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FEASIBILITY STUDY FOR SITE 14 SHORT TERM SANITARY LANDFILL NAS WHITING FIELD FL

3/1/2001

HARDING LAWSON ASSOCIATES

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FEASIBILITY STUDY

SITE 14, SHORT-TERM SANITARY LANDFILL

NAVAL AIR STATION WHITING FIELD
MILTON, FLORIDA

UNIT IDENTIFICATION CODE: N60508
CONTRACT NO.: N62467-89-D-0317/116

MARCH 2001

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

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USEPA ID No.: FL2170023244

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Contract No.: N62467-89-D-0317/116

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March 2001

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-0317/116 are complete and accurate and comply with all requirements of this contract.

DATE: March 15, 2001

NAME AND TITLE OF CERTIFYING OFFICIAL: Rao Angara
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(DFAR 252.227-7036)

The evaluations and professional opinions rendered in this planning document describing the feasibility study for Site 14, Naval Air Station Whiting Field, Milton, Florida, were conducted or developed in accordance with commonly accepted procedures consistent with applicable standards of practice. This document is not intended to be used for construction of the selected alternative.

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FOREWORD

To meet its mission objectives, the U.S. Navy performs a variety of operations, some requiring the use, handling, storage, and/or disposal of hazardous materials. Through accidental spills or leaks or as a result of and conventional methods of past disposal, hazardous materials may have entered the environment in ways unacceptable by current standards. With growing knowledge of the long-term effects of hazardous materials on the environment, the Department of Defense initiated various programs to investigate and remediate conditions related to suspected past releases of hazardous materials at their facilities.

One of these programs is the Installation Restoration (IR) program. This program complies with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended by the Superfund Amendments and Reauthorization Act (SARA), the Resource Conservation and Recovery Act, and the Hazardous and Solid Waste Amendments of 1984. These acts establish the means to assess and clean up hazardous waste sites for both private-sector and Federal facilities. The CERCLA and SARA acts form the basis for what is commonly known as the Superfund program.

Originally, the Navy's part of this program was called the Naval Assessment and Control of Installation Pollutants (NACIP) program. Early reports reflect the NACIP process and terminology. The Navy eventually adopted the program structure and terminology of the standard IR program.

The IR program is conducted in several stages as follows:

- preliminary assessment (PA),
- site inspection (SI) (formerly the PA and SI steps were called the initial assessment study under the NACIP program),
- remedial investigation and feasibility study, and
- remedial design and remedial action.

The Southern Division, Naval Facilities Engineering Command manages and the U.S. Environmental Protection Agency and the Florida Department of Environmental Protection oversee the Navy environmental program at Naval Air Station (NAS) Whiting Field. All aspects of the program are conducted in compliance with State and Federal regulations, as ensured by the participation of these regulatory agencies.

Questions regarding the CERCLA program at NAS Whiting Field should be addressed to Ms. Linda Martin, Code 1859, at (843) 820-5574.

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GLOSSARY

ABB-ES	ABB Environmental Services, Inc.
AFFF	aqueous film-forming foam
ARAR	applicable or relevant and appropriate requirement
BEI	Bechtel Environmental Inc.
BRA	Baseline Risk Assessment
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
cm/s	centimeters per second
CT	central tendency
COPC	chemicals of potential concern
ELCR	excess lifetime cancer risk
ERA	ecological risk assessment
FDEP	Florida Department of Environmental Protection
FGGC	Florida Groundwater Guidance Concentration
FS	feasibility study
FSCG	Florida Soil Cleanup Goal
GCTL	groundwater cleanup target level
GIR	General Information Report
HHCOPC	human health chemical of potential concern
HHRA	human health risk assessment
HI	hazard index
HLA	Harding Lawson Associates
IR	Installation Restoration
IRA	interim remedial action
JP-5	jet propellant
LUCAP	Land-Use Control Assurance Plan
LUCIP	Land-Use Control Implementation Plan
MCL	maximum contaminant level
NAS	Naval Air Station
NCP	National Oil and Hazardous Substances Contingency Plan
PCB	polychlorinated biphenyls
RA	remedial action
RAO	remedial action objective
RBC	risk based concentration
RCRA	Resource Conservation and Recovery Act
RI	remedial investigation

GLOSSARY (Continued)

RME	reasonable maximum exposure
ROD	record of decision
SARA	Superfund Amendments and Reauthorization Act
SOUTHNAV-FACENGCOM	Southern Division, Naval Facilities Engineering Command
SCTL	soil cleanup target level
SVOC	semivolatile organic compound
TBC	to be considered
TCL	target compound list
TRPH	total petroleum recoverable hydrocarbon
USDA	U.S. Department of Agriculture
USEPA	U.S. Environmental Protection Agency
VOC	volatile organic compound
yd^3	cubic yard

1.0 INTRODUCTION

Harding Lawson Associates (HLA) has been contracted by the Department of the Navy, Southern Division, Naval Facilities Engineering Command (SOUTHNAVFACENGCOM) to complete a feasibility study (FS) for Site 14, Short-Term Sanitary Landfill, at Naval Air Station (NAS) Whiting Field, Milton, Florida. The FS is being completed under contract number N62467-89-D-0317-116. The FS report for Site 14 is one in a series of site-specific reports being completed in conjunction with the NAS Whiting Field General Information Report (GIR) (HLA, 1998) and Remedial Investigation (RI) report (ABB Environmental Services, Inc. [ABB-ES], 1998) to present the results of the overall RI/FS for the site. This FS report includes the development, screening, and evaluation of potential remedial alternatives that address contaminated media at Site 14.

Investigations at NAS Whiting Field, a facility listed on the National Priorities List, are being conducted in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, as amended by the Superfund Amendments and Reauthorization Act (SARA) of 1986, and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) (40 Code of Federal Regulations [CFR], Part 300). The investigations at the facility are being conducted under the Navy's Installation Restoration (IR) program, which is designed to identify and abate or control contaminant migration resulting from past operations at naval installations while working within the aforementioned regulatory framework. SOUTHNAVFACENGCOM is the agency responsible for the Navy's IR program in the southeastern United States. Therefore, SOUTHNAVFACENGCOM has the responsibility to process NAS Whiting Field through preliminary assessment, site inspection, RI/FS, and remedial response selection.

The goals of the RI/FS for Site 14 at NAS Whiting Field are (1) to assess the extent, magnitude, and impact of contamination at the site; (2) to qualitatively and quantitatively assess the risk posed to human health and the environment by site-related contamination; and (3) to develop remedial alternatives that address threats to human health and/or the environment. The first two elements have been discussed in the GIR and RI reports; the remaining element will be presented and discussed in this FS Report.

The GIR provides information common to all sites at NAS Whiting Field, such as

- facility information and history,
- description of physical characteristics of the facility (climatology, hydrology, soil geology, and hydrogeology),
- summary of previous investigations,
- summary of the field investigations activities conducted during the RI,
- baseline risk assessment (BRA) methodology for both human health and ecological receptors, and
- a summary of the facilitywide background evaluation.

The RI serves as the mechanism for collecting data to identify the source of contamination and migration pathway characteristics for conducting a BRA, and for collecting physical measurements and chemical analytical data necessary for remedial alternative evaluation in the FS. The RI provides the basis for determining whether or not remedial action is necessary. The RI Report of Site 14 as NAS Whiting Field provides the following information:

- a site description and summary of previous investigations for Site 14;
- a summary of the field investigation methods used during the RI at the site;
- a site-specific data quality assessment;
- an assessment of the extent, magnitude, and impact of contamination at the site; and
- a qualitative and quantitative assessment of risks to human health and the environment.

The FS, described in more detail later in this chapter, uses the results of the RI and the information presented in the GIR to identify remedial action objectives (RAOs) and to develop, screen, and evaluate potential remedial alternatives. The FS is prepared in accordance with the following regulations and guidance documents: CERCLA, as amended by SARA (references made to CERCLA in this report should be interpreted as "CERCLA, as amended by SARA"); the NCP; 40 CFR, Part 300; and Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA (RI/FS Guidance) (U.S. Environmental Protection Agency [USEPA], 1988).

The remaining sections in this chapter describe the FS process for CERCLA sites (Section 1.1), present how this process is applied to NAS Whiting Field sites (Section 1.2), and provide the conceptual understanding of Site 14 environmental conditions as of the completion of the RI report (Section 1.3).

1.1 THE CERCLA FS PROCESS.

The development of remedial alternatives for CERCLA sites consists of developing RAOs and then identifying applicable technologies and developing those technologies into remedial alternatives to meet RAOs. The NCP requires that a range of alternatives be presented in the FS to the maximum practicable extent.

The first step in the FS process is to develop RAOs that specify the contaminants, media of interest, exposure pathways, and preliminary remedial goals that permit a range of alternatives to be developed. The preliminary remedial goals are developed based on chemical-specific applicable or relevant and appropriate requirements (ARARs) (when available), site-specific risk-based factors, or other available information.

Once RAOs are identified, general response actions for each medium of interest are developed. General response actions typically fall into the following categories: no action, containment, excavation, extraction, treatment, disposal, or other actions, singularly or in combination, taken to satisfy the RAOs for the site.

The next step in the FS process is to identify and screen applicable technologies for each general response action. This step eliminates those technologies that cannot be implemented technically. Those technologies that pass the screening phase are then assembled into remedial alternatives. Remedial alternatives are then described and analyzed in detail using seven criteria described in the NCP, including

- overall protection of human health and the environment;
- reduction of toxicity, mobility, or volume of contaminants through treatment;
- compliance with ARARs;
- long-term effectiveness and permanence;
- short-term effectiveness;
- implementability; and
- economics (i.e., cost).

Alternatives are evaluated against two additional factors after State participation and the public comment period for the FS. The factors are

- State acceptance, and
- community acceptance.

The results of the detailed analyses (for the first seven criteria) are summarized and compared in a comparative analysis. The alternatives are compared with each other against several criteria, including the following:

Threshold criteria:

- Protection of human health and the environment; and

- Attainment of Federal and State human health and environmental requirements identified for the site.

Primary Balancing criteria:

- cost effectiveness;
- use of permanent solutions and alternative treatment technologies or resource recovery technologies, to the maximum extent practicable; and
- preference for treatment that reduces toxicity, mobility, or volume of contaminants as a principal element.

