo(k)fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	400 U	360 U
bis(2-Chloroethoxy)methane	NA	NA	NA	NA	NA	NA	NA	NA	400 U	360 U
bis(2-Chloroethyl)ether	NA	NA	NA	NA	NA	NA	NA	NA	400 U	360 U
bis(2-Ethylhexyl)phthalate	NA	NA	NA	NA	NA	NA	NA	NA	81 J	92 J
Butylbenzylphthalate	NA	NA	NA	NA	NA	NA	NA	NA	400 U	360 U
Carbazole	NA	NA	NA	NA	NA	NA	NA	NA	400 U	360 U
Chrysene	NA	NA	NA	NA	NA	NA	NA	NA	400 U	360 U
Di-n-butylphthalate	NA	NA	NA	NA	NA	NA	NA	NA	470 U	360 U
Di-n-octylphthalate	NA	NA	NA	NA	NA	NA	NA	NA	400 U	360 U
Dibenz(a,h)anthracene	NA	NA	NA	NA	NA	NA	NA	NA	400 U	360 U
Dibenzofuran	NA	NA	NA	NA	NA	NA	NA	NA	400 U	360 U
Diethylphthalate	NA	NA	NA	NA	NA	NA	NA	NA	400 U	360 U
Dimethylphthalate	NA	NA	NA	NA	NA	NA	NA	NA	400 U	360 U
Fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	400 U	360 U
Fluorene	NA	NA	NA	NA	NA	NA	NA	NA	400 U	360 U
Hexachlorobenzene	NA	NA	NA	NA	NA	NA	NA	NA	400 U	360 U
Hexachlorobutadiene	NA	NA	NA	NA	NA	NA	NA	NA	400 U	360 U
Hexachlorocyclopentadiene	NA	NA	NA	NA	NA	NA	NA	NA	400 U	360 U
Hexachloroethane	NA	NA	NA	NA	NA	NA	NA	NA	400 U	360 U
Indeno(1,2,3-cd)pyrene	NA	NA	NA	NA	NA	NA	NA	NA	400 U	360 U
Isophorone	NA	NA	NA	NA	NA	NA	NA	NA	400 U	360 U
N-Nitroso-di-n-propylamine	NA	NA	NA	NA	NA	NA	NA	NA	400 U	360 U
N-Nitrosodiphenylamine (1)	NA	NA	NA	NA	NA	NA	NA	NA	400 U	360 U
Naphthalene	NA	NA	NA	NA	NA	NA	NA	NA	400 U	360 U
Nitrobenzene	NA	NA	NA	NA	NA	NA	NA	NA	400 U	360 U
Pentachlorophenol	NA	NA	NA	NA	NA	NA	NA	NA	990 U	900 U
Phenanthrene	NA	NA	NA	NA	NA	NA	NA	NA	400 U	360 U
Phenol	NA	NA	NA	NA	NA	NA	NA	NA	400 U	360 U
Pyrene	NA	NA	NA	NA	NA	NA	NA	NA	400 U	360 U

