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FINAL BASE REALIGNMENT AND CLOSURE ENVIRONMENTAL SITE SCREENING REPORTS STUDY AREA 33 NTC ORLANDO FL

5/1/1998

ABB ENVIRONMENTAL

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BASE REALIGNMENT AND CLOSURE ENVIRONMENTAL SITE SCREENING REPORT

STUDY AREA 33, COMMAND HEADQUARTERS AREA

NAVAL TRAINING CENTER ORLANDO, FLORIDA

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

MAY 1998

SOUTHERN DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
NORTH CHARLESTON, SOUTH CAROLINA
29418

PRINTED ON RECYCLED PAPER

BASE REALIGNMENT AND CLOSURE
ENVIRONMENTAL SITE SCREENING REPORT

STUDY AREA 33, COMMAND HEADQUARTERS AREA

NAVAL TRAINING CENTER
ORLANDO, FLORIDA

Unit Identification Code: N65928

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

Prepared by:

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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

May 1998

CERTIFICATION OF TECHNICAL
DATA CONFORMITY (MAY 1987)

The Contractor, Harding Lawson Associates (formerly 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: May 12, 1998

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)

NTC-ESSR.S33
SAS.05.98

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Naval Training Center
Orlando, Florida

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GLOSSARY

ABB-ES	ABB Environmental Services, Inc.
AST	aboveground storage tank
bls	below land surface
CLP	Contract Laboratory Program
DQO	data quality objective
HLA	Harding Lawson Associates
μg/kg	micrograms per kilogram
NTC	Naval Training Center
OPT	Orlando Partnering Team
PCB	polychlorinated biphenyl
PWD	Public Works Department
RBC	risk-based concentration
SA	Study Area
SCG	soil cleanup goal
TAL	target analyte list
TCL	target compound list
TPH	total petroleum hydrocarbons
USEPA	U.S. Environmental Protection Agency

1.0 STUDY AREA 33, COMMAND HEADQUARTERS AREA

This report contains information gathered during site screening activities conducted at Study Area (SA) 33. Initial site screening investigations proposed in the Site Screening Plan (ABB Environmental Services, Inc. [ABB-ES], 1995) were completed between June 24 and October 17, 1997. Additional site activities were conducted on March 5, 1998, in response to data collected during the initial screening events.

1.1 BACKGROUND AND CONDITIONS. SA 33 is part of the Main Base, Naval Training Center (NTC) in Orlando, Florida (Figure 1).

SA 33 is located on the block formed by Kittyhawk and Iwo Jima streets to the south and north, and Grace Hopper and John Paul Jones avenues to the west and east, in the center of the Main Base (Figure 2). The four large buildings on the site, 2001, 2002, 2003, and 2004, were constructed in 1945 to house administrative offices of the Command Headquarters. Each of these buildings has a separate boiler room and air conditioner condenser. The boilers were initially coal fired, but were later converted to burn heating oil supplied from aboveground storage tanks (ASTs). Coal fragments are still visible on the ground surface around the boiler rooms. Additional details can be found in the Site Screening Plan (ABB-ES, 1995).

1.2 SAMPLING RATIONALE. Areas of environmental interest at the site include stained surface soil reported to the northeast of Buildings 2001 and 2004, the former locations of flammable storage lockers at Building 2002, and the area on the south side of Building 2004, which received overflow from the air conditioning condensate drain.

Six heating oil ASTs were associated with Buildings 2001, 2002, 2003 and 2004. The three ASTs at Buildings 2003 and 2004 were removed in 1995, and a finding of clean closure was approved by the Florida Department of Environmental Protection in January and April, 1996. The three ASTs at Buildings 2001 and 2002 were removed in April 1998, and although the assessment report is not available as of this writing, the contractor indicated that there was no sign of contamination.

1.3 INITIAL SITE SCREENING INVESTIGATION SUMMARY. The site screening investigation was intended to evaluate the potential for release of contaminants to environmental media due to past site practices. Historical site activities and current site conditions were used to determine sampling locations.

1.3.1 Field Program Based on the rationale presented in the Site Screening Plan (ABB-ES, 1995), samples were collected to the northeast of both Buildings 2001 and 2004, in areas where surface soil stains had been noted. Samples were also collected adjacent to the former locations of flammable storage lockers at Building 2002 and from the area on the south side of Building 2004, where releases may have occurred.

1.3.1.1 **Surface Soil Sampling** Seven surface soil samples were collected during the initial portion of the site screening investigation.

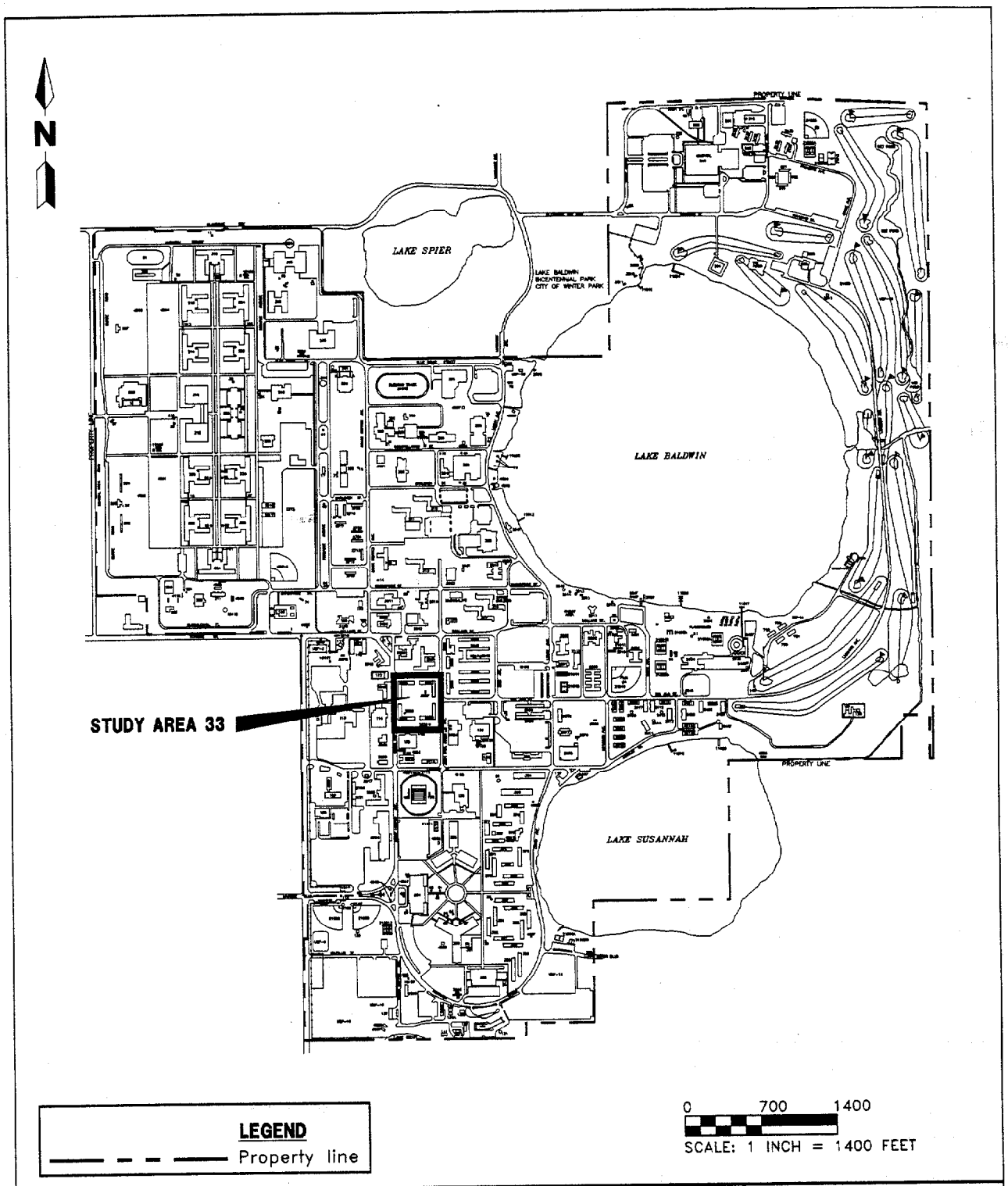

FIGURE 1
LOCATION OF STUDY AREA 33

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BASE REALIGNMENT AND CLOSURE
ENVIRONMENTAL SITE
SCREENING REPORT
STUDY AREA 33
NAVAL TRAINING CENTER
ORLANDO, FLORIDA

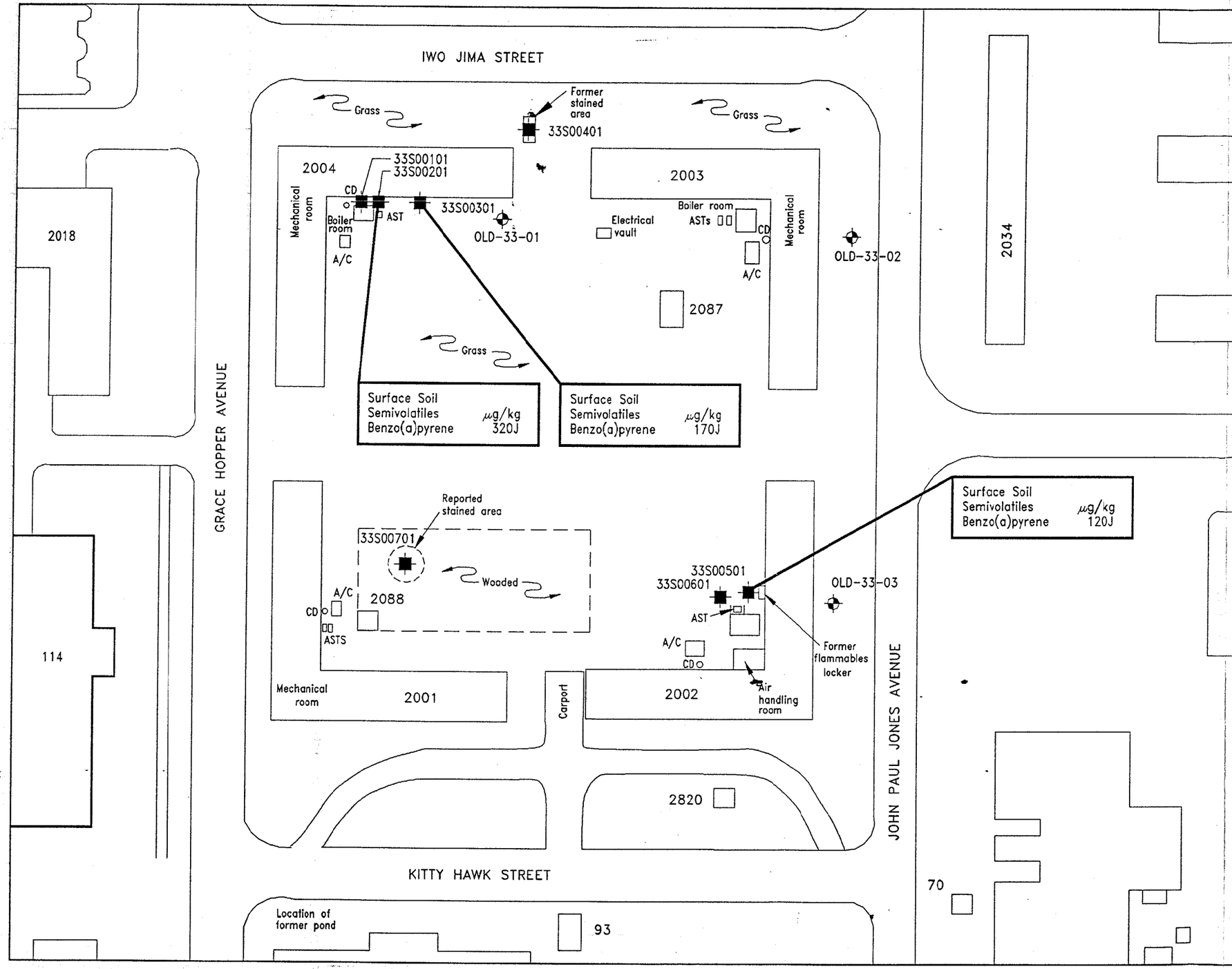


FIGURE 2
STUDY AREA 33
SURFACE SOIL, SOIL BORING AND MONITORING WELL LOCATIONS BUILDINGS 2001, 2002, 2003 AND 2004, COMMAND HEADQUARTERS, MAIN BASE

BASE REALIGNMENT AND CLOSURE ENVIRONMENTAL SITE SCREENING REPORT
STUDY AREA 33
NAVAL TRAINING CENTER
ORLANDO, FLORIDA

00003C012

Three surface soil samples (33S00101, 33S00201, and 33S00301) were collected from the surface water runoff path from the air conditioning condensate drain. A fourth surface soil sample (33S00401) was collected from the area of stained soil reported to the northeast of Building 2004. Surface soil samples (33S00501 and 33S00601) were also collected adjacent to the former locations of flammable storage cabinets at Building 2002. The seventh surface soil sample (33S00701) was collected from the area of stained soil reported in the wooded area northeast of Building 2001.

Surface soil samples for each location were submitted to an approved laboratory for full suite Contract Laboratory Program (CLP) target analyte list (TAL) and target compound list (TCL) laboratory analysis plus pesticides and polychlorinated biphenyls (PCBs), along with total petroleum hydrocarbons (TPH), in accordance with U.S. Environmental Protection Agency (USEPA) Level IV data quality objectives (DQOs). However, due to a miscommunication with the laboratory, the TAL inorganic analysis was not run on six of the surface soil samples (33S00201 through 33S00701). These locations were resampled at a later date and submitted for TAL inorganic analysis only (33S00202 through 33S00702).

1.3.1.2 **Soil Boring Investigation** Three soil borings were advanced in the areas of interest. Water-level data from adjacent SAs indicate groundwater flows in a northeasterly direction. One subsurface soil sample (33B00101) was collected from a location downgradient of the condensate drain south of Building 2004. The other two subsurface soil samples (33B00201 and 33B00301) were collected from borings located downgradient of the site.

The subsurface soil samples were collected from the interval directly above the water table, which varied from approximately 4.5 to 7 feet below land surface (bls). The subsurface soil samples were submitted for full suite CLP TCL laboratory analysis plus pesticides and PCBs, along with TPH, in accordance with USEPA Level IV DQOs.

1.3.1.3 **Groundwater Monitoring Well Installation and Sampling** The three soil borings were completed as temporary monitoring wells, OLD-33-01, OLD-33-02, and OLD-33-03 (Figure 2). The soil borings for the well installations were advanced with hand augers to approximately 8 to 10 feet bls. The screened interval for each monitoring well bracketed the water table, which was encountered approximately 5.5 to 7.25 feet bls during the investigation.

Groundwater samples were collected from each well using the low-flow sampling method (ABB-ES, 1997). Groundwater samples were submitted to an approved laboratory for full suite CLP TAL and TCL laboratory analysis plus pesticides and PCBs, along with TPH and suspended solids analysis, in accordance with USEPA Level IV DQOs. Filtered samples (0.45 micron in-line filter) were also collected and submitted for TAL inorganics analysis. The monitoring well installation diagrams and field sample data are included in Appendix A.

<u>1.3.2 SA Results</u> Analytical results from the media sampled at SA 33 are presented as Positive Detections Tables in Appendix B. A complete set of analytical results is presented in Appendix C. Exceedances of background screening or regulatory guidance concentrations (shaded on the positive detections tables) are displayed in chem-boxes near their respective explorations on Figure 2.

1.3.2.1 Surface Soil Analytical Results Analysis of the surface soil collected at SA 33 detected volatile and semivolatile organics, pesticides, and inorganics (Appendix B-1). A single semivolatile compound, benzo(a)pyrene, was detected at concentrations exceeding screening criteria. Concentrations of benzo(a)pyrene in samples 33S00201, 33S00301, and 33S00501 ranged from 120 micrograms per kilogram (μg/kg) to 320 μg/kg, exceeding both the Florida residential soil cleanup goal (SCG) (100 μg/kg) and the USEPA Region III residential risk-based concentration (RBC) for residential soil (88 μg/kg). Because benzo(a)pyrene was not detected in groundwater, comparison to leachability-based SCGs is not required.

1.3.2.2 Subsurface Soil Analytical Results Analysis of the subsurface soil collected at SA 33 detected one volatile organic compound and one pesticide (Appendix B-2). None of the analytes detected were at concentrations exceeding their respective residential RBCs or SCGs. Because neither of the compounds detected in the subsurface soil were detected in groundwater, comparison to leachability-based SCGs is not required.

Subsurface soil samples were not analyzed for TAL metals due to a miscommunication with the laboratory (see Paragraph 1.3.1.1, above), but because the surface soil and groundwater results did not indicate a potential environmental problem with subsurface soils, ABB-ES (presently Harding Lawson Associates [HLA]), concluded that resampling of subsurface soil and submittal for TAL analyses were unnecessary.

1.3.2.3 Groundwater Analytical Results Analysis of the groundwater collected at SA 33 detected only inorganic compounds (Appendix B-3). None of the analytes detected were at concentrations exceeding their respective screening criteria or Florida groundwater guidance concentrations.

1.4 ADDITIONAL SCREENING INVESTIGATION SUMMARY. After reviewing the data collected during the initial site screening investigation, the Orlando Partnering Team (OPT) determined that additional work would be appropriate at SA 33. The additional field activities involved removal of surface soil at the three locations where benzo(a)pyrene was previously detected at concentrations greater than residential SCGs and confirmatory sampling.

1.4.1 Soil Removal The soil removal activity was conducted by the NTC Orlando Public Works Department (PWD). Personnel from the PWD excavated surface soil to a radius of approximately 5 feet around sample locations 33S00201, 33S00301, and 33S00501. Each excavation was 6 to 8 inches in depth. The excavated soil was placed in drums for removal from the site.

1.4.2 Soil Sampling Following the soil removal, three soil samples (33S00203, 33S00303, and 33S00503) were collected from the excavations to confirm that the benzo(a)pyrene exceedances were confined to the uppermost layer of soil. Each soil sample was collected from the bottom of the excavation to approximately 1 foot below the new grade. The soil samples for each excavation were submitted to an approved laboratory for CLP TCL semivolatile laboratory analysis.

