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SAMPLING EVENT REPORT FOR DEFENSE REUTILIZATION AND MARKETING OFFICE YARD POTENTIAL SOURCE OF CONTAMINATION 46 (PSC46) NAS JACKSONVILLE FL

7/1/1999

HARDING LAWSON ASSOCIATES

SAMPLING EVENT REPORT

POTENTIAL SOURCE OF CONTAMINATION 46
DEFENSE REUTILIZATION AND MARKETING OFFICE YARD

NAVAL AIR STATION JACKSONVILLE
JACKSONVILLE, FLORIDA

Unit Identification Code: N00207

Contract No.: N62467-89-D-0317/040

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July 1999

CERTIFICATION OF TECHNICAL
DATA CONFORMITY (MAY 1987)

The Contractor, Harding Lawson Associates, hereby certifies that, to the best of its knowledge and belief, the technical data delivered herewith under Contract No. N62467-89-D-0317/040 are complete and accurate and comply with all requirements of this contract.

DATE: July 5, 1999

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(DFAR 252.227-7036)

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PMW 07 99

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GLOSSARY

ABB-ES	ABB Environmental Services, Inc.
CompuChem	CompuChem Environmental Corporation
DRMO	Defense Reutilization and Marketing Office
EDS	Environmental Data Services
FDEP	Florida Department of Environmental Protection
FRE	focused risk evaluation
FSWS	Florida surface water standard
HLA	Harding Lawson Associates
GGC	groundwater guidance concentration
LUC	land-use controls
MCL	maximum contaminant level
μg/kg	micrograms per kilogram
μg/ℓ	micrograms per liter
mg/kg	milligrams per kilogram
NAS	Naval Air Station
NFESC	Naval Facilities Engineering Service Center
PAH	polynuclear aromatic hydrocarbons
PARCC	precision, accuracy, representativeness, completeness, and comparability
PSC	potential source of contamination
PCB	polychlorinated biphenyl
QA/QC	quality assurance and quality control
RI/FS	remedial investigation and feasibility study
RRDS	Remedial Response Decision System
SCG	soil cleanup goal
SDG	sample delivery group
SER	Sampling Event Report
SQAG	sediment quality assessment guidelines
SSW	Site Screening Workplan
SVOC	semivolatile organic compound
TAL	target analyte list
TCL	target compound list
USEPA	U.S. Environmental Protection Agency
VOC	volatile organic compound

1.0 INTRODUCTION

Harding Lawson Associates (HLA), under contract to the Department of Navy (Contract No. N62467-89-D-0317, Task Order No. 040), is submitting this Sampling Event Report (SER) for Potential Source of Contamination (PSC) 46, Defense Reutilization and Marketing Office (DRMO) yard at Naval Air Station (NAS) Jacksonville, Jacksonville, Florida. PSC 46 is a satellite parcel located west of U.S. Highway 17 near the southwest corner of the station (Figures 1-1 and 1-2). The DRMO yard was added to NAS Jacksonville's Hazardous and Solid Waste Amendment permit (U.S. Environmental Protection Agency [USEPA] permit No. FL6170024412) in 1993. DRMO has been in operation at this location since 1939. The DRMO yard first served as a smelter for airplanes, and later was used to arrange for the transfer and disposal of used petroleum products, out-of-service transformers, and hazardous wastes generated at NAS Jacksonville. Currently, materials including chemicals, scrap metal, vehicles, appliances, and furniture are stored, repaired, and sold at the DRMO yard.

This SER summarizes the methods and the results of the field investigation, and transmits the field and analytical data.

1.1 PURPOSE AND SCOPE. The purpose of the sampling event at PSC 46 was to gather sufficient information to support the next phase of the Remedial Response Decision System (RRDS) process. The scope of the sampling event, detailed in the Site Screening Workplan ([SSW) (ABB Environmental Services, Inc. [ABB-ES], 1997), at PSC 46 included the following:

- collection of seven sediment/surface water samples from perimeter ditches surrounding the site,
- installation of six temporary "micro" monitoring wells around the perimeter of the site to determine groundwater flow directions,
- collection of four groundwater samples from downgradient locations, and
- laboratory analysis of the sediment and surface soil, groundwater, and surface water samples for USEPA target compound list (TCL) volatile organic compounds (VOCs), TCL semivolatile organic compounds (SVOCs), TCL pesticides and polychlorinated biphenyls (PCBs), and target analyte list (TAL) inorganics.

Fieldwork for this sampling event was completed between April 3 and July 31, 1997. A sample tracking log, which includes sample and sample delivery group (SDG) identifiers, relevant dates, sample depths, and parameters analyzed, is included in Appendix A. The validated analytical results are included in Appendix B. Tables summarizing the detections in the analytical results are provided in Appendix C.

1.2 SITE DESCRIPTION AND HISTORY. PSC 46 consists of a relatively flat fenced yard that contains administrative and storage buildings (Figure 1-2). The yard is roughly triangular; its approximate dimensions are 640 feet wide on the southern edge,

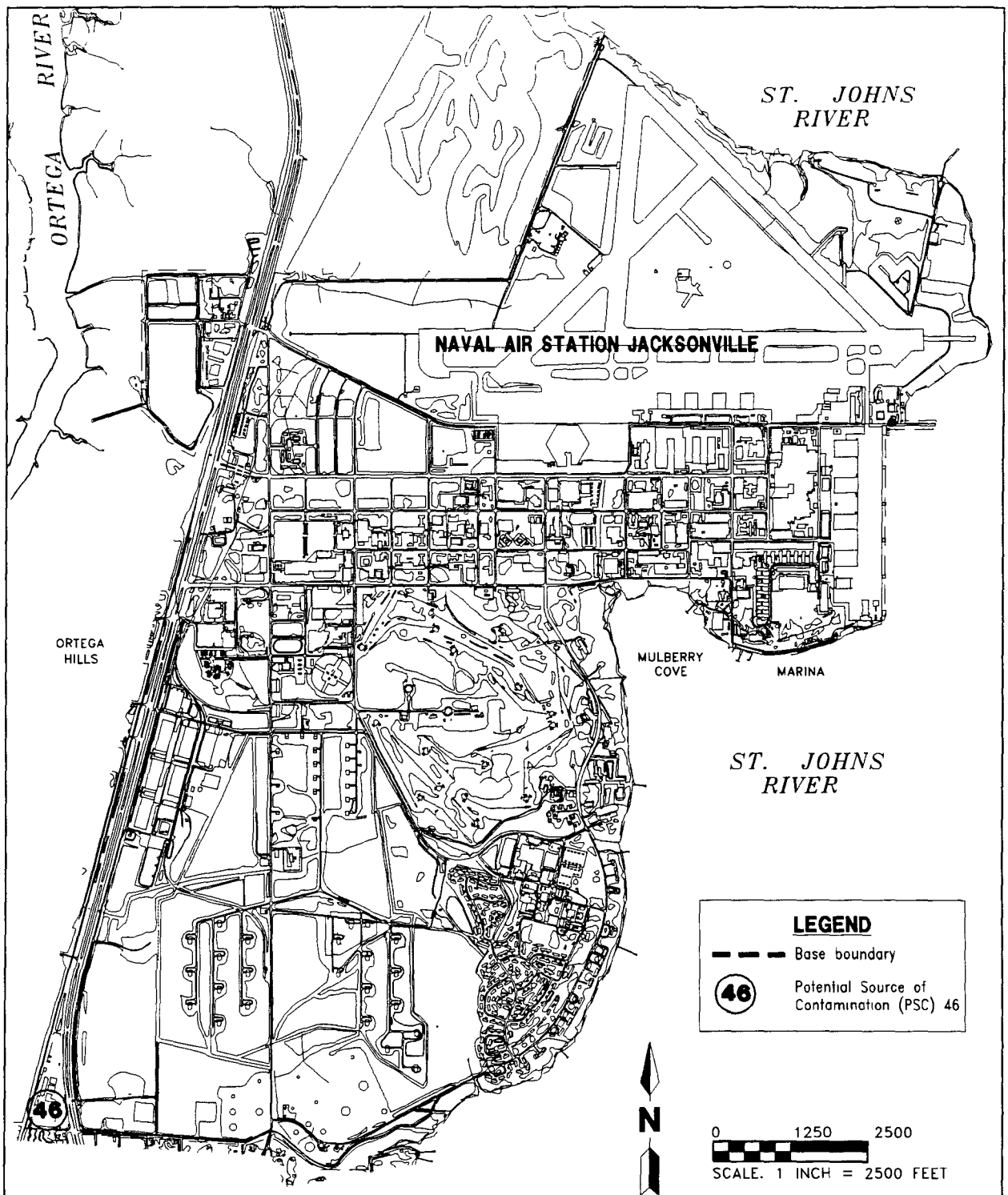

FIGURE 1-1
LOCATION OF PSC 46 AT
NAVAL AIR STATION JACKSONVILLE

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SAMPLING EVENT REPORT
PSC 46

NAVAL AIR STATION JACKSONVILLE
JACKSONVILLE, FLORIDA

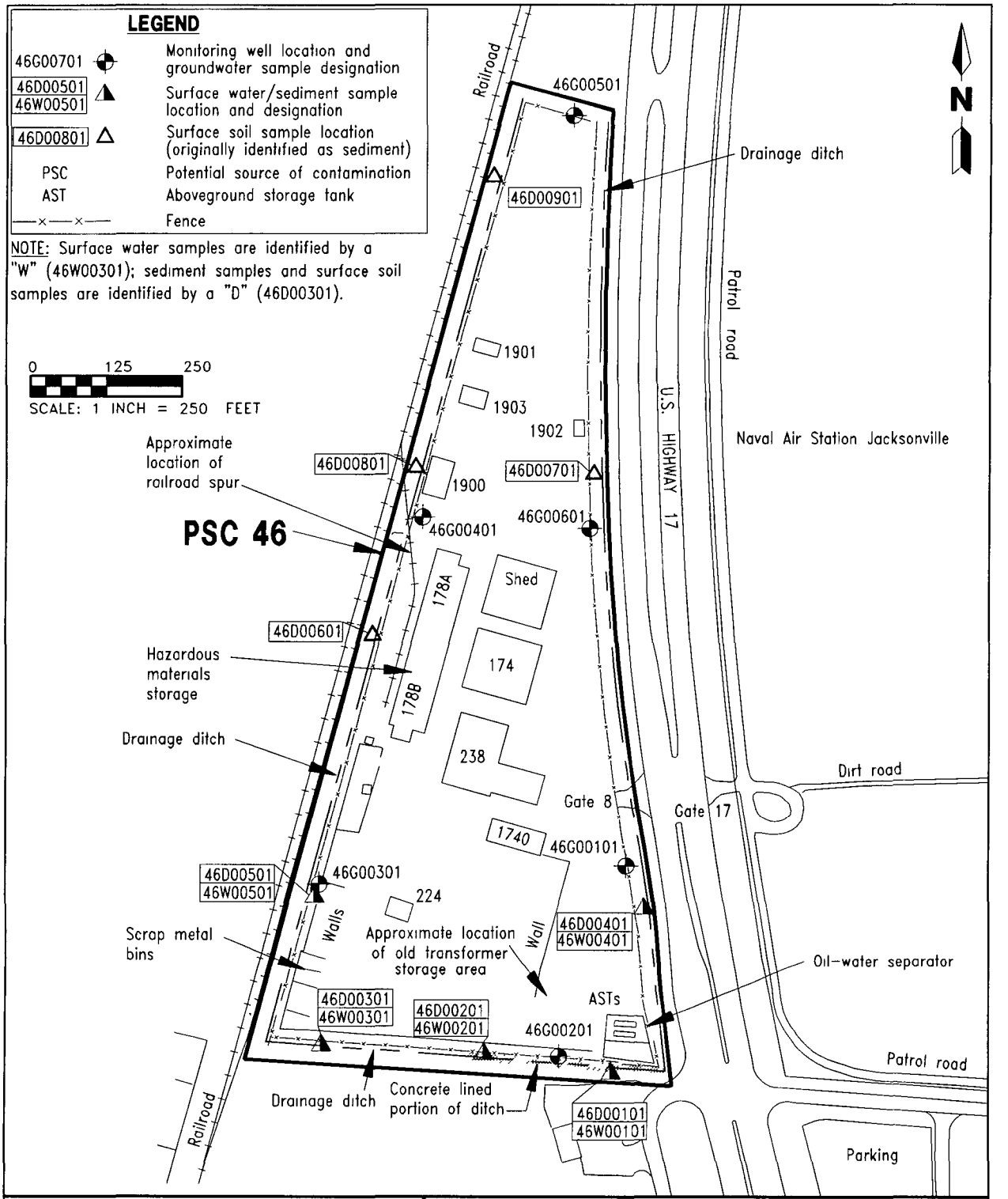

FIGURE 1-2
SAMPLING LOCATIONS AT PSC 46
DEFENSE REUTILIZATION AND MARKETING OFFICE YARD

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1,500 feet long, and 110 feet wide on the northern edge. The west central part of the yard, near the buildings, is paved except for a few small areas of mowed grass and sandy gravel fill along the railroad spur. The northern part of the yard is covered with asphalt. The surface along the perimeter fence line consists of a sandy gravel fill. Overall, the vast majority of the area is covered with buildings and asphalt pavement. Drainage ditch swales are located along the eastern, western, and southern sides of the property. Approximately 300 feet of the drainage ditch along the southern perimeter of the PSC is concrete lined (eastern portion). Also, the main Amtrak railroad line parallels the western boundary of PSC 46.

At the southeastern end of the DRMO yard is an oil-water separator (see Figure 1-2). Storm water runoff from a large portion of the yard drains to this separator. Water is discharged from the separator through overflow pipes to the concrete lined portion of the drainage ditch located along the southern property line. Water in this ditch flows east into the north-south highway drainage ditch outside the east fence of the DRMO yard (Bessent, Hammack, and Ruckman, Inc., 1994). Surface water between the western perimeter fence and the railroad right-of-way is picked up in a shallow drainage ditch/swale and flows south and then east along the southern boundary of the yard, where it also discharges to the north-south drainage ditch. Water in this unlined ditch flows southward and then eastward under Highway 17. Most of the eastern perimeter ditch, above the junction with the southern perimeter ditch, was dry on the day of the PSC site reconnaissance and appears to carry water only during and following rain events. The same condition was observed in the northern two-thirds of the ditch/swale along the western side of the property.