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Attachment C

C-1. Summary of Confirmation Sample Analytical Results

Study Area 53

Naval Training Center, Orlando
Orlando, FL

Sample ID	53P00107		53P00207		53P00404		53P00503		53P00604		53P00704		53P00808		53P00907		53P01001		53P01001D	
Lab ID	MA858003		MA864003		MA864004		MA857004		MA857003		MA785005		MA785006		MA785007		MA753003		MA753004	
Sampling Date	4/26/96		5/1/96		5/1/96		4/25/96		4/25/96		4/19/96		4/18/96		4/18/96		4/16/96		4/16/96	
Inorganics, mg/kg																				
Aluminum	NA		NA		NA		NA		NA		NA		NA		NA		3800	J	3580	J
Antimony	NA		NA		NA		NA		NA		NA		NA		NA		2.6	U	2.4	U
Arsenic	NA		NA		NA		NA		NA		NA		NA		NA		0.31	U	0.28	U
Barium	NA		NA		NA		NA		NA		NA		NA		NA		22.4	J	21.1	J
Beryllium	NA		NA		NA		NA		NA		NA		NA		NA		0.08	B	0.08	B
Cadmium	NA		NA		NA		NA		NA		NA		NA		NA		0.79	B	0.39	B
Calcium	NA		NA		NA		NA		NA		NA		NA		NA		1360		1050	B
Chromium	NA		NA		NA		NA		NA		NA		NA		NA		4.6		6.3	
Cobalt	NA		NA		NA		NA		NA		NA		NA		NA		0.36	UJ	0.33	UJ
Copper	NA		NA		NA		NA		NA		NA		NA		NA		8		7.1	
Iron	NA		NA		NA		NA		NA		NA		NA		NA		494	J	507	J
Lead	NA		NA		NA		NA		NA		NA		NA		NA		14.1		11.4	
Magnesium	NA		NA		NA		NA		NA		NA		NA		NA		208	B	190	B
Manganese	NA		NA		NA		NA		NA		NA		NA		NA		12.8		11.1	
Mercury	NA		NA		NA		NA		NA		NA		NA		NA		0.06	U	0.06	B
Nickel	NA		NA		NA		NA		NA		NA		NA		NA		1.8	U	1.7	U
Potassium	NA		NA		NA		NA		NA		NA		NA		NA		183	U	166	U
Selenium	NA		NA		NA		NA		NA		NA		NA		NA		0.31	U	0.28	U
Silver	NA		NA		NA		NA		NA		NA		NA		NA		0.53	UR	0.48	UR
Sodium	NA		NA		NA		NA		NA		NA		NA		NA		49.4	U	26.6	U
Thallium	NA		NA		NA		NA		NA		NA		NA		NA		0.21	UJ	0.19	UJ
Vanadium	NA		NA		NA		NA		NA		NA		NA		NA		3.1	B	3	B
Zinc	NA		NA		NA		NA		NA		NA		NA		NA		40.4	J	34.7	J

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Attachment C

C-1. Summary of Confirmation Sample Analytical Results

Study Area 53

Naval Training Center, Orlando
Orlando, FL

Sample ID	53P00107		53P00207		53P00404		53P01008		53P01101		53P01107	
Lab ID	MA858003		MA864003		MA864004		MA753006		MA753005		MA753007	
Sampling Date	4/26/96		5/1/96		5/1/96		4/16/96		4/16/96		4/16/96	
Volatile organics, ug/kg												
1,1,1-Trichloroethane	12	U	12	U	12	U	12	U	12	U	12	U
1,1,2,2-Tetrachloroethane	12	U	12	U	12	U	12	U	12	U	12	U
1,1,2-Trichloroethane	12	U	12	U	12	U	12	U	12	U	12	U
1,1-Dichloroethane	12	U	12	U	12	U	12	U	12	U	12	U
1,1-Dichloroethene	12	U	12	U	12	U	12	U	12	U	12	U
1,2-Dichloroethane	12	U	12	U	12	U	12	U	12	U	12	U
1,2-Dichloroethene (total)	12	U	12	U	12	U	12	U	12	U	12	U
1,2-Dichloropropane	12	U	12	U	12	U	12	U	12	U	12	U
2-Butanone	12	U	12	U	12	U	12	U	12	U	12	U
2-Hexanone	12	U	12	U	12	U	12	U	12	U	12	U
4-Methyl-2-pentanone	12	U	12	U	12	U	12	U	12	U	12	U
Acetone	16	U	19	U	12	U	19	U	12	U	36	U
Benzene	12	U	12	U	12	U	12	U	12	U	12	U
Bromodichloromethane	12	U	12	U	12	U	12	U	12	U	12	U
Bromoform	12	U	12	U	12	U	12	U	12	U	12	U
Bromomethane	12	U	12	U	12	U	12	U	12	U	12	U
Carbon disulfide	12	U	12	U	12	U	12	U	12	U	12	U
Carbon tetrachloride	12	U	12	U	12	U	12	U	12	U	12	U
Chlorobenzene	12	U	12	U	12	U	12	U	12	U	12	U
Chloroethane	12	U	12	U	12	U	12	U	12	U	12	U
Chloroform	12	U	12	U	12	U	12	U	12	U	12	U
Chloromethane	12	U	12	U	12	U	12	U	12	U	12	U
cis-1,3-Dichloropropene	12	U	12	U	12	U	12	U	12	U	12	U
Dibromochloromethane	12	U	12	U	12	U	12	U	12	U	12	U
Ethylbenzene	12	U	12	U	12	U	12	U	12	U	12	U
Methylene chloride	12	U	12	U	12	U	12	U	12	U	12	U
Styrene	12	U	12	U	12	U	12	U	12	U	12	U
Tetrachloroethene	12	U	12	U	12	U	12	U	12	U	4	J
Toluene	12	U	12	U	12	U	12	U	12	U	12	U
trans-1,3-Dichloropropene	12	U	12	U	12	U	12	U	12	U	12	U
Trichloroethene	12	U	12	U	12	U	12	U	12	U	12	U
Vinyl chloride	12	U	12	U	12	U	12	U	12	U	12	U