1.4.3 Results Analysis of the soil collected from the excavations at SA 33 detected semivolatile organic compounds (Appendix B-2). None of the compounds

detected were at concentrations exceeding their respective residential RBCs or SCGs.

1.5 SA 33, CONCLUSIONS AND RECOMMENDATIONS. The analytical results from media sampled at SA 33 do not indicate that the site has been affected by past site use. Subsurface soil and groundwater did not have any detections of compounds above screening criteria, and only one compound was detected in surface soil at concentrations above screening criteria.

Benzo(a)pyrene was detected in three surface soil samples (33S00201, 33S00301, and 33S00501) at concentrations ranging from 120 to 320 $\mu g/kg$. These concentrations exceed the SCG and residential RBC, but not the industrial RBC. Each of these samples was collected in areas that receive surface water runoff from the boiler rooms associated with each building. This area of the base has been developed and urbanized since the base was established. Semivolatile compounds, including benzo(a)pyrene, are not uncommon in urban areas where petroleum products have been used.

The area of the base occupied by SA 33 is intended for a residential re-use scenario. Therefore, the OPT authorized removal of surface soil at the site where benzo(a)pyrene detections exceeding residential SCGs had occurred. Following the soil removal at the site, samples were collected from the base of each excavation. These samples did not have any detections of compounds above screening criteria.

HLA recommends that SA 33 be made eligible for transfer, and that the site be reclassified from 7/Gray to 1/White.

The undersigned members of the OPT concur with the findings and recommendations of the preceding investigation.

STUDY AREA 33

U.S. Environmental Protection Agency, Region IV	Date
Florida Department of Environmental Protection	Date
U.S. Department of the Navy	Date

REFERENCES

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

ABB-ES. 1997. *Project Operations Plan for Site Investigations and Remedial Investigations, Naval Training Center, Orlando, Florida*. Prepared for SOUTHNAVFACENGCOM, North Charleston, South Carolina.

APPENDIX A

MONITORING WELL INSTALLATION DIAGRAMS, GROUNDWATER SAMPLE FIELD DATA, AND SURFACE SOIL SAMPLE FIELD DATA

A-1 Monitoring Well Installation Diagrams
A-2 Groundwater Sample Field Data
A-3 Surface Soil Sample Field Data

APPENDIX A-1

MONITORING WELL INSTALLATION DIAGRAMS

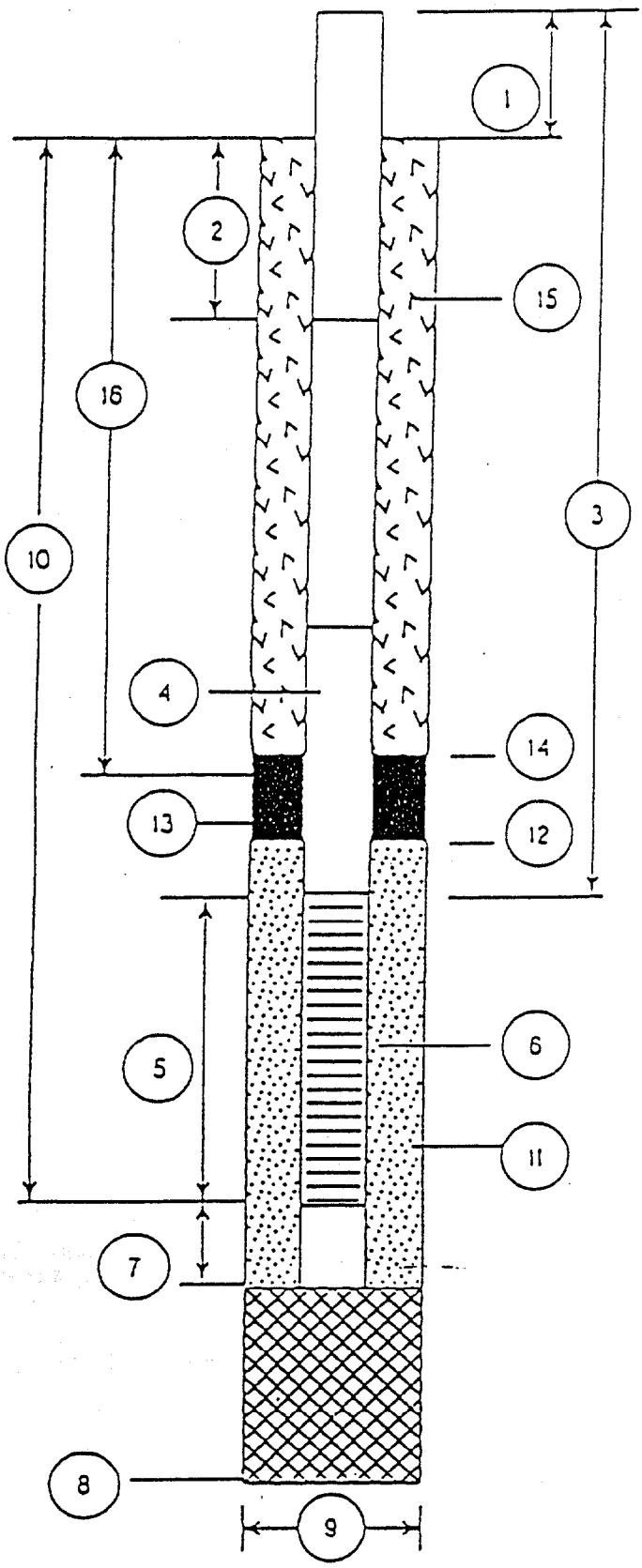
DEPARTMENT OF THE NAVY

SOUTHERN DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
CHARLESTON, SC.

WELL CONSTRUCTION DETAIL

WELL NUMBER: OLD-33-01 (Temp.)

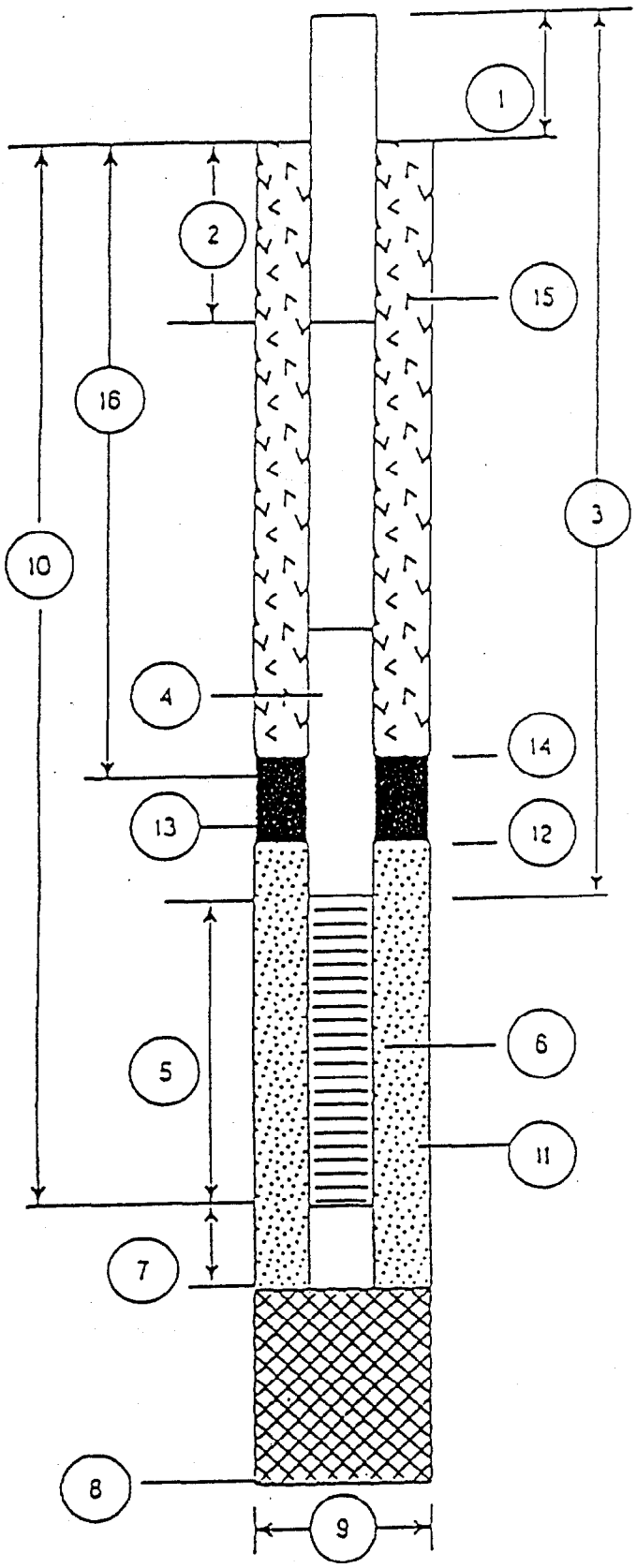
DATE OF INSTALLATION: 6-24-97



1. Height of Casing above ground: 1.02
2. Depth to first Coupling: 3.98
   Coupling Interval Depths: 5'
3. Total Length of Riser Pipe: 5'
4. Type of Riser Pipe: 2" Sched. 40 PVC
5. Length of Screen: 5'
6. Type of Screen: 2" Sched 40 PVC 0.010 slot
7. Length of Sump: 6"
8. Total Depth of Boring: 9'
9. Diameter of Boring: 4"
10. Depth to Bottom of Screen: 8.98'
11. Type of Screen Filter: Silica Sand
    Quantity Used: 35 lb Size: —
12. Depth to Top of Filter: 1'
13. Type of Seal: Benseal
    Quantity Used: 1 lb
14. Depth to Top of Seal: 6"
15. Type of Grout: NA
    Grout Mixture:
    Method of Placement: NA
16. Tot. Depth of 6 in. Steel Casing: NA

DEPARTMENT OF THE NAVY

SOUTHERN DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
CHARLESTON, SC.



WELL CONSTRUCTION DETAIL

WELL NUMBER: OLD-33-02 (Temp)

DATE OF INSTALLATION: 6.24.97

1. Height of Casing above ground: 2.39
2. Depth to first Coupling: 2.61

   Coupling Interval Depths: 5'
3. Total Length of Riser Pipe: 5'
4. Type of Riser Pipe: 2" Sched 40 PVC
5. Length of Screen: 5'
6. Type of Screen: 2" Sched 40 PVC 0.010 Slot
7. Length of Sump: 6"
8. Total Depth of Boring: 8'
9. Diameter of Boring: 4"
10. Depth to Bottom of Screen: 7.61
11. Type of Screen Filter: Silica Sand

    Quantity Used: 35 lb Size: —
12. Depth to Top of Filter: 1'
13. Type of Seal: Benseal

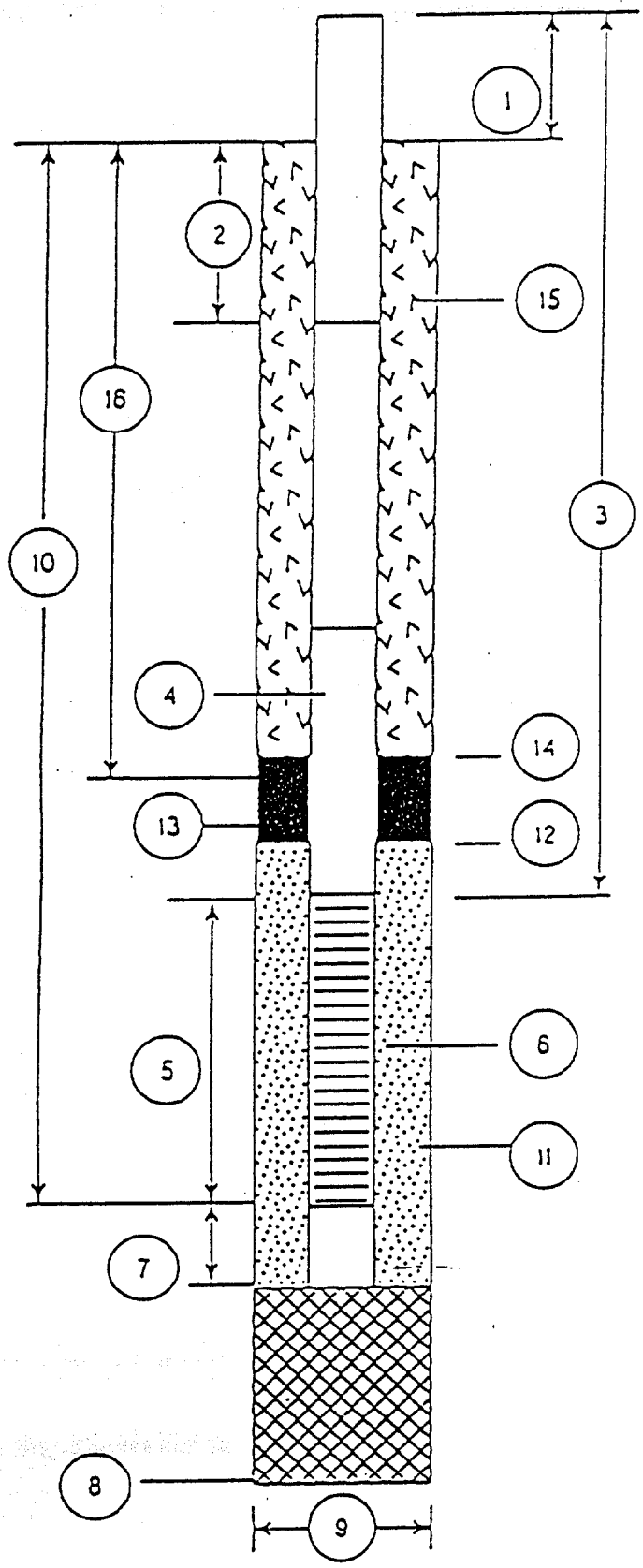
    Quantity Used: 1 lb
14. Depth to Top of Seal: 6"
15. Type of Grout: NA

    Grout Mixture:

    Method of Placement: NA
16. Tot. Depth of 6 in. Steel Casing: NA

DEPARTMENT OF THE NAVY

SOUTHERN DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
CHARLESTON, SC.



WELL CONSTRUCTION DETAIL

WELL NUMBER: OLD-3303 (Temp)

DATE OF INSTALLATION: 6-24/9

1. Height of Casing above ground: 0.8'
2. Depth to first Coupling: 4.2'
   Coupling Interval Depths: 5'
3. Total Length of Riser Pipe: 5'
4. Type of Riser Pipe: 2" Sched 40 PVC
5. Length of Screen: 5'
6. Type of Screen: 2" Sched 40 PVC 0.010 SLOT
7. Length of Sump: 6"
8. Total Depth of Boring: 10'
9. Diameter of Boring: 4"
10. Depth to Bottom of Screen: 9.2'
11. Type of Screen Filter: Silica Sand
    Quantity Used: 35 lb Size: ——
12. Depth to Top of Filter: 1'
13. Type of Seal: Bensaal
    Quantity Used: 1 lb
14. Depth to Top of Seal: 6"
15. Type of Grout: NA
    Grout Mixture:
    Method of Placement: NA
16. Tot. Depth of 6 in. Steel Casing: NA

APPENDIX A-2

GROUNDWATER SAMPLE FIELD DATA

GROUNDWATER SAMPLE FIELD DATA

Project: NTC ORLANDO
Point of Interest: SA 33
Project Number: 08545.10
Date: 6.27/97
Sample Location ID: OLD-33-01 (temp.)
Time: Start: 0805 End: 1045
Signature of Sampler: Willy D. Olsen

Water Level/Well Data

Well Depth 10.44 Ft. — X Measured / ___ Historical

X Top of Well / ___ Top of Protective Casing / ___ ___

Well Riser Stick-up 1.02 Ft. (from ground)

Protective NA Ft. Casing/Well Difference

Protective NA Ft. Casing

Depth to Water 8.46 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 1.96 Ft. X X .16 Gal/Ft. (2 in.) / ___ .65 Gal/Ft. (4 in.) / ___ 1.5 Gal/Ft. (6 in.) / ___ ___ Gal/Ft. (___ in.) = 0.31 Gal/Vol; 5 Total Gal Purged

Well Integrity: Prot. Casing Secure ___ ___; Concrete Collar Intact NA ___ ___; 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	
___	X	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 — ppm Well Mouth — ppm

Field Data Collected: ___ In-line / X In Container

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

Purge Data	@ ___ Gal.	@ ___ Gal.	@ ___ Gal.	@ ___ Gal.	@ 5 Gal.
Temperature, Deg. C	26.5	26.7	27.1	27.2	27.2
pH, units	5.44	6.59	6.72	6.72	6.76
Specific Conductivity	2.89	2.50	2.42	2.34	2.41
~~(umhos/cm. @ 25 Deg. C.)~~ NTU	137.9	192.4	15.37	7.54	5.92
~~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	9 x 40ml	X	___ / ___ / ___ / ___
SVOA	___	4°C	6 x 1l	X	___ / ___ / ___ / ___
Pest/PCB	___	4°C	6 x 1l	X	___ / ___ / ___ / ___
Inorganics		HNO_3	6 x 1l	X	___ / ___ / ___ / ___
~~Explosives~~ TSS	✓	4°C	1 x 500ml	X	___ / ___ / ___ / ___
~~TPH~~	___	H_2SO_4		___	___ / ___ / ___ / ___
TOC	___	H_2SO_4		___	___ / ___ / ___ / ___
Nitrate	___	H_2SO_4		___	___ / ___ / ___ / ___

Notes: Collected MS/MSD
6 x 1l metals / 3l filtered

GROUNDWATER SAMPLE FIELD DATA

Project: NTC ORLANDO
Point of Interest: SA 33
Project Number: 08545.10
Date: 6-30/97
Sample Location ID: OLD-33-02 (Temp.)
Time: Start: 0804 End: 0932
Signature of Sampler: [illegible]

Water Level/Well Data

Well Depth 10.10 Ft. — X Measured / ___ Historical — X Top of Well / ___ Top of Protective Casing

Well Riser Stick-up (from ground) 2.39 Ft.