The DRMO stored used electrical transformers and battery cases on the southern and western parts of the yard, respectively. The transformers may have contained PCBs. According to an NAS Jacksonville Public Works Center employee, pavement at the DRMO yard used to be in poor shape (Schroeder, 1994). Transformers were observed in the area of the railroad spur, west of Buildings 178A and B, during this field program. Currently, materials including chemicals, scrap metal, vehicles, appliances, and furniture are stored, repaired, and sold at DRMO. During a 1991 inspection of the DRMO, NAS Jacksonville personnel observed that the storage areas for lead acid batteries, hazardous materials, drums, and transformers drained into the western perimeter drainage ditch.

During HLA's PSC reconnaissance on April 22, 1994, an accumulation of oily water was observed on the ground outside the opening to the oil-water separator. A chemical odor was detected and appeared to be coming from the southern drainage ditch. Stained soil was observed along the western perimeter where transformers were stored. Automobile batteries, stored on wooden pallets, were also observed along the western perimeter. Many military-type vehicles (e.g., jeeps and trucks) were parked on the northern half of PSC 46. Several of the vehicles had plastic tubs beneath the engines to collect leaking fluids and oils; other vehicles did not have such tubs, and leaking fluids were observed on the ground. Other items that were observed included canisters of paint, cleaning compound, solvent, adhesive, and sealant, containers of corrosive acids and bases, scrap metal, and empty drums.

An industrial radiation survey was conducted at DRMO on June 30, 1998, by personnel from the U.S. Army Center for Health Promotion and Prevention Medicine (USACHPPM, 1998). During the course of the survey, elevated radiation exposure

readings were encountered in various areas at DRMO. It was determined that these elevated readings were associated with the soil rather than items stored at the facility. Radiation levels taken on contact with the soil surface were measured as high as 18,000 counts per minute (cpm) as compared to 500 cpm for background. Interviews with DRMO employees suggested that the elevated levels may be the residuals left from smelter and salvage operations at the site during the 1940s and 1950s (dates are approximate). The survey identified no health hazards and recommended a further evaluation of the elevated readings.

Bechtel Environmental, Inc. (BEI), conducted a radiological survey at DRMO to confirm the radiological contamination found by USACHPPM and estimate the soil volume affected (BEI, 1998). The survey found other elevated areas of radiological concern not noted by USACHPPM's survey.

2.0 SAMPLING APPROACH AND FIELD CHANGES

The work described herein was performed as presented in the SSW (ABB-ES, 1997) with the changes and additions described below. Based on the potential impact from the observed activities along the southern and western sides of the facility, two additional surface water/sediment sampling locations were identified (sample locations 002 and 006, as shown on Figure 1-2). One surface water and one sediment sample were taken at each of these two additional locations.

The addition of these two sampling locations increased the scope of the sampling event from seven surface water/sediment sampling locations, as described in the SSW, to nine. However, at the time of sampling, surface water was only present at five of the nine locations (sample locations 001 through 005). After additional field observations and evaluations, the material at the four remaining locations (sample locations 006 through 009) was determined to be soil rather than sediment and, therefore, was evaluated as surface soil.

The six "micro" wells were installed around the perimeter of the site (Figure 1-2). Each well was installed with a 9-foot screen and locking flush mount surface completion. The bottom of the well screens ranged from 11 feet to 12.8 feet below land surface (bls). The groundwater elevation, referenced to a temporary datum, was determined for each of the six wells, after which four downgradient wells were selected for sampling. The first round of sampling was completed between April 29 and May 1, 1997. After reviewing the groundwater analytical results from the sampling of the four downgradient groundwater wells, the remaining upgradient two wells were sampled. In addition, MW002 (sample 46G00202) was resampled and analyzed for SVOCs because a single SVOC detection (pentachlorophenol at 2 micrograms per liter [$\mu g/\ell$]) exceeded both the USEPA maximum contaminant level (MCL) and Florida groundwater guidance concentrations (GGC) of 1 $\mu g/\ell$. The second round of sampling was conducted on July 31, 1997. A total of six monitoring wells were sampled for full suite analysis, one of which was resampled for TCL SVOC analysis.

The soil, sediment, surface water, and groundwater samples collected for laboratory analysis were sent by overnight carrier to the subcontract laboratory, CompuChem Environmental Corporation (CompuChem), Cary, North Carolina. The samples were analyzed for TCL VOCs, SVOCs, pesticides and PCBs, and TAL inorganic compounds. The second sampling event at MW002 was only analyzed for TCL SVOCs. Following the laboratory analysis, all data were validated in accordance with the Naval Facilities Engineering Service Center (NFESC) Level D protocol. The validated analytical results are included in Appendix B.

3.0 QUALITY ASSURANCE AND QUALITY CONTROL

Field samples and associated quality assurance and quality control (QA/QC) samples were collected and analyzed according to USEPA Contract Laboratory Program and NFESC requirements by CompuChem, an NFESC certified laboratory. The analytical data packages, submitted in SDGs, were independently validated by a subcontract data validation company, Environmental Data Services (EDS), of Concord, New Hampshire, in accordance with validation requirements contained in NFESC document *Navy Installation Restoration Laboratory Quality Assurance Guide* (NFESC, 1996). Other documents utilized in the data validation and review include the USEPA *Contract Laboratory Program National Functional Guidelines for Organic Data Review* (USEPA, 1994a) and the USEPA *Contract Laboratory Program National Functional Guidelines for Inorganic Data Review* (USEPA, 1994b).

A detailed QA/QC evaluation can be found in the EDS report (EDS, 1997), which summarizes the results of the data quality assessment according to the precision, accuracy, representativeness, completeness, and comparability (PARCC) parameters for the entire site screening activity. The EDS report was issued as Appendix B of the SSW (ABB-ES, 1997). The generated analytical data were found to be acceptable according to the PARCC criteria, with less than 5 percent of the data requiring qualification (primarily estimated "J" qualifier).

4.0 ANALYTICAL RESULTS

4.1 ANALYTICAL RESULTS FOR SURFACE SOIL SAMPLES. The four surface soil samples (originally designated as sediment samples) are identified with the following sediment designations: 46D00601 through 46D00901. The complete validated analytical data are included in Appendix B. The summary of detections are included in Appendix C.

4.1.1 Volatile Organic Compounds Three VOCs, acetone at 28 micrograms per kilogram (μg/kg), chloroform at 2 μg/kg, and methylene chloride at 4 μg/kg, were detected in the four surface soil samples analyzed. The detected VOCs are likely artifacts of laboratory or field decontamination procedures and are not believed to be site-related.

4.1.2 Semivolatile Organic Compounds Nineteen SVOCs were detected in the four surface soil samples analyzed. Two of the detected SVOCs, benzo(a)pyrene at 300 and 870 μg/kg in two samples and benzo(b)fluoranthene at 2,000 μg/kg in one sample, were at concentrations above the Florida Department of Environmental Protection (FDEP) residential soil cleanup goals (SCGs) of 100 and 1,400 μg/kg, respectively. Eighteen of the 19 SVOCs were detected in sample 46D00801 and 13 of the 19 SVOCs were detected in sample 46D00601.

4.1.3 Pesticides and Polychlorinated Biphenyls Sixteen pesticide compounds and one PCB compound were detected in the surface soil samples analyzed. The PCB, Aroclor-1260, was detected at 2,400 μg/kg, exceeding the FDEP residential SCG of 900 μg/kg. Pesticides were detected at levels consistent with stationwide background activities.

4.1.4 Inorganic Parameters Twenty-two inorganic parameters were identified in the surface soil samples analyzed. Except for arsenic, beryllium, cobalt, mercury, selenium and sodium, all 22 inorganic parameters were detected in all four sampling locations. Arsenic and mercury were detected in only two sampling locations and beryllium, cobalt, selenium and sodium were detected in only three sampling locations. Significant metal concentrations (percent levels) were detected in sample 46D00601 including copper at 16,600 milligrams per kilogram (mg/kg) (1.66 percent), aluminum at 171,000 mg/kg (17.1 percent), calcium at 123,000 mg/kg (12.3 percent), and lead at 4,840 mg/kg (0.48 percent).

4.2 ANALYTICAL RESULTS FOR GROUNDWATER SAMPLES. The complete validated analytical data are included in Appendix B. The summary of detections are included in Appendix C.

4.2.1 Volatile Organic Compounds Two chlorinated VOCs (1,1-dichloroethane at 2 μg/ℓ and 1,2-dichloroethene at 4 μg/ℓ) were detected in one groundwater sample (46G00301). Acetone was detected in one groundwater sample (46G00401) at 6 μg/ℓ. All VOC detections were below FDEP GGCs and Federal MCLs, where determined.

4.2.2 Semivolatile Organic Compounds Four SVOCs were detected in the six groundwater samples analyzed. Pentachlorophenol was detected at a concentration of 2 μg/ℓ, exceeding the FDEP GGC of 1 μg/ℓ in one sample (46G00201). A second sample (46G00202) from this well was collected three months later and reanalyzed for TCL SVOC, and pentachlorophenol was not detected. The remaining three SVOCs

consisting of phthalate esters [bis(2-ethylhexyl)phthalate, di-n-butylphthalate, and di-n-octylphthalate] were detected below FDEP GGCs and are likely laboratory artifacts.

4.2.3 Pesticides and Polychlorinated Biphenyls No PCBs were detected in the groundwater samples. One pesticide (aldrin) was detected in one groundwater sample (46G00201); however, the detected concentration (0.0021 μg/ℓ) was below the FDEP GGC of 0.05 μg/ℓ.

4.2.4 Inorganic Parameters Nineteen inorganic parameters were detected in the groundwater samples analyzed. Barium, calcium, chromium, iron, magnesium, manganese, potassium, sodium, and zinc were detected in all six groundwater samples. Aluminum was detected in four of six samples, all of which were above the Federal secondary MCL of 200 μg/ℓ with the highest detection at 3,680 μg/ℓ in sample 46G00301. Iron, with a maximum detected concentration of 10,100 μg/ℓ in sample 46G00201, also exceeded the Federal secondary MCL of 300 μg/ℓ in all samples. Manganese exceeded the Federal secondary MCL of 50 μg/ℓ in two samples, at 329 μg/ℓ in sample 46G00201 and 76.8 μg/ℓ in sample 46G00601. Antimony was detected at a concentration of 11.2 μg/ℓ in one sample (46G00401), exceeding the Federal MCL of 6 μg/ℓ. The detected levels may be related to the suspended solids naturally present in groundwater.

4.3 ANALYTICAL RESULTS FOR SURFACE WATER SAMPLES. The complete validated analytical data are included in Appendix B. The summary of detections are included in Appendix C.

4.3.1 Volatile Organic Compounds Two VOCs were detected in the five surface water samples analyzed. Acetone was detected in one sample at 7 μg/ℓ and is likely an artifact of decontamination or laboratory procedures. A chlorinated solvent compound, trichloroethene, was detected at 1 and 3 μg/ℓ in samples 46W00201 and 46W00301, respectively, below the Florida surface water standard (FSWS) of 80.7 μg/ℓ.

4.3.2 Semivolatile Organic Compounds No SVOCs were detected in the surface water samples analyzed.

4.3.3 Pesticides and Polychlorinated Biphenyls Three pesticide compounds were detected in the surface water samples analyzed. The detected concentrations ranged from 0.01 to 0.03 μg/ℓ in three of the five samples. The detected levels may be related to the suspended solids naturally present in surface water samples.

4.3.4 Inorganic Parameters Nineteen inorganic parameters were detected in the surface water samples. Cadmium was detected in all five of the samples, but only three exceeded the FSWS of 2.5 μg/ℓ. The maximum detected concentration was 9.4 μg/ℓ in sample 46W00101. Mercury was detected in three of the samples, all of which exceeded the FSWS of 0.012 μg/ℓ. The maximum detected concentration was 0.2 μg/ℓ in sample 46W00201. Silver was detected in three of the samples, all of which exceeded the FSWS of 0.07 μg/ℓ. The maximum detected concentration was 1.7 μg/ℓ in sample 46W00101.

4.4 ANALYTICAL RESULTS FOR SEDIMENT SAMPLES. The complete validated analytical data are included in Appendix B. The summary of detections are included in Appendix C.

4.4.1 Volatile Organic Compounds Methylene chloride was detected at between 2 and 3 μg/kg in four of the five sediment samples analyzed. This parameter is likely an artifact of decontamination or laboratory procedures.

4.4.2 Semivolatile Organic Compounds Twenty-two SVOCs, consisting of 18 polynuclear aromatic hydrocarbons (PAHs), three phthalate esters, and dibenzofuran, were detected in the sediment samples analyzed. Twenty of the twenty-two parameters were detected in sample 46D00101, taken near the oil-water separator. Twelve of the 20 parameters detected at this location exceeded their respective FDEP sediment quality assessment guidelines (SQAGs) by two orders of magnitude in many cases. The total PAH concentration at this location is 1,846 mg/kg (0.18 percent). Much lower concentrations of these PAHs were detected at 46D00201, 46D00301 and 46D00401, although several PAH compounds exceeded their respective FDEP SQAGs at these locations. Only two PAHs, fluoranthene and pyrene, were detected in sample 46D00501 at concentrations that did not exceed FDEP SQAGs.

4.4.3 Pesticides and Polychlorinated Biphenyls Thirteen pesticides and one PCB compound were detected in the sediment samples analyzed. Dichlorodiphenyltrichloroethane and its degradation products, dichlorodiphenyldichloroethane and dichlorodiphenyldichloroethene, were detected above their respective FDEP SQAGs at two or more sediment locations. Dieldrin was detected above its FDEP SQAG at one location (46D00101), and alpha-Chlordane was detected above its FDEP SQAG at two locations (46D00101 and 46D00201).

4.4.4 Inorganic Parameters Twenty-two inorganic parameters were detected in the sediment samples analyzed. Cadmium, copper, lead, mercury, nickel, silver and zinc were detected at levels exceeding their respective FDEP SQAGs.

5.0 RISK EVALUATION

The purpose of performing focused risk evaluations (FREs) as part of the site-screening evaluation is to assist in determining whether or not the existing risk at PSC 46 (1) supports a no further action decision (with or without the implementation of land-use controls [LUCs]), (2) indicates the need for an interim remedial action, or (3) requires additional investigation to make a decision. The documentation of the decision for PSC 46 may be found in the RRDS document for PSC 46 (ABB-ES, 1995).