These criteria are used because SARA requires them to be considered during remedy selection. **Modifying criteria**, which include State and community acceptance, are also evaluated. State acceptance is evaluated when the State reviews and comments on the draft FS report and a Proposed Plan is then prepared in consideration of the State's comments. Community acceptance is evaluated based on comments received on the FS and Proposed Plan during a public comment period. This evaluation is described in a responsiveness summary in the Record of Decision (ROD).

The entire FS process provides the technical information and analyses that form the basis for a proposed remedial action plan (Proposed Plan) and the subsequent ROD that documents the identification and selection of the remedy.

1.2 PURPOSE OF THE FS REPORT.

The purpose of the FS report for Site 14 at NAS Whiting Field is to document the results of the study that includes developing RAOs to address contaminated media at the site and developing, screening, and evaluating potential remedial alternatives to meet these objectives. The FS was based on the results and conclusions of the RI completed for the site, and the information presented in the GIR. Information presented in these reports will not be repeated in this FS report.

The FS report for Site 14 was developed in accordance with the NCP and with USEPA's *Streamlining the RI/FS for CERCLA Municipal Landfill Sites* (USEPA, 1991a); both of these documents provide guidance for identifying technologies for municipal landfills. Because municipal landfill sites typically have similar characteristics, the USEPA recognizes that similar waste management approaches will be required for remediation. The NCP states that the USEPA expects containment technologies will generally be appropriate for waste (e.g., landfills) that pose a relatively low long-term threat or where treatment is impractical (Section 300.430[a][1][iii][B]). Additionally, the USEPA expects physical and/or thermal treatment to be considered for identifiable areas of highly toxic and/or mobile material that constitute the principal threat(s) posed by the site (Section 300.430[a][1][iii][A]).

The purpose of the FS report for Site 14 is not to present all the possible variations and combinations of remedial actions that could be taken at the site, but to present distinctly different alternatives representing a range of opportunities for meeting RAOs. It is expected that these different alternatives can be adjusted during the proposed plan and decision process, and to a lesser extent during detailed design, to accomplish RAOs in a manner similar to the initially proposed alternative. The FS report also does not present information on alternatives that fail to meet the RAOs, except for a no action alternative, which provides a baseline for comparison of all alternatives.

The components listed below are considered in identifying appropriate remedial action for Site 14.

- ***RAOs (Chapter 2.0)***. RAOs are developed to specify the contaminants, media of interest, exposure pathways, and remedial action goals for the site.

- ***Applicable Technologies (Chapter 3.0)***. Technologies applicable for addressing contaminated media at the site are identified and screened. Technologies that cannot be implemented are eliminated.

- ***Remedial Alternatives (Chapter 3.0)***. Technologies that pass the screening phase are assembled into remedial alternatives.

- ***Detailed Analysis (Chapter 4.0)***. Selected remedial alternatives are described and evaluated using seven of the nine criteria outlined in the NCP.

- ***Comparative Analysis (Chapter 5.0)***. Remedial alternatives identified for Site 14 are compared against each other using threshold and primary balancing criteria.

Upon completion of the FS report, a Proposed Plan will be developed. The Proposed Plan will identify the preferred remedial alternative for Site 14. This document will be written in community-friendly language and will be made available for public comment. Upon receipt of public comments, responses to these comments will be developed in a responsiveness summary, and the ROD will be prepared. The ROD will document the chosen alternative for the site, and will include the responsiveness summary as an appendix. Once the ROD is signed, the chosen remedial alternative will be implemented.

1.3 ENVIRONMENTAL CONDITIONS.

Site 14, Short-term Sanitary Landfill, is an approximately 3-acre area located adjacent to the southeastern boundary of NAS Whiting Field, east of Perimeter Road (Figure 1-1). It is one of six sites (Site 9 through Site 14) that comprise the area known as the southeast disposal area. The site was the primary sanitary landfill for 6 to 9 months during the latter part of 1978 and the early part of 1979.

The Initial Assessment Study conducted in 1985 by Envirodyne Engineers, Inc., revealed that for 6 to 9 months, starting in 1978 and ending in 1979, general refuse and wastes associated with pilot training, housing, and operation and maintenance of aircraft were disposed of at Site 14. The study also turned up anecdotal evidence of disposal of unknown quantities of waste paints, paint thinners, solvents, waste oils, and hydraulic fluids.

Landfilling operations ceased in this area in early 1979 because the soil contained a high clay content that resulted in the ponding of rainwater throughout the site. The disposal area was covered with soil and abandoned. Subsequent to covering the site, pine trees were planted, the predominant species being slash pine.

According to the U.S. Department of Agriculture's (USDA) Soil Conservation Service mapping (USDA, 1980), the site's soils are classified as Lucy loamy sand. Surface drainage from Site 14 is toward the unlined, vegetated "Y" ditch, which is located approximately 400 feet east of the site. The "Y" ditch drains east toward Big Coldwater Creek, which is located 1.8 miles east of Site 14 (Figure 1-2).

1.4 RI SUMMARY.

The RI report was completed by HLA in October 1999. The conclusions from the RI listed below are pertinent to the development of this FS.

- The soil at Site 14 consists of interbedded sand, silt, and clay ranging from very fine to medium grain size.

- Methane and total volatile organic compounds (TVOCs) were detected at four of the 24 soil gas locations investigated. At these locations, methane accounted for 80 percent or greater of the total gas measurement. However the occurrence of soil gas appears to be limited in areal extent (Table 5-6 of the RI) and there is no evidence of off-site migration. A total of 70 samples were collected at the site and only one location (Sample ID-32, depth 3.0 feet) had methane detected at >5,000 ppm. Remedial alternatives will identify restrictions to intrusive work at this site.

- Surface soil samples were reported to contain two volatile organic compounds (VOCs) (xylene and methylene chloride) and two semivolatile organic compounds (SVOCs) (chrysene and bis(2-ethylhexyl)-phthalate). The concentrations detected did not exceed the USEPA Region III RBCs or the Florida soil cleanup target levels (SCTLs).

- Nine inorganic analytes (aluminum, barium, cadmium, chromium, iron, manganese, potassium, and vanadium) were detected in surface soil samples at concentrations exceeding the background screening criteria. Aluminum, arsenic, beryllium, iron, vanadium, and manganese were detected at concentrations that exceeded either the USEPA Region III RBCs or Florida SCTLs.

- Subsurface soil samples collected from test pits contained four VOCs (acetone, ethylbenzene, toluene, and xylenes) and three SVOCs (4-methylphenol, naphthalene, and bis(2-ethylhexyl) phthalate) at detectable concentrations. All reported concentrations were below the Florida SCTLs and USEPA Region III RBCs. Nineteen inorganic analytes were detected in the subsurface soil samples. However, only arsenic and vanadium were detected at concentrations exceeding the USEPA Region III RBCs for residential and industrial soil and Florida residential and industrial SCTLs. The detected arsenic and vanadium concentrations did not exceed the background screening value for NAS Whiting Field.

- The human health risk assessment (HHRA) for Site 14 identified five inorganic analytes, aluminum, arsenic, iron, manganese, and vanadium as human health chemicals of potential concern (HHCOPCs) for surface soil at the site. No analytes were selected as HHCOPCs for subsurface soil. Arsenic was the only HHCOPC identified for groundwater at the site.

- The total excess lifetime cancer risk (ELCR) at Site 14 of 1×10^{-5}, associated with exposure to soil by a hypothetical future resident, exceeds Florida's target risk level of concern (1×10^{-6}) due to arsenic.

- Concentrations of arsenic detected in NAS Whiting Field background samples exceeded Florida residential SCTLs and may result in an unacceptable carcinogenic risk. It is likely that naturally occurring arsenic contributes to the Florida Department of Environmental Protection (FDEP) target risk-level exceedance.

- The surface soil, subsurface soil, and groundwater noncancer risks are below USEPA and FDEP target levels for all potential current and hypothetical future receptors.

- The results of the ERA suggest risks are not predicted for ecological receptor populations at Site 14.