Protective Casing/Well Difference NA Ft.

Protective Casing NA Ft.

Depth to Water 7.79 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 2.31 Ft. X (X .16 Gal/Ft. (2 in.) / ___ .65 Gal/Ft. (4 in.) / ___ 1.5 Gal/Ft. (6 in.) / ___ Gal/Ft. (___ in.)) = 0.37 Gal/Vol; 4 Total Gal Purged

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

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	
	X	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 ___ ppm Well Mouth ___ ppm

Field Data Collected ___ In-line / ___ In Container

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

Purge Data	@ ___ Gal.	@ 1 Wit Gal.	@ 2 Gal.	@ 3 Gal.	@ 4 Gal.
Temperature, Deg. C		26.4	26.4	26.7	26.7
pH, units		6.89	6.88	6.87	6.87
Specific Conductivity		230	226	224	220
~~(umhos/cm @ 25 Deg. C)~~ NTU		>200	15.56	13.38	13.32
~~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			/ / /
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: Full Suite/Filtered metals/TS[illegible]
33 G/H 0020L

GROUNDWATER SAMPLE FIELD DATA

Project: NTC ORLANDO
Project Number: 08545.10
Sample Location ID: OLD-33-03 (Temp.)
Time: Start: 0950 End: 1120

Point of Interest: SA 33
Date: 6-30/97
Signature of Sampler: William D. Olson

Water Level/Well Data

Well Depth 10.36 Ft. — X Measured / ___ Historical

X Top of Well / ___ Top of Protective Casing

Well Riser Stick-up 0.8 Ft. (from ground)

Protective Casing/Well Difference NA Ft.

Protective Casing NA Ft.

Depth to Water 8.02 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 2.34 Ft. X

X .16 Gal/Ft. (2 in.) / ___ .65 Gal/Ft. (4 in.) / ___ 1.5 Gal/Ft. (6 in.) / ___ Gal/Ft. (___ in.)

= 0.37 Gal/Vol × 4 = Total Gal Purged

Well Integrity: Yes / No
Prot. Casing Secure
Concrete Collar Intact NA
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	
	X	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 ___ ppm Well Mouth ___ ppm

Field Data Collected ___ In-line / ___ In Container

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

Purge Data	@ ___ Gal.	@ Init Gal.	@ 1 Gal.	@ 3 Gal.	@ 5 Gal.
Temperature, Deg. C		28.1	27.1	27.4	27.5
pH, units		6.83	6.89	6.87	6.88
Specific Conductivity		300	296	300	300
~~(umhos/cm. @ 25 Deg. C.)~~ NTU		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			/ / /
SVOA		4OC			/ / /
Pest/PCB		4OC			/ / /
Inorganics		HNO_3			/ / /
Explosives		4°C			/ / /
TPH		H_2SO_4			/ / /
TOC		H_2SO_4			/ / /
Nitrate		H_2SO_4			/ / /

Notes: Full Suite/Filtered Metals/TSS
33 G/H 00301

APPENDIX A-3

SURFACE SOIL SAMPLE FIELD DATA

SURFACE SOIL SAMPLE FIELD DATA RECORD

Project: NTC ORLANDO
Project Number: 02530.05
Sample Location ID: 33500101
Time: Start: 0940 End:

Site: SA33
Date: 7-9/97
Signature of Sampler: Walt P. Olsen

SOIL SAMPLE

DEPTH OF SAMPLE 0-1'

EQUIPMENT USED FOR COLLECTION:
- [X] HAND AUGER
- [ ] S.S. SPLIT SPOON
- [ ] SHOVEL
- [ ] HAND SPOON
- [ ] ALUMINUM PANS
- [ ] SS BUCKET
- [ ] _____

TYPE OF SAMPLE COLLECTED:
- [X] DISCRETE
- [ ] COMPOSITE

SAMPLE OBSERVATIONS:
- [ ] ODOR _____
- [X] COLOR dark brown
- [ ] _____

DECONTAMINATION FLUIDS USED:
- ✓ ALL USED
- [ ] ETHYL ALCOHOL
- [ ] 25% METHANOL/75% ASTM TYPE II WATER
- [X] DEIONIZED WATER
- [X] LIQUINOX SOLUTION
- [ ] HEXANE
- [ ] HNO_3 SOLUTION
- [ ] POTABLE WATER
- [ ] NONE

SOIL TYPE:
- [ ] CLAY
- [X] SAND
- [ ] ORGANIC
- [ ] GRAVEL

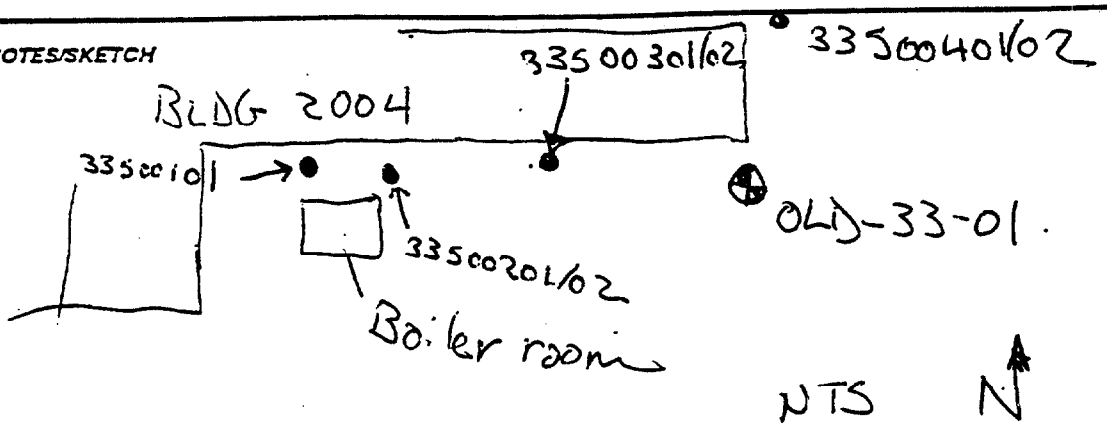
FIELD GC DATA: [ ] FIELD DUPLICATE COLLECTED
DUPLICATE ID _____

SAMPLE LOCATION SKETCH:
- [X] YES
- [ ] NO

SAMPLES COLLECTED

✓ IF REQUIRED AT THIS LOCATION	MATRIX: SURFACE WATER	MATRIX: SEDIMENT	✓ IF PRESERVED WITH ACID-BASE	VOLUME REQUIRED	✓ IF SAMPLE COLLECTED	SAMPLE BOTTLE IDS
[ ]	[ ]	[ ]	[ ]		[ ]	
[ ]	[ ]	[ ]	[ ]		[ ]	
[ ]	[ ]	[ ]	[ ]		[ ]	
[ ]	[ ]	[ ]	[ ]		[ ]	
[ ]	[ ]	[ ]	[ ]		[ ]	
[ ]	[ ]	[ ]	[ ]		[ ]	
[ ]	[ ]	[ ]	[ ]		[ ]	

NOTES/SKETCH



33500101 = Full SOIL + TPH
33500101 D = Full SOIL
~~[illegible]~~

SURFACE SOIL SAMPLE FIELD DATA RECORD

Project: NTC ORLANDO
Project Number: 02530.05
Sample Location ID: 33500201
Time: Start: 0951 End:

Site: SA 33
Date: 7-9/97
Signature of Sampler: [signature]

SOIL SAMPLE

DEPTH OF SAMPLE 0-1

EQUIPMENT USED FOR COLLECTION:
[X] HAND AUGER
[ ] S.S. SPLIT SPOON
[ ] SHOVEL
[ ] HAND SPOON
[ ] ALUMINUM PANS
[ ] SS BUCKET
[ ]

TYPE OF SAMPLE COLLECTED:
[X] DISCRETE
[ ] COMPOSITE

SAMPLE OBSERVATIONS:
[ ] ODOR
[X] COLOR dark brown
[ ]

DECONTAMINATION FLUIDS USED:
✓ ALL USED
[ ] ETHYL ALCOHOL
[ ] 25% METHANOL 75% ASTM TYPE II WATER
[X] DEIONIZED WATER
[X] LIQUINOX SOLUTION
[ ] HEXANE
[ ] HNO_3 SOLUTION
[ ] POTABLE WATER
[ ] NONE

SOIL TYPE:
[ ] CLAY
[X] SAND
[ ] ORGANIC
[X] GRAVEL

FIELD GC DATA: [ ] FIELD DUPLICATE COLLECTED
DUPLICATE ID

SAMPLE LOCATION SKETCH:
[ ] YES
[X] NO See 33500101

SAMPLES COLLECTED

✓ IF REQUIRED AT THIS LOCATION	MATRIX: SURFACE WATER	MATRIX: SEDIMENT	✓ IF PRESERVED WITH ACID-BASE	VOLUME REQUIRED	✓ IF SAMPLE COLLECTED	SAMPLE BOTTLE IDS
[ ]	[ ]	[ ]	[ ]		[ ]	/ / /
[ ]	[ ]	[ ]	[ ]		[ ]	/ / /
[ ]	[ ]	[ ]	[ ]		[ ]	/ / /
[ ]	[ ]	[ ]	[ ]		[ ]	/ / /
[ ]	[ ]	[ ]	[ ]		[ ]	/ / /
[ ]	[ ]	[ ]	[ ]		[ ]	/ / /
[ ]	[ ]	[ ]	[ ]		[ ]	/ / /

NOTES/SKETCH

33500201 = Full suite + TPH
Lab did not run metals
33500202 collected 10-17/97, metals only

SURFACE SOIL SAMPLE FIELD DATA RECORD

Project: NTC ORLANDO
Project Number: 02530.05
Sample Location ID: 33500301
Time: Start: 0958 End:

Site: SA33
Date: 7-9/97
Signature of Sampler: [illegible]

SOIL SAMPLE

DEPTH OF SAMPLE 0-1

EQUIPMENT USED FOR COLLECTION:
[X] HAND AUGER
[ ] S.S. SPLIT SPOON
[ ] SHOVEL
[ ] HAND SPOON
[ ] ALUMINUM PANS
[ ] SS BUCKET
[ ] _____

TYPE OF SAMPLE COLLECTED:
[X] DISCRETE
[ ] COMPOSITE

SAMPLE OBSERVATIONS:
[ ] ODOR _____
[X] COLOR brown
[ ] _____

DECONTAMINATION FLUIDS USED:
✓ ALL USED
[ ] ETHYL ALCOHOL
[ ] 25% METHANOL 75% ASTM TYPE II WATER
[X] DEIONIZED WATER
[X] LIQUINOX SOLUTION
[ ] HEXANE
[ ] HNO_3 SOLUTION
[ ] POTABLE WATER
[ ] NONE

SOIL TYPE:
[ ] CLAY
[X] SAND
[ ] ORGANIC
[ ] GRAVEL

FIELD QC DATA: [ ] FIELD DUPLICATE COLLECTED
DUPLICATE ID _____

SAMPLE LOCATION SKETCH:
[ ] YES
[X] NO See 33500101

SAMPLES COLLECTED

✓ IF REQUIRED AT THIS LOCATION	MATRIX: SURFACE WATER	MATRIX: SEDIMENT	✓ IF PRESERVED WITH ACID-BASE	VOLUME REQUIRED	✓ IF SAMPLE COLLECTED	SAMPLE BOTTLE IDS
[ ]	[ ]	[ ]	[ ]		[ ]	/ / /
[ ]	[ ]	[ ]	[ ]		[ ]	/ / /
[ ]	[ ]	[ ]	[ ]		[ ]	/ / /
[ ]	[ ]	[ ]	[ ]		[ ]	/ / /
[ ]	[ ]	[ ]	[ ]		[ ]	/ / /
[ ]	[ ]	[ ]	[ ]		[ ]	/ / /
[ ]	[ ]	[ ]	[ ]		[ ]	/ / /

NOTES/SKETCH

33500301 = Full suite + TPH
Lab did not run metals
33500302 collect 10-17/97, metals only

SURFACE SOIL SAMPLE FIELD DATA RECORD

Project: NTC ORLANDO
Project Number: 02530.05
Sample Location ID: 33500401 /MS/ MSD
Time: Start: 1010 End:

Site: SA 33
Date: 7-9/97
Signature of Sampler: [illegible]

SOIL SAMPLE

DEPTH OF SAMPLE 0-1

EQUIPMENT USED FOR COLLECTION:
- [X] HAND AUGER
- [ ] S.S. SPLIT SPOON
- [ ] SHOVEL
- [ ] HAND SPOON
- [ ] ALUMINUM PANS
- [ ] SS BUCKET
- [ ] _____

TYPE OF SAMPLE COLLECTED:
- [X] DISCRETE
- [ ] COMPOSITE

SAMPLE OBSERVATIONS:
- [ ] ODOR _____
- [X] COLOR gray/brown
- [ ] _____

DECONTAMINATION FLUIDS USED:
- ✓ ALL USED
- [ ] ETHYL ALCOHOL
- [ ] 25% METHANOL/75% ASTM TYPE II WATER
- [X] DEIONIZED WATER
- [X] LIQUINOX SOLUTION
- [ ] HEXANE
- [ ] HNO_3 SOLUTION
- [ ] POTABLE WATER
- [ ] NONE

SOIL TYPE:
- [ ] CLAY
- [X] SAND
- [ ] ORGANIC
- [ ] GRAVEL

FIELD GC DATA: [ ] FIELD DUPLICATE COLLECTED
DUPLICATE ID _____

SAMPLE LOCATION SKETCH:
- [ ] YES
- [X] NO See 33500101

SAMPLES COLLECTED

✓ IF REQUIRED AT THIS LOCATION	MATRIX: SURFACE WATER	MATRIX: SEDIMENT	✓ IF PRESERVED WITH ACID-BASE	VOLUME REQUIRED	✓ IF SAMPLE COLLECTED	SAMPLE BOTTLE IDS
[ ]	[ ]	[ ]	[ ]		[ ]	/ / /
[ ]	[ ]	[ ]	[ ]		[ ]	/ / /
[ ]	[ ]	[ ]	[ ]		[ ]	/ / /
[ ]	[ ]	[ ]	[ ]		[ ]	/ / /
[ ]	[ ]	[ ]	[ ]		[ ]	/ / /
[ ]	[ ]	[ ]	[ ]		[ ]	/ / /
[ ]	[ ]	[ ]	[ ]		[ ]	/ / /

NOTES/SKETCH

33500401 = Full suite + TPH
33500401MS = Full suite
33500401MSD = Full suite
Lab did not run metals
33500402 collected 10-17/97, metals only

SURFACE SOIL SAMPLE FIELD DATA RECORD

Project: NTC ORLANDO
Project Number: 02530.05
Sample Location ID: 33500501
Time: Start: 1020 End: _____

Site: SA33
Date: 7-9-97
Signature of Sampler: [illegible]

SOIL SAMPLE

DEPTH OF SAMPLE 0-1

EQUIPMENT USED FOR COLLECTION:
- [X] HAND AUGER
- [ ] S.S. SPLIT SPOON
- [ ] SHOVEL
- [ ] HAND SPOON
- [ ] ALUMINUM PANS
- [ ] SS BUCKET
- [ ] _____

TYPE OF SAMPLE COLLECTED:
- [X] DISCRETE
- [ ] COMPOSITE

SAMPLE OBSERVATIONS:
- [ ] ODOR _____
- [X] COLOR gray / brown
- [ ] _____

DECONTAMINATION FLUIDS USED:
- ✓ ALL USED
- [ ] ETHYL ALCOHOL
- [ ] 25% METHANOL 75% ASTM TYPE II WATER
- [X] DEIONIZED WATER
- [X] LIQUINOX SOLUTION
- [ ] HEXANE
- [ ] HNO_3 SOLUTION
- [ ] POTABLE WATER
- [ ] NONE

SOIL TYPE:
- [ ] CLAY
- [X] SAND
- [ ] ORGANIC
- [ ] GRAVEL

FIELD GC DATA: [ ] FIELD DUPLICATE COLLECTED
DUPLICATE ID _____

SAMPLE LOCATION SKETCH:
- [ ] YES
- [ ] NO

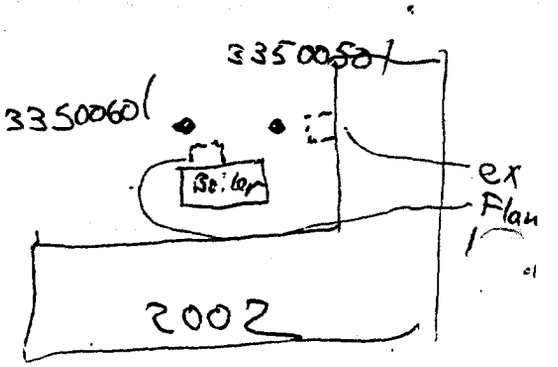
SAMPLES COLLECTED

✓ IF REQUIRED AT THIS LOCATION	MATRIX: SURFACE WATER	MATRIX: SEDIMENT	✓ IF PRESERVED WITH ACID-BASE	VOLUME REQUIRED	✓ IF SAMPLE COLLECTED	SAMPLE BOTTLE IDS
[ ]	[ ]	[ ]	[ ]	_____	[ ]	_____
[ ]	[ ]	[ ]	[ ]	_____	[ ]	_____
[ ]	[ ]	[ ]	[ ]	_____	[ ]	_____
[ ]	[ ]	[ ]	[ ]	_____	[ ]	_____
[ ]	[ ]	[ ]	[ ]	_____	[ ]	_____
[ ]	[ ]	[ ]	[ ]	_____	[ ]	_____
[ ]	[ ]	[ ]	[ ]	_____	[ ]	_____

NOTES/SKETCH

33500501 = Full suite
Lab did not run metals

33500502 collected 10-17/97
metals only



SURFACE SOIL SAMPLE FIELD DATA RECORD

Project: NTC ORLANDO
Project Number: 02530.05
Sample Location ID: 33500601
Time: Start: 1027 End:

Site: SA 33
Date: 7-9-97
Signature of Sampler: [illegible]

SOIL SAMPLE

DEPTH OF SAMPLE 0-1'