It was not necessary to conduct an FRE to recommend that further investigation be conducted for PSC 46. As the following tables show, several metals and compounds (PAHs, pesticides and PCBs) were present in the various environmental matrices collected at PSC 46. In several cases, the detected levels were orders of magnitude greater than regulatory screening concentrations, particularly for sediment locations taken near the southern boundary of PSC 46. Also since no samples were collected from beneath the paving on the interior of DRMO, it can not be determined whether there are also exceedances in the soils in those areas. Elevated radiation readings were also found at PSC 46, requiring further evaluation (USACHPPM, 1998 and BEI, 1998).

Table 5-1
Comparison of Detected Compounds Exceeding USEPA Risk Screening Levels in Surface Soil

Sampling Event Report
Potential Source of Contamination 46
Defense Reutilization and Marketing Office Yard
Naval Air Station Jacksonville
Jacksonville, Florida

Chemical	Frequency of Detects	Maximum Detected Concentration	USEPA Region III Risk-Based Concentration (Residential)
Semivolatile Organic Compounds (μg/kg)			
Benzo(a)pyrene	3/4	870	87
Benzo(b)fluoranthene	4/4	1,900	870
Pesticides and PCBs (μg/kg)			
Aroclor-1260	2/4	2,400	320
Inorganic Analytes (mg/kg)			
Aluminum	4/4	171,000	78,000
Arsenic	2/4	15.5	0.43
Chromium	4/4	1,300	390
Copper	4/4	16,600	3,100
Iron	4/4	76,400	23,000
Manganese	4/4	1,650	1,600

Notes: USEPA = U.S. Environmental Protection Agency.
μg/kg = micrograms per kilogram.
PCB = polychlorinated biphenyl.
mg/kg = milligrams per kilogram.

Table 5-2
Comparison of Detected Compounds Exceeding FDEP Groundwater Guidance Concentrations and Federal Maximum Contaminant Levels in Groundwater

Sampling Event Report
Potential Source of Contamination 46
Defense Reutilization and Marketing Office Yard
Naval Air Station Jacksonville
Jacksonville, Florida

Chemical	Frequency of Detects	Maximum Detected	FDEP Groundwater Guidance Concentrations	Federal Maximum Contaminant Levels
Inorganic Analytes (μg/ℓ)				
Aluminum	4/6	3,680	200 s	200 s
Antimony	1/6	11.2	6 p	6 p
Iron	6/6	10,100	300 s	300 s
Manganese	6/6	329	50 s	50 s

Notes: FDEP = Florida Department of Environmental Protection.
μg/ℓ = micrograms per liter
s = secondary standard.
p = primary standard

Table 5-3
Comparison of Detected Compounds Exceeding FDEP Surface Water Standards in Surface Water

Sampling Event Report
Potential Source of Contamination 46
Defense Reutilization and Marketing Office Yard
Naval Air Station Jacksonville
Jacksonville, Florida

Chemical	Frequency of Detects	Maximum Detected Concentration	FDEP Surface Water Standards[1]
Inorganic Analytes (μg/ℓ)			
Cadmium	5/5	9.4	2.5
Mercury	3/5	0.2	0.012
Silver	2/5	1.7	0.07

[1] FDEP Surface Water Standards, Class III Freshwater.

Notes: FDEP = Florida Department of Environmental Protection.
μg/ℓ = micrograms per liter.

Table 5-4
Comparison of Detected Compounds Exceeding FDEP Sediment Quality Assessment Guidelines in Sediment

Sampling Event Report
Potential Source of Contamination 46
Defense Reutilization and Marketing Office Yard
Naval Air Station Jacksonville
Jacksonville, Florida

Chemical	Frequency of Detects	Maximum Detected Concentration	FDEP Sediment Quality Assessment Guidelines
Semivolatile Organic Compounds (µg/kg)			
2-Methylnaphthalene	1/5	3,100	201
Acenaphthene	2/5	29,000	88.9
Acenaphthylene	3/5	490	128
Anthracene	4/5	26,000	245
Benzo(a)anthracene	4/5	120,000	693
Benzo(a)pyrene	4/5	120,000	763
Chrysene	4/5	110,000	846
Dibenz(a,h)anthracene	3/5	7,300	135
Fluoranthene	5/5	370,000	1494
Fluorene	2/5	19,000	144
Naphthalene	1/5	3,400	391
Phenanthrene	4/5	210,000	544
Pyrene	5/5	230,000	1398
bis(2-Ethylhexyl)phthalate	3/5	2,600	2647
Pesticides and PCBs (µg/kg)			
4,4'-DDD	3/5	24	7.81
4,4'-DDT	5/5	43.5	4 77
Aroclor-1260	4/5	2,900	189
Dieldrin	1/5	12	4 3
alpha-Chlordane	4/5	9.7	4 79
Inorganic Analytes (mg/kg)			
Cadmium	5/5	82 7	4.21
Chromium	5/5	2,560	160
Copper	5/5	102,000	108
Lead	5/5	1,610	112
Mercury	4/5	0.86	0.7
Nickel	5/5	2,070	42 8
Silver	5/5	268	1.77
Zinc	5/5	3,340	271

Notes: FDEP = Florida Department of Environmental Protection.
µg/kg = micrograms per kilogram.
PCB = polychlorinated biphenyl.
DDD = dichlorodiphenyldichloroethane.
DDT = dichlorodiphenyltrichloroethane.
mg/kg = milligrams per kilogram.

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APPENDIX A

OFF-SITE SAMPLING TRACKING LOG

Appendix A

PSC 46
OFFSITE SAMPLE TRACKING LOG
SITE SCREENING, NAS JACKSONVILLE

SDG	SAMPLE ID	SAMP DATE	UDEPTH (ft bls)	LDEPTH (ft bls)	MATRIX	TAL MET	TCL VOC	TCL SVOC	TCL PEST/ PCB	DRFL	TAT	DSTV	DRFV
00008	46D00101	5/2/97	NA	NA	S	X	X	X	X	6/6/97	32	6/20/97	7/18/97
00008	46D00201	5/2/97	NA	NA	S	X	X	X	X	6/6/97	32	6/20/97	7/18/97
00008	46D00301	5/2/97	NA	NA	S	X	X	X	X	6/6/97	32	6/20/97	7/18/97
00008	46D00401	5/2/97	NA	NA	S	X	X	X	X	6/6/97	32	6/20/97	7/18/97
00008	46D00501	5/2/97	NA	NA	S	X	X	X	X	6/6/97	32	6/20/97	7/18/97
00008	46D00501D	5/2/97	NA	NA	S	X	X	X	X	6/6/97	32	6/20/97	7/18/97
00008	46D00601	5/2/97	0	1	S	X	X	X	X	6/6/97	32	6/20/97	7/18/97
00009	46D00701	5/6/97	0	1	S	X	X	X	X	6/12/97	30	6/20/97	7/21/97
00008	46D00801	5/2/97	0	1	S	X	X	X	X	6/6/97	32	6/20/97	7/18/97
00009	46D00901	5/6/97	0	1	S	X	X	X	X	6/12/97	30	6/20/97	7/21/97
00007	46G00101	4/30/97	2	11	W	X	X	X	X	6/2/97	31	6/20/97	7/18/97
00007	46G00201	4/29/97	2	11	W	X	X	X	X	6/2/97	31	6/20/97	7/18/97
0017W	46G00202	7/31/97	2	11	W			X		8/28/97	22	8/28/97	8/9/97
00007	46G00301	4/30/97	2	11	W	X	X	X	X	6/2/97	31	6/20/97	7/18/97
00007	46G00401	5/1/97	3	12	W	X	X	X	X	6/2/97	31	6/20/97	7/18/97
0017W	46G00501	7/31/97	2	11	W	X	X	X	X	8/28/97	22	8/28/97	8/9/97
0017W	46G00601	7/31/97	2	11	W	X	X	X	X	8/28/97	22	8/28/97	8/9/97
00007	46W00101	5/1/97	NA	NA	S	X	X	X	X	6/2/97	31	6/20/97	7/18/97
00007	46W00201	5/1/97	NA	NA	S	X	X	X	X	6/2/97	31	6/20/97	7/18/97
00007	46W00301	5/1/97	NA	NA	S	X	X	X	X	6/2/97	31	6/20/97	7/18/97
00007	46W00401	5/1/97	NA	NA	S	X	X	X	X	6/2/97	31	6/20/97	7/18/97
00007	46W00501	5/2/97	NA	NA	W	X	X	X	X	6/2/97	31	6/20/97	7/18/97
00007	46W00501D	5/2/97	NA	NA	W	X	X	X	X	6/2/97	31	6/20/97	7/18/97

NOTES:

SDG	Sample Delivery Group (defined group of 20 samples or less collected not more than 14 days of each other)
SAMPLE ID	Sample Identifier
SAMP DATE	Date of Sample Collection
UDEPTH, LDEPTH	Depths, upper (UDEPTH) and lower (LDEPTH) ft bls = feet below land surface
MATRIX	Media Sampled
TAL MET	Target Analyte List Metals
TCL VOC	Target Compound List Volatile Organics
TCL SVOC	Target Compound List Semivolatile Organics
TCL PEST/PCB	Target Compound List Pesticides and Polychlorinated Biphenyls
DRFL	Date Package Received from Laboratory
TAT	Turnaround Time (days)
DSTV	Date Package Sent to Validators
DRFV	Date Package Received from Validators

APPENDIX B

VALIDATED ANALYTICAL DATA SHEETS

Appendix B-1 Summary of Surface Soil Analytical Results, TAL Metals and TCL Organics
PSC 46

Naval Air Station, Jacksonville
Jacksonville, FL

Sample ID	46D00601		46D00701		46D00801		46D00901	
New Sample ID	46S00601		46S00701		46S00801		46S00901	
Sampling Date	5/2/97		5/6/97		5/2/97		5/6/97	
Volatile organics, ug/kg								
1,1,1-Trichloroethane	20	U	11	U	13	U	11	U
1,1,2,2-Tetrachloroethane	20	U	11	U	13	U	11	U
1,1,2-Trichloroethane	20	U	11	U	13	U	11	U
1,1-Dichloroethane	20	U	11	U	13	U	11	U
1,1-Dichloroethene	20	U	11	U	13	U	11	U
1,2-Dichloroethane	20	U	11	U	13	U	11	U
1,2-Dichloroethene (total)	20	U	11	U	13	U	11	U
1,2-Dichloropropane	20	U	11	U	13	U	11	U
2-Butanone	20	UJ	11	UJ	13	UJ	11	UJ
2-Hexanone	20	UJ	11	UJ	13	UJ	11	UJ
4-Methyl-2-pentanone	20	U	11	U	13	U	11	U
Acetone	20	UJ	11	UJ	28	J	11	U
Benzene	20	U	11	U	13	U	11	U
Bromodichloromethane	20	U	11	U	13	U	11	U
Bromoform	20	U	11	U	13	U	11	U
Bromomethane	20	U	11	U	13	U	11	U
Carbon disulfide	20	U	11	U	13	U	11	U
Carbon tetrachloride	20	U	11	U	13	U	11	U
Chlorobenzene	20	U	11	U	13	U	11	U
Chloroethane	20	U	11	U	13	U	11	U
Chloroform	20	U	11	U	13	U	2	J
Chloromethane	20	U	11	U	13	U	11	U
cis-1,3-Dichloropropene	20	U	11	U	13	U	11	U
Dibromochloromethane	20	U	11	U	13	U	11	U
Ethylbenzene	20	U	11	U	13	U	11	U
Methylene chloride	20	U	4	J	13	U	11	U
Styrene	20	U	11	U	13	U	11	U
Tetrachloroethene	20	U	11	U	13	U	11	U
Toluene	20	U	11	U	13	U	11	U
trans-1,3-Dichloropropene	20	U	11	U	13	U	11	U
Trichloroethene	20	U	11	U	13	U	11	U
Vinyl chloride	20	U	11	U	13	U	11	U
Xylene (total)	20	U	11	U	13	U	11	U
Semivolatile organics, ug/kg								
1,2,4-Trichlorobenzene	640	U	360	U	430	U	360	U
1,2-Dichlorobenzene	640	U	360	U	430	U	360	U
1,3-Dichlorobenzene	640	U	360	U	430	U	360	U
1,4-Dichlorobenzene	640	U	360	U	430	U	360	U
2,2'-oxybis(1-Chloropropan	640	U	360	U	430	U	360	U
2,4,5-Trichlorophenol	1600	U	910	U	1100	U	900	U
2,4,6-Trichlorophenol	640	U	360	U	430	U	360	U
2,4-Dichlorophenol	640	U	360	U	430	U	360	U
2,4-Dimethylphenol	640	U	360	U	430	U	360	U
2,4-Dinitrophenol	1600	U	910	U	1100	U	900	U
2,4-Dinitrotoluene	640	U	360	U	430	U	360	U
2,6-Dinitrotoluene	640	U	360	U	430	U	360	U
2-Chloronaphthalene	640	U	360	U	430	U	360	U
2-Chlorophenol	640	U	360	U	430	U	360	U
2-Methylnaphthalene	640	U	360	U	430	U	360	U
2-Methylphenol	640	U	360	U	430	U	360	U
2-Nitroaniline	1600	U	910	U	1100	U	900	U

Appendix B-1 Summary of Surface Soil Analytical Results, TAL Metals and TCL Organics
PSC 46