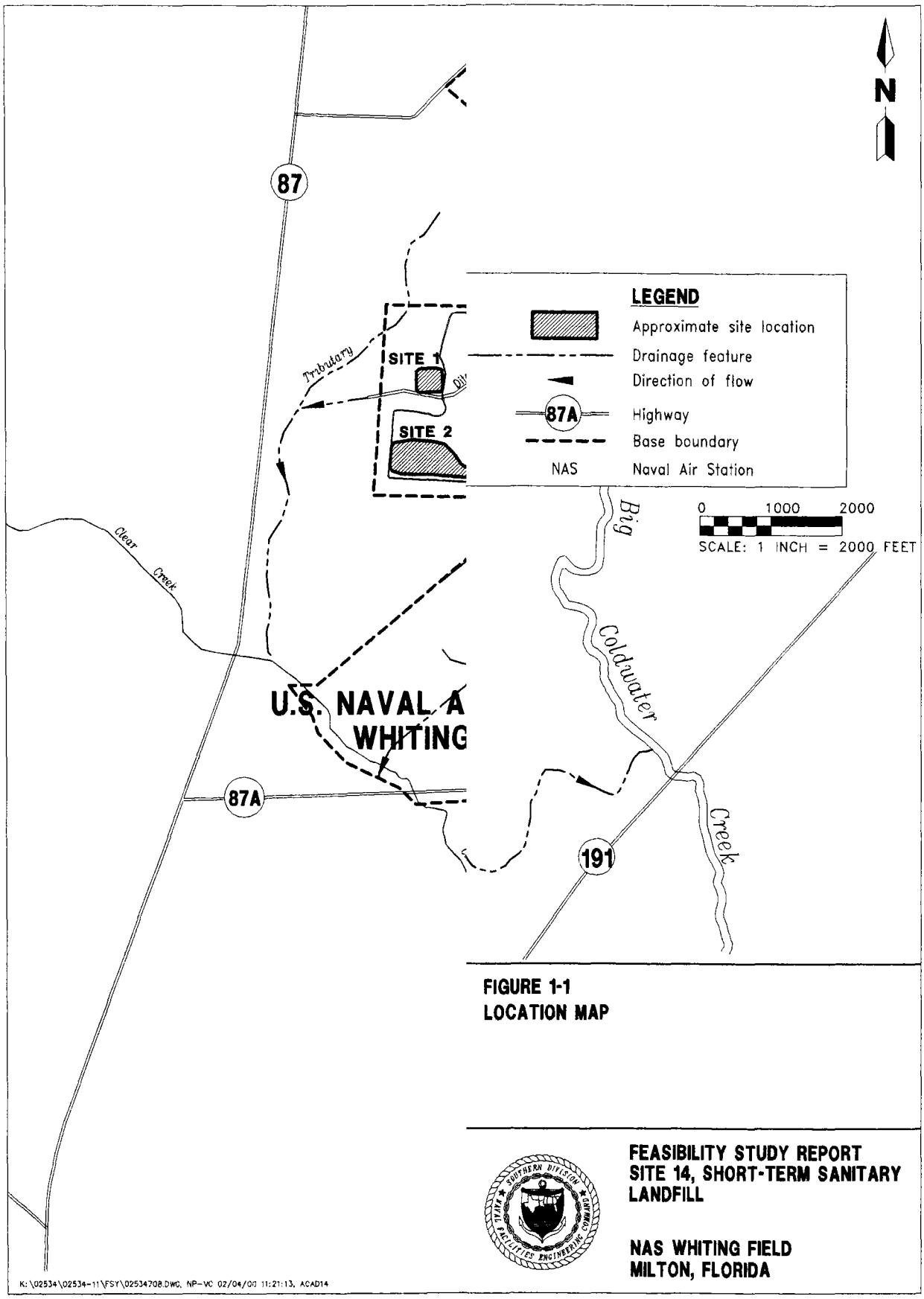

FIGURE 1-1
LOCATION MAP

FEASIBILITY STUDY REPORT
SITE 14, SHORT-TERM SANITARY LANDFILL

NAS WHITING FIELD
MILTON, FLORIDA

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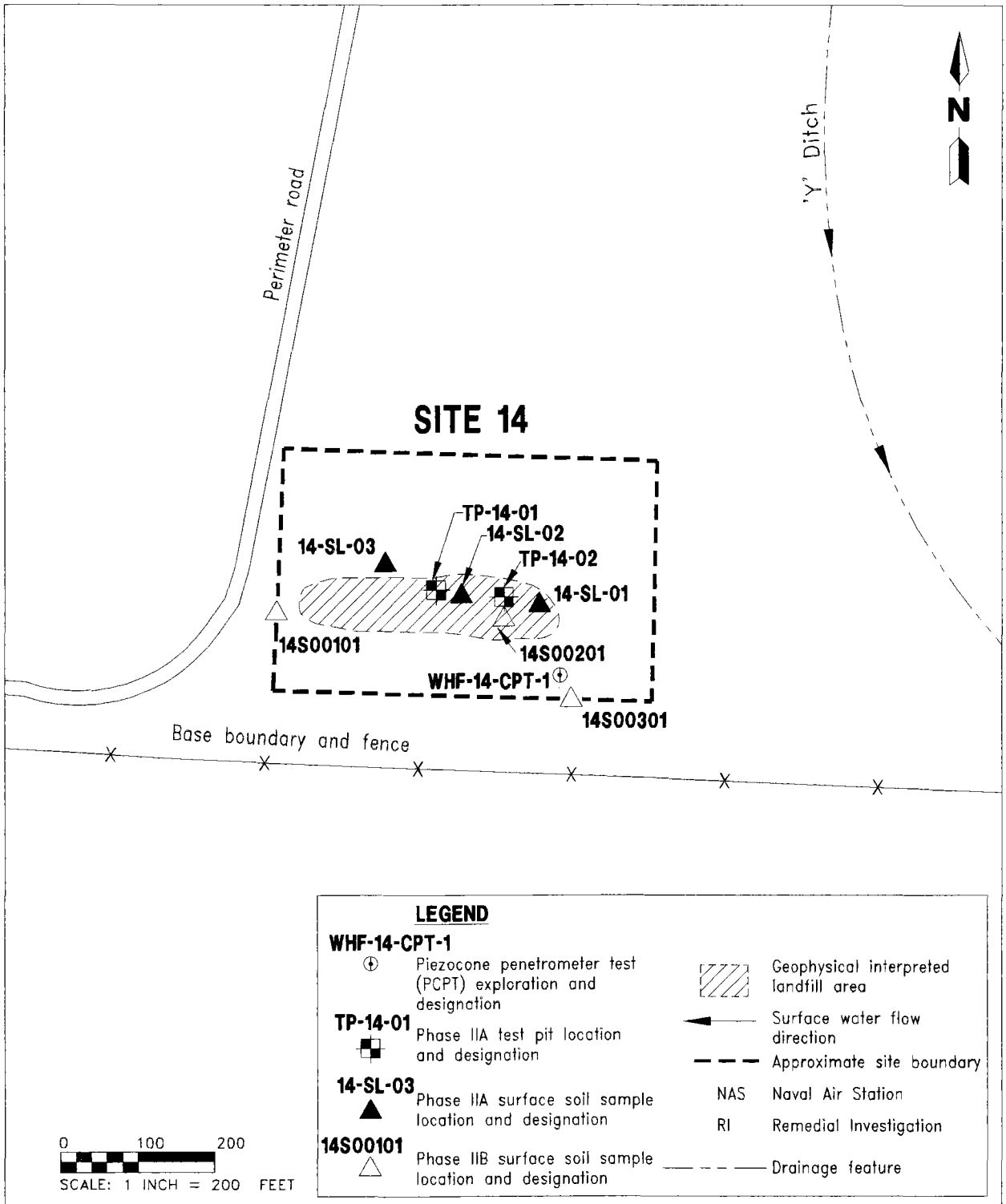

FIGURE 1-2
GENERAL FEATURES AND RI SAMPLING LOCATIONS

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FEASIBILITY STUDY REPORT
SITE 14, SHORT-TERM SANITARY LANDFILL

NAS WHITING FIELD
MILTON, FLORIDA

2.0 REMEDIAL ACTION OBJECTIVES

This section presents the goals and objectives for remedial action at Site 14 that provide the basis for selecting appropriate RAOs and, subsequently, identifying remedial technologies and developing alternatives to address contamination at the site. To establish these objectives, ARARs are first identified (Section 2.1). Next, RAOs are defined based on consideration of ARARs, the results and conclusions of the RI, the BRA, and other criteria (Section 2.2). Finally, general response actions appropriate for technology identification are discussed (Section 2.3). The information presented in this chapter will be used to identify appropriate remedial technologies for the site (presented in Chapter 3.0).

2.1 APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS.

ARARs are Federal and State human health and environmental requirements used to define the appropriate extent of site cleanup, identify sensitive land areas or land uses, develop remedial alternatives, and direct site remediation. CERCLA and the NCP require that remedial actions comply with State ARARs that are more stringent than Federal ARARs, are legally enforceable, and are consistently enforced statewide.

The NCP defines two ARAR components: (1) applicable requirements, and (2) relevant and appropriate requirements.

> Applicable requirements are those cleanup standards, standards of control, and other substantive requirements, criteria, or limitations promulgated under Federal or State environmental or facility siting laws that specifically address a hazardous substance, pollutant, contaminant, remedial action, or other circumstance found at a CERCLA site. State standards that may be applicable are only those which (1) have been identified by the State in a timely manner, (2) are consistently enforced, and (3) are more stringent than Federal requirements.
>
> Relevant and appropriate requirements are those cleanup standards, standards of control, and other substantive requirements under Federal and State environmental and facility siting laws that, while not "applicable" to a hazardous substance, pollutant, contaminant, or remedial action, address situations sufficiently similar to those encountered at the CERCLA site so that their use is well suited to the particular site. Only those State standards that are identified in a timely manner and are more stringent than Federal requirements may be relevant and appropriate.

"Applicability" is a legal determination of jurisdiction of existing statutes and regulations, whereas "relevant and appropriate" is a site-specific determination of the appropriateness of existing statutes and regulations. Therefore, relevant and appropriate requirements allow flexibility not provided by applicable requirements in the final determination of cleanup levels. Once a requirement is identified as an ARAR, the selected remedy must comply with ARARs, even if the ARAR is not required to assure protectiveness. The general relevant and appropriate requirements apply only to actions at the site. Applicable requirements apply to both on- and off-site remedial actions.

Under the description of ARARs set forth in the NCP and SARA, State and Federal ARARs are categorized as

- Chemical-specific (i.e., governing the extent of site remediation with regard to specific contaminants and pollutants);
- Location-specific (i.e., governing site features such as wetland, floodplains, and sensitive ecosystems and pertaining to existing natural and man-made site features such as historical or archaeological sites); and
- Action-specific (i.e., pertaining to the proposed site remedies and governing the implementation of the selected site remedy).

Other requirements "to be considered" (TBC) are Federal and State nonpromulgated authorities or guidance that are not legally binding and do not have the status of potential ARARs (i.e., they have not been promulgated by statute or regulation). However, if there are no specific ARARs for a chemical or site condition, or if ARARs are not deemed sufficiently protective, then guidance or advisory criteria should be identified and used to ensure the protection of human health and the environment.

During the detailed analysis of remedial alternatives, each alternative will be analyzed to determine its compliance with ARARs. Chemical-, location-, and action-specific ARARs are discussed in the following subsections and presented in Table 2-1.

2.1.1 Chemical-Specific ARARs

Chemical-specific requirements are standards that limit the concentration of a chemical found in or discharged to the environment. They govern the extent of site remediation by providing either actual cleanup levels or the basis for calculating such levels. The State of Florida has developed chemical-specific risk based SCTLs for soil. These target levels are listed in Chapter 62-777, Florida Administrative Code (FAC) (FDEP, 1999). The USEPA Region III has also developed a risk-based concentration table which specifies residential and industrial RBCs in soils (USEPA, 1998).

2.1.2 Location-Specific ARARs

Location-specific ARARs govern site features (e.g., wetlands, floodplains, wilderness areas, and endangered species) and manmade features (e.g., places of historical or archaeological significance). These ARARs place restrictions on concentrations of hazardous substances or the conduct of activities based solely on the site's particular characteristics or location.

As stated in the RI (ABB-ES, 1998), no State or federally listed rare, threatened, or endangered species or species of concern are known to inhabit Site 14 (Nature Conservancy, 1997). Furthermore, Site 14 is not located in the 100-year floodplain or known to contain areas of historical or archeological significance. Therefore location-specific ARARs do not apply to Site 14.

2.1.3 Action-Specific ARARs

Action-specific ARARs are technology- or activity- based limitations controlling activities for remedial actions. Action-specific ARARs generally set performance or design standards, controls, or restrictions on particular types of activities. To develop technically feasible alternatives, applicable performance or design standards must be considered during the detailed analysis of remedial alternatives. During the detailed analysis of alternatives, each alternative will be analyzed to determine compliance with action-specific ARARs.