EQUIPMENT USED FOR COLLECTION:
- [X] HAND AUGER
- [ ] S.S. SPLIT SPOON
- [ ] SHOVEL
- [ ] HAND SPOON
- [ ] ALUMINUM PANS
- [ ] SS BUCKET
- [ ] _____

TYPE OF SAMPLE COLLECTED:
- [X] DISCRETE
- [ ] COMPOSITE

SAMPLE OBSERVATIONS:
- [ ] ODOR _____
- [X] COLOR gray/brown
- [ ] _____

DECONTAMINATION FLUIDS USED:
- ✓ ALL USED
- [ ] ETHYL ALCOHOL
- [ ] 25% METHANOL 75% ASTM TYPE II WATER
- [X] DEIONIZED WATER
- [X] LIQUINOX SOLUTION
- [ ] HEXANE
- [ ] HNO_3 SOLUTION
- [ ] POTABLE WATER
- [ ] NONE

SOIL TYPE:
- [ ] CLAY
- [X] SAND
- [ ] ORGANIC
- [ ] GRAVEL

FIELD QC DATA: [ ] FIELD DUPLICATE COLLECTED
DUPLICATE ID _____

SAMPLE LOCATION SKETCH:
- [ ] YES
- [X] NO See 33500501

SAMPLES COLLECTED

✓ IF REQUIRED AT THIS LOCATION	MATRIX: SURFACE WATER	MATRIX: SEDIMENT	✓ IF PRESERVED WITH ACID-BASE	VOLUME REQUIRED	✓ IF SAMPLE COLLECTED	SAMPLE BOTTLE IDS
[ ]	[ ]	[ ]	[ ]		[ ]	/ / /
[ ]	[ ]	[ ]	[ ]		[ ]	/ / /
[ ]	[ ]	[ ]	[ ]		[ ]	/ / /
[ ]	[ ]	[ ]	[ ]		[ ]	/ / /
[ ]	[ ]	[ ]	[ ]		[ ]	/ / /
[ ]	[ ]	[ ]	[ ]		[ ]	/ / /
[ ]	[ ]	[ ]	[ ]		[ ]	/ / /

NOTES/SKETCH

33500601 = Full suite
Lab did not run metals
33500602 collected 10-17/97, metals only

SURFACE SOIL SAMPLE FIELD DATA RECORD

Project: NTC ORLANDO
Project Number: 02530.05
Sample Location ID: 33500701
Time: Start: 1036 End:

Site: SA33
Date: 7-9/97
Signature of Sampler: [illegible]

SOIL SAMPLE

DEPTH OF SAMPLE 0-1

EQUIPMENT USED FOR COLLECTION:
[X] HAND AUGER
[ ] S.S. SPLIT SPOON
[ ] SHOVEL
[ ] HAND SPOON
[ ] ALUMINUM PANS
[ ] SS BUCKET
[ ] _____

TYPE OF SAMPLE COLLECTED:
[X] DISCRETE
[ ] COMPOSITE

SAMPLE OBSERVATIONS:
[ ] ODOR _____
[X] COLOR gray brown
[ ] _____

DECONTAMINATION FLUIDS USED:
✓ ALL USED
[ ] ETHYL ALCOHOL
[ ] 25% METHANOL 75% ASTM TYPE II WATER
[X] DEIONIZED WATER
[X] LIQUINOX SOLUTION
[ ] HEXANE
[ ] HNO_3 SOLUTION
[ ] POTABLE WATER
[ ] NONE

SOIL TYPE:
[ ] CLAY
[X] SAND
[ ] ORGANIC
[ ] GRAVEL

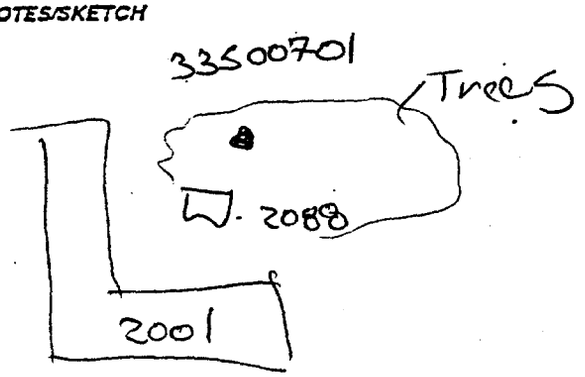
FIELD GC DATA: [ ] FIELD DUPLICATE COLLECTED
DUPLICATE ID _____

SAMPLE LOCATION SKETCH:
[X] YES
[ ] NO

SAMPLES COLLECTED

✓ IF REQUIRED AT THIS LOCATION	MATRIX: SURFACE WATER	MATRIX: SEDIMENT	✓ IF PRESERVED WITH ACID-BASE	VOLUME REQUIRED	✓ IF SAMPLE COLLECTED	SAMPLE BOTTLE IDS
[ ]	[ ]	[ ]	[ ]		[ ]	/ / /
[ ]	[ ]	[ ]	[ ]		[ ]	/ / /
[ ]	[ ]	[ ]	[ ]		[ ]	/ / /
[ ]	[ ]	[ ]	[ ]		[ ]	/ / /
[ ]	[ ]	[ ]	[ ]		[ ]	/ / /
[ ]	[ ]	[ ]	[ ]		[ ]	/ / /
[ ]	[ ]	[ ]	[ ]		[ ]	/ / /

NOTES/SKETCH



33500701 = Full suite
Lab did not run metals
33500702 collect 10-17/97
metals only

SURFACE SOIL SAMPLE FIELD DATA RECORD

Project: NTC ORLANDO
Project Number: 02530.05
Sample Location ID: 33B00101 (OLD-33-01)
Time: Start: 1050 End: _____

Site: SA33
Date: 7-9/97
Signature of Sampler: [illegible]

SOIL SAMPLE

DEPTH OF SAMPLE 6-7'

EQUIPMENT USED FOR COLLECTION:
[X] HAND AUGER
[ ] S.S. SPLIT SPOON
[ ] SHOVEL
[ ] HAND SPOON
[ ] ALUMINUM PANS
[ ] SS BUCKET
[ ] _____

TYPE OF SAMPLE COLLECTED:
[X] DISCRETE
[ ] COMPOSITE

SAMPLE OBSERVATIONS:
[ ] ODOR _____
[X] COLOR brown, some
[ ] shell mat.

DECONTAMINATION FLUIDS USED:
✓ ALL USED
[ ] ETHYL ALCOHOL
[ ] 25% METHANOL 75% ASTM TYPE II WATER
[X] DEIONIZED WATER
[X] LIQUINOX SOLUTION
[ ] HEXANE
[ ] HNO_3 SOLUTION
[ ] POTABLE WATER
[ ] NONE

SOIL TYPE:
[ ] CLAY
[X] SAND
[ ] ORGANIC
[ ] GRAVEL

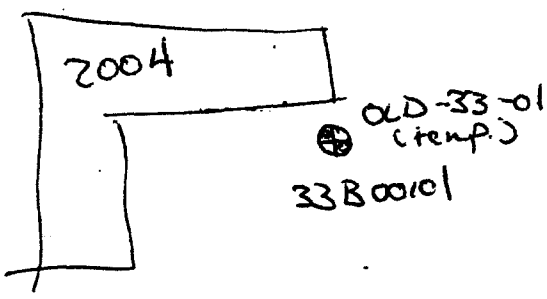
FIELD GC DATA: [ ] FIELD DUPLICATE COLLECTED
DUPLICATE ID _____

SAMPLE LOCATION SKETCH:
[X] YES
[ ] NO

SAMPLES COLLECTED

✓ IF REQUIRED AT THIS LOCATION	MATRIX: SURFACE WATER	MATRIX: SEDIMENT	✓ IF PRESERVED WITH ACID-BASE	VOLUME REQUIRED	✓ IF SAMPLE COLLECTED	SAMPLE BOTTLE IDS
[ ]	[ ]	[ ]	[ ]	_____	[ ]	___/___/___
[ ]	[ ]	[ ]	[ ]	_____	[ ]	___/___/___
[ ]	[ ]	[ ]	[ ]	_____	[ ]	___/___/___
[ ]	[ ]	[ ]	[ ]	_____	[ ]	___/___/___
[ ]	[ ]	[ ]	[ ]	_____	[ ]	___/___/___
[ ]	[ ]	[ ]	[ ]	_____	[ ]	___/___/___
[ ]	[ ]	[ ]	[ ]	_____	[ ]	___/___/___

NOTES/SKETCH



33B00101 = Full Suite
(Lab did not run metal
WAO 12-9/97)

SURFACE SOIL SAMPLE FIELD DATA RECORD

Project: NTC ORLANDO
Project Number: 02530.05
Sample Location ID: 30B 00201 (OLD-33-02)
Time: Start: 1120 End:

Site: SA33
Date: 7-9/97
Signature of Sampler: [signature]

SOIL SAMPLE

DEPTH OF SAMPLE 4.5 - 5.5

EQUIPMENT USED FOR COLLECTION:
- [X] HAND AUGER
- [ ] S.S. SPLIT SPOON
- [ ] SHOVEL
- [ ] HAND SPOON
- [ ] ALUMINUM PANS
- [ ] SS BUCKET
- [ ] _____

TYPE OF SAMPLE COLLECTED:
- [X] DISCRETE
- [ ] COMPOSITE

SAMPLE OBSERVATIONS:
- [ ] ODOR _____
- [X] COLOR TAN
- [ ] _____

DECONTAMINATION FLUIDS USED:
- ✓ ALL USED
- [ ] ETHYL ALCOHOL
- [ ] 25% METHANOL 75% ASTM TYPE II WATER
- [X] DEIONIZED WATER
- [X] LIQUINOX SOLUTION
- [ ] HEXANE
- [ ] HNO_3 SOLUTION
- [ ] POTABLE WATER
- [ ] NONE

SOIL TYPE:
- [ ] CLAY
- [X] SAND
- [ ] ORGANIC
- [ ] GRAVEL

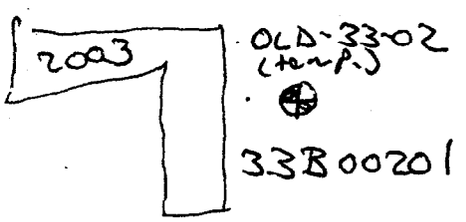
FIELD GC DATA: [ ] FIELD DUPLICATE COLLECTED
DUPLICATE ID _____

SAMPLE LOCATION SKETCH:
- [X] YES
- [ ] NO

SAMPLES COLLECTED

✓ IF REQUIRED AT THIS LOCATION	MATRIX: SURFACE WATER	MATRIX: SEDIMENT	✓ IF PRESERVED WITH ACID-BASE	VOLUME REQUIRED	✓ IF SAMPLE COLLECTED	SAMPLE BOTTLE IDS
[ ]	[ ]	[ ]	[ ]		[ ]	/ / /
[ ]	[ ]	[ ]	[ ]		[ ]	/ / /
[ ]	[ ]	[ ]	[ ]		[ ]	/ / /
[ ]	[ ]	[ ]	[ ]		[ ]	/ / /
[ ]	[ ]	[ ]	[ ]		[ ]	/ / /
[ ]	[ ]	[ ]	[ ]		[ ]	/ / /
[ ]	[ ]	[ ]	[ ]		[ ]	/ / /

NOTES/SKETCH



33B00201 = Full Suite
(Lab didn't run metals 12-9/97 WL

SURFACE SOIL SAMPLE FIELD DATA RECORD

Project: NTC ORLANDO
Project Number: 02530.05
Sample Location ID: 33B00301 (old-33-03)
Time: Start: 1105 End: _____

Site: SA33
Date: 7-9/97
Signature of Sampler: [illegible]

SOIL SAMPLE

DEPTH OF SAMPLE 5-6'

EQUIPMENT USED FOR COLLECTION:
- [X] HAND AUGER
- [ ] S.S. SPLIT SPOON
- [ ] SHOVEL
- [ ] HAND SPOON
- [ ] ALUMINUM PANS
- [ ] SS BUCKET
- [ ] _____

TYPE OF SAMPLE COLLECTED:
- [X] DISCRETE
- [ ] COMPOSITE

SAMPLE OBSERVATIONS:
- [ ] ODOR _____
- [X] COLOR TAN
- [ ] _____

DECONTAMINATION FLUIDS USED:
- ✓ ALL USED
- [ ] ETHYL ALCOHOL
- [ ] 25% METHANOL 75% ASTM TYPE II WATER
- [X] DEIONIZED WATER
- [X] LIQUINOX SOLUTION
- [ ] HEXANE
- [ ] HNO_3 SOLUTION
- [ ] POTABLE WATER
- [ ] NONE

SOIL TYPE:
- [ ] CLAY
- [X] SAND
- [ ] ORGANIC
- [ ] GRAVEL

FIELD GC DATA: [ ] FIELD DUPLICATE COLLECTED
DUPLICATE ID _____

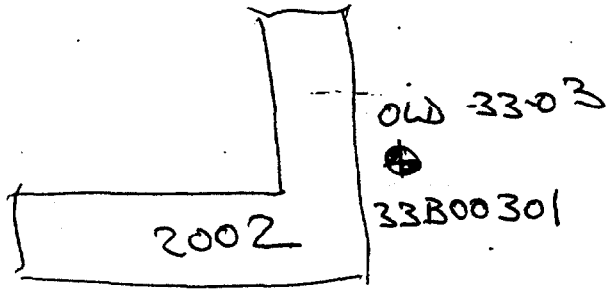
SAMPLE LOCATION SKETCH:
- [X] YES
- [ ] NO

SAMPLES COLLECTED

✓ IF REQUIRED AT THIS LOCATION	MATRIX: SURFACE WATER	MATRIX: SEDIMENT	✓ IF PRESERVED WITH ACID-BASE	VOLUME REQUIRED	✓ IF SAMPLE COLLECTED	SAMPLE BOTTLE IDS
[ ]	[ ]	[ ]	[ ]	_____	[ ]	____/____/____/____
[ ]	[ ]	[ ]	[ ]	_____	[ ]	____/____/____/____
[ ]	[ ]	[ ]	[ ]	_____	[ ]	____/____/____/____
[ ]	[ ]	[ ]	[ ]	_____	[ ]	____/____/____/____
[ ]	[ ]	[ ]	[ ]	_____	[ ]	____/____/____/____
[ ]	[ ]	[ ]	[ ]	_____	[ ]	____/____/____/____
[ ]	[ ]	[ ]	[ ]	_____	[ ]	____/____/____/____

NOTES/SKETCH

33B00301 = Full Suite
(Lab didnot run metals WDO 12-9/97.



APPENDIX B

SUMMARY OF POSITIVE DETECTIONS TABLES

Table B-1 Summary of Detections in Surface Soil
Table B-2 Summary of Detections in Subsurface Soil
Table B-3 Summary of Detections in Groundwater

TABLE B-1

SUMMARY OF DETECTIONS IN SURFACE SOIL

Appendix B
Table B-1. Summary of Detections in Surface Soil Analytical Results
Study Area 33

Naval Training Center, Orlando
Orlando, FL

Sample ID	Background Screening [1]		SCG for Residential Soil [2]		RBC [3] for Residential Soil		RBC [3] for Industrial Soil		33S00101		33S00101D		33S00201 & 33S00202		33S00301 & 33S00302	
Sampling Date									9-Jul-97		9-Jul-97		9-Jul-97 & 17-Oct-97		9-Jul-97 & 17-Oct-97	
Feet bls									0-1		0-1		0-1		0-1	
Volatile Organics, ug/kg																
Toluene			520000		16000000	n	410000000	n								
Xylene (total)			13000000		160000000	n	1000000000	n								
Semivolatile organics, ug/kg																
Acenaphthylene			670,000		2,300,000	n	61,000,000	n					210	J	100	J
Anthracene			20000000		23,000,000	n	610000000	n					46	J		
Benzo(a)anthracene			1,400		880	c	7,800	c					71	J	92	J
Benzo(a)pyrene			100		88	c	780	c	42	J	50	J	320	J	170	J
Benzo(b)fluoranthene			1,400		880	c	7,800	c					200	J	190	J
Benzo(g,h,i)perylene			14,000		2,300,000	n	61,000,000	n	40	J			180	J	52	J
Benzo(k)fluoranthene			14,000		8,800	c	78,000	c					160	J	170	J
Chrysene			140,000		88,000	c	780,000	c					130	J	230	J
Dibenz(a,h)anthracene			100		88	c	780	c								
Fluoranthene			2,900,000		3,100,000	n	82,000,000	n							220	J
Indeno(1,2,3-cd)pyrene			1400		880	c	7,800	c					190	J	70	J
Phenanthrene			1,700,000		2,300,000	n	61,000,000	n					44	J	81	J
Pyrene			2,200,000		2,300,000	n	61,000,000	n					100	J	190	J
Pesticides/PCBs, ug/kg																
4,4'-DDD			4500		2,700	c	24,000	c							500	
4,4'-DDE			3000		1,900	c	17,000	c							1200	
4,4'-DDT			3100		1,900	c	17,000	c					5.3		1500	
alpha-Chlordane			800		490	c	4,400	c							200	
gamma-Chlordane			800		490	c	4,400	c							400	
Heptachlor epoxide			100		70	c	630	c							14	
Inorganics, mg/kg																
Aluminum	2088		75,000		78,000	n	1,000,000	n	904		NA		996		1630	
Barium	8.7		5,200.0		5,500	n	140,000	n	3.5	J	NA		14.1	J	8.1	J
Beryllium	0.1		0.20		0.15	c	1.3	c			NA		0.06	J		
Cadmium	0.98		37		39	n	1,000	n			NA		0.28	J		