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Attachment C

C-1. Summary of Confirmation Sample Analytical Results

Study Area 53

Naval Training Center, Orlando
Orlando, FL

Sample ID	53P00107		53P00207		53P00404		53P01008		53P01101		53P01107	
Lab ID	MA858003		MA864003		MA864004		MA753006		MA753005		MA753007	
Sampling Date	4/26/96		5/1/96		5/1/96		4/16/96		4/16/96		4/16/96	
Xylene (total)	12	U	12	U	12	U	12	U	2	J	2	J
Semivolatile organics, ug/kg												
1,2,4-Trichlorobenzene	NA		NA		NA		NA		390	U	NA	
1,2-Dichlorobenzene	NA		NA		NA		NA		390	U	NA	
1,3-Dichlorobenzene	NA		NA		NA		NA		390	U	NA	
1,4-Dichlorobenzene	NA		NA		NA		NA		390	U	NA	
2,2'-oxybis(1-Chloropropane)	NA		NA		NA		NA		390	U	NA	
2,4,5-Trichlorophenol	NA		NA		NA		NA		980	U	NA	
2,4,6-Trichlorophenol	NA		NA		NA		NA		390	U	NA	
2,4-Dichlorophenol	NA		NA		NA		NA		390	U	NA	
2,4-Dimethylphenol	NA		NA		NA		NA		390	U	NA	
2,4-Dinitrophenol	NA		NA		NA		NA		980	U	NA	
2,4-Dinitrotoluene	NA		NA		NA		NA		390	U	NA	
2,6-Dinitrotoluene	NA		NA		NA		NA		390	U	NA	
2-Chloronaphthalene	NA		NA		NA		NA		390	U	NA	
2-Chlorophenol	NA		NA		NA		NA		390	U	NA	
2-Methylnaphthalene	NA		NA		NA		NA		390	U	NA	
2-Methylphenol	NA		NA		NA		NA		390	U	NA	
2-Nitroaniline	NA		NA		NA		NA		980	U	NA	
2-Nitrophenol	NA		NA		NA		NA		390	U	NA	
3,3'-Dichlorobenzidine	NA		NA		NA		NA		390	U	NA	
3-Nitroaniline	NA		NA		NA		NA		980	U	NA	
4,6-Dinitro-2-methylphenol	NA		NA		NA		NA		980	U	NA	
4-Bromophenyl-phenylether	NA		NA		NA		NA		390	U	NA	
4-Chloro-3-methylphenol	NA		NA		NA		NA		390	U	NA	
4-Chloroaniline	NA		NA		NA		NA		390	U	NA	
4-Chlorophenyl-phenylether	NA		NA		NA		NA		390	U	NA	
4-Methylphenol	NA		NA		NA		NA		390	U	NA	
4-Nitroaniline	NA		NA		NA		NA		980	U	NA	
4-Nitrophenol	NA		NA		NA		NA		980	U	NA	
Acenaphthene	NA		NA		NA		NA		390	U	NA	
Acenaphthylene	NA		NA		NA		NA		390	U	NA	
Anthracene	NA		NA		NA		NA		390	U	NA	