Certain action-specific ARARs include permit requirements. Under CERCLA Section 121(e), permits are not required for remedial actions conducted entirely on site at Superfund sites. This permit exemption applies to all administrative requirements, including approval of or consultation with administrative bodies, documentation, record keeping, and enforcement. However, the substantive requirements of these ARARs must be attained.

2.1.4 TBC Criteria

As previously stated, TBCs are Federal and State non-promulgated advisories or guidance that are not legally binding and do not have the status of being a potential ARAR (i.e., have not been promulgated by statute or regulation). However, if there are no specific regulatory requirements for a chemical or site condition, or if ARARs are not deemed sufficiently protective, then guidance or advisory criteria should be identified and used to ensure the protection of human health and the environment.

Table 2-1
Synopsis of Federal and State ARARs and Guidance

Feasibility Study
Site 14, Short-Term Sanitary Landfill
Naval Air Station Whiting Field
Milton, Florida

Name and Regulatory Citation	Description	Consideration in the Remedial Action Process	Type
Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), and the National Hazardous Substance and Contingency Plan Regulations (40 Code of Federal Regulations [CFR], Section 300.430)	Discusses the types of institutional controls to be established at CERCLA sites.	**Applicable.** These regulations may be used as guidance in establishing appropriate institutional controls at Site 14.	Action-specific
Occupational Safety and Health Act (29 CFR Part 1910)	Requires establishment of programs to ensure worker health and safety at hazardous waste sites.	**Applicable.** These requirements apply to response activities conducted in accordance with the National Contingency Plan. During the implementation of any remedial alternative for Site 14, these regulations must be attained.	Action-specific
Resource Conservation and Recovery Act (RCRA) Regulations, Identification and Listing of Hazardous Waste [40 CFR Part 261]	Defines those solid wastes that are subject to regulation as hazardous waste.	**Applicable.** Any excavated materials would be sampled and analyzed for hazardous characteristics as defined by 40 CFR Part 261.	Chemical-specific
Hazardous Materials Transportation Act Regulations, [49 CFR Parts 171-179]	Provides requirements for packaging, labeling, manifesting, and transporting of hazardous materials. Similar requirements are found in 40 CFR Part 263.	**Applicable.** If surface soil, wetland sediments, or shoreline sediments are determined to be hazardous material and off-site disposal arranged, the hazardous material would need to be handled, manifested, and transported to a licensed off-site disposal facility in compliance with these regulations.	Action-specific
RCRA Regulations, Standards Applicable to Transporters of Hazardous Wastes [40 CFR Part 263]	Establish the responsibilities of generators and transporters of hazardous waste in the handling, transportation and management of that waste. To avoid duplicative regulation, USEPA has expressly adopted certain DOT regulations (see next entry) governing the transportation of hazardous materials.	**Relevant and Appropriate.** If surface soil is determined to be hazardous material and off-site disposal is arranged, the hazardous material would need to be handled, manifested, and transported to a licensed off-site disposal facility in compliance with these regulations.	Action-specific
RCRA Regulations, Landfills (40 CFR, Part 264, Subpart N)	Provides monitoring, inspection, closure, and post-closure care requirements for landfills that contain hazardous waste.	**Relevant and Appropriate.** These regulations are not applicable to Site 14 because they apply only to landfills that received waste after 1980; however, the requirements may be used as guidance for developing a landfill inspection program.	Action-specific

See notes at end of table.

Table 2-1 (Continued)
Synopsis of Federal and State ARARs and Guidance

Feasibility Study
Site 14, Short-Term Sanitary Landfill
Naval Air Station Whiting Field
Milton, Florida

Name and Regulatory Citation	Description	Consideration in the Remedial Action Process	Type
Solid Waste Disposal Act Regulations, Criteria for Municipal Solid Waste Landfills (40 CFR, Part 258)	This rule establishes minimum standards for design and operation of municipal solid waste landfills.	**Relevant and Appropriate.** Although this regulation applies to RCRA municipal landfills, not CERCLA landfills, some applications may apply.	Action-specific
Region III Risk-Based Concentrations (USEPA, 1998)	Provides RBCs from ingestion or exposure to chemicals in soil, tap water, ambient air, and fish consumption.	**Applicable.** The chemicals detected at Site 14 were screened against these standards for selection of chemicals of concern and developing remedial action alternatives.	Chemical-specific
Florida Contaminant Cleanup Criteria Rule (Chapter 62-777, FAC)	Provides soil and groundwater cleanup levels.	**Applicable.** These values should be considered when evaluating cleanup levels.	Chemical-specific
Florida Rules on Hazardous Waste Warning Signs (Chapter 62-736, FAC)	Requires warning signs at National Priorities List (NPL) sites to inform the public of the presence of potentially harmful conditions.	**Applicable.** This requirement is applicable for sites that are on the NPL.	Action-specific
Florida Solid Waste Disposal Facility Regulations (Chapter 62-701, FAC)	Provides the minimum landfill final closure standards for inactive landfills. Chapter 62-701.600 provides information on closure procedures, permits, closure report, design plan, final cover design, and post closure monitoring.	**Relevant and Appropriate.** Although these regulations are not directly applicable because Site 14 did not receive wastes after the effective date of regulation (1985); Chapter 62-701.600, FAC, provides guidance for closure procedures.	Action-specific
Florida Hazardous Waste Rules (Chapter 62-730, FAC)	Adopts specific sections of the federal hazardous waste regulations, including the section regulating hazardous waste landfills (40 CFR, Part 264, Subpart N) and makes additions to these regulations.	**Relevant and Appropriate.** These regulations are not applicable to Site 14 because they apply only to landfills that received waste after 1983; however, the requirements may be used as guidance for developing a landfill inspection program.	Chemical-specific; Action-specific

Notes: ARAR = applicable or relevant and appropriate requirement.
USEPA = U.S. Environmental Protection Agency.
DOT = Department of Transportation.
TBC = "to be considered" guidance materials.

2.2 IDENTIFICATION OF RAOs.

RAOs are defined in the CERCLA RI/FS guidance manual as media-specific goals established to protect human health and the environment, and are typically based on chemicals of concern, exposure routes, and receptors present or available at the site. RAOs are developed to ensure compliance with ARARs. RAOs for Site 14 will be identified based on consideration of ARARs, the RI, and the BRA.

Groundwater. Groundwater at NAS Whiting Field has been identified as a separate site (Site 40), and will be investigated and, if necessary, remediated separately from Site 14. Therefore RAOs addressing groundwater and leaching to groundwater will be addressed in the FS for Site 40.

Surface Soil. Chemical-specific ARARs and TBCs for surface soil were considered when identifying RAOs based on ARARs. Two chemicals, arsenic and vanadium, were detected in surface soil above their respective residential and/or industrial Florida SCTLs and USEPA Region III RBCs. However, arsenic concentrations were below the FDEP approved site specific cleanup goal of 4.62 mg/kg. Vanadium exceeded the FDEP residential SCTL of 15 mg/kg. Table 2-2 provides a summary of the detected concentrations of arsenic and vanadium and their respective cleanup target levels.

The HHRA completed for Site 14 evaluated risks to current and future users of the site due to HHCPCs aluminum, arsenic, iron, manganese, and vanadium. The risks posed to trespassers, site maintenance workers, occupational workers, and excavation workers based on exposure to surface soil at Site 14 via direct contact, ingestion, or inhalation of particulates are less than the USEPA target risk range and the FDEP risk threshold.

The human health assessment for Site 14 also considered adult and child residents exposed to surface soil at the site using central tendency, or average exposure assumptions. This assessment indicated an ELCR of 1×10^{-5}, due to arsenic which is within the acceptable USEPA risk range, but exceeds Florida's target risk level of concern of 1×10^{-6}. Noncancer risks for the adult and child resident were within the acceptable USEPA and FDEP risk thresholds.

> **RAO 1:** Reduce risks associated with exposure to surface soil containing contaminant concentrations greater than action levels.

The ERA completed for Site 14 does not predict risks for ecological receptor populations.

Because Site 14 and several other sites at NAS Whiting Field are disposal sites, the Navy requested that the FDEP consider a site-specific cleanup goal for arsenic because the fill and cover material obtained at NAS Whiting Field included subsurface soil which contained elevated arsenic levels. The Navy recommended a site-specific cleanup goal for arsenic at NAS Whiting Field covered landfill sites (Sites 1, 2, 9, 10, 11, 12, 13, 14, 15, and 16) of 4.62 milligrams per kilogram. This request is included as Appendix A of this report.

The FDEP responded to this request in a letter dated April 27, 1998 (FDEP 1998a). The FDEP concurred with the recommendation for the site-specific cleanup goal for arsenic at NAS Whiting Field disposal sites given the following conditions:

- In the future, the disposal sites will be used for activities that involve less than full-time contact with surface soil at the site. These activities could include parks, recreation areas, or agricultural sites.
- The Navy will incorporate these land-use considerations into a Land-Use Control Agreement.
- The site-specific cleanup goal for arsenic will not be used at any other site without prior FDEP approval.

Based on establishment of this site-specific cleanup goal for arsenic at Site 14, NAS Whiting Field, and as shown in Table 2-2, the establishment of a chemical-specific RAO for arsenic is not necessary if the above conditions are met. However, pending the future land use of Site 14 and a cost sensitivity analysis, varying levels of site cleanup may be required.

In order to apply the FDEP approved site-specific cleanup goal for arsenic at NAS whiting Field disposal sites, the Navy must adhere to the conditions of the FDEP concurrence letter (Appendix B) and the Memorandum of Agreement (MOA).

Subsurface Soil. Chemical-specific ARARs and TBCs for subsurface soil were considered when identifying RAOs based on ARARs. The chemicals detected in subsurface soil at Site 14 were compared to the State SCTLs and to the USEPA RBCs for industrial sites, and no exceedances were noted. Based on this analysis, no RAOs will be developed for subsurface soil at Site 14.

Waste Disposal. Action-specific ARARs related to landfill closure were considered for identifying RAOs. In order to complete this review, it was noted that the disposal site at Site 14 did not receive wastes after 1979. Based on this review, Federal and State landfill closure regulations were deemed not applicable to Site 14 for the following reasons:

- Federal regulations for closure of Resource Conservation and Recovery Act (RCRA) hazardous waste landfills (40 CFR, Part 264, Subpart N) are not applicable because the disposal sites did not receive waste after the effective date of RCRA, November 19, 1980;

- Federal regulations for the closure of solid waste landfills (40 CFR, Part 258) are not applicable because the disposal site did not receive waste after the effective date of the regulation, October 9, 1993; and

- Florida Solid Waste Disposal Facilities Regulations (Florida Administrative Code, Chapter 62-701) are not applicable because the disposal site did not receive waste after the effective date of the regulation, July 1, 1983.