Appendix B

Table B-1. Summary of Detections in Surface Soil Analytical Results

Study Area 33

Naval Training Center, Orlando

Orlando, FL

Sample ID	Background Screening [1]		SCG for Residential Soil [2]		RBC [3] for Residential Soil		RBC [3] for Industrial Soil		33S00101		33S00101D		33S00201 & 33S00202		33S00301 & 33S00302	
Sampling Date									9-Jul-97		9-Jul-97		9-Jul-97 & 17-Oct-97		9-Jul-97 & 17-Oct-97	
Feet bls									0-1		0-1		0-1		0-1	
Calcium	25295		ND		1000000		1000000		33000		NA		129000		520	J
Chromium	5		290		390	n	10,000	n	1.9	J	NA		6.2		3.6	
Cobalt	ND		4,700		4,700	n	120,000	n			NA		0.41	J		
Copper	4.1		ND		3,100	n	82,000	n	2.4	J	NA		10.9		2.3	J
Iron	712		ND		23,000	n	610,000	n	272		NA		708		388	
Lead	14.5		500		400		400		1.6		NA		20.8		67	
Magnesium	328		ND		460,468		460,468		197	J	NA		617	J	49.4	J
Manganese	8.1		370		1,800	n	47,000	n	9.2		NA		22.8		8.5	
Mercury	0.07		23		23	n	610	n			NA		0.88	J	0.87	J
Nickel	4.4		1,500		1,600	n	41,000	n			NA				0.52	J
Potassium	210		ND		1,000,000		1,000,000				NA				28.1	J
Selenium	1.1		390		390	n	10,000	n			NA		0.78	J		
Sodium	ND		ND		100,000		1,000,000		34.2	J	NA		29.6	J	87.8	J
Vanadium	3.1		490		550	n	14,000	n	1.9	J	NA		4.6	J	1.3	J
Zinc	17.2		23000		23,000	n	610,000	n			NA		45.8		85.1	

Appendix B

Table B-1. Summary of Detections in Surface Soil Analytical Results

Study Area 33

Naval Training Center, Orlando

Orlando, FL

Sample ID	Background Screening [1]		SCG for Residential Soil [2]		RBC [3] for Residential Soil		RBC [3] for Industrial Soil		33S00401 & 33S00402		33S00501 & 33S00502		33S00601 & 33S00602		33S00701 & 33S00702	
Sampling Date									9-Jul-97 & 17-Oct-97		9-Jul-97 & 17-Oct-97		9-Jul-97 & 17-Oct-97		9-Jul-97 & 17-Oct-97	
Feet bls									0-1		0-1		0-1		0-1	
Volatile Organics, ug/kg																
Toluene			520000		16000000	n	410000000	n			3	J	3	J	11	
Xylene (total)			13000000		160000000	n	1000000000	n							2	J
Semivolatile organics, ug/kg																
Acenaphthylene			670,000		2,300,000	n	61,000,000	n			90	J	87	J		
Anthracene			20000000		23,000,000	n	610000000	n								
Benzo(a)anthracene			1,400		880	c	7,800	c			48	J				
Benzo(a)pyrene			100		88	c	780	c			120	J	59	J		
Benzo(b)fluoranthene			1,400		880	c	7,800	c			160	J	95	J	58	J
Benzo(g,h,i)perylene			14,000		2,300,000	n	61,000,000	n			47	J				
Benzo(k)fluoranthene			14,000		8,800	c	78,000	c			110	J	58	J	40	J
Chrysene			140,000		88,000	c	780,000	c			110	J	77	J	53	J
Dibenz(a,h)anthracene			100		88	c	780	c								
Fluoranthene			2,900,000		3,100,000	n	82,000,000	n			72	J	76	J	66	J
Indeno(1,2,3-cd)pyrene			1400		880	c	7,800	c								
Phenanthrene			1,700,000		2,300,000	n	61,000,000	n			39	J				
Pyrene			2,200,000		2,300,000	n	61,000,000	n			81	J	59	J	44	J
Pesticides/PCBs, ug/kg																
4,4'-DDD			4500		2,700	c	24,000	c			76					
4,4'-DDE			3000		1,900	c	17,000	c			140				5.1	
4,4'-DDT			3100		1,900	c	17,000	c			290		9.9		6.7	
alpha-Chlordane			800		490	c	4,400	c			270		13			
gamma-Chlordane			800		490	c	4,400	c			250		12			
Heptachlor epoxide			100		70	c	630	c								
Inorganics, mg/kg																
Aluminum	2088		75,000		78,000	n	1,000,000	n	890		1020		989		573	
Barium	8.7		5,200.0		5,500	n	140,000	n			89.3		273		68.9	
Beryllium	0.1		0.20		0.15	c	1.3	c			0.04	J	0.06	J		
Cadmium	0.98		37		39	n	1,000	n			0.7	J	0.88	J		

Appendix B

Table B-1. Summary of Detections in Surface Soil Analytical Results

Study Area 33

Naval Training Center, Orlando

Orlando, FL

Sample ID	Background Screening [1]		SCG for Residential Soil [2]		RBC [3] for Residential Soil		RBC [3] for Industrial Soil		33S00401 & 33S00402		33S00501 & 33S00502		33S00601 & 33S00602		33S00701 & 33S00702	
Sampling Date									9-Jul-97 & 17-Oct-97		9-Jul-97 & 17-Oct-97		9-Jul-97 & 17-Oct-97		9-Jul-97 & 17-Oct-97	
Feet bls									0-1		0-1		0-1		0-1	
Calcium	25295		ND		1000000		1000000		8010		1280		60000		1190	
Chromium	5		290		390	n	10,000	n	1.5	J	2.5		8.4		2.5	
Cobalt	ND		4,700		4,700	n	120,000	n			0.57	J	0.6	J	0.22	J
Copper	4.1		ND		3,100	n	82,000	n			5.7		8.1			
Iron	712		ND		23,000	n	610,000	n	182		759		492		233	
Lead	14.5		500		400		400		7		228		118		21.8	
Magnesium	328		ND		460,468		460,468		75.5	J	130	J	485	J	73.9	J
Manganese	8.1		370		1,800	n	47,000	n	6		18.4		17.4		5.2	
Mercury	0.07		23		23	n	610	n	0.05	J	0.08	J	2	J	0.12	J
Nickel	4.4		1,500		1,600	n	41,000	n								
Potassium	210		ND		1,000,000		1,000,000									
Selenium	1.1		390		390	n	10,000	n					0.56	J		
Sodium	ND		ND		100,000		1,000,000		6.5	J	8.3	J	16.9	J	11.6	J
Vanadium	3.1		490		550	n	14,000	n	1.4	J	1.1	J	2.8	J	0.74	J
Zinc	17.2		23000		23,000	n	610,000	n	4.9		180		165		23.3	

Appendix B
Table B-1. Summary of Detections in Surface Soil Analytical Results
Study Area 33

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, magnesium, sodium, potassium) screening values were derived based on recommended daily allowances (RDAs).
RBC for benzo(g,h,i)perylene and phenanthrene are not available, value is based on pyrene.
n = noncarcinogenic pathway
c = carcinogenic pathway
ND = Not determined.
NA = Not analyzed.
bls = below land surface
PCB = polychlorinated biphenyl.
OSWER = Office of Solid Waste and Emergency Response.
USEPA = U.S. Environmental Protection Agency.
DDD = Dichlorodiphenyldichloroethane
DDE = Dichlorodiphenyldichloroethene
DDT = Dichlorodiphenyltrichloroethane
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.
Bold/shaded values indicate exceedance of regulatory guidance and background.
Blank space indicates analyte/compound was not detected at the reporting limit.

mg/kg = milligrams per kilogram.
ug/kg = micrograms per kilogram.

TABLE B-2

SUMMARY OF DETECTIONS IN SUBSURFACE SOIL

Appendix B

Table B-2. Summary of Detections in Subsurface Soil Analytical Results

Study Area 33

Naval Training Center, Orlando

Orlando, FL

Sample ID	SCG [1] Leaching		RBC [2] for Residential Soil		RBC [2] for Industrial Soil		33B00101		33B00201		33B00301	
Sampling Date							9-Jul-97		9-Jul-97		9-Jul-97	
Volatile organics, ug/kg												
Toluene	NA		16000000	n	410000000	n	5	J	7	J	6	J
Pesticides, ug/kg												
Heptachlor epoxide	NA		70	c	630	c			4.8		2.3	

Appendix B

Table B-2. Summary of Detections in Subsurface Soil Analytical Results

Study Area 33

Naval Training Center, Orlando
Orlando, FL

NOTES:

[1] SCG = Soil Cleanup Goals for Florida (Florida Department of Environmental Protection memorandum, September 29, 1995). For detected compounds in subsurface soils, SCGs are not applicable (NAs) because there are no associated exceedances of Florida groundwater guidance concentrations in site groundwater.

[3] RBC = Risk-Based Concentration Table, USEPA Region III, March 1997, R.L. Smith.

n = noncarcinogenic pathway
c = carcinogenic pathway
NA = Not applicable.
OSWER = Office of Solid Waste and Emergency Response.
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.

TABLE B-3

SUMMARY OF DETECTIONS IN GROUNDWATER

Appendix B

Table B-3. Summary of Detections in Groundwater Analytical Results

Study Area 33

Naval Training Center, Orlando

Orlando, FL

Well ID							OLD-33-01				OLD-33-02				OLD-33-03			
Sample ID	Background [1] Screening		FDEPG		Primary FEDMCL	RBC[2] for Tap Water		33G00101		33H00101		33G00201		33H00201		33G00301		33H00301
Sampling Date								6/27/97		6/27/97		6/30/97		6/30/97		6/30/97		6/30/97
Inorganics, ug/L																		
Aluminum	4,067		200	s	ND	37,000	n	82.5	J			310		147	J	468		404
Barium	31.4		2,000	p	2,000	2,600	n	31.4	J	31.2	J	26.4	J	25.2	J	4.4	J	3.6	J
Calcium	36,830		ND		ND	1,000,000		46200	J	49700	J	38000	J	39400	J	48800	J	50700	J
Copper	5.4		1,000	s	1,300	1,500	n					2.8	J	2.8	J	2.8	J	2.5	J
Iron	1,227		300	s	ND	11,000	n	13.3	J			50.6	J	31.9	J	30	J	24.8	J
Lead	4		15	p	15	15										1.8	J		
Magnesium	4,560		ND		ND	118,807		762	J	776	J	1520	J	1520	J	1960	J	2030	J
Manganese	17		50	s	ND	840	n	1.4	J			5	J	4.8	J	5.2	J		
Potassium	5,400		ND		ND	297,016				329	J			455	J	393	J		
Sodium	18,222		160,000	p	ND	396,022		2430	J	2550	J	1970	J	2450	J	3450	J	3790	J
Vanadium	20.6		49	st	ND	260	n	8.8	J	9.4	J	12.5	J	13.4	J	4.8	J	5.4	J
General Chemistry, mg/L																		
Total Suspended Solids	ND		ND		ND	ND				NA		16		NA		28		NA	

Appendix B

Table B-3. Summary of Detections in Groundwater Analytical Results

Study Area 33

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. 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, 1995). For essential nutrients (calcium, magnesium, potassium, and sodium) screening values were derived based on recommended daily allowances (RDAs). Value for copper is a treatment level.

p = Primary Standard

s = Secondary Standard.

st = Systemic Toxicant

n = noncarcinogenic effects.

NA = Not analyzed.

ND = Not determined.

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.

H = Filtered sample (0.45 micron in-line filter).

J = Reported concentration is an estimated quantity.

ug/l = micrograms per liter.

mg/l = miligrams per liter.

Blank space indicates analyte/compound was not detected at the reporting limit.

APPENDIX C

SUMMARY OF ANALYTICAL RESULTS

Table C-1 Summary of Analytical Results in Surface Soil
Table C-2 Summary of Analytical Results in Subsurface Soil
Table C-3 Summary of Analytical Results in Groundwater

TABLE C-1

SUMMARY OF ANALYTICAL RESULTS IN SURFACE SOIL

Appendix C
Table C-1. Summary of Surface Soil Analytical Results
Study Area 33

Naval Training Center, Orlando
Orlando, FL

Sample ID	33S00101		33S00101D		33S00201		33S00202		33S00301		33S00302	
Lab ID	C7G100151003		C7G100151004		C7G100151005		S775944*1		C7G100151006		S775944*2	
Sampling Date	9-Jul-97		9-Jul-97		9-Jul-97		17-Oct-97		9-Jul-97		17-Oct-97	
Volatile organics, ug/kg												
1,1,1-Trichloroethane	11	U	11	U	11	U	NA		11	U	NA	
1,1,2,2-Tetrachloroethane	11	U	11	U	11	U	NA		11	U	NA	
1,1,2-Trichloroethane	11	UJ	11	UJ	11	UJ	NA		11	UJ	NA	
1,1-Dichloroethane	11	U	11	U	11	U	NA		11	U	NA	
1,1-Dichloroethene	11	U	11	U	11	U	NA		11	U	NA	
1,2-Dichloroethane	11	U	11	U	11	U	NA		11	U	NA	
1,2-Dichloroethene (total)	11	U	11	U	11	U	NA		11	U	NA	
1,2-Dichloropropane	11	U	11	U	11	U	NA		11	U	NA	
2-Butanone	11	UJ	11	UJ	11	UJ	NA		11	UJ	NA	
2-Hexanone	11	UJ	11	UJ	11	UJ	NA		11	UJ	NA	
4-Methyl-2-pentanone	11	U	11	U	11	U	NA		11	U	NA	
Acetone	11	UJ	11	UJ	11	UJ	NA		11	UJ	NA	
Benzene	11	U	11	U	11	U	NA		11	U	NA	
Bromodichloromethane	11	U	11	U	11	U	NA		11	U	NA	
Bromoform	11	UJ	11	UJ	11	UJ	NA		11	UJ	NA	
Bromomethane	11	U	11	U	11	U	NA		11	U	NA	
Carbon disulfide	11	UJ	11	UJ	11	UJ	NA		11	UJ	NA	
Carbon tetrachloride	11	U	11	U	11	U	NA		11	U	NA	
Chlorobenzene	11	U	11	U	11	U	NA		11	U	NA	
Chloroethane	11	U	11	U	11	U	NA		11	U	NA	
Chloroform	11	U	11	U	11	U	NA		11	U	NA	
Chloromethane	11	UJ	11	UJ	11	UJ	NA		11	UJ	NA	
cis-1,3-Dichloropropene	11	U	11	U	11	U	NA		11	U	NA	
Dibromochloromethane	11	U	11	U	11	U	NA		11	U	NA	
Ethylbenzene	11	U	11	U	11	U	NA		11	U	NA	
Methylene chloride	11	U	11	U	11	U	NA		11	U	NA	
Styrene	11	U	11	U	11	U	NA		11	U	NA	
Tetrachloroethene	11	U	11	U	11	U	NA		11	U	NA	
Toluene	11	U	11	U	11	U	NA		11	U	NA	
trans-1,3-Dichloropropene	11	U	11	U	11	U	NA		11	U	NA	
Trichloroethene	11	U	11	U	11	U	NA		11	U	NA	
Vinyl chloride	11	U	11	U	11	U	NA		11	U	NA	
Xylene (total)	11	U	11	U	11	U	NA		11	U	NA	
Semivolatile organics, ug/kg												
1,2,4-Trichlorobenzene	360	U	360	U	370	U	NA		360	U	NA	
1,2-Dichlorobenzene	360	U	360	U	370	U	NA		360	U	NA	
1,3-Dichlorobenzene	360	U	360	U	370	U	NA		360	U	NA	
1,4-Dichlorobenzene	360	U	360	U	370	U	NA		360	U	NA	
2,2'-oxybis(1-Chloropropane)	360	U	360	U	370	U	NA		360	U	NA	
2,4,5-Trichlorophenol	870	U	870	U	900	U	NA		870	U	NA	
2,4,6-Trichlorophenol	360	U	360	U	370	U	NA		360	U	NA	
2,4-Dichlorophenol	360	U	360	U	370	U	NA		360	U	NA	
2,4-Dimethylphenol	360	U	360	U	370	U	NA		360	U	NA	
2,4-Dinitrophenol	870	U	870	U	900	U	NA		870	U	NA	
2,4-Dinitrotoluene	360	U	360	U	370	U	NA		360	U	NA	
2,6-Dinitrotoluene	360	U	360	U	370	U	NA		360	U	NA	
2-Chloronaphthalene	360	U	360	U	370	U	NA		360	U	NA	
2-Chlorophenol	360	U	360	U	370	U	NA		360	U	NA	