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Attachment C

C-1. Summary of Confirmation Sample Analytical Results

Study Area 53

Naval Training Center, Orlando
Orlando, FL

Sample ID	53P00107		53P00207		53P00404		53P01008		53P01101		53P01107	
Lab ID	MA858003		MA864003		MA864004		MA753006		MA753005		MA753007	
Sampling Date	4/26/96		5/1/96		5/1/96		4/16/96		4/16/96		4/16/96	
Benzo(a)anthracene	NA		NA		NA		NA		390	U	NA	
Benzo(a)pyrene	NA		NA		NA		NA		390	U	NA	
Benzo(b)fluoranthene	NA		NA		NA		NA		390	U	NA	
Benzo(g,h,i)perylene	NA		NA		NA		NA		390	U	NA	
Benzo(k)fluoranthene	NA		NA		NA		NA		390	U	NA	
bis(2-Chloroethoxy)methane	NA		NA		NA		NA		390	U	NA	
bis(2-Chloroethyl)ether	NA		NA		NA		NA		390	U	NA	
bis(2-Ethylhexyl)phthalate	NA		NA		NA		NA		51	J	NA	
Butylbenzylphthalate	NA		NA		NA		NA		390	U	NA	
Carbazole	NA		NA		NA		NA		390	U	NA	
Chrysene	NA		NA		NA		NA		390	U	NA	
Di-n-butylphthalate	NA		NA		NA		NA		390	U	NA	
Di-n-octylphthalate	NA		NA		NA		NA		390	U	NA	
Dibenz(a,h)anthracene	NA		NA		NA		NA		390	U	NA	
Dibenzofuran	NA		NA		NA		NA		390	U	NA	
Diethylphthalate	NA		NA		NA		NA		390	U	NA	
Dimethylphthalate	NA		NA		NA		NA		390	U	NA	
Fluoranthene	NA		NA		NA		NA		390	U	NA	
Fluorene	NA		NA		NA		NA		390	U	NA	
Hexachlorobenzene	NA		NA		NA		NA		390	U	NA	
Hexachlorobutadiene	NA		NA		NA		NA		390	U	NA	
Hexachlorocyclopentadiene	NA		NA		NA		NA		390	U	NA	
Hexachloroethane	NA		NA		NA		NA		390	U	NA	
Indeno(1,2,3-cd)pyrene	NA		NA		NA		NA		390	U	NA	
Isophorone	NA		NA		NA		NA		390	U	NA	
N-Nitroso-di-n-propylamine	NA		NA		NA		NA		390	U	NA	
N-Nitrosodiphenylamine (1)	NA		NA		NA		NA		390	U	NA	
Naphthalene	NA		NA		NA		NA		390	U	NA	
Nitrobenzene	NA		NA		NA		NA		390	U	NA	
Pentachlorophenol	NA		NA		NA		NA		980	U	NA	
Phenanthrene	NA		NA		NA		NA		390	U	NA	
Phenol	NA		NA		NA		NA		390	U	NA	
Pyrene	NA		NA		NA		NA		390	U	NA	

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Attachment C

C-1. Summary of Confirmation Sample Analytical Results

Study Area 53

Naval Training Center, Orlando
Orlando, FL

Sample ID	53P00107		53P00207		53P00404		53P01008		53P01101		53P01107	
Lab ID	MA858003		MA864003		MA864004		MA753006		MA753005		MA753007	
Sampling Date	4/26/96		5/1/96		5/1/96		4/16/96		4/16/96		4/16/96	
Inorganics, mg/kg												
Aluminum	NA		NA		NA		NA		2940	J	NA	
Antimony	NA		NA		NA		NA		2.7	B	NA	
Arsenic	NA		NA		NA		NA		0.31	U	NA	
Barium	NA		NA		NA		NA		7.2	J	NA	
Beryllium	NA		NA		NA		NA		0.09	B	NA	
Cadmium	NA		NA		NA		NA		0.42	U	NA	
Calcium	NA		NA		NA		NA		1810		NA	
Chromium	NA		NA		NA		NA		2.9		NA	
Cobalt	NA		NA		NA		NA		0.35	UJ	NA	
Copper	NA		NA		NA		NA		9.5		NA	
Iron	NA		NA		NA		NA		332	J	NA	
Lead	NA		NA		NA		NA		7.6		NA	
Magnesium	NA		NA		NA		NA		116	B	NA	
Manganese	NA		NA		NA		NA		1.3	B	NA	
Mercury	NA		NA		NA		NA		0.06	U	NA	
Nickel	NA		NA		NA		NA		1.8	U	NA	
Potassium	NA		NA		NA		NA		180	U	NA	
Selenium	NA		NA		NA		NA		0.31	U	NA	
Silver	NA		NA		NA		NA		0.52	UR	NA	
Sodium	NA		NA		NA		NA		40.8	U	NA	
Thallium	NA		NA		NA		NA		0.2	UJ	NA	
Vanadium	NA		NA		NA		NA		2.5	B	NA	
Zinc	NA		NA		NA		NA		8.7	J	NA	

