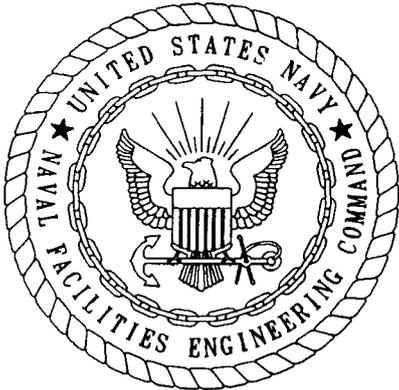


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NAS JACKSONVILLE  
5090.3a

SAMPLING EVENT REPORT POTENTIAL SOURCE OF CONTAMINATION 35 (PSC35) FOR  
FORMER TEMPORARY POLYCHLORINATED BIPHENYL TRANSFORMER STORAGE  
BUILDING NAS JACKSONVILLE FL  
4/1/1999  
HARDING LAWSON ASSOCIATES



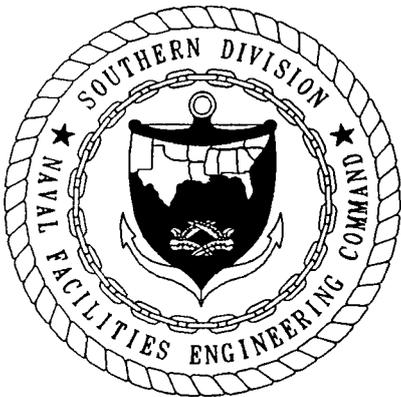
**SAMPLING EVENT REPORT**

**POTENTIAL SOURCE OF CONTAMINATION 35  
FORMER TEMPORARY POLYCHLORINATED BIPHENYL  
TRANSFORMER STORAGE BUILDING**

**NAVAL AIR STATION JACKSONVILLE  
JACKSONVILLE, FLORIDA**

**UNIT IDENTIFICATION CODE: N00207  
CONTRACT NO.: N62467-89-D-0317/040**

**APRIL 1999**



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

**SAMPLING EVENT REPORT**

**POTENTIAL SOURCE OF CONTAMINATION 35  
FORMER TEMPORARY POLYCHLORINATED BIPHENYL  
TRANSFORMER STORAGE BUILDING**

**NAVAL AIR STATION JACKSONVILLE  
JACKSONVILLE, FLORIDA**

**Unit Identification Code: N00207**

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

**Prepared by:**

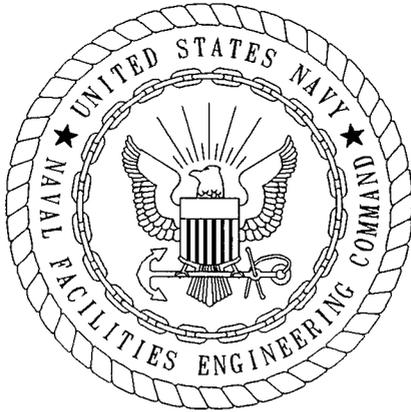
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**Prepared for:**

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

**Dana Gaskins, Engineer-in-Charge**

**April 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: March 23, 1999

NAME AND TITLE OF CERTIFYING OFFICIAL: Phylissa Miller  
Task Order Manager

NAME AND TITLE OF CERTIFYING OFFICIAL: Alex C. Olis, Ph.D., CPSS  
Project Technical Lead

(DFAR 252.227-7036)

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Naval Air Station Jacksonville  
Jacksonville, Florida

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## GLOSSARY

ABB-ES	ABB Environmental Services, Inc.
bls	below land surface
CLP	Contract Laboratory Program
CompuChem	CompuChem Environmental Corporation
CPC	contaminant of potential concern
EDS	Environmental Data Services
FDEP	Florida Department of Environmental Protection
FRE	focused risk evaluation
HLA	Harding Lawson Associates
$\mu\text{g}/\text{cm}^2$	micrograms per square centimeter
$\mu\text{g}/\text{kg}$	micrograms per kilogram
$\mu\text{g}/\text{wipe}$	micrograms per wipe
NAS	Naval Air Station
NFESC	Naval Facilities Engineering Service Center
PARCC	precision, accuracy, representativeness, completeness, and comparability
PSC	potential source of contamination
PCB	polychlorinated biphenyl
QA/QC	quality assurance and quality control
RBC	risk-based concentration
RRDS	Remedial Response Decision System
SDG	sample delivery group
SSW	Site Screening Workplan
TCL	target compound list
TSCA	Toxic Substances Control Act
USEPA	U.S. Environmental Protection Agency

## 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 for Potential Source of Contamination (PSC) 35, Former Temporary Polychlorinated Biphenyl (PCB) Transformer Storage Building at Naval Air Station (NAS) Jacksonville, Jacksonville, Florida. PSC 35 includes Building 480 and a fenced area along the east side of the building in the north-central part of NAS Jacksonville (Figures 1-1 and 1-2).