Appendix C
Table C-1. Summary of Surface Soil Analytical Results
Study Area 33

Naval Training Center, Orlando
Orlando, FL

Sample ID	33S00101		33S00101D		33S00201		33S00202		33S00301		33S00302	
Lab ID	C7G100151003		C7G100151004		C7G100151005		S775944*1		C7G100151006		S775944*2	
2-Methylnaphthalene	360	U	360	U	370	U	NA		360	U	NA	
2-Methylphenol	360	U	360	U	370	U	NA		360	U	NA	
2-Nitroaniline	870	U	870	U	900	U	NA		870	U	NA	
2-Nitrophenol	360	U	360	U	370	U	NA		360	U	NA	
3,3'-Dichlorobenzidine	360	U	360	U	370	U	NA		360	U	NA	
3-Nitroaniline	870	U	870	U	900	U	NA		870	U	NA	
4,6-Dinitro-2-methylphenol	870	U	870	U	900	U	NA		870	U	NA	
4-Bromophenyl-phenylether	360	U	360	U	370	U	NA		360	U	NA	
4-Chloro-3-methylphenol	360	U	360	U	370	U	NA		360	U	NA	
4-Chloroaniline	360	U	360	U	370	U	NA		360	U	NA	
4-Chlorophenyl-phenylether	360	U	360	U	370	U	NA		360	U	NA	
4-Methylphenol	360	U	360	U	370	U	NA		360	U	NA	
4-Nitroaniline	870	U	870	U	900	U	NA		870	U	NA	
4-Nitrophenol	870	U	870	U	900	U	NA		870	U	NA	
Acenaphthene	360	U	360	U	370	U	NA		360	U	NA	
Acenaphthylene	360	U	360	U	210	J	NA		100	J	NA	
Anthracene	360	U	360	U	46	J	NA		360	U	NA	
Benzo(a)anthracene	360	U	360	U	71	J	NA		92	J	NA	
Benzo(a)pyrene	42	J	50	J	320	J	NA		170	J	NA	
Benzo(b)fluoranthene	360	U	360	U	200	J	NA		190	J	NA	
Benzo(g,h,i)perylene	40	J	360	UJ	180	J	NA		52	J	NA	
Benzo(k)fluoranthene	360	U	360	U	160	J	NA		170	J	NA	
bis(2-Chloroethoxy)methane	360	U	360	U	370	U	NA		360	U	NA	
bis(2-Chloroethyl)ether	360	U	360	U	370	U	NA		360	U	NA	
bis(2-Ethylhexyl)phthalate	360	UJ	360	UJ	370	U	NA		360	U	NA	
Butylbenzylphthalate	360	U	360	U	370	U	NA		360	U	NA	
Carbazole	360	U	360	U	370	U	NA		360	U	NA	
Chrysene	360	U	360	U	130	J	NA		230	J	NA	
Di-n-butylphthalate	360	U	360	U	370	U	NA		360	U	NA	
Di-n-octylphthalate	360	U	360	U	370	U	NA		360	U	NA	
Dibenz(a,h)anthracene	360	U	360	U	370	U	NA		360	U	NA	
Dibenzofuran	360	U	360	U	370	U	NA		360	U	NA	
Diethylphthalate	360	U	360	U	370	U	NA		360	U	NA	
Dimethylphthalate	360	U	360	U	370	U	NA		360	U	NA	
Fluoranthene	360	U	360	U	370	U	NA		220	J	NA	
Fluorene	360	U	360	U	370	U	NA		360	U	NA	
Hexachlorobenzene	360	U	360	U	370	U	NA		360	U	NA	
Hexachlorobutadiene	360	U	360	U	370	U	NA		360	U	NA	
Hexachlorocyclopentadiene	360	U	360	U	370	U	NA		360	U	NA	
Hexachloroethane	360	U	360	U	370	U	NA		360	U	NA	
Indeno(1,2,3-cd)pyrene	360	U	360	U	190	J	NA		70	J	NA	
Isophorone	360	U	360	U	370	U	NA		360	U	NA	
N-Nitroso-di-n-propylamine	360	U	360	U	370	U	NA		360	U	NA	
N-Nitrosodiphenylamine (1)	360	U	360	U	370	U	NA		360	U	NA	
Naphthalene	360	U	360	U	370	U	NA		360	U	NA	
Nitrobenzene	360	U	360	U	370	U	NA		360	U	NA	
Pentachlorophenol	870	U	870	U	900	U	NA		870	U	NA	
Phenanthrene	360	U	360	U	44	J	NA		81	J	NA	
Phenol	360	U	360	U	370	U	NA		360	U	NA	
Pyrene	360	U	360	U	100	J	NA		190	J	NA	

Appendix C
Table C-1. Summary of Surface Soil Analytical Results
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Sample ID	33S00101		33S00101D		33S00201		33S00202		33S00301		33S00302	
Lab ID	C7G100151003		C7G100151004		C7G100151005		S775944*1		C7G100151006		S775944*2	
Pesticides/PCBs, ug/kg												
4,4'-DDD	3.6	U	3.6	U	3.7	U	NA		500	D	NA	
4,4'-DDE	3.6	U	3.6	U	3.7	U	NA		1200	D	NA	
4,4'-DDT	3.6	U	3.6	U	5.3		NA		1500	D	NA	
Aldrin	1.8	U	1.8	U	1.9	U	NA		9.2	U	NA	
alpha-BHC	1.8	UJ	1.8	UJ	1.9	UJ	NA		9.2	UJ	NA	
alpha-Chlordane	1.8	U	1.8	U	1.9	U	NA		200	D	NA	
Aroclor-1016	36	U	36	U	37	U	NA		180	U	NA	
Aroclor-1221	73	U	73	U	75	U	NA		360	U	NA	
Aroclor-1232	36	U	36	U	37	U	NA		180	U	NA	
Aroclor-1242	36	U	36	U	37	U	NA		180	U	NA	
Aroclor-1248	36	U	36	U	37	U	NA		180	U	NA	
Aroclor-1254	36	U	36	U	37	U	NA		180	U	NA	
Aroclor-1260	36	U	36	U	37	U	NA		180	U	NA	
beta-BHC	1.8	U	1.8	U	1.9	U	NA		9.2	U	NA	
delta-BHC	1.8	UJ	1.8	UJ	1.9	UJ	NA		9.2	UJ	NA	
Dieldrin	3.6	U	3.6	U	3.7	U	NA		18	U	NA	
Endosulfan I	1.8	U	1.8	U	1.9	U	NA		9.2	U	NA	
Endosulfan II	3.6	U	3.6	U	3.7	U	NA		18	U	NA	
Endosulfan sulfate	3.6	U	3.6	U	3.7	U	NA		18	U	NA	
Endrin	3.6	U	3.6	U	3.7	U	NA		18	U	NA	
Endrin aldehyde	3.6	U	3.6	U	3.7	U	NA		18	U	NA	
Endrin ketone	3.6	U	3.6	U	3.7	U	NA		18	U	NA	
gamma-BHC (Lindane)	1.8	U	1.8	U	1.9	U	NA		9.2	U	NA	
gamma-Chlordane	1.8	U	1.8	U	1.9	U	NA		400	D	NA	
Heptachlor	1.8	U	1.8	U	1.9	U	NA		9.2	U	NA	
Heptachlor epoxide	1.8	U	1.8	U	1.9	U	NA		14		NA	
Methoxychlor	18	U	18	U	19	U	NA		92	U	NA	
Toxaphene	180	U	180	U	190	U	NA		920	U	NA	
Inorganics, mg/kg												
Aluminum	904		NA		NA		996		NA		1630	
Antimony	3	U	NA		NA		0.74	UJ	NA		0.69	U
Arsenic	0.5	U	NA		NA		0.81	UJ	NA		0.76	U
Barium	3.5	J	NA		NA		14.1	J	NA		8.1	J
Beryllium	0.03	U	NA		NA		0.06	J	NA		0.04	U
Cadmium	0.56	U	NA		NA		0.28	J	NA		0.13	U
Calcium	33000		NA		NA		129000		NA		520	J
Chromium	1.9	J	NA		NA		6.2		NA		3.6	
Cobalt	0.68	U	NA		NA		0.41	J	NA		0.21	U
Copper	2.4	J	NA		NA		10.9		NA		2.3	J
Iron	272		NA		NA		708		NA		388	
Lead	1.6		NA		NA		20.8		NA		67	
Magnesium	197	J	NA		NA		617	J	NA		49.4	J
Manganese	9.2		NA		NA		22.8		NA		8.5	
Mercury	0.11	UJ	NA		NA		0.88	J	NA		0.87	J
Nickel	1.8	U	NA		NA		1.5	U	NA		0.52	J
Potassium	69.7	U	NA		NA		29.5	U	NA		28.1	J
Selenium	0.65	U	NA		NA		0.78	J	NA		0.55	U
Silver	0.52	U	NA		NA		0.67	U	NA		0.63	U
Sodium	34.2	J	NA		NA		29.6	J	NA		87.8	J

Appendix C
Table C-1. Summary of Surface Soil Analytical Results
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Sample ID	33S00101		33S00101D		33S00201		33S00202		33S00301		33S00302	
Lab ID	C7G100151003		C7G100151004		C7G100151005		S775944*1		C7G100151006		S775944*2	
Thallium	0.59	U	NA		NA		1.1	UJ	NA		0.99	U
Vanadium	1.9	J	NA		NA		4.6	J	NA		1.3	J
Zinc	3.5	U	NA		NA		45.8		NA		85.1	
General Chemistry, mg/kg												
TRPH	110	U	NA		110	U	NA		110	U	NA	

Appendix C
Table C-1. Summary of Surface Soil Analytical Results
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Naval Training Center, Orlando
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Sample ID	33S00401		33S00402		33S00501		33S00502		33S00601		33S00
Lab ID	C7G100151007		S775944*3		C7G100151008		S775944*4		C7G100151009		S7759
Sampling Date	9-Jul-97		17-Oct-97		9-Jul-97		17-Oct-97		9-Jul-97		17-Oc
Volatile organics, ug/kg											
1,1,1-Trichloroethane	11	U	NA		11	U	NA		11	U	NA
1,1,2,2-Tetrachloroethane	11	U	NA		11	U	NA		11	U	NA
1,1,2-Trichloroethane	11	UJ	NA		11	UJ	NA		11	UJ	NA
1,1-Dichloroethane	11	U	NA		11	U	NA		11	U	NA
1,1-Dichloroethene	11	U	NA		11	U	NA		11	U	NA
1,2-Dichloroethane	11	U	NA		11	U	NA		11	U	NA
1,2-Dichloroethene (total)	11	U	NA		11	U	NA		11	U	NA
1,2-Dichloropropane	11	U	NA		11	U	NA		11	U	NA
2-Butanone	11	UJ	NA		11	UJ	NA		11	UJ	NA
2-Hexanone	11	UJ	NA		11	UJ	NA		11	UJ	NA
4-Methyl-2-pentanone	11	U	NA		11	U	NA		11	U	NA
Acetone	11	UJ	NA		11	UJ	NA		11	UJ	NA
Benzene	11	U	NA		11	U	NA		11	U	NA
Bromodichloromethane	11	U	NA		11	U	NA		11	U	NA
Bromoform	11	UJ	NA		11	UJ	NA		11	UJ	NA
Bromomethane	11	U	NA		11	U	NA		11	U	NA
Carbon disulfide	11	UJ	NA		11	UJ	NA		11	UJ	NA
Carbon tetrachloride	11	U	NA		11	U	NA		11	U	NA
Chlorobenzene	11	U	NA		11	U	NA		11	U	NA
Chloroethane	11	U	NA		11	U	NA		11	U	NA
Chloroform	11	U	NA		11	U	NA		11	U	NA
Chloromethane	11	UJ	NA		11	UJ	NA		11	UJ	NA
cis-1,3-Dichloropropene	11	U	NA		11	U	NA		11	U	NA
Dibromochloromethane	11	U	NA		11	U	NA		11	U	NA
Ethylbenzene	11	U	NA		11	U	NA		11	U	NA
Methylene chloride	11	U	NA		11	U	NA		11	U	NA
Styrene	11	U	NA		11	U	NA		11	U	NA
Tetrachloroethene	11	U	NA		11	U	NA		11	U	NA
Toluene	11	U	NA		3	J	NA		3	J	NA
trans-1,3-Dichloropropene	11	U	NA		11	U	NA		11	U	NA
Trichloroethene	11	U	NA		11	U	NA		11	U	NA
Vinyl chloride	11	U	NA		11	U	NA		11	U	NA
Xylene (total)	11	U	NA		11	U	NA		11	U	NA
Semivolatile organics, ug/kg											
1,2,4-Trichlorobenzene	360	U	NA		360	U	NA		370	U	NA
1,2-Dichlorobenzene	360	U	NA		360	U	NA		370	U	NA
1,3-Dichlorobenzene	360	U	NA		360	U	NA		370	U	NA
1,4-Dichlorobenzene	360	U	NA		360	U	NA		370	U	NA
2,2'-oxybis(1-Chloropropane)	360	U	NA		360	U	NA		370	U	NA
2,4,5-Trichlorophenol	880	U	NA		880	U	NA		900	U	NA
2,4,6-Trichlorophenol	360	U	NA		360	U	NA		370	U	NA
2,4-Dichlorophenol	360	U	NA		360	U	NA		370	U	NA
2,4-Dimethylphenol	360	U	NA		360	U	NA		370	U	NA
2,4-Dinitrophenol	880	U	NA		880	U	NA		900	U	NA
2,4-Dinitrotoluene	360	U	NA		360	U	NA		370	U	NA
2,6-Dinitrotoluene	360	U	NA		360	U	NA		370	U	NA
2-Chloronaphthalene	360	U	NA		360	U	NA		370	U	NA
2-Chlorophenol	360	U	NA		360	U	NA		370	U	NA

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Table C-1. Summary of Surface Soil Analytical Results
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Sample ID	33S00401		33S00402		33S00501		33S00502		33S00601		33S00
Lab ID	C7G100151007		S775944*3		C7G100151008		S775944*4		C7G100151009		S7759
2-Methylnaphthalene	360	U	NA		360	U	NA		370	U	NA
2-Methylphenol	360	U	NA		360	U	NA		370	U	NA
2-Nitroaniline	880	U	NA		880	U	NA		900	U	NA
2-Nitrophenol	360	U	NA		360	U	NA		370	U	NA
3,3'-Dichlorobenzidine	360	U	NA		360	U	NA		370	U	NA
3-Nitroaniline	880	U	NA		880	U	NA		900	U	NA
4,6-Dinitro-2-methylphenol	880	U	NA		880	U	NA		900	U	NA
4-Bromophenyl-phenylether	360	U	NA		360	U	NA		370	U	NA
4-Chloro-3-methylphenol	360	U	NA		360	U	NA		370	U	NA
4-Chloroaniline	360	U	NA		360	U	NA		370	U	NA
4-Chlorophenyl-phenylether	360	U	NA		360	U	NA		370	U	NA
4-Methylphenol	360	U	NA		360	U	NA		370	U	NA
4-Nitroaniline	880	U	NA		880	U	NA		900	U	NA
4-Nitrophenol	880	U	NA		880	U	NA		900	U	NA
Acenaphthene	360	U	NA		360	U	NA		370	U	NA
Acenaphthylene	360	U	NA		90	J	NA		87	J	NA
Anthracene	360	U	NA		360	U	NA		370	U	NA
Benzo(a)anthracene	360	U	NA		48	J	NA		370	U	NA
Benzo(a)pyrene	360	U	NA		120	J	NA		59	J	NA
Benzo(b)fluoranthene	360	U	NA		160	J	NA		95	J	NA
Benzo(g,h,i)perylene	360	U	NA		47	J	NA		370	U	NA
Benzo(k)fluoranthene	360	U	NA		110	J	NA		58	J	NA
bis(2-Chloroethoxy)methane	360	U	NA		360	U	NA		370	U	NA
bis(2-Chloroethyl)ether	360	U	NA		360	U	NA		370	U	NA
bis(2-Ethylhexyl)phthalate	360	U	NA		360	U	NA		370	U	NA
Butylbenzylphthalate	360	U	NA		360	U	NA		370	U	NA
Carbazole	360	U	NA		360	U	NA		370	U	NA
Chrysene	360	U	NA		110	J	NA		77	J	NA
Di-n-butylphthalate	360	U	NA		360	U	NA		370	U	NA
Di-n-octylphthalate	360	U	NA		360	U	NA		370	U	NA
Dibenz(a,h)anthracene	360	U	NA		360	U	NA		370	U	NA
Dibenzofuran	360	U	NA		360	U	NA		370	U	NA
Diethylphthalate	360	U	NA		360	U	NA		370	U	NA
Dimethylphthalate	360	U	NA		360	U	NA		370	U	NA
Fluoranthene	360	U	NA		72	J	NA		76	J	NA
Fluorene	360	U	NA		360	U	NA		370	U	NA
Hexachlorobenzene	360	U	NA		360	U	NA		370	U	NA
Hexachlorobutadiene	360	U	NA		360	U	NA		370	U	NA
Hexachlorocyclopentadiene	360	U	NA		360	U	NA		370	U	NA
Hexachloroethane	360	U	NA		360	U	NA		370	U	NA
Indeno(1,2,3-cd)pyrene	360	U	NA		360	U	NA		370	U	NA
Isophorone	360	U	NA		360	U	NA		370	U	NA
N-Nitroso-di-n-propylamine	360	U	NA		360	U	NA		370	U	NA
N-Nitrosodiphenylamine (1)	360	U	NA		360	U	NA		370	U	NA
Naphthalene	360	U	NA		360	U	NA		370	U	NA
Nitrobenzene	360	U	NA		360	U	NA		370	U	NA
Pentachlorophenol	880	U	NA		880	U	NA		900	U	NA
Phenanthrene	360	U	NA		39	J	NA		370	U	NA
Phenol	360	U	NA		360	U	NA		370	U	NA
Pyrene	360	U	NA		81	J	NA		59	J	NA

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Table C-1. Summary of Surface Soil Analytical Results
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Sample ID	33S00401		33S00402		33S00501		33S00502		33S00601		33S00
Lab ID	C7G100151007		S775944*3		C7G100151008		S775944*4		C7G100151009		S7759
Pesticides/PCBs, ug/kg											
4,4'-DDD	3.6	U	NA		76		NA		3.7	U	NA
4,4'-DDE	3.6	U	NA		140		NA		3.7	U	NA
4,4'-DDT	3.6	U	NA		290	D	NA		9.9		NA
Aldrin	1.9	U	NA		9.2	U	NA		1.9	U	NA
alpha-BHC	1.9	UJ	NA		9.2	UJ	NA		1.9	UJ	NA
alpha-Chlordane	1.9	U	NA		270	D	NA		13		NA
Aroclor-1016	36	U	NA		180	U	NA		37	U	NA
Aroclor-1221	74	U	NA		360	U	NA		75	U	NA
Aroclor-1232	36	U	NA		180	U	NA		37	U	NA
Aroclor-1242	36	U	NA		180	U	NA		37	U	NA
Aroclor-1248	36	U	NA		180	U	NA		37	U	NA
Aroclor-1254	36	U	NA		180	U	NA		37	U	NA
Aroclor-1260	36	U	NA		180	U	NA		37	U	NA
beta-BHC	1.9	U	NA		9.2	U	NA		1.9	U	NA
delta-BHC	1.9	UJ	NA		9.2	UJ	NA		1.9	UJ	NA
Dieldrin	3.6	U	NA		18	U	NA		3.7	U	NA
Endosulfan I	1.9	U	NA		9.2	U	NA		1.9	U	NA
Endosulfan II	3.6	U	NA		18	U	NA		3.7	U	NA
Endosulfan sulfate	3.6	U	NA		18	U	NA		3.7	U	NA
Endrin	3.6	U	NA		18	U	NA		3.7	U	NA
Endrin aldehyde	3.6	U	NA		18	U	NA		3.7	U	NA
Endrin ketone	3.6	U	NA		18	U	NA		3.7	U	NA
gamma-BHC (Lindane)	1.9	U	NA		9.2	U	NA		1.9	U	NA
gamma-Chlordane	1.9	U	NA		250	D	NA		12		NA
Heptachlor	1.9	U	NA		9.2	U	NA		1.9	U	NA
Heptachlor epoxide	1.9	U	NA		9.2	U	NA		1.9	U	NA
Methoxychlor	19	U	NA		92	U	NA		19	U	NA
Toxaphene	190	U	NA		920	U	NA		190	U	NA
Inorganics, mg/kg											
Aluminum	NA		890		NA		1020		NA		989
Antimony	NA		0.69	U	NA		0.7	U	NA		0.7
Arsenic	NA		0.76	U	NA		0.77	U	NA		0.77
Barium	NA		2.5	U	NA		89.3		NA		273
Beryllium	NA		0.04	U	NA		0.04	J	NA		0.06
Cadmium	NA		0.13	U	NA		0.7	J	NA		0.88
Calcium	NA		8010		NA		1280		NA		60000
Chromium	NA		1.5	J	NA		2.5		NA		8.4
Cobalt	NA		0.21	U	NA		0.57	J	NA		0.6
Copper	NA		0.68	U	NA		5.7		NA		8.1
Iron	NA		182		NA		759		NA		492
Lead	NA		7		NA		228		NA		118
Magnesium	NA		75.5	J	NA		130	J	NA		485
Manganese	NA		6		NA		18.4		NA		17.4
Mercury	NA		0.05	J	NA		0.08	J	NA		2
Nickel	NA		0.48	U	NA		0.95	U	NA		1.4
Potassium	NA		25.2	U	NA		34.2	U	NA		43.2
Selenium	NA		0.55	U	NA		0.55	U	NA		0.56
Silver	NA		0.63	U	NA		0.64	U	NA		0.64
Sodium	NA		6.5	J	NA		8.3	J	NA		16.9