Naval Air Station, Jacksonville
Jacksonville, FL

Sample ID	46D00601		46D00701		46D00801		46D00901	
New Sample ID	46S00601		46S00701		46S00801		46S00901	
Sampling Date	5/2/97		5/6/97		5/2/97		5/6/97	
2-Nitrophenol	640	U	360	U	430	U	360	U
3,3'-Dichlorobenzidine	640	U	360	U	430	U	360	U
3-Nitroaniline	1600	U	910	U	1100	U	900	U
4,6-Dinitro-2-methylphenol	1600	U	910	U	1100	U	900	U
4-Bromophenyl-phenylether	640	U	360	U	430	U	360	U
4-Chloro-3-methylphenol	640	U	360	UJ	430	U	360	U
4-Chloroaniline	640	U	360	U	430	U	360	U
4-Chlorophenyl-phenylether	640	U	360	U	430	U	360	UJ
4-Methylphenol	640	U	360	U	430	U	360	U
4-Nitroaniline	1600	U	910	U	1100	U	900	U
4-Nitrophenol	1600	UJ	910	UJ	1100	UJ	900	UJ
Acenaphthene	640	U	360	U	200	J	360	U
Acenaphthylene	640	U	360	U	430	U	360	U
Anthracene	640	U	360	U	140	J	360	U
Benzo(a)anthracene	160	J	360	U	840		49	J
Benzo(a)pyrene	300	J	360	U	870		37	J
Benzo(b)fluoranthene	870	J	37	J	2000	J	100	J
Benzo(g,h,i)perylene	640	U	360	U	150	J	360	U
Benzo(k)fluoranthene	830	J	32	J	1900	J	86	J
bis(2-Chloroethoxy)methan	640	U	360	U	430	U	360	U
bis(2-Chloroethyl)ether	640	U	360	U	430	U	360	U
bis(2-Ethylhexyl)phthalate	7300		130	J	960		450	
Butylbenzylphthalate	490	J	360	U	140	J	43	J
Carbazole	76	J	360	U	220	J	360	U
Chrysene	620	J	360	U	1000		48	J
Di-n-butylphthalate	430	J	360	U	100	J	68	J
Di-n-octylphthalate	2300		360	U	430	U	360	U
Dibenz(a,h)anthracene	640	U	360	U	430	U	360	U
Dibenzofuran	640	U	360	U	53	J	360	U
Diethylphthalate	640	U	360	U	430	U	360	U
Dimethylphthalate	640	U	360	U	430	U	360	U
Fluoranthene	1000		360	U	2200		84	J
Fluorene	640	U	360	UJ	130	J	360	U
Hexachlorobenzene	640	U	360	U	430	U	360	U
Hexachlorobutadiene	640	U	360	U	430	U	360	U
Hexachlorocyclopentadiene	640	U	360	U	430	U	360	U
Hexachloroethane	640	U	360	U	430	U	360	U
Indeno(1,2,3-cd)pyrene	640	U	360	U	150	J	360	U
Isophorone	640	U	360	U	430	U	360	U
N-Nitroso-di-n-propylamine	640	U	360	UJ	430	U	360	UJ
N-Nitrosodiphenylamine (1)	640	U	360	U	430	U	360	U
Naphthalene	640	U	360	U	430	U	360	U
Nitrobenzene	640	U	360	U	430	U	360	U
Pentachlorophenol	1600	U	910	U	1100	U	900	U
Phenanthrene	290	J	360	U	1200		50	J
Phenol	640	U	360	U	430	U	360	U
Pyrene	530	J	360	U	1300		61	J
Pesticides/PCBs, ug/kg								
4,4'-DDD	160	J	3 6	U	4 2	UJ	18	UJ
4,4'-DDE	370	J	3 6	U	51	J	270	
4,4'-DDT	32	UJ	6 3	UJ	49	J	120	
Aldrin	29	J	0 2	J	2 2	UJ	9 1	U

Appendix B-1 Summary of Surface Soil Analytical Results, TAL Metals and TCL Organics
PSC 46

Naval Air Station, Jacksonville
Jacksonville, FL

Sample ID	46D00601		46D00701		46D00801		46D00901	
New Sample ID	46S00601		46S00701		46S00801		46S00901	
Sampling Date	5/2/97		5/6/97		5/2/97		5/6/97	
alpha-BHC	16	UJ	1 8	U	0 25	J	9 1	U
alpha-Chlordane	24	J	1 8	UJ	43	J	5	J
Aroclor-1016	320	UJ	36	U	42	UJ	180	U
Aroclor-1221	650	UJ	73	U	86	UJ	360	U
Aroclor-1232	320	UJ	36	U	42	UJ	180	U
Aroclor-1242	320	UJ	36	U	42	UJ	180	U
Aroclor-1248	320	UJ	36	U	42	UJ	180	U
Aroclor-1254	320	UJ	36	U	42	UJ	180	U
Aroclor-1260	320	UJ	280		2400	J	180	U
beta-BHC	16	UJ	1 8	U	2 2	UJ	9 1	U
delta-BHC	16	UJ	1 8	U	2 2	UJ	9 1	U
Dieldrin	32	U	0 87	J	20	J	1 2	J
Endosulfan I	16	UJ	1 8	U	2 2	UJ	9 1	U
Endosulfan II	32	UJ	3 6	U	130	J	18	U
Endosulfan sulfate	32	UJ	3 6	U	4 2	UJ	18	U
Endrin	190	J	3 6	U	4 2	UJ	18	U
Endrin aldehyde	33	J	1 8	J	4 2	UJ	0 95	J
Endrin ketone	170	J	3 6	U	4 2	UJ	18	U
gamma-BHC (Lindane)	16	UJ	0 12	J	2 2	UJ	9 1	U
gamma-Chlordane	16	UJ	0 77	J	2 2	UJ	11	J
Heptachlor	16	UJ	0 22	J	2 2	UJ	1 1	J
Heptachlor epoxide	16	UJ	1 8	U	11	J	13	
Methoxychlor	960	J	18	U	140	J	91	U
Toxaphene	1600	UJ	180	U	220	UJ	910	U
Inorganics, mg/kg								
Aluminum	171000	J	1680	J	10400	J	16300	J
Antimony	22 9	J	0 75	J	10 6	J	1 8	J
Arsenic	15 5		0 61	U	15 3		1 2	U
Barium	309		20 6	J	273		283	
Beryllium	1 7	J	0 13	U	0 86	J	2 6	
Cadmium	156	J	3		99	J	13 2	
Calcium	123000		11100		32200		285000	
Chromium	1300	J	11 3		231	J	30 9	
Cobalt	23 4		0 2	U	5 9	J	1 9	J
Copper	16600	J	91 6		886	J	116	
Iron	76400	J	1000		15500	J	2840	
Lead	4840	J	50 8		2950	J	133	
Magnesium	7280		621	J	4300		15100	
Manganese	1650	J	25 2		292	J	428	
Mercury	1 1	J	0 05	UJ	1 6	J	0 05	UJ
Nickel	612	J	3 5	J	63 1	J	6 1	J
Potassium	1020	J	66 7	J	689	J	2010	
Selenium	1 7	U	0 99	J	1 2	J	1	J
Silver	46 8		0 37	J	3 5		0 37	J
Sodium	1820	J	344	U	775	J	941	J
Thallium	2 1	U	1 2	U	1 4	U	1 2	U
Vanadium	27 6		1 7	J	10 6	J	18 9	
Zinc	4790	J	99 3	J	3310	J	195	J

Appendix B-2 Summary of Groundwater Analytical Results, TAL Metals and TCL Organics
PSC 46

Naval Air Station, Jacksonville
Jacksonville, FL

Sample ID	46G00101		46G00201		46G00202		46G00301		46G00401		46G00501		46G00601	
Sampling Date	4/30/97		4/29/97		7/31/97		4/30/97		5/1/97		7/31/97		7/31/97	
Volatile organics, ug/L														
1,1,1-Trichloroethane	10	U	10	U	NA		10	U	10	U	10	U	10	U
1,1,2,2-Tetrachloroethane	10	U	10	U	NA		10	U	10	U	10	U	10	U
1,1,2-Trichloroethane	10	U	10	U	NA		10	U	10	U	10	U	10	U
1,1-Dichloroethane	10	U	10	U	NA		2	J	10	U	10	U	10	U
1,1-Dichloroethene	10	U	10	U	NA		10	U	10	U	10	U	10	U
1,2-Dichloroethane	10	U	10	U	NA		10	U	10	U	10	U	10	U
1,2-Dichloroethene (total)	10	U	10	U	NA		4	J	10	U	10	U	10	U
1,2-Dichloropropane	10	U	10	U	NA		10	U	10	U	10	U	10	U
2-Butanone	10	U	10	U	NA		10	U	10	U	10	U	10	U
2-Hexanone	10	U	10	U	NA		10	U	10	U	10	U	10	U
4-Methyl-2-pentanone	10	U	10	U	NA		10	U	10	U	10	U	10	U
Acetone	10	U	10	U	NA		10	U	6	J	10	U	10	U
Benzene	10	U	10	U	NA		10	U	10	U	10	U	10	U
Bromodichloromethane	10	U	10	U	NA		10	U	10	U	10	U	10	U
Bromoform	10	U	10	U	NA		10	U	10	U	10	U	10	U
Bromomethane	10	U	10	U	NA		10	U	10	UJ	10	U	10	U
Carbon disulfide	10	UJ	10	UJ	NA		10	UJ	10	U	10	U	10	U
Carbon tetrachloride	10	U	10	U	NA		10	U	10	U	10	U	10	U
Chlorobenzene	10	U	10	U	NA		10	U	10	U	10	U	10	U
Chloroethane	10	U	10	U	NA		10	U	10	U	10	U	10	U
Chloroform	10	U	10	U	NA		10	U	10	U	10	U	10	U
Chloromethane	10	U	10	U	NA		10	U	10	UJ	10	U	10	U
cis-1,3-Dichloropropene	10	U	10	U	NA		10	U	10	U	10	U	10	U
Dibromochloromethane	10	U	10	U	NA		10	U	10	U	10	U	10	U
Ethylbenzene	10	U	10	U	NA		10	U	10	U	10	U	10	U
Methylene chloride	10	U	10	U	NA		10	U	10	U	10	U	10	U
Styrene	10	U	10	U	NA		10	U	10	U	10	U	10	U
Tetrachloroethene	10	U	10	U	NA		10	U	10	U	10	U	10	U
Toluene	10	U	10	U	NA		10	U	10	U	10	U	10	U
trans-1,3-Dichloropropene	10	U	10	U	NA		10	U	10	U	10	U	10	U
Trichloroethene	10	U	10	U	NA		10	U	10	U	10	U	10	U
Vinyl chloride	10	U	10	U	NA		10	U	10	U	10	U	10	U
Xylene (total)	10	U	10	U	NA		10	U	10	U	10	U	10	U
Semivolatile organics, ug/L														
1,2,4-Trichlorobenzene	10	U	10	U	10	U	10	U	10	U	10	U	10	U
1,2-Dichlorobenzene	10	U	10	U	10	U	10	U	10	U	10	U	10	U
1,3-Dichlorobenzene	10	U	10	U	10	U	10	U	10	U	10	U	10	U
1,4-Dichlorobenzene	10	U	10	U	10	U	10	U	10	U	10	U	10	U
2,2'-oxybis(1-Chloropropane)	10	U	10	U	10	U	10	U	10	U	10	U	10	U
2,4,5-Trichlorophenol	25	U	25	U	25	U	25	U	25	U	25	U	25	U
2,4,6-Trichlorophenol	10	U	10	U	10	U	10	U	10	U	10	U	10	U
2,4-Dichlorophenol	10	U	10	U	10	U	10	U	10	U	10	U	10	U
2,4-Dimethylphenol	10	U	10	U	10	U	10	U	10	U	10	U	10	U
2,4-Dinitrophenol	25	UJ	25	UJ	25	U	25	UJ	25	U	25	U	25	U
2,4-Dinitrotoluene	10	U	10	U	10	U	10	U	10	U	10	U	10	U
2,6-Dinitrotoluene	10	U	10	U	10	U	10	U	10	U	10	U	10	U
2-Chloronaphthalene	10	U	10	U	10	U	10	U	10	U	10	U	10	U
2-Chlorophenol	10	U	10	U	10	U	10	U	10	U	10	U	10	U
2-Methylnaphthalene	10	U	10	U	10	U	10	U	10	U	10	U	10	U
2-Methylphenol	10	U	10	U	10	U	10	U	10	U	10	U	10	U
2-Nitroaniline	25	U	25	U	25	U	25	U	25	U	25	U	25	U
2-Nitrophenol	10	U	10	U	10	U	10	U	10	U	10	U	10	U

Appendix B-2 Summary of Groundwater Analytical Results, TAL Metals and TCL Organics
PSC 46

Naval Air Station, Jacksonville
Jacksonville, FL

Sample ID	46G00101		46G00201		46G00202		46G00301		46G00401		46G00501		46G00601	
Sampling Date	4/30/97		4/29/97		7/31/97		4/30/97		5/1/97		7/31/97		7/31/97	
3,3'-Dichlorobenzidine	10	U	10	U	10	U	10	U	10	U	10	U	10	U
3-Nitroaniline	25	U	25	U	25	U	25	U	25	U	25	U	25	U
4,6-Dinitro-2-methylphenol	25	UJ	25	UJ	25	U	25	UJ	25	U	25	U	25	U
4-Bromophenyl-phenylether	10	U	10	U	10	U	10	U	10	U	10	U	10	U
4-Chloro-3-methylphenol	10	U	10	U	10	U	10	U	10	U	10	U	10	U
4-Chloroaniline	10	U	10	U	10	U	10	U	10	U	10	U	10	U
4-Chlorophenyl-phenylether	10	U	10	U	10	U	10	U	10	U	10	U	10	U
4-Methylphenol	10	U	10	U	10	U	10	U	10	U	10	U	10	U
4-Nitroaniline	25	U	25	U	25	U	25	U	25	U	25	U	25	U
4-Nitrophenol	25	U	25	U	25	U	25	U	25	U	25	U	25	U
Acenaphthene	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Acenaphthylene	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Anthracene	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Benzo(a)anthracene	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Benzo(a)pyrene	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Benzo(b)fluoranthene	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Benzo(g,h,i)perylene	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Benzo(k)fluoranthene	10	U	10	U	10	U	10	U	10	U	10	U	10	U
bis(2-Chloroethoxy)methane	10	U	10	U	10	U	10	U	10	U	10	U	10	U
bis(2-Chloroethyl)ether	10	U	10	U	10	U	10	U	10	U	10	U	10	U
bis(2-Ethylhexyl)phthalate	10	U	10	U	10	U	10	U	10	U	10	U	2	J
Butylbenzylphthalate	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Carbazole	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Chrysene	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Di-n-butylphthalate	1	J	10	U	2	J	2	J	10	U	10	U	10	U
Di-n-octylphthalate	10	U	10	U	10	U	10	U	10	U	10	U	11	
Dibenz(a,h)anthracene	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Dibenzofuran	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Diethylphthalate	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Dimethylphthalate	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Fluoranthene	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Fluorene	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Hexachlorobenzene	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Hexachlorobutadiene	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Hexachlorocyclopentadiene	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Hexachloroethane	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Indeno(1,2,3-cd)pyrene	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Isophorone	10	U	10	U	10	U	10	U	10	U	10	U	10	U
N-Nitroso-di-n-propylamine	10	U	10	U	10	U	10	U	10	U	10	U	10	U
N-Nitrosodiphenylamine (1)	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Naphthalene	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Nitrobenzene	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Pentachlorophenol	25	UJ	2	J	25	U	25	UJ	25	U	25	U	25	U
Phenanthrene	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Phenol	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Pyrene	10	U	10	U	10	U	10	U	10	U	10	U	10	U
Pesticides/PCBs, ug/L														
4,4'-DDD	0 1	U	0 1	U	NA		0 1	U	0 1	U	0 1	U	0 1	U
4,4'-DDE	0 1	U	0 1	U	NA		0 1	U	0 1	U	0 1	U	0 1	U
4,4'-DDT	0 1	U	0 1	U	NA		0 1	U	0 1	U	0 1	U	0 1	U
Aldrin	0 05	U	0	J	NA		0 05	U	0 05	U	0 05	U	0 05	U
alpha-BHC	0 05	U	0 05	U	NA		0 05	U	0 05	U	0 05	U	0 05	U
alpha-Chlordane	0 05	U	0 05	U	NA		0 05	U	0 05	U	0 05	U	0 05	U