This Sampling Event Report summarizes the methods and the results of the site screening field investigation, and transmits the field and analytical data.

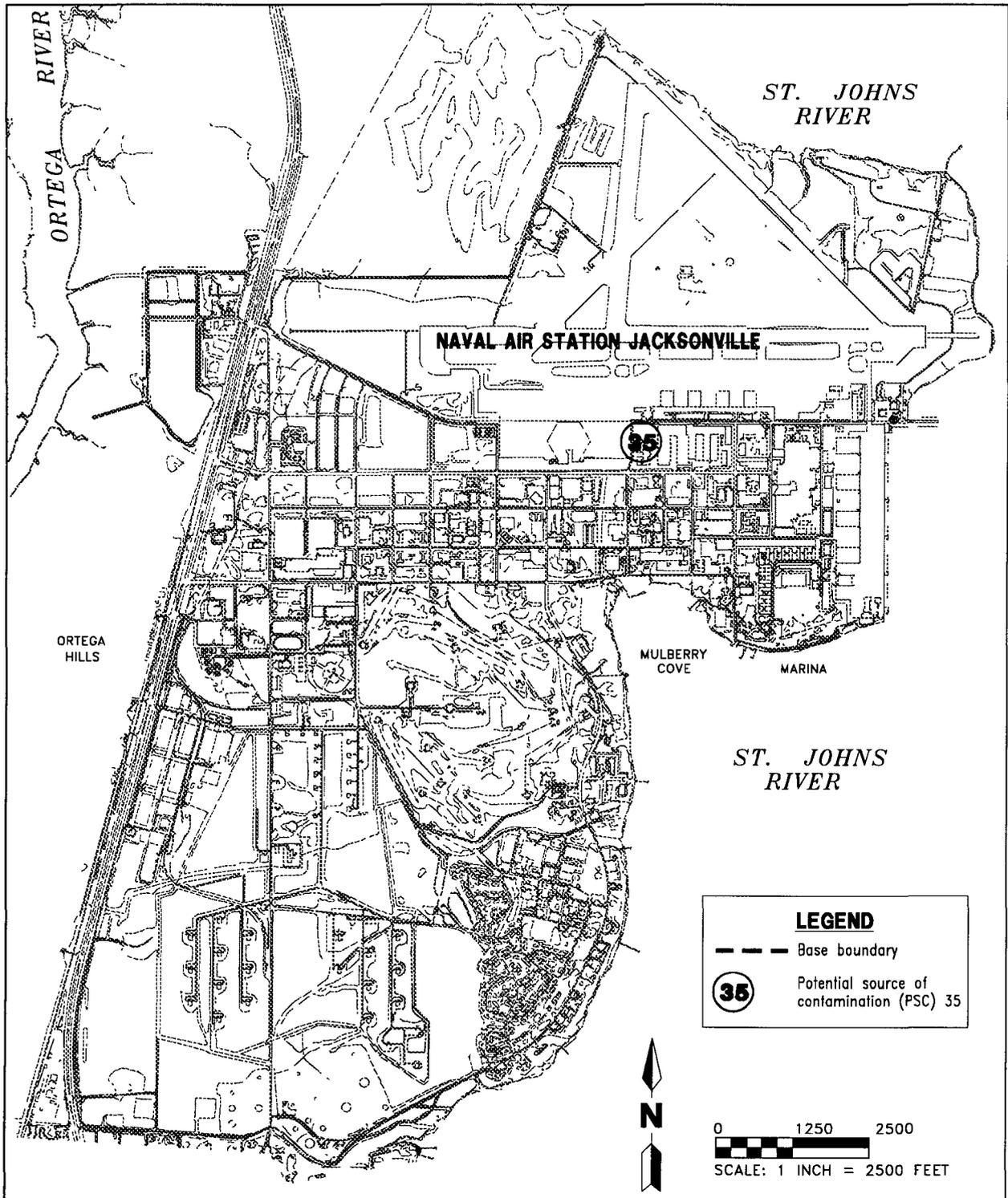
1.1 PURPOSE AND SCOPE. The purpose of the sampling event at PSC 35 was to gather sufficient information to support the next phase of the Remedial Response Decision System (RRDS) process (ABB Environmental Services, Inc. [ABB-ES], 1995). The scope of the sampling event, detailed in the Site Screening Workplan (SSW) (ABB-ES, 1997), at PSC 35 included the following:

- Collection of four wipe samples from observed stained areas of the floor inside Building 480. If no staining was observed, locations were to be selected at the sampler's discretion.
- Collection of soil samples at two locations in the fenced area east of Building 480 for PCB screening. The two locations were to be sampled at two depths, from 0 to 1 foot and from 1 to 2 feet.
- Laboratory analysis of the soil and wipe samples for U.S. Environmental Protection Agency (USEPA) target compound list (TCL) PCBs.

Field work for this sampling event was conducted on August 29, 1997, and September 5, 1997.

1.2 SITE DESCRIPTION. PSC 35 consists of Building 480 and the fenced, unpaved area to the east. Building 480 is located on the northern part of NAS Jacksonville, directly to the east of Hangar 1000. The building has aluminum siding and is divided into an office, a workshop, and a larger storage area. The floor of the storage area is bare concrete and has no floor drains. A large garage-type door opens to the parking lot on the north side of the building. An unpaved area, approximately 20 feet across, runs the length of the east side of the building. This unpaved area is sparsely covered with grass. A small, covered, rectangular, concrete-floored area on the southern end of the unpaved area is used for paint stripping of small machine parts. A more detailed description of PSC 35 including the findings of previous studies at the site (e.g., results for sample SS-1 collected by Brown and Root Environmental [B&R] [B&R, 1996]) is presented in the SSW (ABB-ES, 1997).

No evidence of contamination, such as stained soil or odor, was noted during the PSC reconnaissance. No transformers were observed.



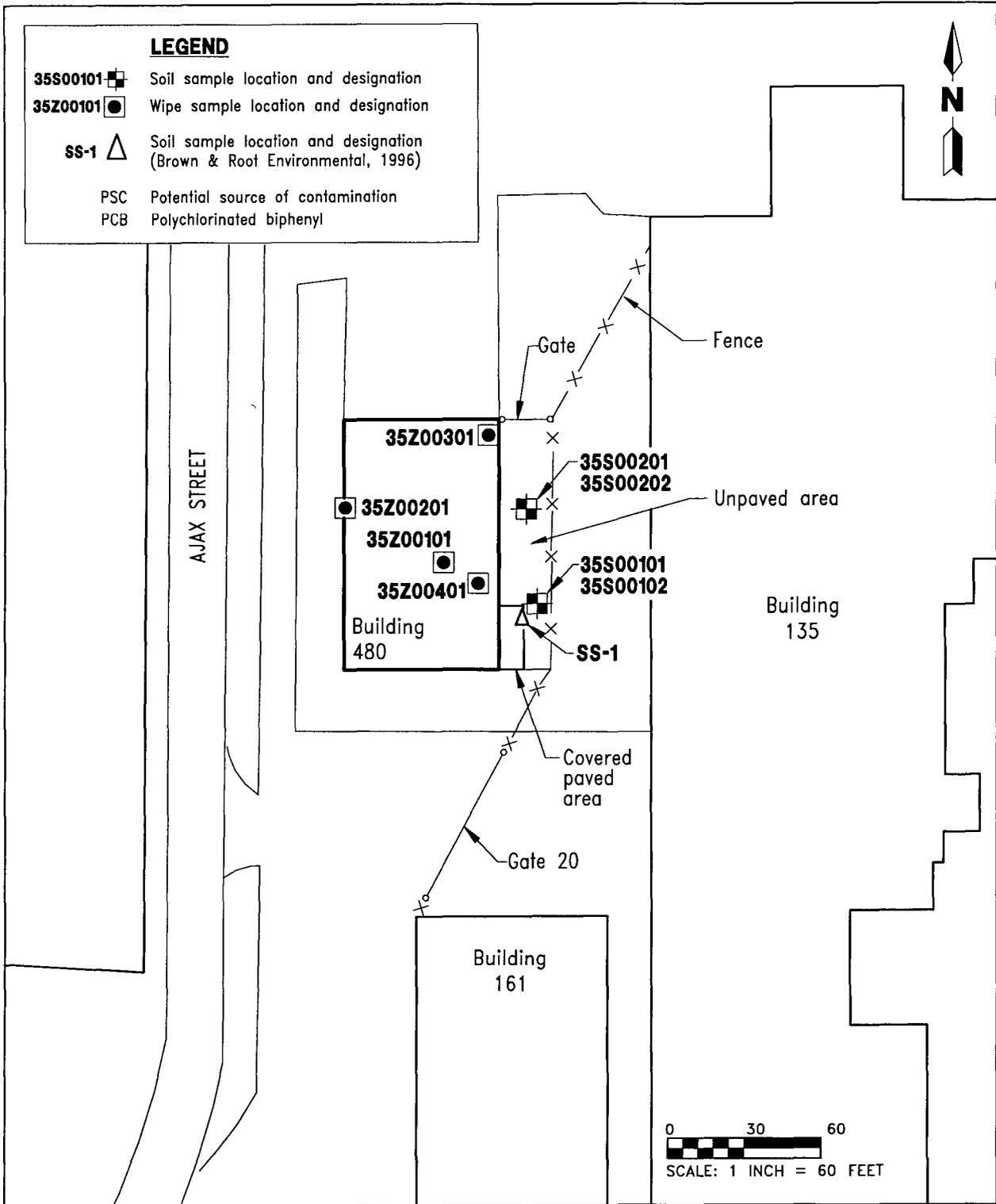
**FIGURE 1-1  
LOCATION OF PSC 35 AT  
NAS JACKSONVILLE**