Appendix C
Table C-1. Summary of Surface Soil Analytical Results
Study Area 33

Naval Training Center, Orlando
Orlando, FL

Sample ID	33S00401		33S00402		33S00501		33S00502		33S00601		33S00
Lab ID	C7G100151007		S775944*3		C7G100151008		S775944*4		C7G100151009		S7759
Thallium	NA		0.99	U	NA		1	U	NA		1
Vanadium	NA		1.4	J	NA		1.1	J	NA		2.8
Zinc	NA		4.9		NA		180		NA		165
General Chemistry, mg/kg											
TRPH	NA		NA		NA		NA		NA		NA

Appendix C
Table C-1. Summary of Surface Soil Analytical Results
Study Area 33

Naval Training Center, Orlando
Orlando, FL

Sample ID	02	33S00701		33S00702	
Lab ID	4*5	C7G100151010		S775944*6	
Sampling Date	-97	9-Jul-97		17-Oct-97	
Volatile organics, ug/kg					
1,1,1-Trichloroethane		11	U	NA	
1,1,2,2-Tetrachloroethane		11	U	NA	
1,1,2-Trichloroethane		11	UJ	NA	
1,1-Dichloroethane		11	U	NA	
1,1-Dichloroethene		11	U	NA	
1,2-Dichloroethane		11	U	NA	
1,2-Dichloroethene (total)		11	U	NA	
1,2-Dichloropropane		11	U	NA	
2-Butanone		11	UJ	NA	
2-Hexanone		11	UJ	NA	
4-Methyl-2-pentanone		11	U	NA	
Acetone		11	UJ	NA	
Benzene		11	U	NA	
Bromodichloromethane		11	U	NA	
Bromoform		11	UJ	NA	
Bromomethane		11	U	NA	
Carbon disulfide		11	UJ	NA	
Carbon tetrachloride		11	U	NA	
Chlorobenzene		11	U	NA	
Chloroethane		11	U	NA	
Chloroform		11	U	NA	
Chloromethane		11	UJ	NA	
cis-1,3-Dichloropropene		11	U	NA	
Dibromochloromethane		11	U	NA	
Ethylbenzene		11	U	NA	
Methylene chloride		11	U	NA	
Styrene		11	U	NA	
Tetrachloroethene		11	U	NA	
Toluene		11		NA	
trans-1,3-Dichloropropene		11	U	NA	
Trichloroethene		11	U	NA	
Vinyl chloride		11	U	NA	
Xylene (total)		2	J	NA	
Semivolatile organics, ug/kg					
1,2,4-Trichlorobenzene		360	U	NA	
1,2-Dichlorobenzene		360	U	NA	
1,3-Dichlorobenzene		360	U	NA	
1,4-Dichlorobenzene		360	U	NA	
2,2'-oxybis(1-Chloropropane)		360	U	NA	
2,4,5-Trichlorophenol		880	U	NA	
2,4,6-Trichlorophenol		360	U	NA	
2,4-Dichlorophenol		360	U	NA	
2,4-Dimethylphenol		360	U	NA	
2,4-Dinitrophenol		880	U	NA	
2,4-Dinitrotoluene		360	U	NA	
2,6-Dinitrotoluene		360	U	NA	
2-Chloronaphthalene		360	U	NA	
2-Chlorophenol		360	U	NA	

Appendix C
Table C-1. Summary of Surface Soil Analytical Results
Study Area 33

Naval Training Center, Orlando
Orlando, FL

Sample ID	02	33S00701		33S00702	
Lab ID	4*5	C7G100151010		S775944*6	
2-Methylnaphthalene		360	U	NA	
2-Methylphenol		360	U	NA	
2-Nitroaniline		880	U	NA	
2-Nitrophenol		360	U	NA	
3,3'-Dichlorobenzidine		360	U	NA	
3-Nitroaniline		880	U	NA	
4,6-Dinitro-2-methylphenol		880	U	NA	
4-Bromophenyl-phenylether		360	U	NA	
4-Chloro-3-methylphenol		360	U	NA	
4-Chloroaniline		360	U	NA	
4-Chlorophenyl-phenylether		360	U	NA	
4-Methylphenol		360	U	NA	
4-Nitroaniline		880	U	NA	
4-Nitrophenol		880	U	NA	
Acenaphthene		360	U	NA	
Acenaphthylene		360	U	NA	
Anthracene		360	U	NA	
Benzo(a)anthracene		360	U	NA	
Benzo(a)pyrene		360	U	NA	
Benzo(b)fluoranthene		58	J	NA	
Benzo(g,h,i)perylene		360	U	NA	
Benzo(k)fluoranthene		40	J	NA	
bis(2-Chloroethoxy)methane		360	U	NA	
bis(2-Chloroethyl)ether		360	U	NA	
bis(2-Ethylhexyl)phthalate		360	U	NA	
Butylbenzylphthalate		360	U	NA	
Carbazole		360	U	NA	
Chrysene		53	J	NA	
Di-n-butylphthalate		360	U	NA	
Di-n-octylphthalate		360	U	NA	
Dibenz(a,h)anthracene		360	U	NA	
Dibenzofuran		360	U	NA	
Diethylphthalate		360	U	NA	
Dimethylphthalate		360	U	NA	
Fluoranthene		66	J	NA	
Fluorene		360	U	NA	
Hexachlorobenzene		360	U	NA	
Hexachlorobutadiene		360	U	NA	
Hexachlorocyclopentadiene		360	U	NA	
Hexachloroethane		360	U	NA	
Indeno(1,2,3-cd)pyrene		360	U	NA	
Isophorone		360	U	NA	
N-Nitroso-di-n-propylamine		360	U	NA	
N-Nitrosodiphenylamine (1)		360	U	NA	
Naphthalene		360	U	NA	
Nitrobenzene		360	U	NA	
Pentachlorophenol		880	U	NA	
Phenanthrene		360	U	NA	
Phenol		360	U	NA	
Pyrene		44	J	NA	

Appendix C
Table C-1. Summary of Surface Soil Analytical Results
Study Area 33

Naval Training Center, Orlando
Orlando, FL

Sample ID	02	33S00701		33S00702	
Lab ID	4*5	C7G100151010		S775944*6	
Pesticides/PCBs, ug/kg					
4,4'-DDD		3.6	U	NA	
4,4'-DDE		5.1		NA	
4,4'-DDT		6.7		NA	
Aldrin		1.9	U	NA	
alpha-BHC		1.9	UJ	NA	
alpha-Chlordane		1.9	U	NA	
Aroclor-1016		36	U	NA	
Aroclor-1221		74	U	NA	
Aroclor-1232		36	U	NA	
Aroclor-1242		36	U	NA	
Aroclor-1248		36	U	NA	
Aroclor-1254		36	U	NA	
Aroclor-1260		36	U	NA	
beta-BHC		1.9	U	NA	
delta-BHC		1.9	UJ	NA	
Dieldrin		3.6	U	NA	
Endosulfan I		1.9	U	NA	
Endosulfan II		3.6	U	NA	
Endosulfan sulfate		3.6	U	NA	
Endrin		3.6	U	NA	
Endrin aldehyde		3.6	U	NA	
Endrin ketone		3.6	U	NA	
gamma-BHC (Lindane)		1.9	U	NA	
gamma-Chlordane		1.9	U	NA	
Heptachlor		1.9	U	NA	
Heptachlor epoxide		1.9	U	NA	
Methoxychlor		19	U	NA	
Toxaphene		190	U	NA	
Inorganics, mg/kg					
Aluminum		NA		573	
Antimony	U	NA		0.7	U
Arsenic	U	NA		0.77	U
Barium		NA		68.9	
Beryllium	J	NA		0.04	U
Cadmium	J	NA		0.13	U
Calcium		NA		1190	
Chromium		NA		2.5	
Cobalt	J	NA		0.22	J
Copper		NA		1.6	U
Iron		NA		233	
Lead		NA		21.8	
Magnesium	J	NA		73.9	J
Manganese		NA		5.2	
Mercury	J	NA		0.12	J
Nickel	U	NA		0.49	U
Potassium	U	NA		18	U
Selenium	J	NA		0.55	U
Silver	U	NA		0.64	U
Sodium	J	NA		11.6	J

Appendix C
Table C-1. Summary of Surface Soil Analytical Results
Study Area 33

Naval Training Center, Orlando
Orlando, FL

Sample ID	02	33S00701		33S00702	
Lab ID	4*5	C7G100151010		S775944*6	
Thallium	U	NA		1	U
Vanadium	J	NA		0.74	J
Zinc		NA		23.3	
General Chemistry, mg/kg					
TRPH		110	U	NA	

Appendix C
Table C-1a. Summary of Surface Soil Analytical Results
Study Area 33
Supplemental Sampling - PAH only

Naval Training Center, Orlando
Orlando, FL

Sample ID	33S00203		33S00303		33S00503	
Lab ID	A8C060159001		A8C060159002		A8C060159003	
Sampling Date	5-Mar-98		5-Mar-98		5-Mar-98	
Polyaromatic Hydrocarbons, ug/kg						
1-Methylnaphthalene	36	U	35	U	35	U
2-Methylnaphthalene	36	U	35	U	35	U
Acenaphthene	36	U	35	U	35	U
Acenaphthylene	36	U	35	U	35	U
Anthracene	36	U	35	U	35	U
Benzo(a)anthracene	4.5		3.5	U	3.5	U
Benzo(a)pyrene	15		3.6		3.5	U
Benzo(b)fluoranthene	8		3.5	U	3.5	U
Benzo(ghi)perylene	10		3.6		3.5	U
Benzo(k)fluoranthene	4.2		1.8	U	1.8	U
Chrysene	6.2		3.5	U	3.5	U
Dibenz(a,h)anthracene	11		3.5	U	3.5	U
Fluoranthene	7.7		3.8		3.5	U
Fluorene	36	U	35	U	35	U
Indeno(1,2,3-cd)pyrene	15		4.4	J	3.5	U
Naphthalene	36	U	35	U	35	U
Phenanthrene	36	U	35	U	35	U
Pyrene	8.6		3.5	U	3.5	U

TABLE C-2

SUMMARY OF ANALYTICAL RESULTS IN SUBSURFACE SOIL

Appendix C
Table C-2. Summary of Subsurface Soil Analytical Results
Study Area 38

Naval Training Center, Orlando
Orlando, FL

Sample ID	33B00101		33B00201		33B00301	
Lab ID	C7G100151011		C7G100151012		C7G100151013	
Sampling Date	9-Jul-97		9-Jul-97		9-Jul-97	
Volatile organics, ug/kg						
1,1,1-Trichloroethane	12	U	12	U	11	U
1,1,2,2-Tetrachloroethane	12	U	12	U	11	U
1,1,2-Trichloroethane	12	UJ	12	UJ	11	UJ
1,1-Dichloroethane	12	U	12	U	11	U
1,1-Dichloroethene	12	U	12	U	11	U
1,2-Dichloroethane	12	U	12	U	11	U
1,2-Dichloroethene (total)	12	U	12	U	11	U
1,2-Dichloropropane	12	U	12	U	11	U
2-Butanone	12	UJ	12	UJ	11	UJ
2-Hexanone	12	UJ	12	UJ	11	UJ
4-Methyl-2-pentanone	12	U	12	U	11	U
Acetone	12	UJ	12	UJ	11	UJ
Benzene	12	U	12	U	11	U
Bromodichloromethane	12	U	12	U	11	U
Bromoform	12	UJ	12	UJ	11	UJ
Bromomethane	12	U	12	U	11	U
Carbon disulfide	12	UJ	12	UJ	11	UJ
Carbon tetrachloride	12	U	12	U	11	U
Chlorobenzene	12	U	12	U	11	U
Chloroethane	12	U	12	U	11	U
Chloroform	12	U	12	U	11	U
Chloromethane	12	UJ	12	UJ	11	UJ
cis-1,3-Dichloropropene	12	U	12	U	11	U
Dibromochloromethane	12	U	12	U	11	U
Ethylbenzene	12	U	12	U	11	U
Methylene chloride	12	U	12	U	11	U
Styrene	12	U	12	U	11	U
Tetrachloroethene	12	U	12	U	11	U
Toluene	5	J	7	J	6	J
trans-1,3-Dichloropropene	12	U	12	U	11	U
Trichloroethene	12	U	12	U	11	U
Vinyl chloride	12	U	12	U	11	U
Xylene (total)	12	U	12	U	11	U
Semivolatile organics, ug/kg						
1,2,4-Trichlorobenzene	400	U	400	U	370	U
1,2-Dichlorobenzene	400	U	400	U	370	U
1,3-Dichlorobenzene	400	U	400	U	370	U
1,4-Dichlorobenzene	400	U	400	U	370	U
2,2'-oxybis(1-Chloropropane)	400	U	400	U	370	U
2,4,5-Trichlorophenol	980	U	960	U	910	U
2,4,6-Trichlorophenol	400	U	400	U	370	U
2,4-Dichlorophenol	400	U	400	U	370	U
2,4-Dimethylphenol	400	U	400	U	370	U
2,4-Dinitrophenol	980	U	960	U	910	U
2,4-Dinitrotoluene	400	U	400	U	370	U
2,6-Dinitrotoluene	400	U	400	U	370	U
2-Chloronaphthalene	400	U	400	U	370	U
2-Chlorophenol	400	U	400	U	370	U
2-Methylnaphthalene	400	U	400	U	370	U

Appendix C
Table C-2. Summary of Subsurface Soil Analytical Results
Study Area 38

Naval Training Center, Orlando
Orlando, FL

2-Methylphenol	400	U	400	U	370	U
2-Nitroaniline	980	U	960	U	910	U
2-Nitrophenol	400	U	400	U	370	U
3,3'-Dichlorobenzidine	400	U	400	U	370	U
3-Nitroaniline	980	U	960	U	910	U
4,6-Dinitro-2-methylphenol	980	U	960	U	910	U
4-Bromophenyl-phenylether	400	U	400	U	370	U
4-Chloro-3-methylphenol	400	U	400	U	370	U
4-Chloroaniline	400	U	400	U	370	U
4-Chlorophenyl-phenylether	400	U	400	U	370	U
4-Methylphenol	400	U	400	U	370	U
4-Nitroaniline	980	U	960	U	910	U
4-Nitrophenol	980	U	960	U	910	U
Acenaphthene	400	U	400	U	370	U
Acenaphthylene	400	U	400	U	370	U
Anthracene	400	U	400	U	370	U
Benzo(a)anthracene	400	U	400	U	370	U
Benzo(a)pyrene	400	U	400	U	370	U
Benzo(b)fluoranthene	400	U	400	U	370	U
Benzo(g,h,i)perylene	400	U	400	U	370	U
Benzo(k)fluoranthene	400	U	400	U	370	U
bis(2-Chloroethoxy)methane	400	U	400	U	370	U
bis(2-Chloroethyl)ether	400	U	400	U	370	U
bis(2-Ethylhexyl)phthalate	400	U	400	U	370	U
Butylbenzylphthalate	400	U	400	U	370	U
Carbazole	400	U	400	U	370	U
Chrysene	400	U	400	U	370	U
Di-n-butylphthalate	400	U	400	U	370	U
Di-n-octylphthalate	400	U	400	U	370	U
Dibenz(a,h)anthracene	400	U	400	U	370	U
Dibenzofuran	400	U	400	U	370	U
Diethylphthalate	400	U	400	U	370	U
Dimethylphthalate	400	U	400	U	370	U
Fluoranthene	400	U	400	U	370	U
Fluorene	400	U	400	U	370	U
Hexachlorobenzene	400	U	400	U	370	U
Hexachlorobutadiene	400	U	400	U	370	U
Hexachlorocyclopentadiene	400	U	400	U	370	U
Hexachloroethane	400	U	400	U	370	U
Indeno(1,2,3-cd)pyrene	400	U	400	U	370	U
Isophorone	400	U	400	U	370	U
N-Nitroso-di-n-propylamine	400	U	400	U	370	U
N-Nitrosodiphenylamine (1)	400	U	400	U	370	U
Naphthalene	400	U	400	U	370	U
Nitrobenzene	400	U	400	U	370	U
Pentachlorophenol	980	U	960	U	910	U
Phenanthrene	400	U	400	U	370	U
Phenol	400	U	400	U	370	U
Pyrene	400	U	400	U	370	U
Pesticides/PCBs, ug/kg						
4,4'-DDD	4	U	4	U	3.7	U
4,4'-DDE	4	U	4	U	3.7	U
4,4'-DDT	4	U	4	U	3.7	U
Aldrin	2.1	U	2	U	1.9	U