Appendix B-2 Summary of Groundwater Analytical Results, TAL Metals and TCL Organics
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Naval Air Station, Jacksonville
Jacksonville, FL

Sample ID	46G00101		46G00201		46G00202		46G00301		46G00401		46G00501		46G00601	
Sampling Date	4/30/97		4/29/97		7/31/97		4/30/97		5/1/97		7/31/97		7/31/97	
Aroclor-1016	1	U	1	U	NA		1	U	0 99	U	1	U	1	U
Aroclor-1221	2	U	2	U	NA		2	U	2	U	2	U	2	U
Aroclor-1232	1	U	1	U	NA		1	U	0 99	U	1	U	1	U
Aroclor-1242	1	U	1	U	NA		1	U	0 99	U	1	U	1	U
Aroclor-1248	1	U	1	U	NA		1	U	0 99	U	1	U	1	U
Aroclor-1254	1	U	1	U	NA		1	U	0 99	U	1	U	1	U
Aroclor-1260	1	U	1	U	NA		1	U	0 99	U	1	U	1	U
beta-BHC	0 05	U	0 05	U	NA		0 05	U	0 05	U	0 05	U	0 05	U
delta-BHC	0 05	U	0 05	U	NA		0 05	U	0 05	U	0 05	U	0 05	U
Dieldrin	0 1	U	0 1	U	NA		0 1	U	0 1	U	0 1	U	0 1	U
Endosulfan I	0 05	U	0 05	U	NA		0 05	U	0 05	U	0 05	U	0 05	U
Endosulfan II	0 1	U	0 1	U	NA		0 1	U	0 1	U	0 1	U	0 1	U
Endosulfan sulfate	0 1	U	0 1	U	NA		0 1	U	0 1	U	0 1	U	0 1	U
Endrin	0 1	U	0 1	U	NA		0 1	U	0 1	U	0 1	U	0 1	U
Endrin aldehyde	0 1	U	0 1	U	NA		0 1	U	0 1	U	0 1	U	0 1	U
Endrin ketone	0 1	U	0 1	U	NA		0 1	U	0 1	U	0 1	U	0 1	U
gamma-BHC (Lindane)	0 05	U	0 05	U	NA		0 05	U	0 05	U	0 05	U	0 05	U
gamma-Chlordane	0 05	U	0 05	U	NA		0 05	U	0 05	U	0 05	U	0 05	U
Heptachlor	0 05	U	0 05	U	NA		0 05	U	0 05	U	0 05	U	0 05	U
Heptachlor epoxide	0 05	U	0 05	U	NA		0 05	U	0 05	U	0 05	U	0 05	U
Methoxychlor	0 5	U	0 5	U	NA		0 5	U	0 5	U	0 5	U	0 5	U
Toxaphene	5	U	5	U	NA		5	U	5	U	5	U	5	U
Inorganics, ug/L														
Aluminum	251	U	250	U	NA		3680		1300		570		708	
Antimony	2 4	U	2 4	U	NA		2 4	U	11 2	J	2 6	U	1 7	U
Arsenic	5 5	J	2 8	U	NA		2 8	U	5 9	J	4 1	J	2 7	U
Barium	88 7	J	226		NA		77 2	J	17	J	91 4	J	71 4	J
Beryllium	0 22	U	0 2	U	NA		0 2	U	0 2	U	0 24	U	0 22	U
Cadmium	0 4	U	0 4	U	NA		0 4	U	0 65	J	0 3	U	0 3	U
Calcium	12600		46200		NA		20400		27100		20500		63100	
Chromium	0 95	J	2 3	J	NA		6 3	J	3 7	J	4 1	J	2 1	J
Cobalt	2 5	J	3 5	U	NA		0 9	U	0 9	U	0 6	U	0 86	U
Copper	3 2	J	5 9	J	NA		16 2	J	24 8	J	2 8	U	5 1	U
Iron	3120		10100		NA		2190		423		1820		1550	
Lead	2 2	U	2 6	J	NA		6 1		3 1		1 1	U	2	U
Magnesium	3730	J	9400		NA		5000		805	J	3370	J	3900	J
Manganese	17 9		329		NA		23 3		8 1	J	10 6	J	76 8	J
Mercury	0 15	J	0 11	J	NA		0 15	J	0 11	J	0 1	U	0 1	U
Nickel	4 1	J	12 1	J	NA		5	J	2 1	J	2 1	U	3 5	U
Potassium	1060	J	2330	J	NA		3470	J	4360	J	3490	J	5200	J
Selenium	4 3	U	4 3	U	NA		4 3	U	4 3	U	2 8	U	2 8	U
Silver	0 7	U	0 7	U	NA		0 7	U	0 7	U	0 4	U	0 4	U
Sodium	34200	J	46800	J	NA		19200	J	5510	J	5340		6710	
Thallium	5 5	U	5 5	U	NA		5 5	U	5 5	U	4 7	U	4 7	U
Vanadium	2 2	U	2 1	U	NA		7 5	J	9	J	3 1	J	3 3	J
Zinc	2 2	J	12 4	J	NA		13 5	J	8 7	J	76 7		51 1	

Appendix B-3 Summary of Sediment Analytical Results, TAL Metals and TCL Organics
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Jacksonville, FL

Sample ID	46D00101		46D00201		46D00301		46D00401		46D00501		46D00501D	
Sampling Date	5/2/97		5/2/97		5/2/97		5/2/97		5/2/97		5/2/97	
Volatile organics, ug/kg												
1,1,1-Trichloroethane	15	U	15	U	16	U	22	U	14	U	13	U
1,1,2,2-Tetrachloroethane	15	U	15	U	16	U	22	U	14	U	13	U
1,1,2-Trichloroethane	15	U	15	U	16	U	22	U	14	U	13	U
1,1-Dichloroethane	15	U	15	U	16	U	22	U	14	U	13	U
1,1-Dichloroethene	15	U	15	U	16	U	22	U	14	U	13	U
1,2-Dichloroethane	15	U	15	U	16	U	22	U	14	U	13	U
1,2-Dichloroethene (total)	15	U	15	U	16	U	22	U	14	U	13	U
1,2-Dichloropropane	15	U	15	U	16	U	22	U	14	U	13	U
2-Butanone	15	U	15	U	16	U	22	U	14	U	13	U
2-Hexanone	15	U	15	U	16	U	22	U	14	U	13	U
4-Methyl-2-pentanone	15	U	15	U	16	U	22	U	14	U	13	U
Acetone	28	UJ	15	UJ	16	UJ	22	UJ	56	UJ	29	UJ
Benzene	15	U	15	U	16	U	22	U	14	U	13	U
Bromodichloromethane	15	U	15	U	16	U	22	U	14	U	13	U
Bromoform	15	U	15	U	16	U	22	U	14	U	13	U
Bromomethane	15	U	15	U	16	U	22	U	14	U	13	U
Carbon disulfide	15	U	15	U	16	U	22	U	14	U	13	U
Carbon tetrachloride	15	U	15	U	16	U	22	U	14	U	13	U
Chlorobenzene	15	U	15	U	16	U	22	U	14	U	13	U
Chloroethane	15	U	15	U	16	U	22	U	14	U	13	U
Chloroform	15	U	15	U	16	U	22	U	14	U	13	U
Chloromethane	15	U	15	U	16	U	22	U	14	U	13	U
cis-1,3-Dichloropropene	15	U	15	U	16	U	22	U	14	U	13	U
Dibromochloromethane	15	U	15	U	16	U	22	U	14	U	13	U
Ethylbenzene	15	U	15	U	16	U	22	U	14	U	13	U
Methylene chloride	2	J	2	J	16	U	2	J	3	J	2	J
Styrene	15	U	15	U	16	U	22	U	14	U	13	U
Tetrachloroethene	15	U	15	U	16	U	22	U	14	U	13	U
Toluene	15	U	15	U	16	U	22	U	14	U	13	U
trans-1,3-Dichloropropene	15	U	15	U	16	U	22	U	14	U	13	U
Trichloroethene	15	U	15	U	16	U	22	U	14	U	13	U
Vinyl chloride	15	U	15	U	16	U	22	U	14	U	13	U
Xylene (total)	15	U	15	U	16	U	22	U	14	U	13	U
Semivolatile organics, ug/kg												
1,2,4-Trichlorobenzene	2500	U	510	U	540	U	710	U	480	U	440	U
1,2-Dichlorobenzene	2500	U	510	U	540	U	710	U	480	U	440	U
1,3-Dichlorobenzene	2500	U	510	U	540	U	710	U	480	U	440	U
1,4-Dichlorobenzene	2500	U	510	U	540	U	710	U	480	U	440	U
2,2'-oxybis(1-Chloropropan	2500	U	510	U	540	U	710	U	480	U	440	U
2,4,5-Trichlorophenol	6200	U	1300	U	1300	U	1800	U	1200	U	1100	U
2,4,6-Trichlorophenol	2500	U	510	U	540	U	710	U	480	U	440	U
2,4-Dichlorophenol	2500	U	510	U	540	U	710	U	480	U	440	U
2,4-Dimethylphenol	2500	U	510	U	540	U	710	U	480	U	440	U
2,4-Dinitrophenol	6200	U	1300	U	1300	U	1800	U	1200	U	1100	U
2,4-Dinitrotoluene	2500	U	510	U	540	U	710	U	480	U	440	U
2,6-Dinitrotoluene	2500	U	510	U	540	U	710	U	480	U	440	U
2-Chloronaphthalene	2500	U	510	U	540	U	710	U	480	U	440	U
2-Chlorophenol	2500	U	510	U	540	U	710	U	480	U	440	U
2-Methylnaphthalene	3100		510	U	540	U	710	U	480	U	440	U
2-Methylphenol	2500	U	510	U	540	U	710	U	480	U	440	U
2-Nitroaniline	6200	U	1300	U	1300	U	1800	U	1200	U	1100	U

Appendix B-3 Summary of Sediment Analytical Results, TAL Metals and TCL Organics
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Naval Air Station, Jacksonville
Jacksonville, FL

Sample ID	46D00101		46D00201		46D00301		46D00401		46D00501		46D00501D	
Sampling Date	5/2/97		5/2/97		5/2/97		5/2/97		5/2/97		5/2/97	
2-Nitrophenol	2500	U	510	U	540	U	710	U	480	U	440	U
3,3'-Dichlorobenzidine	2500	U	510	U	540	U	710	U	480	U	440	U
3-Nitroaniline	6200	U	1300	U	1300	U	1800	U	1200	U	1100	U
4,6-Dinitro-2-methylphenol	6200	U	1300	U	1300	U	1800	U	1200	U	1100	U
4-Bromophenyl-phenylether	2500	U	510	U	540	U	710	U	480	U	440	U
4-Chloro-3-methylphenol	2500	U	510	U	540	U	710	U	480	U	440	U
4-Chloroaniline	2500	U	510	U	540	U	710	U	480	U	440	U
4-Chlorophenyl-phenylether	2500	U	510	U	540	U	710	U	480	U	440	U
4-Methylphenol	2500	U	510	U	540	U	710	U	480	U	440	U
4-Nitroaniline	6200	UJ	1300	UJ	1300	U	1800	U	1200	U	1100	U
4-Nitrophenol	6200	U	1300	U	1300	UJ	1800	UJ	1200	UJ	1100	UJ
Acenaphthene	29000	J	510	U	540	U	170	J	480	U	440	U
Acenaphthylene	490	J	130	J	210	J	710	U	480	U	440	U
Anthracene	26000	J	140	J	200	J	180	J	480	U	440	U
Benzo(a)anthracene	120000		230	J	320	J	940		480	U	440	U
Benzo(a)pyrene	120000	J	200	J	300	J	1000		480	U	440	U
Benzo(b)fluoranthene	210000	J	1700	J	2700	J	2000	J	480	U	440	U
Benzo(g,h,i)perylene	71000	J	93	J	170	J	270	J	480	U	440	U
Benzo(k)fluoranthene	220000	J	1700	J	2600	J	2000	J	480	U	440	U
bis(2-Chloroethoxy)methan	2500	U	510	U	540	U	710	U	480	U	440	U
bis(2-Chloroethyl)ether	2500	U	510	U	540	U	710	U	480	U	440	U
bis(2-Ethylhexyl)phthalate	2500	U	890		2600		2000		480	U	440	U
Butylbenzylphthalate	310	J	110	J	150	J	200	J	480	U	440	U
Carbazole	34000	J	280	J	470	J	250	J	480	U	440	U
Chrysene	110000		1600		2700		1100		480	U	440	U
Di-n-butylphthalate	2500	U	63	J	540	U	190	J	480	U	440	U
Di-n-octylphthalate	2500	UJ	510	U	540	U	710	U	480	U	440	U
Dibenz(a,h)anthracene	7300	J	510	U	64	J	87	J	480	U	440	U
Dibenzofuran	9000		510	U	540	U	710	U	480	U	440	U
Diethylphthalate	2500	U	510	U	540	U	710	U	480	U	440	U
Dimethylphthalate	2500	U	510	U	540	U	710	U	480	U	440	U
Fluoranthene	370000		3100		5500		2100		480	U	60	J
Fluorene	19000		510	U	540	U	130	J	480	U	440	U
Hexachlorobenzene	2500	U	510	U	540	U	710	U	480	U	440	U
Hexachlorobutadiene	2500	U	510	U	540	U	710	U	480	U	440	U
Hexachlorocyclopentadiene	2500	U	510	U	540	U	710	U	480	U	440	U
Hexachloroethane	2500	U	510	U	540	U	710	U	480	U	440	U
Indeno(1,2,3-cd)pyrene	63000	J	130	J	220	J	320	J	480	U	440	U
Isophorone	2500	U	510	U	540	U	710	U	480	U	440	U
N-Nitroso-di-n-propylamine	2500	U	510	U	540	U	710	U	480	U	440	U
N-Nitrosodiphenylamine (1)	2500	U	510	U	540	U	710	U	480	U	440	U
Naphthalene	3400		510	U	540	U	710	U	480	U	440	U
Nitrobenzene	2500	U	510	U	540	U	710	U	480	U	440	U
Pentachlorophenol	6200	U	1300	U	1300	U	1800	U	1200	U	1100	U
Phenanthrene	210000		630		1500		1300		480	U	440	U
Phenol	2500	U	510	U	540	U	710	U	480	U	440	U
Pyrene	230000		1800		3300		1500		480	U	45	J
Pesticides/PCBs, ug/kg												
4,4'-DDD	13	J	13	J	5 4	UJ	24	J	24	UJ	16	UJ
4,4'-DDE	23	J	24	J	7 7	J	38	J	150	J	200	J
4,4'-DDT	3 4	J	3	J	6 3	J	16	J	32	J	55	J
Aldrin	13	UJ	0 11	J	1 2	J	3 7	UJ	12	UJ	8 5	UJ