**SAMPLING EVENT REPORT  
PSC 35**

**NAVAL AIR STATION JACKSONVILLE  
JACKSONVILLE, FLORIDA**

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**FIGURE 1-2**  
**SAMPLING LOCATIONS AT PSC 35,**  
**FORMER TEMPORARY PCB STORAGE AREA**



**SAMPLING EVENT REPORT**  
**PSC 35**

**NAVAL AIR STATION JACKSONVILLE**  
**JACKSONVILLE, FLORIDA**

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## 2.0 SAMPLING APPROACH AND FIELD CHANGES

The work described herein was performed as presented in Section 4.9 of the SSW. The locations of the four soil samples and four wipe samples are shown on Figure 1-2. The four surface soil samples were collected as described in the SSW. The four wipe samples were collected by framing four separate 1-foot by 1-foot square areas on the floor with aluminum foil and tape, and then wiping the exposed area twice with gauze pads saturated with hexane. The gauze pads were then sealed in sample bottles.

The eight samples were sent for laboratory analysis by overnight carrier to the subcontract laboratory, CompuChem Environmental Corporation (CompuChem), Cary, North Carolina. Wipe sample 35Z00201 was lost during the analytical procedure due to a crack in the glassware that allowed volatilization of the solvent and sample. It was not replaced. The remaining samples were analyzed for TCL PCBs. A sample tracking log that includes sample and sample delivery group (SDG) identifiers, relevant dates, sample depths, and parameters analyzed is included in Appendix A.

Following the laboratory analysis of the soil and wipe samples, all data were subjected to validation as required under the Naval Facilities Engineering Service Center (NFESC) Level D protocol. The summary of the validated analytical results is 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 and NFESC requirements by a Contract Laboratory Program (CLP) and NFESC-certified laboratory, CompuChem Laboratories (Cary, North Carolina). The analytical data packages, submitted by SDGs, were independently validated by a subcontract data validation company, Environmental Data Services ([EDS] Concord, New Hampshire), in accordance with validation requirements contained in NFESC document *Navy Installation Restoration Laboratory Quality Assurance Guide*, February 1996 (NFESC, 1996). Other documents utilized in the data validation and review include the USEPA *CLP National Functional Guidelines for Organic Data Review*, February 1994 (USEPA, 1994a), and the USEPA *Contract Laboratory Program National Functional Guidelines for Inorganic Data Review*, February 1994 (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. 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 SOIL SAMPLES. A summary of the validated analytical results is included in Appendix B.

One PCB compound (Aroclor-1260) was detected in soil sample 35S00201 at 450 micrograms per kilogram ( $\mu\text{g}/\text{kg}$ ).

4.2 ANALYTICAL RESULTS FOR WIPE SAMPLES. A summary of the validated analytical results is included in Appendix B.

One PCB compound (Aroclor-1260) was detected in wipe sample 35Z00101 at 33 micrograms per wipe ( $\mu\text{g}/\text{wipe}$ ).