The closure requirements described in these regulations do not apply to disposal areas that received their final covers before 1983; however, closure certification of the site has not been provided by the FDEP. Therefore, the following RAO has been developed for Site 14:

> **RAO 2:** Complete closure of the disposal area in accordance with State and Federal ARARs for landfill closure.

Other Considerations. Although the above-referenced regulations are not directly applicable to remedial action at Site 14, portions of the regulations may be relevant for developing remedial alternatives for the sites. For example, the *Draft Technical Manual for Solid Waste Disposal Criteria* (USEPA, 1992) provides information regarding statistical evaluation of groundwater monitoring data. In addition, guidance published for CERCLA sites provides information regarding closure of CERCLA landfills.

As stated in *Design and Construction of RCRA/CERCLA Final Covers* (USEPA, 1991b), closure of CERCLA landfills that are not subject to specific closure regulations can be achieved by "hybrid-landfill closure." A "hybrid-landfill closure" may be used when residual contamination poses a direct contact threat, but does not pose a groundwater threat. As indicated from the results of the RI (ABB-ES, 1998b), chemicals in soil and groundwater at Site 14 do not pose a serious groundwater threat. Therefore, Site14 qualifies for a

Table 2-2
Summary of Chemicals Exceeding Chemical-Specific ARARs and TBCs in Surface Soil

Feasibility Study
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Naval Air Station Whiting Field
Milton, Florida

Analyte	Frequency of Detection[1]	Range of Detected Analyte Concentration	Background Screening Value[2]	Soil Cleanup Target Level Residential/ Industrial[3]/Leachability	USEPA Region III RBCs Residential/ Industrial[4]	Site-Specific Soil Cleanup Goal[5]
Inorganic Analytes (ug/L)						
Arsenic	6/6	1.7* to 4.3	3	0.8/3.7/29	0.43/3.8	4.62
Vanadium	6/6	14.1 to 42.1	21.2	15**/7,400/980	550/14,000	NA

[1] Frequency of detection is the fraction of total samples analyzed in which the analyte was detected.
[2] Background screening values are two times the arithmetic mean of detected background concentrations.
[3] Source: Contaminant Cleanup Target Levels, Chapter 62-777, FAC (June 1999).
[4] USEPA Region III RBCs for soil ingestion based on an excess lifetime cancer risk of 1×10^{-6} or an adjusted hazard quotient of 0.1. (October 1998).
[5] Site-specific cleanup goal for arsenic based on information provided in Appendices A and B.

Notes: ARAR = applicable or relevant and appropriate requirement.
TBC = "to be considered" guidance material.
mg/kg = milligrams per kilogram.
NA = not applicable.
* = average of sample and duplicate.
** = value based on acute toxicity considerations.

hybrid-landfill closure and USEPA guidance (USEPA, 1991b) suggests the following items be considered for hybrid-landfill closures:

- covers, which may be permeable, to prevent a direct contact threat;
- limited long-term cover maintenance;
- minimal groundwater monitoring; and
- institutional controls (e.g., land-use controls), as necessary.

Based on consideration of these items and the recommendations of the RI (including the RA), some or several of these components will be considered in developing remedial alternatives for Site 14.

Summary of RAOs. Two RAOs have been established for Site 14. Table 2-3 lists the RAOs.

Table 2-3
Summary of Remedial Action Objectives

Feasibility Study
Site 14, Short-Term Sanitary Landfill
Naval Air Station Whiting Field
Milton, Florida

Remedial Action Objectives	Description
1	Reduce risks associated with exposure to surface soil containing contaminant concentrations greater than action levels.
2	Complete closure of disposal area in accordance with State and Federal ARARs for landfill closure.

2.3 VOLUME OF CONTAMINATED MEDIA.

Surface soil is the only media at Site 14 for which RAOs have been established. Therefore, this section presents the basis for the calculation of the volume of surface soil containing COCs above RAOs. Appendix C contains detailed calculations and supporting information used to develop the soil volume.

The chemicals of concern for which RAOs were identified are arsenic and vanadium in surface soil. All six samples collected at the site contained arsenic vanadium above their respective residential SCTLs. Calculations presenting the extent of contamination are included in Appendix C.

The sampling locations where chemical concentrations exceeded the residential SCTLs are shown in Appendix C. The depth range of contamination was assumed to be 0 to 2 feet. Confirmatory soil sampling is proposed under one of the alternatives to ensure that cleanup goals are met. The volume of contaminated soil is approximately 2,600 cy.

2.4 IDENTIFICATION OF GENERAL RESPONSE ACTIONS.

General response actions describe potential medium-specific measures that may be employed to address RAOs. Potential response actions for CERCLA sites include the following general response categories:

- no action
- limited action
- containment
- treatment (either *in situ* or *ex situ*)
- disposal

To develop appropriate response actions for former disposal sites, the NCP and USEPA provide guidance for developing general response actions for such sites. The USEPA has produced a document entitled

Streamlining the RI/FS for CERCLA Municipal Landfill Sites (USEPA, 1991a). Because municipal landfill sites typically have similar characteristics as land disposal sites, the USEPA recognizes that similar waste management approaches will be required for remediation. The NCP states that the USEPA expects containment technologies will generally be appropriate for landfills that pose a relatively low long-term threat or where treatment is impractical (Section 300.430[a][1][iii][B]). Therefore, the number of general response actions identified for Site 14 are limited based on these guidance documents.

The USEPA states in *Streamlining the RI/FS for CERCLA Municipal Landfill Sites* (USEPA, 1991a) that physical and/or thermal treatment technologies should be considered for identifiable areas of highly toxic and/or mobile material that constitute the principal threat(s) posed by the site (Section 300.430[a][1][iii][A]). However, the RI for Site 14 did not identify highly toxic areas or materials that pose a principal threat; therefore, the general response actions identified for Site 14 do not include physical or thermal treatment technologies. As a result, the presumptive remedy for Site 14 are focused on limited action and disposal technologies rather than physical or chemical treatment technologies.

In summary, the general response actions identified for Site 14 include:

- no action;
- limited action (i.e., land-use controls); and
- disposal (i.e., soil removal).

3.0 REMEDIAL ACTION ALTERNATIVES

The approach and rationale leading to the development of remedial alternatives for Site 14 are presented in this chapter. The development of remedial alternatives for CERCLA sites consists of identifying applicable technologies, screening those technologies, and using the selected technologies to develop remedial alternatives that accomplish the RAOs identified in Chapter 2.0.

The NCP requires that a range of remedial alternatives be considered. SARA emphasizes the use of treatment technologies. Treatment alternatives range from those that eliminate the need for long-term management to those that reduce toxicity, mobility, or volume of contaminants. The range of alternatives considered in this FS include technologies from the following categories:

- no action
- limited action (land-use controls)
- disposal (soil excavation and disposal)

The NCP and USEPA provide guidance for developing remedial alternatives (USEPA 1991). Because municipal landfill sites typically have similar characteristics, the USEPA recognizes that similar waste management approaches will be required for remediation. Section 300.430[a][1][iii][B] of the NCP states that the USEPA expects containment technologies will generally be appropriate for waste (e.g., landfills) that poses a relatively low long-term threat or where treatment is impractical. In this FS, the number of technologies and alternatives evaluated for Site 14 were limited in scope based on these guidance documents.

The remaining sections of this chapter identify the types of technologies that contribute to achieving the RAOs, evaluate and select representative technologies for each technology type, and develop remedial alternatives using the selected technologies. A detailed evaluation of remedial alternatives is presented in Chapter 4.0.

3.1 IDENTIFICATION AND SCREENING OF REMEDIAL TECHNOLOGIES.

The purpose of this section is to identify and screen appropriate technologies for assembly into remedial alternatives that address the RAO identified for Site 14. Each technology is then screened based on site- and waste-limiting characteristics.

Site characteristics considered during this process included the following:

- site geology, hydrogeology, and terrain;
- availability of space and resources necessary to implement the technology; and
- presence of special site features (e.g., wetlands, floodplains, or endangered species).

The following waste characteristics were also considered:

- contaminated media,
- types and concentrations of waste constituents, and
- physical and chemical properties of the waste (e.g. volatility, solubility, and mobility).

Table 3-1 presents the remedial technologies applicable for addressing the RAOs for Site 14. This table also presents the screening of those technologies. The technology screening process reduces the number of potentially applicable technologies by evaluating the applicability of each technology to site- and waste-limiting factors. Technologies deemed ineffective or not implementable were eliminated from further consideration. The remaining technologies are assembled into remedial alternatives in Section 3.2.

Table 3-1
Identification and Screening of Remedial Technologies

Feasibility Study
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General Response Action and Technology	Description of Technology	Applicability to:		Screening Status
		Site Characteristics	Waste Characteristics	
No Action				
No action	No remedial actions are taken at Site 14. Five-year site reviews would be required.	Applicable.	Applicable.	Retained. This alternative is retained for a baseline for comparison with other alternatives as required by CERCLA.
Five-year site reviews	Under CERCLA, if wastes are left on a site after closure, the site should be reviewed every 5 years.	Applicable.	Applicable.	Retained. This alternative is retained based on the CERCLA requirement that if wastes remain on site after closure, a review of the site must be completed every 5 years.
Limited Action				
Land-use controls	Use of land-use control documents to maintain the site for non-residential purposes.	Applicable.	Applicable.	Retained. This alternative is retained because it would achieve RAO 1.
Containment				
Soil covering and related activities	A cover material (i.e. clay, soil, asphalt, gravel, or synthetic membrane) is placed over the site. Provides a barrier preventing receptor contact with Site 14 soil.	Applicable.	Applicable.	Eliminated. The minimal extent of soil contamination at Site 14 makes use of this technology cost prohibitive.

See notes at end of table.