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ATTACHMENT C-2

SUMMARY OF SOIL ANALYTICAL RESULTS

Attachment C

C-2. Summary of Soil Analytical Results
Study Area 53

Naval Training Center, Orlando
Orlando, FL

Sample ID	53B00101		53B00201		53B00301	
Lab ID	MB145001		MB145003		MB145004	
Sampling Date	14-Jun-96		14-Jun-96		14-Jun-96	
Volatile organics, ug/kg						
1,1,1-Trichloroethane	11	U	12	U	12	U
1,1,2,2-Tetrachloroethane	11	U	12	U	12	U
1,1,2-Trichloroethane	11	U	12	U	12	U
1,1-Dichloroethane	11	U	12	U	12	U
1,1-Dichloroethene	11	U	12	U	12	U
1,2-Dichloroethane	11	U	12	U	12	U
1,2-Dichloroethene (total)	11	U	12	U	12	U
1,2-Dichloropropane	11	U	12	U	12	U
2-Butanone	11	U	12	U	12	U
2-Hexanone	11	U	12	U	12	U
4-Methyl-2-pentanone	11	U	12	U	12	U
Acetone	11	U	12	U	12	U
Benzene	11	U	12	U	12	U
Bromodichloromethane	11	U	12	U	12	U
Bromoform	11	U	12	U	12	U
Bromomethane	11	U	12	U	12	U
Carbon disulfide	11	U	12	U	12	U
Carbon tetrachloride	11	U	12	U	12	U
Chlorobenzene	11	U	12	U	12	U
Chloroethane	11	U	12	U	12	U
Chloroform	11	U	12	U	12	U
Chloromethane	11	U	12	U	12	U
cis-1,3-Dichloropropene	11	U	12	U	12	U
Dibromochloromethane	11	U	12	U	12	U
Ethylbenzene	4	J	2	J	12	U
Methylene chloride	3	J	2	J	2	J
Styrene	11	U	12	U	12	U
Tetrachloroethene	11	U	12	U	12	U
Toluene	11	U	12	U	12	U
trans-1,3-Dichloropropene	11	U	12	U	12	U
Trichloroethene	11	U	12	U	12	U
Vinyl chloride	11	U	12	U	12	U
Xylene (total)	29		12		3	J

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ATTACHMENT C-3

SUMMARY OF GROUNDWATER ANALYTICAL RESULTS

Attachment C

C-3. Summary of Groundwater Analytical Results
Study Area 53

Naval Training Center, Orlando
Orlando, FL

Sample ID	53G00101		53G00201		53G00301	
Lab ID	MB149002		MB149003		MB149004	
Sampling Date	14-Jun-96		14-Jun-96		14-Jun-96	
Volatile organics, ug/L						
1,1,1-Trichloroethane	1	U	1	U	1	U
1,1,2,2-Tetrachloroethane	1	U	1	U	1	U
1,1,2-Trichloroethane	1	U	1	U	1	U
1,1-Dichloroethane	1	U	1	U	1	U
1,1-Dichloroethene	1	U	1	U	1	U
1,2-Dibromo-3-chloropropane	1	U	1	U	1	U
1,2-Dibromoethane	1	U	1	U	1	U
1,2-Dichlorobenzene	1	U	1	U	1	U
1,2-Dichloroethane	1	U	1	U	1	U
1,2-Dichloropropane	1	U	1	U	1	U
1,3-Dichlorobenzene	1	U	1	U	1	U
1,4-Dichlorobenzene	1	U	1	U	1	U
2-Butanone	5	UR	5	UR	5	UR
2-Hexanone	5	U	5	U	5	U
4-Methyl-2-pentanone	5	U	5	U	5	U
Acetone	5	UR	5	UR	5	UR
Benzene	1	U	1	U	1	U
Bromochloromethane	1	U	1	U	1	U
Bromodichloromethane	1	U	1	U	1	U
Bromoform	1	U	1	U	1	U
Bromomethane	1	U	1	U	1	U
Carbon disulfide	1	U	1	U	1	U
Carbon tetrachloride	1	U	1	U	1	U
Chlorobenzene	1	U	1	U	1	U
Chloroethane	1	U	1	U	1	U
Chloroform	1	U	1	U	1	U
Chloromethane	1	U	1	U	1	U
cis-1,2-Dichloroethene	1	U	1	U	1	U
cis-1,3-Dichloropropene	1	U	1	U	1	U
Dibromochloromethane	1	U	1	U	1	U
Ethylbenzene	1	U	1	U	1	U
Methylene chloride	2	U	2	U	2	U
Styrene	1	U	1	U	1	U
Tetrachloroethene	1	U	3		1	U
Toluene	1	U	1	U	1	U
trans-1,2-Dichloroethene	1	U	1	U	1	U
trans-1,3-Dichloropropene	1	U	1	U	1	U
Trichloroethene	1	U	1	U	1	U
Vinyl chloride	1	U	1	U	1	U
Xylene (total)	1	U	1	U	1	U

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