Appendix C
Table C-2. Summary of Subsurface Soil Analytical Results
Study Area 38

Naval Training Center, Orlando
Orlando, FL

alpha-BHC	2.1	UJ	2	UJ	1.9	UJ
alpha-Chlordane	2.1	U	2	U	1.9	U
Aroclor-1016	40	U	40	U	37	U
Aroclor-1221	82	U	81	U	76	U
Aroclor-1232	40	U	40	U	37	U
Aroclor-1242	40	U	40	U	37	U
Aroclor-1248	40	U	40	U	37	U
Aroclor-1254	40	U	40	U	37	U
Aroclor-1260	40	U	40	U	37	U
beta-BHC	2.1	U	2	U	1.9	U
delta-BHC	2.1	UJ	2	UJ	1.9	UJ
Dieldrin	4	U	4	U	3.7	U
Endosulfan I	2.1	U	2	U	1.9	U
Endosulfan II	4	U	4	U	3.7	U
Endosulfan sulfate	4	U	4	U	3.7	U
Endrin	4	U	4	U	3.7	U
Endrin aldehyde	4	U	4	U	3.7	U
Endrin ketone	4	U	4	U	3.7	U
gamma-BHC (Lindane)	2.1	U	2	U	1.9	U
gamma-Chlordane	2.1	U	2	U	1.9	U
Heptachlor	2.1	U	2	U	1.9	U
Heptachlor epoxide	2.1	U	4.8		2.3	
Methoxychlor	21	U	20	U	19	U
Toxaphene	210	U	200	U	190	U

TABLE C-3

SUMMARY OF ANALYTICAL RESULTS IN GROUNDWATER

Appendix C
Table C-3. Summary of Groundwater Analytical Results
Study Area 33

Naval Training Center, Orlando
Orlando, FL

Sample ID	33G00101		33H00101		33G00201		33H00201		33G00301		33H00301	
Lab ID	6/27/97		6/27/97		6/30/97		6/30/97		6/30/97		6/30/97	
Sampling Date	C7F300122002		C7F300122003		C7G010108002		C7G010108003		C7G010108004		C7G010108005	
Volatile organics, ug/L												
1,1,1,2-Tetrachloroethane	0.5	U	NA		0.5	U	NA		0.5	U	NA	
1,1,1-Trichloroethane	0.5	U	NA		0.5	U	NA		0.5	U	NA	
1,1,2,2-Tetrachloroethane	0.5	UJ	NA		0.5	UJ	NA		0.5	UJ	NA	
1,1,2-Trichloroethane	0.5	U	NA		0.5	U	NA		0.5	U	NA	
1,1-Dichloroethane	0.5	U	NA		0.5	U	NA		0.5	U	NA	
1,1-Dichloroethene	0.5	U	NA		0.5	U	NA		0.5	U	NA	
1,1-Dichloropropene	0.5	U	NA		0.5	U	NA		0.5	U	NA	
1,2,3-Trichlorobenzene	0.5	UJ	NA		0.5	UJ	NA		0.5	UJ	NA	
1,2,3-Trichloropropane	0.5	UJ	NA		0.5	UJ	NA		0.5	UJ	NA	
1,2,4-Trimethylbenzene	0.5	U	NA		0.5	U	NA		0.5	U	NA	
1,2-Dibromo-3-chloropropane	0.5	R	NA		0.5	R	NA		0.5	R	NA	
1,2-Dibromoethane	0.5	U	NA		0.5	U	NA		0.5	U	NA	
1,2-Dichloroethane	0.5	U	NA		0.5	U	NA		0.5	U	NA	
1,2-Dichloropropane	0.5	U	NA		0.5	U	NA		0.5	U	NA	
1,3,5-Trimethylbenzene	0.5	U	NA		0.5	U	NA		0.5	U	NA	
1,3-Dichloropropane	0.5	U	NA		0.5	U	NA		0.5	U	NA	
2,2-Dichloropropane	0.5	U	NA		0.5	U	NA		0.5	U	NA	
2-Chlorotoluene	0.5	U	NA		0.5	U	NA		0.5	U	NA	
4-Chlorotoluene	0.5	U	NA		0.5	U	NA		0.5	U	NA	
4-Isopropyltoluene	0.5	U	NA		0.5	U	NA		0.5	U	NA	
Benzene	0.5	U	NA		0.5	U	NA		0.5	U	NA	
Bromobenzene	0.5	U	NA		0.5	U	NA		0.5	U	NA	
Bromochloromethane	0.5	U	NA		0.5	U	NA		0.5	U	NA	
Bromodichloromethane	0.5	U	NA		0.5	U	NA		0.5	U	NA	
Bromoform	0.5	U	NA		0.5	U	NA		0.5	U	NA	
Bromomethane	0.5	U	NA		0.5	U	NA		0.5	U	NA	
Carbon tetrachloride	0.5	U	NA		0.5	U	NA		0.5	U	NA	
Chlorobenzene	0.5	U	NA		0.5	U	NA		0.5	U	NA	
Chloroethane	0.5	U	NA		0.5	U	NA		0.5	U	NA	
Chloroform	0.5	U	NA		0.5	U	NA		0.5	U	NA	
Chloromethane	0.5	U	NA		0.5	U	NA		0.5	U	NA	
cis-1,2-Dichloroethene	0.5	U	NA		0.5	U	NA		0.5	U	NA	
cis-1,3-Dichloropropene	0.5	U	NA		0.5	U	NA		0.5	U	NA	
Dibromochloromethane	0.5	U	NA		0.5	U	NA		0.5	U	NA	
Dibromomethane	0.5	U	NA		0.5	U	NA		0.5	U	NA	
Dichlorodifluoromethane (CFC 12)	0.5	U	NA		0.5	U	NA		0.5	U	NA	
Ethylbenzene	0.5	U	NA		0.5	U	NA		0.5	U	NA	
Isopropylbenzene	0.5	U	NA		0.5	U	NA		0.5	U	NA	
Methylene chloride	0.5	U	NA		0.5	U	NA		0.5	U	NA	
n-Butylbenzene	0.5	U	NA		0.5	U	NA		0.5	U	NA	
n-Propylbenzene	0.5	U	NA		0.5	U	NA		0.5	U	NA	
sec-Butylbenzene	0.5	U	NA		0.5	U	NA		0.5	U	NA	
Styrene	0.5	U	NA		0.5	U	NA		0.5	U	NA	
tert-Butylbenzene	0.5	U	NA		0.5	U	NA		0.5	U	NA	
Tetrachloroethene	0.5	U	NA		0.5	U	NA		0.5	U	NA	
Toluene	0.5	U	NA		0.5	U	NA		0.5	U	NA	
trans-1,2-Dichloroethene	0.5	U	NA		0.5	U	NA		0.5	U	NA	
trans-1,3-Dichloropropene	0.5	U	NA		0.5	U	NA		0.5	U	NA	
Trichloroethene	0.5	U	NA		0.5	U	NA		0.5	U	NA	
Trichlorofluoromethane (CFC 11)	0.5	U	NA		0.5	U	NA		0.5	U	NA	

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Vinyl chloride	0.5	U	NA		0.5	U	NA		0.5	U	NA	
Xylene (total)	0.5	U	NA		0.5	U	NA		0.5	U	NA	
Semivolatile organics, ug/L												
1,2,4-Trichlorobenzene	10	U	NA		10	U	NA		10	U	NA	
1,2-Dichlorobenzene	10	U	NA		10	U	NA		10	U	NA	
1,3-Dichlorobenzene	10	U	NA		10	U	NA		10	U	NA	
1,4-Dichlorobenzene	10	U	NA		10	U	NA		10	U	NA	
2,2'-oxybis(1-Chloropropane)	10	U	NA		10	U	NA		10	U	NA	
2,4,5-Trichlorophenol	25	U	NA		25	U	NA		25	U	NA	
2,4,6-Trichlorophenol	10	U	NA		10	U	NA		10	U	NA	
2,4-Dichlorophenol	10	U	NA		10	U	NA		10	U	NA	
2,4-Dimethylphenol	10	U	NA		10	U	NA		10	U	NA	
2,4-Dinitrophenol	25	U	NA		25	U	NA		25	U	NA	
2,4-Dinitrotoluene	10	U	NA		10	U	NA		10	U	NA	
2,6-Dinitrotoluene	10	U	NA		10	U	NA		10	U	NA	
2-Chloronaphthalene	10	U	NA		10	U	NA		10	U	NA	
2-Chlorophenol	10	U	NA		10	U	NA		10	U	NA	
2-Methylnaphthalene	10	U	NA		10	U	NA		10	U	NA	
2-Methylphenol	10	U	NA		10	U	NA		10	U	NA	
2-Nitroaniline	25	U	NA		25	U	NA		25	U	NA	
2-Nitrophenol	10	U	NA		10	U	NA		10	U	NA	
3,3'-Dichlorobenzidine	10	U	NA		10	U	NA		10	U	NA	
3-Nitroaniline	25	U	NA		25	U	NA		25	U	NA	
4,6-Dinitro-2-methylphenol	25	U	NA		25	U	NA		25	U	NA	
4-Bromophenyl-phenylether	10	U	NA		10	U	NA		10	U	NA	
4-Chloro-3-methylphenol	10	U	NA		10	U	NA		10	U	NA	
4-Chloroaniline	10	U	NA		10	U	NA		10	U	NA	
4-Chlorophenyl-phenylether	10	U	NA		10	U	NA		10	U	NA	
4-Methylphenol	10	U	NA		10	U	NA		10	U	NA	
4-Nitroaniline	25	U	NA		25	U	NA		25	U	NA	
4-Nitrophenol	25	U	NA		25	U	NA		25	U	NA	
Acenaphthene	10	U	NA		10	U	NA		10	U	NA	
Acenaphthylene	10	U	NA		10	U	NA		10	U	NA	
Anthracene	10	U	NA		10	U	NA		10	U	NA	
Benzo(a)anthracene	10	U	NA		10	U	NA		10	U	NA	
Benzo(a)pyrene	10	U	NA		10	U	NA		10	U	NA	
Benzo(b)fluoranthene	10	U	NA		10	U	NA		10	U	NA	
Benzo(g,h,i)perylene	10	U	NA		10	U	NA		10	U	NA	
Benzo(k)fluoranthene	10	U	NA		10	U	NA		10	U	NA	
bis(2-Chloroethoxy)methane	10	U	NA		10	U	NA		10	U	NA	
bis(2-Chloroethyl)ether	10	U	NA		10	U	NA		10	U	NA	
bis(2-Ethylhexyl)phthalate	10	U	NA		15	U	NA		10	U	NA	
Butylbenzylphthalate	10	U	NA		10	U	NA		10	U	NA	
Carbazole	10	U	NA		10	U	NA		10	U	NA	
Chrysene	10	U	NA		10	U	NA		10	U	NA	
Di-n-butylphthalate	10	U	NA		10	U	NA		10	U	NA	
Di-n-octylphthalate	10	U	NA		10	U	NA		10	U	NA	
Dibenz(a,h)anthracene	10	U	NA		10	U	NA		10	U	NA	
Dibenzofuran	10	U	NA		10	U	NA		10	U	NA	
Diethylphthalate	10	U	NA		10	U	NA		10	U	NA	
Dimethylphthalate	10	U	NA		10	U	NA		10	U	NA	
Fluoranthene	10	U	NA		10	U	NA		10	U	NA	
Fluorene	10	U	NA		10	U	NA		10	U	NA	
Hexachlorobenzene	10	U	NA		10	U	NA		10	U	NA	
Hexachlorobutadiene	10	U	NA		10	U	NA		10	U	NA	

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Hexachlorocyclopentadiene	10	U	NA		10	U	NA		10	U	NA	
Hexachloroethane	10	U	NA		10	U	NA		10	U	NA	
Indeno(1,2,3-cd)pyrene	10	U	NA		10	U	NA		10	U	NA	
Isophorone	10	U	NA		10	U	NA		10	U	NA	
N-Nitroso-di-n-propylamine	10	U	NA		10	U	NA		10	U	NA	
N-Nitrosodiphenylamine (1)	10	U	NA		10	U	NA		10	U	NA	
Naphthalene	10	U	NA		10	U	NA		10	U	NA	
Nitrobenzene	10	U	NA		10	U	NA		10	U	NA	
Pentachlorophenol	25	U	NA		25	U	NA		25	U	NA	
Phenanthrene	10	U	NA		10	U	NA		10	U	NA	
Phenol	10	U	NA		10	U	NA		10	U	NA	
Pyrene	10	U	NA		10	U	NA		10	U	NA	
Pesticides/PCBs, ug/L												
4,4'-DDD	0.1	U	NA		0.1	U	NA		0.1	U	NA	
4,4'-DDE	0.1	U	NA		0.1	U	NA		0.1	U	NA	
4,4'-DDT	0.1	U	NA		0.1	U	NA		0.1	U	NA	
Aldrin	0.05	U	NA		0.05	U	NA		0.05	U	NA	
alpha-BHC	0.05	UJ	NA		0.05	UJ	NA		0.05	UJ	NA	
alpha-Chlordane	0.05	U	NA		0.05	U	NA		0.05	U	NA	
Aroclor-1016	1	U	NA		1	U	NA		1	U	NA	
Aroclor-1221	2	U	NA		2	U	NA		2	U	NA	
Aroclor-1232	1	U	NA		1	U	NA		1	U	NA	
Aroclor-1242	1	U	NA		1	U	NA		1	U	NA	
Aroclor-1248	1	U	NA		1	U	NA		1	U	NA	
Aroclor-1254	1	U	NA		1	U	NA		1	U	NA	
Aroclor-1260	1	U	NA		1	U	NA		1	U	NA	
beta-BHC	0.05	U	NA		0.05	U	NA		0.05	U	NA	
delta-BHC	0.05	UJ	NA		0.05	UJ	NA		0.05	UJ	NA	
Dieldrin	0.1	U	NA		0.1	U	NA		0.1	U	NA	
Endosulfan I	0.05	U	NA		0.05	U	NA		0.05	U	NA	
Endosulfan II	0.1	U	NA		0.1	U	NA		0.1	U	NA	
Endosulfan sulfate	0.1	U	NA		0.1	U	NA		0.1	U	NA	
Endrin	0.1	U	NA		0.1	U	NA		0.1	U	NA	
Endrin aldehyde	0.1	U	NA		0.1	U	NA		0.1	U	NA	
Endrin ketone	0.1	U	NA		0.1	U	NA		0.1	U	NA	
gamma-BHC (Lindane)	0.05	U	NA		0.05	U	NA		0.05	U	NA	
gamma-Chlordane	0.05	U	NA		0.05	U	NA		0.05	U	NA	
Heptachlor	0.05	U	NA		0.05	U	NA		0.05	U	NA	
Heptachlor epoxide	0.05	U	NA		0.05	U	NA		0.05	U	NA	
Methoxychlor	0.5	U	NA		0.5	U	NA		0.5	U	NA	
Toxaphene	5	U	NA		5	U	NA		5	U	NA	
Inorganics, ug/L												
Aluminum	82.5	J	59	U	310		147	J	468		404	
Antimony	14	U	14	U	14	U	14	U	14	U	14	U
Arsenic	2.3	U	2.3	U	2.3	U	2.3	U	2.3	U	2.3	U
Barium	31.4	J	31.2	J	26.4	J	25.2	J	4.4	J	3.6	J
Beryllium	0.12	U	0.12	U	0.12	U	0.12	U	0.12	U	0.12	U
Cadmium	2.6	U	2.6	U	2.6	U	2.6	U	2.6	U	2.6	U
Calcium	46200	J	49700	J	38000	J	39400	J	48800	J	50700	J
Chromium	2.3	U	2.3	U	2.3	U	2.3	U	2.3	U	2.3	U
Cobalt	3.1	U	3.1	U	3.1	U	3.1	U	3.1	U	3.1	U
Copper	1.5	U	1.5	U	2.8	J	2.8	J	2.8	J	2.5	J
Iron	13.3	J	4.9	U	50.6	J	31.9	J	30	J	24.8	J
Lead	1	U	1	U	1	U	1	U	1.8	J	1	U
Magnesium	762	J	776	J	1520	J	1520	J	1960	J	2030	J

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Manganese	1.4	J	0.88	U	5	J	4.8	J	5.2	J	0.88	U
Mercury	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U
Nickel	8.4	U	8.4	U	8.4	U	8.4	U	8.4	U	8.4	U
Potassium	323	U	329	J	323	U	455	J	393	J	323	U
Selenium	3	U	3	U	3	U	3	U	3	U	3	U
Silver	2.4	U	2.4	U	2.4	U	2.4	U	2.4	U	2.4	U
Sodium	2430	J	2550	J	1970	J	2450	J	3450	J	3790	J
Thallium	4	U	8	U	7	U	5.5	U	3.4	U	3.7	U
Vanadium	8.8	J	9.4	J	12.5	J	13.4	J	4.8	J	5.4	J
Zinc	8.4	U	4.1	U	15.1	U	14.9	U	17.3	U	12.2	U
General Chemistry, mg/L												
Total Suspended Solids	4	U	NA		16		NA		28		NA	

Notes for Summary of Analytical Results Tables
Study Area 33

Naval Training Center, Orlando
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NA = Identified parameter not analyzed.
Sample ID = Sample Identifier
Lab ID = Laboratory identifier

Units:

mg/kg	milligram per kilogram
ug/kg	microgram per kilogram
mg/L	milligram per liter
ug/L	microgram per liter

The following standard analytical data qualifiers have the following definitions:

U	The analyte/compound was analyzed for but was not detected above the reported sample quantitation limit The number preceding the U qualifier is the reported sample quantitation limit.
H	The sample was filtered with a 0.45 micron in-line filter prior to analysis.
J	The analyte/compound was positively identified and the associated numerical value is an estimated concentration of the analyte/compound in the sample.
UJ	The analyte/compound was not detected above the reported sample quantitation limit. The reported quantitation limit, however, is approximate and may or may not represent the actual limit of quantitation necessary to accurately measure the analyte/compound in the sample.
R	The sample results are rejected during data validation because of serious deficiencies in meeting quality control criteria.