Appendix B-3 Summary of Sediment Analytical Results, TAL Metals and TCL Organics
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Naval Air Station, Jacksonville
Jacksonville, FL

Sample ID	46D00101		46D00201		46D00301		46D00401		46D00501		46D00501D	
Sampling Date	5/2/97		5/2/97		5/2/97		5/2/97		5/2/97		5/2/97	
alpha-BHC	13	UJ	2 6	UJ	2 8	UJ	3 7	UJ	12	UJ	8 5	UJ
alpha-Chlordane	7 2	J	9 7	J	2 8	UJ	0 25	J	1	J	1 2	J
Aroclor-1016	250	UJ	51	UJ	54	UJ	72	UJ	240	UJ	160	UJ
Aroclor-1221	500	UJ	100	UJ	110	UJ	140	UJ	480	UJ	330	UJ
Aroclor-1232	250	UJ	51	UJ	54	UJ	72	UJ	240	UJ	160	UJ
Aroclor-1242	250	UJ	51	UJ	54	UJ	72	UJ	240	UJ	160	UJ
Aroclor-1248	250	UJ	51	UJ	54	UJ	72	UJ	240	UJ	160	UJ
Aroclor-1254	250	UJ	51	UJ	54	UJ	72	UJ	240	UJ	160	UJ
Aroclor-1260	520	J	1000	J	2900	J	610	J	240	UJ	160	UJ
beta-BHC	13	UJ	2 6	UJ	2 8	UJ	3 7	UJ	12	UJ	8 5	UJ
delta-BHC	13	UJ	0 66	J	1	J	3 7	UJ	12	UJ	8 5	UJ
Dieldrin	12	J	5 1	UJ	5 4	UJ	7 2	UJ	24	UJ	16	UJ
Endosulfan I	13	UJ	2 6	UJ	2 8	UJ	0 76	J	12	UJ	2 4	J
Endosulfan II	25	UJ	5 1	UJ	92	J	7 2	UJ	4 6	J	7 1	J
Endosulfan sulfate	25	UJ	5 1	UJ	5 4	UJ	7 2	UJ	24	UJ	16	UJ
Endrin	25	UJ	5 1	UJ	5 4	UJ	7 2	UJ	16	J	22	J
Endrin aldehyde	25	UJ	5 1	UJ	5 4	UJ	7 2	UJ	2 3	J	11	J
Endrin ketone	25	UJ	5 1	UJ	5 4	UJ	7 2	UJ	24	UJ	16	UJ
gamma-BHC (Lindane)	13	UJ	2 6	UJ	2 8	UJ	3 7	UJ	12	UJ	8 5	UJ
gamma-Chlordane	3 9	J	2 6	UJ	0 36	J	4 5	J	12	UJ	8 5	UJ
Heptachlor	13	UJ	2 6	UJ	2 8	UJ	3 7	UJ	12	UJ	8 5	UJ
Heptachlor epoxide	13	UJ	2 6	UJ	2 8	UJ	3 7	UJ	12	UJ	8 5	UJ
Methoxychlor	39	J	110	J	220	J	55	J	120	UJ	85	UJ
Toxaphene	1300	UJ	260	UJ	280	UJ	370	UJ	1200	UJ	850	UJ
Inorganics, mg/kg												
Aluminum	5440	J	26600	J	154000	J	7020	J	12900	J	20500	J
Antimony	4 6	J	8 7	J	41 3		4 3	J	6 6	J	5 5	J
Arsenic	5 9		9 6		21		12 8		0 81	U	0 75	U
Barium	100		185		123		69 5	J	119		85 4	
Beryllium	0 5	U	1390		0 93	J	0 46	U	1 5		0 24	U
Cadmium	82 7	J	50 1	J	63 7	J	23 3	J	12 1	J	11 7	J
Calcium	60200		63700		3550		38700		45000		41500	
Chromium	149	J	193	J	2560	J	75 3	J	253	J	222	J
Cobalt	11 2	J	150		29 2		6 1	J	2 5	J	2	J
Copper	515	J	102000	J	17700	J	699	J	1880	J	2750	J
Iron	15000	J	21400	J	168000	J	11700	J	10500	J	6170	J
Lead	444	J	946	J	1610	J	357	J	378	J	338	J
Magnesium	2320		4720		1690		1210	J	877	J	965	J
Manganese	184	J	344	J	1910	J	91	J	167	J	219	J
Mercury	0 52	J	0 86	J	0 47		0 42		0 07	UJ	0 07	U
Nickel	217	J	132	J	2070	J	35	J	101	J	83 8	J
Potassium	246	J	257	J	178	J	178	J	260	J	71 5	J
Selenium	4 5		2 3		8 1		1 9	U	1 5		1 2	U
Silver	39 1		268		29 1		39 2		6 8		9 3	
Sodium	725	J	697	J	658	J	841	J	454	U	445	U
Thallium	1 7	U	1 7	U	1 8	U	2 4	U	1 6	U	1 5	U
Vanadium	19 1		14 5	J	28 9		11 9	J	3 8	J	4 3	J
Zinc	1580	J	2340	J	3340	J	1270	J	432	J	574	J

Appendix B-4

Summary of Surface Water Analytical Results
TAL Metals and TCL Organics
PSC 46

Naval Air Station, Jacksonville
Jacksonville, FL

Sample ID	46W00101		46W00201		46W00301		46W00401		46W00501		46W00501D	
Sampling Date	5/1/97		5/1/97		5/1/97		5/1/97		5/2/97		5/2/97	
Volatile organics, ug/L												
1,1,1-Trichloroethane	10	U	10	U	10	U	10	U	10	U	10	U
1,1,2,2-Tetrachloroethane	10	U	10	U	10	U	10	U	10	U	10	U
1,1,2-Trichloroethane	10	U	10	U	10	U	10	U	10	U	10	U
1,1-Dichloroethane	10	U	10	U	10	U	10	U	10	U	10	U
1,1-Dichloroethene	10	U	10	U	10	U	10	U	10	U	10	U
1,2-Dichloroethane	10	U	10	U	10	U	10	U	10	U	10	U
1,2-Dichloroethene (total)	10	U	10	U	10	U	10	U	10	U	10	U
1,2-Dichloropropane	10	U	10	U	10	U	10	U	10	U	10	U
2-Butanone	10	U	10	U	10	U	10	U	10	U	10	U
2-Hexanone	10	U	10	U	10	U	10	U	10	U	10	U
4-Methyl-2-pentanone	10	U	10	U	10	U	10	U	10	U	10	U
Acetone	10	U	10	U	10	U	7	J	10	U	10	U
Benzene	10	U	10	U	10	U	10	U	10	U	10	U
Bromodichloromethane	10	U	10	U	10	U	10	U	10	U	10	U
Bromoform	10	U	10	U	10	U	10	U	10	U	10	U
Bromomethane	10	U	10	U	10	U	10	U	10	U	10	U
Carbon disulfide	10	U	10	U	10	U	10	U	10	UJ	10	U
Carbon tetrachloride	10	U	10	U	10	U	10	U	10	U	10	U
Chlorobenzene	10	U	10	U	10	U	10	U	10	U	10	U
Chloroethane	10	U	10	U	10	U	10	U	10	U	10	U
Chloroform	10	U	10	U	10	U	10	U	10	U	10	U
Chloromethane	10	UJ	10	UJ	10	UJ	10	UJ	10	U	10	U
cis-1,3-Dichloropropene	10	U	10	U	10	U	10	U	10	U	10	U
Dibromochloromethane	10	U	10	U	10	U	10	U	10	U	10	U
Ethylbenzene	10	U	10	U	10	U	10	U	10	U	10	U
Methylene chloride	10	U	10	U	10	U	10	U	10	U	10	U
Styrene	10	U	10	U	10	U	10	U	10	U	10	U
Tetrachloroethene	10	U	10	U	10	U	10	U	10	U	10	U
Toluene	10	U	10	U	10	U	10	U	10	U	10	U
trans-1,3-Dichloropropene	10	U	10	U	10	U	10	U	10	U	10	U
Trichloroethene	10	U	1	J	3	J	10	U	10	U	10	U
Vinyl chloride	10	UJ	10	UJ	10	UJ	10	UJ	10	U	10	U
Xylene (total)	10	U	10	U	10	U	10	U	10	U	10	U
Semivolatile organics, ug/L												
1,2,4-Trichlorobenzene	10	U	10	U	10	U	10	U	10	U	10	U
1,2-Dichlorobenzene	10	U	10	U	10	U	10	U	10	U	10	U
1,3-Dichlorobenzene	10	U	10	U	10	U	10	U	10	U	10	U
1,4-Dichlorobenzene	10	U	10	U	10	U	10	U	10	U	10	U
2,2'-oxybis(1-Chloropropane)	10	U	10	U	10	U	10	U	10	U	10	U
2,4,5-Trichlorophenol	25	U	25	U	25	U	25	U	25	U	25	U
2,4,6-Trichlorophenol	10	U	10	U	10	U	10	U	10	U	10	U
2,4-Dichlorophenol	10	U	10	U	10	U	10	U	10	U	10	U
2,4-Dimethylphenol	10	U	10	U	10	U	10	U	10	U	10	U
2,4-Dinitrophenol	25	U	25	U	25	U	25	U	25	U	25	U
2,4-Dinitrotoluene	10	U	10	U	10	U	10	U	10	U	10	U
2,6-Dinitrotoluene	10	U	10	U	10	U	10	U	10	U	10	U
2-Chloronaphthalene	10	U	10	U	10	U	10	U	10	U	10	U
2-Chlorophenol	10	U	10	U	10	U	10	U	10	U	10	U
2-Methylnaphthalene	10	U	10	U	10	U	10	U	10	U	10	U
2-Methylphenol	10	U	10	U	10	U	10	U	10	U	10	U
2-Nitroaniline	25	U	25	U	25	U	25	U	25	U	25	U

Appendix B-4

Summary of Surface Water Analytical Results
TAL Metals and TCL Organics
PSC 46

Naval Air Station, Jacksonville
Jacksonville, FL

Sample ID	46W00101		46W00201		46W00301		46W00401		46W00501		46W00501D	
Sampling Date	5/1/97		5/1/97		5/1/97		5/1/97		5/2/97		5/2/97	
2-Nitrophenol	10	U	10	U	10	U	10	U	10	U	10	U
3,3'-Dichlorobenzidine	10	U	10	U	10	U	10	U	10	U	10	U
3-Nitroaniline	25	U	25	U	25	U	25	U	25	U	25	U
4,6-Dinitro-2-methylphenol	25	U	25	U	25	U	25	U	25	U	25	U
4-Bromophenyl-phenylether	10	U	10	U	10	U	10	U	10	U	10	U
4-Chloro-3-methylphenol	10	U	10	U	10	U	10	U	10	U	10	U
4-Chloroaniline	10	U	10	U	10	U	10	U	10	U	10	U
4-Chlorophenyl-phenylether	10	U	10	U	10	U	10	U	10	U	10	U
4-Methylphenol	10	U	10	U	10	U	10	U	10	U	10	U
4-Nitroaniline	25	U	25	U	25	U	25	U	25	U	25	U
4-Nitrophenol	25	U	25	U	25	U	25	U	25	U	25	U
Acenaphthene	10	U	10	U	10	U	10	U	10	U	10	U
Acenaphthylene	10	U	10	U	10	U	10	U	10	U	10	U
Anthracene	10	U	10	U	10	U	10	U	10	U	10	U
Benzo(a)anthracene	10	U	10	U	10	U	10	U	10	U	10	U
Benzo(a)pyrene	10	U	10	U	10	U	10	U	10	U	10	U
Benzo(b)fluoranthene	10	U	10	U	10	U	10	U	10	U	10	U
Benzo(g,h,i)perylene	10	U	10	U	10	U	10	U	10	U	10	U
Benzo(k)fluoranthene	10	U	10	U	10	U	10	U	10	U	10	U
bis(2-Chloroethoxy)methane	10	U	10	U	10	U	10	U	10	U	10	U
bis(2-Chloroethyl)ether	10	U	10	U	10	U	10	U	10	U	10	U
bis(2-Ethylhexyl)phthalate	10	U	10	U	10	U	10	U	10	U	10	U
Butylbenzylphthalate	10	U	10	U	10	U	10	U	10	U	10	U
Carbazole	10	U	10	U	10	U	10	U	10	U	10	U
Chrysene	10	U	10	U	10	U	10	U	10	U	10	U
Di-n-butylphthalate	10	U	10	U	10	U	10	U	10	U	10	U
Di-n-octylphthalate	10	U	10	U	10	U	10	U	10	U	10	U
Dibenz(a,h)anthracene	10	U	10	U	10	U	10	U	10	U	10	U
Dibenzofuran	10	U	10	U	10	U	10	U	10	U	10	U
Diethylphthalate	10	U	10	U	10	U	10	U	10	U	10	U
Dimethylphthalate	10	U	10	U	10	U	10	U	10	U	10	U
Fluoranthene	10	U	10	U	10	U	10	U	10	U	10	U
Fluorene	10	U	10	U	10	U	10	U	10	U	10	U
Hexachlorobenzene	10	U	10	U	10	U	10	U	10	U	10	U
Hexachlorobutadiene	10	U	10	U	10	U	10	U	10	U	10	U
Hexachlorocyclopentadiene	10	U	10	U	10	U	10	U	10	U	10	U
Hexachloroethane	10	U	10	U	10	U	10	U	10	U	10	U
Indeno(1,2,3-cd)pyrene	10	U	10	U	10	U	10	U	10	U	10	U
Isophorone	10	U	10	U	10	U	10	U	10	U	10	U
N-Nitroso-di-n-propylamine	10	U	10	U	10	U	10	U	10	U	10	U
N-Nitrosodiphenylamine (1)	10	U	10	U	10	U	10	U	10	U	10	U
Naphthalene	10	U	10	U	10	U	10	U	10	U	10	U
Nitrobenzene	10	U	10	U	10	U	10	U	10	U	10	U
Pentachlorophenol	25	U	25	U	25	U	25	U	25	U	25	U
Phenanthrene	10	U	10	U	10	U	10	U	10	U	10	U
Phenol	10	U	10	U	10	U	10	U	10	U	10	U
Pyrene	10	U	10	U	10	U	10	U	10	U	10	U
Pesticides/PCBs, ug/L												
4,4'-DDD	0 1	U	0 1	U	0 1	U	0 1	U	0 03	J	0 01	J
4,4'-DDE	0 1	U	0 1	U	0 01	J	0 1	U	0 03	J	0 02	J
4,4'-DDT	0 1	UJ	0 1	U	0 01	U	0 1	UJ	0 1	UJ	0 1	U
Aldrin	0 05	U	0 05	U	0 05	U	0 05	U	0 05	U	0 05	U