Table 3-1 (Continued)
Identification and Screening of Remedial Technologies

Feasibility Study
Site 14, Short-Term Sanitary Landfill
Naval Air Station Whiting Field
Milton, Florida

General Response Action and Technology	Description of Technology	Applicability to:		Screening Status
		Site Characteristics	Waste Characteristics	
Containment (Continued)				
Soil stabilization	Soils are mixed with an additive, such as a reactive chemical or concrete, to bind specific analytes chemically or physically with soil particles. This technology eliminates migration of contaminants from soil. The process can be performed *in situ* or *ex situ*.	Applicable.	Applicable.	Eliminated. This alternative would achieve the RAO, however significant arsenic migration from Site 14 is not expected.
Disposal				
Off-Site Soil Disposal:				
RCRA Subtitle D Solid Waste Landfill	Removed soil is sampled and analyzed for waste classification. Soil is transported to a nonhazardous, solid waste landfill based on analytical results from excavated soil.	Applicable. Soil is most likely not characteristically ignitable, corrosive, reactive, or toxic.	Applicable. Analytical results from the RI indicate that the soil would most likely not be classified as hazardous for toxicity.	Retained.
RCRA Subtitle C Hazardous Waste Landfill	Excavated soil is sampled and analyzed for waste classification. Soil is transported to a hazardous, solid waste landfill based on analytical results from excavated soil.	Not Applicable. Soil is most likely not characteristically ignitable, corrosive, reactive, or toxic.	Not Applicable. Analytical results from the RI indicate that the soil would most likely not be classified as hazardous for toxicity.	Eliminated. It was assumed that soil at Site 14 would be classified as nonhazardous.

Notes: CERCLA = Comprehensive Environmental Response, Compensation, and Liability Act.
RAO = remedial action objective.
RCRA = Resource Conservation and Recovery Act.
RI = remedial investigation

3.2 REMEDIAL ALTERNATIVES.

Remedial technologies that passed the technology screening are assembled into alternatives that will meet the RAOs. Table 3-2 presents the alternative development for Site 14. The alternatives for Site 14 were developed to address closure of the disposal area in accordance with ARARs.

Table 3-2
Development of Remedial Alternatives

Feasibility Study
Site 14, Short-Term Sanitary Landfill
Naval Air Station Whiting Field
Milton, Florida

Alternative	Description of Key Components
Alternative 1: No Action	Five-year site review.
Alternative 2: Land-Use Controls	land-use controls including land-use control implementation plans. Five-year site review.
Alternative 3: Soil Excavation and Disposal	Posting of warning signs. Clearing and grubbing of disposal area. Disposal of landfill soil. Site restoration. Five-year site review.

Based on applicable technologies identified in the preceding section, three remedial alternatives were developed for Site 14. These alternatives are options under the no action, limited action, and disposal general response categories. The no action alternative was developed to provide a baseline for comparison with other alternatives (USEPA, 1988). The alternatives developed for Site 14 are discussed in the following subsections.

3.2.1 Alternative 1: No Action

The NCP requires the development of the no action alternative to provide a baseline for comparison against other remedial alternatives. This alternative (i.e. Alternative 1) does not involve the implementation of any remedial technologies to treat wastes at Site 14. Under CERCLA Section 121(c), any remedial action that results in hazardous substances, pollutants, or contaminants remaining on site must be reviewed at least every 5 years. The 5-year site review typically involves an administrative review of site records. For cost estimating purposes, Alternative 1 would include 5-year reviews for a period of 30 years.

3.2.2 Alternative 2: Land-Use Controls

Alternative 2 consists of activities necessary to maintain land-use controls at the Site 14 landfill. These activities are

- land-use controls and
- 5-year site reviews.

Land-use controls restricting the use of the land in the vicinity of a disposal area and place regulatory controls on excavation of soil, would be drafted, implemented, and enforced in compliance with local regulations as a part of this alternative. The land-use controls would be enforced on the parcel of land encompassing the disposal site, including a typical buffer zone, as is currently used at other sites in the State.

Under CERCLA Section 121(c), any remedial action that results in hazardous substances, pollutants, or contaminants remaining on site must be reviewed at least every 5 years.

3.2.3 Alternative 3: Soil Excavation and Disposal

One disposal alternative developed for Site 14 consists of excavation and off-site disposal of the landfill soil.

Prior to soil removal and disposal, the site would be cleared and grubbed to facilitate excavation. One composite sample would be collected from the landfill to characterize the soil for off-site disposal. After the soil was taken to off-site disposal areas, the excavation area would be backfilled with clean fill and topsoil. The fill material and topsoil would be transported from a nearby off-site borrow source using dump trucks and tractor-trailers. The backfill would be spread across each excavated area using a bulldozer.

4.0 DETAILED ANALYSIS OF ALTERNATIVES

This chapter presents detailed analyses of alternatives for Site 14 at NAS Whiting Field. A detailed analysis is performed to provide decision makers with sufficient information to select the appropriate remedial alternative for a site. The detailed analysis has been conducted in accordance with CERCLA Section 121, the NCP, and USEPA RI/FS guidance (USEPA, 1988). The detailed evaluation of each remedial alternative includes the following:

- a detailed description of the alternative, emphasizing the applications of the technology or actions proposed for each alternative; and
- a detailed analysis of the alternative against seven of the nine criteria.

The remedial alternatives are examined with respect to the requirements stipulated by CERCLA and factors described in the USEPA's *Guidance for Conducting RI/FS Under CERCLA* (USEPA, 1988). The nine criteria from the RI/FS guidance document are

- overall protection of human health and the environment;
- compliance with ARARs
- long-term effectiveness and permanence;
- reduction of toxicity, mobility, and volume of contaminants through treatment;
- short-term effectiveness;
- implementability;
- cost;
- State acceptance; and
- community acceptance.

This FS presents evaluation of the first seven criteria in the alternative evaluation process. Table 4-1 outlines the specific elements considered for these seven criteria. Typically, State acceptance (i.e., the eighth factor) is addressed when comments on the draft FS report have been received from the State. Therefore, State comments will be addressed in the final FS, and a summary of State acceptance of this FS will be included in the final FS report.

Community acceptance (i.e., the ninth factor) is addressed upon receipt of public comments on the Proposed Plan (USEPA, 1988). The responsiveness summary, included as an appendix to the ROD for the site, is intended to provide the overview of achievement of this ninth criterion.

4.1 DETAILED ANALYSIS FOR ALTERNATIVE 1: NO ACTION.

Alternative 1 is a no action alternative. Under this alternative, no actions would be taken to address contamination at the site. A description of this alternative is presented in Subsection 4.1.1, and a technical assessment of this alternative is presented in Subsection 4.1.2.

4.1.1 Detailed Description of Alternative 1

In accordance with the NCP, the no-action alternative is used as a baseline for comparison against other alternatives. Because hazardous substances, pollutants, or contaminants would be left in place at Site 14 as part of this alternative, this alternative would include 5-year site reviews. There would be no restrictions on land-use types; therefore, the site could be used for residential use or other high-exposure uses.

Five-Year Site Reviews. Under CERCLA Section 121(c), any remedial action that results in hazardous substances, pollutants, or contaminants remaining on site must be reviewed at least every 5 years. It is

assumed, for this FS, that these reviews would occur over a 30-year period. These reviews would consist of evaluating changes to site conditions at the site (e.g. construction, demolition, change in potential receptors, migration pathways, qualitative risks, etc.) to assess whether or not human health and the environment continue to be protected by the alternative. The appropriateness of this alternative would then be compared to other remedial alternatives to confirm that it is still the most appropriate selection.

Table 4-1
Criteria for Evaluation of Remedial Action Alternatives

Feasibility Study
Site 14, Short-Term Sanitary Landfill
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Factors	Criteria to Consider
Overall protection of human health and the environment	How risks are eliminated, reduced, or controlled. Short-term or cross-media effects.
Compliance with ARARs	Compliance with chemical-specific ARARs. Compliance with location-specific ARARs. Compliance with action-specific ARARs.
Long-term effectiveness and permanence	Magnitude of residual risk. Adequacy of controls. Reliability of controls.
Reduction of mobility, toxicity, and volume of contaminants through treatment	Treatment process and remedy. Amount of hazardous materials destroyed or treated. Reduction of mobility, toxicity, or volume through treatment. Irreversibility of treatment. Type and quantity of treatment residual.
Short-term effectiveness	Protection of community during remedial action. Protection of workers during remedial action. Environmental effects. Time until RAOs are achieved.
Implementability	Ability to construct technology. Reliability of technology. Ease of undertaking additional remedial action, if necessary. Coordination with other agencies.
Cost	Capital cost. Operation and maintenance cost. Total present worth of alternative.

Notes: ARAR = applicable or relevant and appropriate requirement.
RAO = Remedial Action Objective.

4.1.2 Technical Criteria Assessment of Alternative 1

This subsection provides the technical criteria assessment of Alternative 1 against the seven criteria.

Overall Protection of Human Health and the Environment. This alternative would provide no additional protection to human receptors who may be exposed to soils at Site 14. If this alternative were selected, 5-year site reviews would be instituted.

No adverse short-term or cross media effects are anticipated with this no-action alternative.

Compliance with ARARs. This alternative would not comply with chemical-specific ARARs or TBCs (e.g., MCLs, Florida GCTLs, or Florida SCTLs) in the short term. Eventually, this alternative may comply with ARARs if natural processes including physical, chemical, and biological changes in the soil and groundwater reduce contaminant concentrations.

Long-Term Effectiveness and Permanence. Land-use controls are not part of the alternative; therefore, human and ecological risks due to exposure to site soils would not be addressed via this alternative. Therefore, these risks would remain over a period of time until natural processes reduce the contaminant concentrations and reduce the mobility of the contaminants, or other land-use controls are implemented.

Administrative actions proposed in this alternative (e.g., 5-year site reviews) would provide a means of evaluating the effectiveness of the alternative, but would not provide a permanent remedy for the site. Administrative actions are considered to be reliable controls.

Reduction of Toxicity, Mobility, and Volume of Contaminants through Treatment. This alternative would not provide a reduction in contaminant toxicity, mobility, or volume because no active mitigation of contaminant concentrations is proposed. No treatment residuals would be produced if this alternative were implemented.

Short-Term Effectiveness. This alternative would not reduce human or ecological health risks in the short term because no land-use restrictions would be implemented.

This alternative does not pose a threat to workers through exposure to contaminated soils because remedial construction activities are not proposed under this alternative.

Implementability. This alternative does not require remedial construction for implementation. Other activities, such as 5-year site reviews, are easily implemented.

Cost. The present worth cost of Alternative 1 is presented in Table 4-2. The 5-year site reviews were estimated over a 30-year monitoring period. A 30-year period was chosen only because the RI/FS guidance recommends using this time frame. The total present worth cost of Alternative 1 is $19,000. Cost estimates are presented in Appendix D.