## 5.0 FOCUSED RISK EVALUATION

Focused risk evaluations (FREs) were performed as part of the site screening evaluations to assist in determining whether the existing risk at a PSC supported (1) a no further action decision, (2) the need for an interim remedial action, or (3) the need for additional investigation to make a decision. The documentation of the decision for PSC 35 may be found in the RRDS document for PSC 35 (ABB-ES, 1995). The risk evaluations were not used to characterize "baseline" risk at the PSC, but rather were used as a decision-making tool. The focused risk evaluations may contain the following components: an exposure pathway analysis, data evaluation, background comparison (inorganics only, if appropriate), identification of chemicals of potential concern, toxicity assessment, risk characterization, and uncertainty analysis. At the end of each of these steps an evaluation was made to determine whether it was necessary to proceed to the next step or whether the previously discussed conclusions could be supported.

5.1 FOCUSED HUMAN HEALTH RISK EVALUATION. In accordance with Florida Department of Environmental Protection (FDEP) and USEPA guidance, an FRE was conducted for surface soil and solid surfaces at PSC 35 at NAS Jacksonville.

5.1.1 Exposure Pathway Analysis Human receptors may potentially be exposed to surface soil at PSC 35 through dermal contact or inhalation of fugitive dust. They may also be exposed to contaminated solid surfaces through dermal contact. PSC 35 is surrounded by a fence and is accessible only to NAS Jacksonville employees. Therefore, occupational exposure is currently the only exposure scenario. Outdoor activities at the PSC appear to be limited. The most likely exposure route is to employees conducting site maintenance activities.

There is no current exposure pathway for human receptors to groundwater at PSC 35 because there are no drinking water wells in the vicinity of PSC 35, nor do drinking water wells tap the surficial aquifer at NAS Jacksonville. Unless detected in high concentrations, PCBs are unlikely to migrate from surface soils, where they are tightly bound, to the underlying groundwater.

5.1.2 Data Evaluation Based on previous analytical results and site history, the data analysis was limited to PCBs. There are sufficient data to determine whether there is PCB contamination of surface soils and solid surfaces at PSC 35.

5.1.3 Identification of Contaminants of Potential Concern (CPCs) CPCs were selected by comparing the detected concentrations of PCBs to USEPA screening concentrations. In the case of surface soil, the PCB levels were compared to the USEPA Region III Risk-Based Concentrations (RBCs) for residential and industrial settings. For the solid surfaces where wipe samples were collected, the results were compared to cleanup standards promulgated under the Toxic Substances Control Act (TSCA).

According to FDEP guidance, surface soil is defined as 0 to 2 feet below land surface (bls). For purposes of site characterization, HLA collected samples from 0 to 1 feet bls and 1 to 2 feet bls. For risk evaluation purposes, these samples are combined and an average concentration is used. (Where PCBs were not detected in one of the two samples, one half of the detection limit was used for that sample in determining the average concentration for the sample location).

Only one surface soil sample location at PSC 35 contained PCBs. Sample location 2 contained 450  $\mu\text{g}/\text{kg}$  Aroclor-1260 at 0 to 1 feet bls (35S00201), but no PCBs were detected 1 to 2 feet bls (35S00202). As described above, an average soil concentration of 234  $\mu\text{g}/\text{kg}$  was calculated for location 2.

The USEPA RBC for PCBs in residential surface soil is 320  $\mu\text{g}/\text{kg}$  (USEPA, 1997). Therefore, there were no CPCs identified in surface soil.

Aroclor-1260 was detected in only one of the wipe samples at 33  $\mu\text{g}/\text{wipe}$ , which is equal to 3.6 micrograms per hundred square centimeters ( $\mu\text{g}/100\text{ cm}^2$ ). The TSCA cleanup standard for nonpermeable surfaces in residential areas is 10  $\mu\text{g}/\text{cm}^2$  (40 Code of Federal Regulations 761.125). Therefore, no CPCs were selected from the wipe samples.

No CPCs were selected based on risk screening. Therefore, the PCBs detected at PSC 35 do not present an unacceptable risk.

**5.2 FOCUSED ECOLOGICAL RISK EVALUATION.** In accordance with FDEP and USEPA guidance, an FRE for ecological receptors was conducted for surface soil at PSC 35 at NAS Jacksonville.

**5.2.1 Exposure Pathway Analysis for Ecological Receptors** Vegetation at PSC 35 is very sparse; therefore, it serves as neither a food source nor a habitat for ecological receptors. Because there is no food source or habitat at PSC 35, there are no pathways for exposure to soil contaminants. Therefore, no further risk evaluation was conducted for ecological receptors.