Appendix B-4

Summary of Surface Water Analytical Results
TAL Metals and TCL Organics
PSC 46

Naval Air Station, Jacksonville
Jacksonville, FL

Sample ID	46W00101		46W00201		46W00301		46W00401		46W00501		46W00501D	
Sampling Date	5/1/97		5/1/97		5/1/97		5/1/97		5/2/97		5/2/97	
alpha-BHC	0 05	U	0 05	U	0 05	U	0 05	U	0 05	U	0 05	U
alpha-Chlordane	0 05	U	0 05	U	0 05	U	0 05	U	0 05	U	0 05	U
Aroclor-1016	1	U	0 95	U	1	U	0 95	U	1	U	0 99	U
Aroclor-1221	2	U	1 9	U	2 1	U	1 9	U	2	U	2	U
Aroclor-1232	1	U	0 95	U	1	U	0 95	U	1	U	0 99	U
Aroclor-1242	1	U	0 95	U	1	U	0 95	U	1	U	0 99	U
Aroclor-1248	1	U	0 95	U	1	U	0 95	U	1	U	0 99	U
Aroclor-1254	1	U	0 95	U	1	U	0 95	U	1	U	0 99	U
Aroclor-1260	1	U	0 95	U	1	U	0 95	U	1	U	0 99	U
beta-BHC	0 05	U	0 05	U	0 05	U	0 05	U	0 05	U	0 05	U
delta-BHC	0 05	U	0 05	U	0 05	U	0 05	U	0 05	U	0 05	U
Dieldrin	0 1	U	0 1	U	0 1	U	0 1	U	0 1	U	0 1	U
Endosulfan I	0 05	U	0 05	U	0 05	U	0 05	U	0 05	U	0 05	U
Endosulfan II	0 1	U	0 1	U	0 1	U	0 1	U	0 1	U	0 1	U
Endosulfan sulfate	0 01	J	0 1	U	0 1	U	0 1	U	0 1	U	0 1	U
Endrin	0 1	U	0 1	U	0 1	U	0 1	U	0 1	U	0 1	U
Endrin aldehyde	0 1	U	0 1	U	0 1	U	0 1	U	0 1	U	0 1	U
Endrin ketone	0 1	U	0 1	U	0 1	U	0 1	U	0 1	U	0 1	U
gamma-BHC (Lindane)	0 05	U	0 05	U	0 05	U	0 05	U	0 05	U	0 05	U
gamma-Chlordane	0 05	U	0 05	U	0 05	U	0 05	U	0 05	U	0 05	U
Heptachlor	0 05	U	0 05	U	0 05	U	0 05	U	0 05	U	0 05	U
Heptachlor epoxide	0 05	U	0 05	U	0 05	U	0 05	U	0 05	U	0 05	U
Methoxychlor	0 5	U	0 48	U	0 53	U	0 48	U	0 5	U	0 5	U
Toxaphene	5	U	4 8	U	5 3	U	4 8	U	5	U	5	U
Inorganics, ug/L												
Aluminum	596		264	U	291	U	185	U	643		379	
Antimony	2 6	J	2 4	U	2 5	J	2 4	U	7 3	J	4 7	J
Arsenic	2 8	U	2 8	U	2 8	U	3 9	J	2 8	U	3	J
Barium	101	J	97 9	J	94 2	J	106	J	254		234	
Beryllium	0 2	U	0 2	U	0 2	U	0 2	U	0 2	U	0 2	U
Cadmium	9 4		7 7		4 6	J	1 4	J	1 9	U	1 4	J
Calcium	43700		31000		26500		99000		45900		45000	
Chromium	6 4	J	1 7	J	1 4	J	0 9	U	6 7	J	3 5	J
Cobalt	0 9	U	0 9	U	0 9	U	0 95	J	0 9	U	0 9	U
Copper	96 6		84 5		62 6		28 8		159		94	
Iron	904		624		316		764		214		112	
Lead	27 4		9 3		10 9		5 2		26 8		12 4	
Magnesium	4970	J	4510	J	3800	J	5490		6140		6020	
Manganese	52 7		39 5		26 9		27 3		19 3		15 7	
Mercury	0 18	J	0 2		0 14	J	0 1	U	0 1	U	0 1	U
Nickel	14 8	J	7 8	J	6 2	J	11 1	J	4 6	J	3 3	J
Potassium	2270	J	2080	J	1950	J	1380	J	3810	J	3900	J
Selenium	4 3	U	4 3	U	4 3	U	4 3	U	4 3	U	4 3	U
Silver	1 7	J	0 7	U	0 7	U	0 7	U	1 4	J	1 2	J
Sodium	9780	J	7930	J	7550	J	9550	J	13400	J	13800	J
Thallium	5 5	U	5 5	U	5 5	U	5 5	U	5 5	U	5 5	U
Vanadium	1 9	U	1 1	U	1 1	U	1 4	U	1 4	U	1 1	U
Zinc	183	J	202	J	72 7	J	69 4	J	47 3	J	31	J

Notes for Appendix B-1, B-2, B-3, B4
Analytical Results Tables
PSC 46

Naval Air Station Jacksonville
Jacksonville, Florida

Sample ID = Sample Identifier
NA = Analyte/compound not analyzed

Units

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

The following standard validation 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
J	The analyte/compound was positively identified and the associated numerical value is an estimated concentration of the analyte/compound in the sample For most detected analytes and compounds, the J qualifier is also used to indicate that the reported concentration is below the contract required detection or quantitation limit
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

APPENDIX C

SUMMARY OF DETECTIONS IN ANALYTICAL RESULTS

APPENDIX C
SUMMARY OF DETECTIONS
PSC 46

Naval Air Station Jacksonville
Jacksonville, FL

Surface Water						
Chemical	**Frequency of Detects**	**Range of Detects**	**Reported CRQLs**	**Average (Detects)**	**Average (All)**	**Maximum Detected**
Volatiles, ug/l						
Acetone	1/5	7 - 7	10 - 10	7	5 4	7
Trichloroethene	2/5	1 - 3	10 - 10	2	3 8	3
Pesticides, ug/l						
4,4'-DDD	1/5	0 0235* - 0 0235*	0 095 - 0 1	0 02	0 04	0 02
4,4'-DDE	2/5	0 0066 - 0 0285*	0 095 - 0 1	0 02	0 04	0 03
Endosulfan sulfate	1/5	0 0071 - 0 0071	0 095 - 0 1	0 01	0 04	0 01
Inorganics, ug/l						
Aluminum	2/5	511* - 596	14 7 - 14 7	554	226	596
Antimony	3/5	2 5 - 6*	2 4 - 2 4	3 7	2 7	6
Arsenic	2/5	2 2* - 3 9	2 8 - 2 8	3 1	2 1	3 9
Barium	5/5	94 2 - 244*	0 2 - 0 2	129	129	244
Cadmium	5/5	0 8* - 9 4	0 4 - 0 4	4 8	4 8	9 4
Calcium	5/5	26,500 - 99,000	7 3 - 7 3	49,130	49,130	99,000
Chromium	4/5	1 4 - 6 4	0 9 - 0 9	3 7	3	6 4
Cobalt	1/5	0 95 - 0 95	0 9 - 0 9	0 95	0 55	0 95
Copper	5/5	28 8 - 126 5*	0 6 - 0 6	79 8	79 8	127
Iron	5/5	163* - 904	14 5 - 14 5	554	554	904
Lead	5/5	5 2 - 27 4	2 2 - 2 2	14 5	14 5	27 4
Magnesium	5/5	3,800 - 6,080*	6 4 - 6 4	4,970	4,970	6,080
Manganese	5/5	17 5* - 52 7	0 1 - 0 1	32 8	32 8	52 7
Mercury	3/5	0 14 - 0 2	0 1 - 0 1	0 17	0 12	0 2
Nickel	5/5	3 95* - 14 8	1 3 - 1 3	8 8	8 8	14 8
Potassium	5/5	1,380 - 3,855*	27 7 - 27 7	2,307	2,307	3,855
Silver	2/5	1 3* - 1 7	0 7 - 0 7	1 5	0 81	1 7
Sodium	5/5	7,550 - 13,600*	220 - 220	9,682	9,682	13,600
Zinc	5/5	39 15* - 202	0 3 - 0 3	113	113	202

NOTES
* = Value is average of sample and field duplicate
ug/l = micrograms per liter
CRQL = Contract Required Quantitation Limits
PCBs = Polychlorinated Biphenyls
Average detects = mean of detected concentrations only
Average (all) = mean of all analytical results with nondetects taken at one-half the reporting limit

APPENDIX C
SUMMARY OF DETECTIONS
PSC 46

Naval Air Station Jacksonville
Jacksonville, FL

Surface Soil						
Chemical	Frequency of Detects	Range of Detects	Reported CRQLs	Average (Detects)	Average (All)	Maximum Detected
Volatiles, ug/kg						
Acetone	1/4	28 - 28	11 - 20	28	12 3	28
Chloroform	1/4	2 - 2	11 - 20	2	6	2
Methylene chloride	1/4	4 - 4	11 - 20	4	6 5	4
Semivolatiles, ug/kg						
Acenaphthene	1/4	200 - 200	360 - 640	200	220	200
Anthracene	1/4	140 - 140	360 - 640	140	205	140
Benzo(a)anthracene	3/4	49 - 840	360 - 640	350	307	840
Benzo(a)pyrene	3/4	37 - 870	360 - 640	402	347	870
Benzo(b)fluoranthene	4/4	37 - 2,000	360 - 640	752	752	2,000
Benzo(g,h,i)perylene	1/4	150 - 150	360 - 640	150	208	150
Benzo(k)fluoranthene	4/4	32 - 1,900	360 - 640	712	712	1,900
Butylbenzylphthalate	3/4	43 - 490	360 - 640	224	213	490
Carbazole	2/4	76 - 220	360 - 640	148	164	220
Chrysene	3/4	48 - 1,000	360 - 640	556	462	1,000
Di-n-butylphthalate	3/4	68 - 430	360 - 640	199	195	430
Di-n-octylphthalate	1/4	2,300 - 2,300	360 - 640	2,300	719	2,300
Dibenzofuran	1/4	53 - 53	360 - 640	53	183	53
Fluoranthene	3/4	84 - 2,200	360 - 640	1,095	866	2,200
Fluorene	1/4	130 - 130	360 - 640	130	203	130
Indeno(1,2,3-cd)pyrene	1/4	150 - 150	360 - 640	150	208	150
Phenanthrene	3/4	50 - 1,200	360 - 640	513	430	1,200
Pyrene	3/4	61 - 1,300	360 - 640	630	518	1,300
bis(2-Ethylhexyl)phthalate	4/4	130 - 7,300	360 - 640	2,210	2,210	7,300
Pesticides/PCBs, ug/kg						
4,4'-DDD	1/4	160 - 160	3 6 - 80	160	46 5	160
4,4'-DDE	3/4	51 - 370	3 6 - 80	230	173	370
4,4'-DDT	2/4	49 - 120	9 - 44	84 5	47 4	120
Aldrin	2/4	0 2 - 29	2 2 - 41	14 6	8 7	29
Aroclor-1260	2/4	280 - 2,400	90 - 320	1,340	733	2,400
Dieldrin	3/4	0 87 - 20	9 - 80	7 4	15 5	20
Endosulfan II	1/4	130 - 130	3 6 - 32	130	39 2	130
Endrin	1/4	190 - 190	3 6 - 80	190	50 7	190
Endrin aldehyde	3/4	0 95 - 33	4 2 - 80	11 9	9 5	33
Endrin ketone	1/4	170 - 170	3 6 - 80	170	45 7	170
Heptachlor	2/4	0 22 - 1 1	2 2 - 23	0 66	2 6	1 1

APPENDIX C
SUMMARY OF DETECTIONS
PSC 46

Naval Air Station Jacksonville
Jacksonville, FL

Surface Soil						
Chemical	**Frequency of Detects**	**Range of Detects**	**Reported CRQLs**	**Average (Detects)**	**Average (All)**	**Maximum Detected**
Heptachlor epoxide	2/4	11 - 13	1 8 - 23	12	8 2	13
Methoxychlor	2/4	140 - 960	18 - 410	550	289	960
alpha-BHC	1/4	0 25 - 0 25	1 8 - 16	0 25	3 4	0 25
alpha-Chlordane	3/4	5 - 43	5 - 41	24	18 6	43
gamma-BHC (Lindane)	1/4	0 12 - 0 12	2 2 - 16	0 12	3 4	0 12
gamma-Chlordane	2/4	0 77 - 11	5 - 23	5 9	5 6	11
Inorganics, mg/kg						
Aluminum	4/4	1,680 - 171,000	32 1 - 57 2	49,845	49,845	171,000
Antimony	4/4	0 75 - 22 9	5 2 - 9 3	9	9	22 9
Arsenic	2/4	15 3 - 15 5	1 3 - 10 9	15 4	8 6	15 5
Barium	4/4	20 6 - 309	0 44 - 0 78	221	221	309
Beryllium	3/4	0 86 - 2 6	0 44 - 0 78	1 7	1 4	2 6
Cadmium	4/4	3 - 156	0 87 - 1 6	67 8	67 8	156
Calcium	4/4	11,100 - 285,000	15 9 - 28 4	112,825	112,825	285,000
Chromium	4/4	11 3 - 1,300	2 - 3 5	393	393	1,300
Cobalt	3/4	1 9 - 23 4	0 44 - 3 5	10 4	7 9	23 4
Copper	4/4	91 6 - 16,600	1 3 - 2 3	4,423	4,423	16,600
Iron	4/4	1,000 - 76,400	31 6 - 56 4	23,935	23,935	76,400
Lead	4/4	50 8 - 4,840	4 8 - 8 6	1,993	1,993	4,840
Magnesium	4/4	621 - 15,100	14 - 24 9	6,825	6,825	15,100
Manganese	4/4	25 2 - 1,650	0 22 - 0 39	599	599	1,650
Mercury	2/4	1 1 - 1 6	0 054 - 0 19	1 4	0 69	1 6
Nickel	4/4	3 5 - 612	2 8 - 5	171	171	612
Potassium	4/4	66 7 - 2,010	60 5 - 108	946	946	2,010
Selenium	3/4	0 99 - 1 2	6 6 - 11 1	1 1	1 6	1 2
Silver	4/4	0 37 - 46 8	1 5 - 2 7	12 8	12 8	46 8
Sodium	3/4	775 - 1,820	480 - 856	1,179	944	1,820
Vanadium	4/4	1 7 - 27 6	1 7 - 3 1	14 7	14 7	27 6
Zinc	4/4	99 3 - 4,790	0 66 - 1 2	2,099	2,099	4,790