Table 4-2
Cost Summary Table, Alternative 1: No Action

Feasibility Study
Site 14, Short-Term Sanitary Landfill
Naval Air Station Whiting Field
Milton, Florida

Operation and Maintenance Cost (O&M) (per event)	
5-year site review	$5,000
Total O&M cost (per event)	$5,000
Total O&M cost (present worth of semi-annual O&M for 30 years)	$17,000
Contingency (10 percent)	$2,000
Total cost Alternative 1: no action	$19,000

Note: Costs are rounded to the nearest $1,000. See Appendix D for cost details.
Total cost is based on present worth costs.

4.2 DETAILED ANALYSIS FOR ALTERNATIVE 2: LAND-USE CONTROLS.

Alternative 2 consists of administrative actions to limit the exposure to soils at Site 14. A description of this alternative is presented in Subsection 4.2.1, and a technical assessment of this alternative is presented in Subsection 4.2.2.

4.2.1 Detailed Description of Alternative 2

Under this alternative, land-use controls would be implemented that would provide protection to human receptors. These land-use controls would involve the use of institutional controls that would restrict the use of the land in the vicinity of Site 14. The agreement would mandate an ongoing inspection program to ensure compliance while the land-use controls are in effect. Additionally, land-use controls would place regulatory controls on the excavation of soils or similar activities that have the potential to disturb the site soils or increase the likelihood of exposure to the site soils. The land-use controls would be placed on a parcel of land slightly larger than the boundaries of the current disposal area. This would ensure that an appropriate buffer zone is created and maintained between the disposal area and other areas of NAS Whiting Field.

The following components would be included as part of this alternative:

- Land-use controls, and
- 5-year site reviews.

Land-Use Controls. Under new USEPA Region IV guidance, the use of the land-use controls as a remedy for contaminated sites requires the development of an land-use control assurance plan, as provided in the MOA dated November 1999, and a land-use control implementation plan (LUCIP). These documents detail the actions required when land-use controls are selected as a remedy for a site.

The LUCIP is then developed for each site where land-use controls are necessary on the facility. The LUCIP would include details regarding additional required activities, such as quarterly and annual inspection, and reporting for the specific area. These activities are required as part of the land-use control agreement to ensure compliance while the land-use controls for the sites are in effect. Further, because land-use controls will remain in effect until the contamination at the sites has been adequately addressed, the activities identified in the LUCIP will also remain in effect until such time that the contamination present at the sites has been adequately addressed.

5-Year Site Reviews. Refer to Subsection 4.1.1 for a detailed description of these reviews.

4.2.2 Technical Criteria Assessment of Alternative 2

This subsection presents the technical criteria assessment of Alternative 2.

Overall Protection of Human Health and the Environment. Human receptors, namely potential future residents, would be protected if this alternative were implemented. Regulatory controls (i.e. land-use controls) would prohibit potential future residents from exposure to the site because residential use of the site would be restricted under the proposed land-use controls.

By implementing this alternative, no adverse short-term or cross-media effects are anticipated.

Compliance with ARARs. This alternative would comply with chemical-specific ARARs or TBCs (e.g., MCLs, Florida GCTLs, or Florida SCTLs). Concentrations of contaminants are less than their respective industrial SCTLs or site-specific cleanup goals, as discussed in Chapter 2.0.

Long-Term Effectiveness and Permanence. The risks presented to the future resident and ecological receptors based on exposure to surface soil at the site would be addressed via the land-use controls. The long-term effectiveness and permanence of these controls will be managed by the facility under the MOA dated November 1999.

Administrative actions proposed in this alternative (e.g., land-use controls and 5-year site reviews) would provide a means of evaluating the effectiveness of the alternative. These administrative actions are considered to be reliable controls.

Reduction of Toxicity, Mobility, and Volume of Contaminants through Treatment. Although no treatment is included in this alternative, this alternative may provide some reduction in contaminant toxicity through natural processes. However, this alternative would not provide a reduction in contaminant mobility or volume because no active mitigation of contaminant mobility or reduction in volume is proposed. No treatment residuals would be produced if this alternative were implemented.

Short-Term Effectiveness. This alternative would reduce human health risks in the short term by reducing the potential exposure to Site 14 soils by human receptors.

This alternative does not pose a threat to workers through exposure to contaminated soils because only limited remedial construction activities (e.g., posting signs) are proposed under this alternative.

Implementability. This alternative does not require remedial construction for implementation. Other activities, such as land-use controls and 5-year site reviews, are easily implemented.

Cost. The present worth cost of Alternative 2 is presented in Table 4-3. Both the land-use controls and 5-year site reviews were costed out over a 30-year monitoring period. A 30-year period was chosen only because that is what the RI/FS guidance recommends. The total present worth cost of Alternative 2 is $135,000. Cost estimates are presented in Appendix D.

Table 4-3
Cost Summary Table, Alternative 2: Land-Use Controls

Feasibility Study
Site 14, Short-Term Sanitary Landfill
Naval Air Station Whiting Field
Milton, Florida

Direct Cost	
Land-use controls	$12,000
Total direct cost	$12,000
Operation and Maintenance Cost (O&M) (per event)	
5-year site review	$ 5,000
Inspection/Reporting	$7,000
Total O&M cost (per event)	$ 12,000
Total O&M cost (present worth of semi-annual O&M for 30 years)	$111,000
Total Direct and O&M	$123,000
Contingency (10 percent)	$12,000
Total cost Alternative 2: Land-Use Controls	$135,000

Note: Costs are rounded to the nearest $1,000. See Appendix D for cost details.
Total costs are based on present worth costs.

4.3 DETAILED ANALYSIS FOR ALTERNATIVE 3: SOIL EXCAVATION AND DISPOSAL.

Alternative 3 consists of excavation and disposal of the contaminated soil at Site 14. A description of this alternative is presented in Subsection 4.3.1, and a technical criteria assessment of this alternative is presented in Subsection 4.3.2.

4.3.1 Detailed Description of Alternative 3

Alternative 3 is designed to address RAOs at Site 14. It includes the following components:

- site preparation
- waste characterization
- soil removal and disposal
- site restoration

Site Preparation. Trees, shrubs, and other vegetation will be cleared with a backhoe or other type of excavation equipment as necessary prior to excavation. Small brush vegetation will be chopped and spread over the disposal area surface. Large trees will be disposed of as yard-waste at an appropriate mulching or tree recycling facility.

Waste Characterization. One composite waste characterization sample will be taken and analyzed prior to removal activities. Based on the RI, it is expected that the results of the sample will allow for disposal at a Resource Conservation and Recovery Act Subtitle D (Solid Waste) Landfill.

Soil Removal. The soil (6,200 yd^3) will be removed with a backhoe and loaded immediately into rolloffs or dumptrucks. Excavated soil will then be transported to a local landfill.

Site Restoration. A 2-foot layer of soil will be placed over the excavated areas to support vegetative growth. The soil will be obtained from an off-site borrow source to provide the adequate soil composition required to stimulate and support natural vegetation. The soil will be analyzed for target compound list volatile organic compounds, SVOCs, pesticides and polychlorinated biphenyls, target analyte list inorganic analytes, and TRPH and checked for pH to verify that it is "clean" fill and exhibits a pH between 6 and 7.5.

Selected seed and fertilizer will be placed on the vegetative support layer to establish vegetation. Hay will be used to protect the seed and fertilizer during initial development.

4.3.2 Technical Criteria Assessment of Alternative 3

This subsection presents the technical criteria assessment of Alternative 3.

Overall Protection of Human Health and the Environment. Overall protection of human health would be achieved by the implementation of Alternative 3.

This alternative would adversely impact the environment by removing trees and vegetation across the site. However, site restoration activities, such as seeding and fertilizer, would promote vegetative growth, and human and ecological receptor exposure to contaminants would be eliminated.

Compliance with ARARs. This alternative would comply with chemical-specific ARARs or TBCs (e.g., MCLs, Florida GCTLs, or Florida SCTLs). Source excavation, transportation and disposal, and backfilling activities comply with ARARs identified for this site. Concentrations of contaminants are less than their respective industrial Florida SCTLs or site-specific cleanup goals, as discussed in Chapter 2.0.

Worker safety standards will be maintained during removal activities to comply with ARARs. A site-specific health and safety plan will be developed and implemented during all site activities.

Long-Term Effectiveness and Permanence. This alternative is expected to provide long-term effectiveness and permanence by excavation and disposal of contaminant source materials.

Reduction of Toxicity, Mobility, and Volume of Contaminants through Treatment.

Alternative 3 does not include treatment of contaminants and does not physically or chemically alter contaminants in soil at the site. However, this alternative does reduce the volume (approximately 2600 yd^3) of contaminants on site because the contaminated soil would be taken off site for disposal.

Short-term Effectiveness. This alternative would provide an immediate reduction in risk to human health. Worker exposure to contaminants during excavation and soil handling activities would be minimal and can be addressed in a site health and safety plan. Non-site workers and trespassers would be protected once the excavated soils were backfilled with clean fill.

Implementability. Equipment and materials are readily available to remove the soil for Alternative 3. Site work will be completed within a 30-day period and will require standard removal expertise. The quantity of soil necessary to sustain the vegetative cover is available locally.

Cost. The cost estimate for Alternative 3 is presented in Table 4-4, and detailed cost calculations are provided in Appendix D. This estimate is based on the preliminary design criteria presented in this section. The total present worth cost of Alternative 3 is approximately $793,000.

Table 4-4
Cost Summary Table, Alternative 3: Soil Excavation and Disposal with Land-Use Controls

Feasibility Study
Site 14, Short-Term Sanitary Landfill
Naval Air Station Whiting Field
Milton, Florida

Direct Cost	
Mobilization	10,000
Site preparation	16,000
Site clearing and grubbing	7,000
Soil sampling	12,000
Vegetative support layer	107,000
Loading and off site soil disposal	415,000
Site restoration	5,000
Total direct cost	572,000
Indirect Cost	
Health and safety (3%)	17,500
Administration and permitting (3%)	17,500
Engineering and design (10%)	57,000
Construction support services (10%)	57,000
Total indirect cost	149,000
Total capital cost (direct + indirect)	721,000
Contingency (10 percent)	72,000
Total cost Alternative 3: Off-Site Disposal	793,000

Notes: Total cost is based on present worth costs.
Costs are rounded to be nearest $1,000. See Appendix D for details.