## 6.0 REFERENCES

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**APPENDIX A**

**OFF-SITE SAMPLE TRACKING LOG**

# Appendix A

PSC 35  
OFFSITE SAMPLE TRACKING LOG  
SITE SCREENING, NAS JACKSONVILLE

SDG	SAMPLE ID	COMMENT	SAMP DATE	UDEPTH (ft bls)	LDEPTH (ft bls)	MATRIX	TCL PCB	DRFL	TAT	DSTV	DRFV
0019P	35Z00101		8/29/97	NA	NA	wipe	X	10/14/97	46	10/14/97	10/21/97
0019P	35Z00201	Not Analyzed	8/29/97	NA	NA	wipe					
0019P	35Z00301		8/29/97	NA	NA	wipe	X	10/14/97	46	10/14/97	10/21/97
0019P	35Z00401		8/29/97	NA	NA	wipe	X	10/14/97	46	10/14/97	10/21/97
0020S	35S00101		9/5/97	0	1	soil	X	10/13/97	38	10/13/97	10/21/97
0020S	35S00102		9/5/97	1	2	soil	X	10/13/97	38	10/13/97	10/21/97
0020S	35S00201		9/5/97	0	1	soil	X	10/13/97	38	10/13/97	10/21/97
0020S	35S00202		9/5/97	1	2	soil	X	10/13/97	38	10/13/97	10/21/97
<b>NOTES:</b>											
SDG	Sample Delivery Group (defined group of 20 samples or less collected not more than 14 days of each other)										
SAMPLE ID	Sample Identifier (Note If an erroneous identifier was used in the chain-of-custody, that identifier is indicated in the COMMENTS column)										
SAMP DATE	Date of Sample Collection										
UDEPTH, LDEPTH	Depths, upper (UDEPTH) and lower (LDEPTH)										
MATRIX	Media Sampled										
TAL_MET	Target Analyte List Metals										
TCL VOC	Target Compound List Volatile Organics										
TCL SVOC	Target Compound List Semivolatile Organics										
TCL PESTPCB	Target Compound List Pesticides and Polychlorinated Biphenyls										
VOC 601/602	Volatile Organic Compounds by Method 601 and 602										
DRFL	Date Package Received from Laboratory										
TAT	Turnaround Time (days)										
DSTV	Date Package Sent to Validators										
DRFV	Date Package Received from Validators										
	Note Sample 35Z00201 was submitted but was "lost" during the analysis due to a crack in the glassware causing volatilization of the solvent										

**APPENDIX B**

**SUMMARY OF VALIDATED ANALYTICAL RESULTS**

# Appendix B

## Validated Analytical Results Soil - Polychlorinated Biphenyls (PCBs) PSC 35

Naval Air Station, Jacksonville  
Jacksonville, FL

Sample ID	35S00101		35S00102		35S00201		35S00202	
Sampling Date	9/5/97		9/5/97		9/5/97		9/5/97	
PCBs, ug/kg								
Aroclor-1016	37	U	36	U	37	U	37	U
Aroclor-1221	76	U	74	U	75	U	75	U
Aroclor-1232	37	U	36	U	37	U	37	U
Aroclor-1242	37	U	36	U	37	U	37	U
Aroclor-1248	37	U	36	U	37	U	37	U
Aroclor-1254	37	U	36	U	37	U	37	U
Aroclor-1260	37	U	36	U	450		37	U

## Appendix B

### Validated Analytical Results Wipe Samples - Polychlorinated Biphenyls PSC 35

Naval Air Station, Jacksonville  
Jacksonville, FL

Sample ID	35Z00101	35Z00301	35Z00401
Sampling Date	8/28/97	8/28/97	8/28/97
PCBs, ug/wipe			
Aroclor-1016	33 U	33 U	33 U
Aroclor-1221	67 U	67 U	67 U
Aroclor-1232	33 U	33 U	33 U
Aroclor-1242	33 U	33 U	33 U
Aroclor-1248	33 U	33 U	33 U
Aroclor-1254	33 U	33 U	33 U
Aroclor-1260	33 J	33 U	33 U
Note Sample 35Z00201 was submitted but was "lost" during the analysis due to a crack in the glassware causing volatilization of the solvent			

## Appendix B

### Notes for Validated Analytical Results Tables PSC 35

Naval Air Station Jacksonville  
Jacksonville, Florida

Sample ID = Sample Identifier

Lab ID = Laboratory Identifier

#### Units

ug/wipe microgram per wipe sample

ug/kg microgram per kilogram

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