NOTES:
* = Value is average of sample and field duplicate
CRQL = Contract Required Quantitation Limits
PCBs = Polychlorinated Biphenyls
Average detects = mean of detected concentrations only
Average (all) = mean of all analytical results with nondetects taken at one-half the reporting limit
ug/kg = microgram per kilogram
mg/kg = milligram per kilogram

APPENDIX C
SUMMARY OF DETECTIONS
PSC 46

Naval Air Station Jacksonville
Jacksonville, FL

Groundwater						
Chemical	**Frequency of Detects**	**Range of Detects**	**Reported CRQLs**	**Average (Detects)**	**Average (All)**	**Maximum Detected**
Volatiles, ug/l						
1,1-Dichloroethane	1/6	2 - 2	10 - 10	2	4 5	2
1,2-Dichloroethene (total)	1/6	4 - 4	10 - 10	4	4 8	4
Acetone	1/6	6 - 6	10 - 10	6	5 2	6
Semivolatiles, ug/l						
Di-n-butylphthalate	3/7	1 - 2	0 01 - 10	1 7	2 9	2
Di-n-octylphthalate	1/7	11 - 11	0 01 - 10	11	5 9	11
Pentachlorophenol	1/7	2 - 2	0 05 - 25	2	11	2
bis(2-Ethylhexyl)phthalate	1/7	2 - 2	0 01 - 10	2	4 6	2
Pesticides, ug/l						
Aldrin	1/6	0 0021 - 0 0021	0 05 - 0 05	0	0 02	0
Inorganics, ug/l						
Aluminum	4/6	570 - 3,680	4 5 - 14 7	1,565	1,045	3,680
Antimony	1/6	11 2 - 11 2	1 7 - 2 4	11 2	2 8	11 2
Arsenic	3/6	4 1 - 5 9	2 7 - 2 8	5 2	3 3	5 9
Barium	6/6	17 - 226	0 1 - 0 2	95 3	95 3	226
Cadmium	1/6	0 65 - 0 65	0 3 - 0 4	0 65	0 26	0 65
Calcium	6/6	12,600 - 63,100	5 6 - 7 3	31,650	31,650	63,100
Chromium	6/6	0 95 - 6 3	0 8 - 0 9	3 2	3 2	6 3
Cobalt	1/6	2 5 - 2 5	0 6 - 0 9	2 5	0 76	2 5
Copper	4/6	3 2 - 24 8	0 5 - 0 6	12 5	8 4	24 8
Iron	6/6	423 - 10,100	11 7 - 14 5	3,201	3,201	10,100
Lead	3/6	2 6 - 6 1	1 1 - 2 2	3 9	2 4	6 1
Magnesium	6/6	805 - 9,400	3 4 - 6 4	4,368	4,368	9,400
Manganese	6/6	8 1 - 329	0 1 - 0 2	77 6	77 6	329
Mercury	4/6	0 11 - 0 15	0 1 - 0 1	0 13	0 1	0 15
Nickel	4/6	2 1 - 12 1	0 9 - 1 3	5 8	4	12 1
Potassium	6/6	1,060 - 5,200	20 4 - 27 7	3,318	3,318	5,200
Sodium	6/6	5,340 - 46,800	220 - 222	19,627	19,627	46,800
Vanadium	4/6	3 1 - 9	0 6 - 0 8	5 7	4	9
Zinc	6/6	2 2 - 76 7	0 3 - 0 3	27 4	27 4	76 7

NOTES:
ug/l = micrograms per liter
PCBs = Polychlorinated Biphenyls
CRQL = Contract Required Quantitation Limits
Average detects = mean of detected concentrations only
Average (all) = mean of all analytical results with nondetects taken at one-half the reporting limit

APPENDIX C
SUMMARY OF DETECTIONS
PSC 46

Naval Air Station Jacksonville
Jacksonville, FL

Sediment						
Chemical	**Frequency of Detects**	**Range of Detects**	**Reported CRQLs**	**Average (Detects)**	**Average (All)**	**Maximum Detected**
Volatiles, ug/kg						
Methylene chloride	4/5	2 - 2 5*	13 5 - 22	2 1	3 3	2 5
Semivolatiles, ug/kg						
2-Methylnaphthalene	1/5	3,100 - 3,100	460 - 2,500	3,100	842	3,100
Acenaphthene	2/5	170 - 29,000	460 - 2,500	14,585	5,985	29,000
Acenaphthylene	3/5	130 - 490	460 - 2,500	277	283	490
Anthracene	4/5	140 - 26,000	460 - 2,500	6,630	5,350	26,000
Benzo(a)anthracene	4/5	230 - 120,000	460 - 2,500	30,373	24,344	120,000
Benzo(a)pyrene	4/5	200 - 120,000	460 - 2,500	30,375	24,346	120,000
Benzo(b)fluoranthene	4/5	1,700 - 210,000	460 - 2,500	54,100	43,326	210,000
Benzo(g,h,i)perylene	4/5	93 - 71,000	460 - 2,500	17,883	14,353	71,000
Benzo(k)fluoranthene	4/5	1,700 - 220,000	460 - 2,500	56,575	45,306	220,000
Butylbenzylphthalate	4/5	110 - 310	460 - 2,500	193	200	310
Carbazole	4/5	250 - 34,000	460 - 2,500	8,750	7,046	34,000
Chrysene	4/5	1,100 - 110,000	460 - 2,500	28,850	23,126	110,000
Di-n-butylphthalate	2/5	63 - 190	460 - 2,500	127	401	190
Dibenz(a,h)anthracene	3/5	64 - 7,300	460 - 2,500	2,484	1,587	7,300
Dibenzofuran	1/5	9,000 - 9,000	460 - 2,500	9,000	2,022	9,000
Fluoranthene	5/5	150* - 370,000	460 - 2,500	76,170	76,170	370,000
Fluorene	2/5	130 - 19,000	460 - 2,500	9,565	3,977	19,000
Indeno(1,2,3-cd)pyrene	4/5	130 - 63,000	460 - 2,500	15,918	12,780	63,000
Naphthalene	1/5	3,400 - 3,400	460 - 2,500	3,400	902	3,400
Phenanthrene	4/5	630 - 210,000	460 - 2,500	53,358	42,732	210,000
Pyrene	5/5	142 5* - 230,000	460 - 2,500	47,349	47,349	230,000
bis(2-Ethylhexyl)phthalate	3/5	890 - 2,600	460 - 2,500	1,830	1,394	2,600
Pesticides/PCBs, ug/kg						
4,4'-DDD	3/5	13 - 24	5 4 - 62	16 7	12 5	24
4,4'-DDE	5/5	7 7 - 175*	13 - 62	53 5	53 5	175
4,4'-DDT	5/5	3 - 43 5*	13 - 62	14 4	14 4	43 5
Aldrin	2/5	0 11 - 1 2	3 7 - 13	0 66	3	1 2
Aroclor-1260	4/5	520 - 2,900	130 - 620	1,258	1,026	2,900
Dieldrin	1/5	12 - 12	5 1 - 62	12	6 2	12
Endosulfan I	2/5	0 76 - 4 2*	2 6 - 16 5	2 5	2 8	4 2
Endosulfan II	2/5	5 85* - 92	5 1 - 50 5	48 9	23 3	92
Endrin	1/5	19* - 19*	5 1 - 50 5	19	8 1	19

APPENDIX C
SUMMARY OF DETECTIONS
PSC 46

Naval Air Station Jacksonville
Jacksonville, FL

Sediment						
Chemical	**Frequency of Detects**	**Range of Detects**	**Reported CRQLs**	**Average (Detects)**	**Average (All)**	**Maximum Detected**
Endrin aldehyde	1/5	6 65* - 6 65*	5 1 - 50 5	6 7	5 6	6 7
Methoxychlor	4/5	39 - 220	65 - 320	106	95 1	220
alpha-Chlordane	4/5	0 25 - 9 7	2 8 - 32	4 6	3 9	9 7
delta-BHC	2/5	0 66 - 1	3 7 - 13	0 83	3	1
gamma-Chlordane	3/5	0 36 - 4 5	2 6 - 32	2 9	3	4 5
Inorganics, mg/kg						
Aluminum	5/5	5,440 - 154,000	40 95 - 64 5	41,952	41,952	154,000
Antimony	5/5	4 3 - 41 3	6 65 - 10 5	13	13	41 3
Arsenic	4/5	5 9 - 21	2 15 - 12 3	12 3	10 1	21
Barium	5/5	69 5 - 185	0 56 - 0 88	116	116	185
Beryllium	3/5	0 885* - 1,390	0 56 - 0 88	464	279	1,390
Cadmium	5/5	11 9* - 82 7	1 15 - 1 8	46 3	46 3	82 7
Calcium	5/5	3,550 - 63,700	20 35 - 32	41,880	41,880	63,700
Chromium	5/5	75 3 - 2,560	2 5 - 3 9	643	643	2,560
Cobalt	5/5	2 25* - 150	2 5 - 3 9	39 7	39 8	150
Copper	5/5	515 - 102,000	1 65 - 2 6	24,646	24,646	102,000
Iron	5/5	8,335* - 168,000	40 45 - 63 6	44,887	44,887	168,000
Lead	5/5	357 - 1,610	6 15 - 9 6	743	743	1,610
Magnesium	5/5	921* - 4,720	17 85 - 28 1	2,172	2,172	4,720
Manganese	5/5	91 - 1,910	0 28 - 0 44	544	544	1,910
Mercury	4/5	0 42 - 0 86	0 097 - 0 22	0 57	0 46	0 86
Nickel	5/5	35 - 2,070	3 65 - 5 7	509	509	2,070
Potassium	5/5	165 75* - 257	77 25 - 121	205	205	257
Selenium	4/5	1 55* - 8 1	7 8 - 14 2	4 1	4 1	8 1
Silver	5/5	8 05* - 268	1 95 - 3 1	76 7	76 7	268
Sodium	4/5	658 - 841	613 5 - 965	730	646	841
Vanadium	5/5	4 05* - 28 9	2 2 - 3 5	15 7	15 7	28 9
Zinc	5/5	503* - 3,340	0 835 - 1 3	1,807	1,807	3,340

NOTES
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PCBs = Polychlorinated Biphenyls
Average detects = mean of detected concentrations only
Average (all) = mean of all analytical results with nondetects taken at one-half the reporting limit
ug/kg = microgram per kilogram
mg/kg = milligram per kilogram

APPENDIX C
SUMMARY OF DETECTIONS
PSC 46

Naval Air Station Jacksonville
Jacksonville, FL

Surface Water						
Chemical	**Frequency of Detects**	**Range of Detects**	**Reported CRQLs**	**Average (Detects)**	**Average (All)**	**Maximum Detected**
Volatiles, ug/l						
Acetone	1/5	7 - 7	10 - 10	7	5 4	7
Trichloroethene	2/5	1 - 3	10 - 10	2	3 8	3
Pesticides, ug/l						
4,4'-DDD	1/5	0 0235* - 0 0235*	0 095 - 0 1	0 02	0 04	0 02
4,4'-DDE	2/5	0 0066 - 0 0285*	0 095 - 0 1	0 02	0 04	0 03
Endosulfan sulfate	1/5	0 0071 - 0 0071	0 095 - 0 1	0 01	0 04	0 01
Inorganics, ug/l						
Aluminum	2/5	511* - 596	14 7 - 14 7	554	226	596
Antimony	3/5	2 5 - 6*	2 4 - 2 4	3 7	2 7	6
Arsenic	2/5	2 2* - 3 9	2 8 - 2 8	3 1	2 1	3 9
Barium	5/5	94 2 - 244*	0 2 - 0 2	129	129	244
Cadmium	5/5	0 8* - 9 4	0 4 - 0 4	4 8	4 8	9 4
Calcium	5/5	26,500 - 99,000	7 3 - 7 3	49,130	49,130	99,000
Chromium	4/5	1 4 - 6 4	0 9 - 0 9	3 7	3	6 4
Cobalt	1/5	0 95 - 0 95	0 9 - 0 9	0 95	0 55	0 95
Copper	5/5	28 8 - 126 5*	0 6 - 0 6	79 8	79 8	127
Iron	5/5	163* - 904	14 5 - 14 5	554	554	904
Lead	5/5	5 2 - 27 4	2 2 - 2 2	14 5	14 5	27 4
Magnesium	5/5	3,800 - 6,080*	6 4 - 6 4	4,970	4,970	6,080
Manganese	5/5	17 5* - 52 7	0 1 - 0 1	32 8	32 8	52 7
Mercury	3/5	0 14 - 0 2	0 1 - 0 1	0 17	0 12	0 2
Nickel	5/5	3 95* - 14 8	1 3 - 1 3	8 8	8 8	14 8
Potassium	5/5	1,380 - 3,855*	27 7 - 27 7	2,307	2,307	3,855
Silver	2/5	1 3* - 1 7	0 7 - 0 7	1 5	0 81	1 7
Sodium	5/5	7,550 - 13,600*	220 - 220	9,682	9,682	13,600
Zinc	5/5	39 15* - 202	0 3 - 0 3	113	113	202

NOTES
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