5.0 COMPARATIVE ANALYSIS OF REMEDIAL ALTERNATIVES

Remedial alternatives for Site 14 were developed in Chapter 3.0 and were individually evaluated in Chapter 4.0 using seven criteria. For comparative purposes, these criteria are grouped into the following categories:

- threshold criteria
- primary balancing criteria
- modifying criteria

The remainder of this chapter presents a comparison of remedial alternatives with respect to these criteria. This comparison is intended to provide technical information required to support the selection of a preferred alternative for Site 14.

5.1 OVERALL APPROACH TO COMPARATIVE ANALYSIS.

As presented in Chapter 4.0, remedial alternatives were developed to accomplish the RAOs identified for the site. The three sets of criteria identified above are used to streamline the comparison between alternatives while ensuring compliance with the RAOs. Components of these criteria are described below.

5.1.1 Threshold Criteria

Because the selected remedy must be protective of human health and the environment, as well as comply with ARARs, the following two threshold criteria are essential:

- overall protection of human health and the environment, and
- compliance with ARARs.

An individual assessment of each alternative with respect to these criteria was presented in Chapter 4.0. An overall comparative analysis of alternatives using threshold criteria is presented in Section 5.2.

5.1.2 Primary Balancing Criteria

Primary balancing criteria consist of the following five components:

- long-term effectiveness and permanence;
- reduction of toxicity, mobility, and volume of contaminants through treatment;
- short-term effectiveness;
- implementability; and
- cost.

These criteria are used to provide an assessment of the permanence of each remedial alternative, while ensuring their implementability and cost-effectiveness. An individual assessment of each alternative with respect to these criteria is presented in Chapter 4.0. An overall comparative analysis of alternatives using primary balancing criteria is presented in Section 5.2.

5.1.3 Modifying Criteria

The final two criteria are as follows:

- State acceptance, and
- community acceptance.

Typically, State acceptance (i.e., the eighth factor) is addressed when comments on the draft FS report have been received from the State. Therefore, State comments will be addressed in the Final FS, and a response to State comments will be included in the final FS report.

Community acceptance (i.e., the ninth factor) is addressed upon receipt of public comments on the Proposed Plan (USEPA, 1988). The responsiveness summary, included as an appendix to the ROD for the site, is intended to provide the overview of achievement of this ninth criterion.

Based on this information, an evaluation of modifying criteria is not included in this FS.

5.2 COMPARATIVE ANALYSIS OF REMEDIAL ALTERNATIVE.

This section provides a comparative analysis for remedial alternatives for Site 14 with respect to the criteria described in Section 5.1.

5.2.1 Comparison of Threshold Criteria

The remedial alternatives for Site 14 were first compared to the two threshold criteria: overall protection of human health and the environment and compliance with ARARs.

Alternative 1 does not provide a means of restricting future land use of the area. Therefore, this alternative does not protect potential future residents from environmental conditions at the site. Alternative 1 would not achieve the RAOs established for Site 14.

The implementation of Alternative 2 would provide a measure of continued protection of human health and the environment because the alternative includes land-use controls. In this manner, Alternative 2 would achieve the RAOs established for the site and would also achieve ARARs.

Alternative 3 would remove contaminated soils from Site 14, which would achieve ARARs and the RAOs established for the site.

5.2.2 Comparison of Primary Balancing Criteria

A comparison is made between alternatives with respect to five criteria: long-term effectiveness and permanence; reduction in toxicity, mobility, and volume of contaminants through treatment; short-term effectiveness; implementability; and cost.

For long-term effectiveness, Alternatives 1 and 2 will not reduce concentrations of arsenic and vanadium through natural mechanisms. Alternative 3 would provide long-term effectiveness by removing surface soil where COC concentrations exceed action levels established in the RAOs.

Alternative 3 would reduce the volume of contaminated soil at Site 14. Alternative 3 is the only alternative where off-site disposal of contaminated soil would reduce the toxicity and volume on site. However, the removal of the top 2 feet of contaminated surface soil and placement of 2 feet of clean soil cover on site would still not address the contamination in subsurface soils. If excavation of the 2 feet of the clean soil cover occurred, it would expose receptors to contaminated soil. Therefore, if excavation and soil covering were accomplished, land-use controls would still be required at Site 14. Alternatives 1 and 2 would not reduce the toxicity or mobility of contaminants at the site because these alternatives do not involve treatment of contaminants in media at the site.

The implementability of Alternatives 1, 2, and 3 would be relatively easy. For Alternative 2, a LUCIP would need to be developed. Alternative 3 would require potential destruction of ecological habitat.

The relative present-worth cost estimates are shown below for each alternative. In accordance with USEPA guidance the costs for Alternative 1, and 2 are based on a 30-year timeframe. Alternative 3 can be implemented within a 6-month timeframe.

- Alternative 1: $19,000
- Alternative 2: $135,000
- Alternative 3: $793,000

As expected, Alternative 1, the no-action alternative, has the lowest estimated overall cost. Alternative 2 involves land-use controls and quarterly/annual inspections and reporting over 30 years and is the next lowest cost. Alternatives 3 is the most expensive but has the shortest timeframe, and also could result in destruction of existing ecological habitat.

5.2.3 Modifying Criteria

As stated in Subsection 5.1.3, an evaluation of modifying criteria will not be included in this FS.

REFERENCES

ABB Environmental Services, Inc. (ABB-ES). 1993. *Geophysical Survey Technical Report, Naval Air Station Whiting Field, Milton, Florida*. Prepared for Southern Division, Naval Facilities Engineering Command (SOUTHNAVFACENGCOM), North Charleston, South Carolina.

FDEP. 1998. Letter dated April 27, 1998. Response to report by Navy (see Appendix A).

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Harding Lawson Associates. 1998. *Remedial Investigation and Feasibility Study, General Information Report, Naval Air Station Whiting Field, Milton, Florida*. Prepared for SOUTHNAVFACENGCOM, North Charleston, South Carolina (June).

HLA. 1999. *Remedial Investigation for Site 14, Short-Term Sanitary Landfill, Naval Air Station Whiting Field, Milton, Florida*. Prepared for SOUTHNAVFACENGCOM, North Charleston, South Carolina. (October).

Nature Conservancy/Florida Natural Areas Inventory. 1997. "Rare Plant, Rare Vertebrate, and Natural Community Survey of NAS Whiting Field..." Final Report, sub-agreement (N62467-95-RP00236) to the 1995 Cooperative Agreement between Department of Defense and the Nature Conservancy.

U.S. Department of Agriculture. 1980. *Soil Survey of Santa Rosa County, Florida*. Soil conservation Service. Washington, D.C.

U.S. Environmental Protection Agency (USEPA). 1988. *Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA, Interim Final*. Office of Solid Waste and Emergency Response. Washington, D.C. (October).

USEPA. 1991a. *Streamlining the RI/FS for CERCLA Municipal Landfill Sites*. Washington, D.C.

USEPA. 1991b. *Design and Construction of RCRA/CERCLA Final Covers*. Office of Research and Development. Washington, D.C. (May).

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USEPA. 1992. *Draft Technical Manual for Solid Waste Disposal Facility Criteria*. Washington, D.C.

USEPA, Region III, 1998. Memorandum from Roy L. Smith, Office of RCRA, Technical & Program Support Branch. Subject: "Risk-Based Concentrations Table." Philadelphia, Pennsylvania.

USEPA, Region IV. 1998. Memorandum from Jon D. Johnston, Chief of Federal Facilities Branch to the Region IV Federal Facilities Branch. Subject: "Assuring Land-Use Controls at Federal Facilities." Washington, D.C.

APPENDIX A

NAVY'S REQUEST FOR SITE-SPECIFIC SOIL CLEANUP GOAL FOR ARSENIC AT DISPOSAL SITES AT NAS WHITING FIELD

Evaluation of Background Arsenic Concentrations for Covered Landfill Sites

At Naval Air Station (NAS) Whiting Field, nine soil types, as identified by the U. S. Department of Agriculture, Soil Conservation Service (USSCS), are present. The Remedial Investigation (RI) sites at NAS Whiting Field are associated with seven of the nine soil types. The background surface soil data set for each RI site was initially determined to be comprised of background surface soil samples from the same USSCS soil types as occur on the individual sites. However, available information and review of historical aerial photographs indicated that in the construction of landfills at the facility, a borrow pit was dug to an approximate depth of 10 to 15 feet bls and the excavated soil was piled to the side. Following landfill operations, the borrow materials comprised of undifferentiated surface and subsurface soils were used for the landfill cover. Any additional soils required to complete the landfill cover are believed to have been obtained from other borrow pits located at the facility.

If a mix of surface and subsurface soils were used in the cover for landfills, it would be appropriate to use the combined data set of surface and subsurface soil samples as the background screening value. However, in order to be protective of human health and the environment, it is proposed that the background surface and subsurface data set be combined to a single value as the "Industrial Use Soil Cleanup Goal." This modified "Industrial Use Soil Cleanup Goal" is specifically limited to the covered landfill sites including Sites 1, 2, 9, 10, 11, 13, 14, 15, and 16, and to the inorganic analyte arsenic.

Tables 3-8 through 3-18 in the General Information Report present the detected concentrations and summarize the analytical data for the individual background soil samples collected at NAS Whiting Field. A summary of the arsenic background data set and the modified "Industrial Use Soil Cleanup Goal" for arsenic is presented in Table A-1. As indicated on the table, the modified "Industrial Use Soil Cleanup Goal" for arsenic to be used at covered landfill sites is 4.62 milligrams per kilogram.

Table A-2
Comparison of Detected Arsenic Concentrations in Surface and Subsurface Soil Samples to Florida Soil Cleanup Goals

Feasibility Study
Sites 9 and 10, Waste Fuel Disposal Pit, and Southeast Open Disposal Area (A)
Naval Air Station Whiting Field
Milton, Florida

Analyte	Minimum Detected Concentration	Maximum Detected Concentration	Mean of Detected Concentrations	Soil Cleanup Goals for Florida (Residential)[1]	Soil Cleanup Goals for Florida (Industrial)[1]	Modified Industrial Use Cleanup Goal[2]
Inorganic Analyte (mg/kg)						
Arsenic	0.52	6.3	2.31	0.8	3.7	4.62

[1] Source: FDEP Memorandum from John Ruddell, Director Division of Waste Management, to District Directors and Waste Program Administrators. Subject: Applicability of Soil Cleanup Goals for Florida, January 19, 1996.
[2] The modified Industrial Use Cleanup Goal for arsenic is twice the mean of detected concentrations in the surface and subsurface soil samples.

Notes: mg/kg = milligram per kilogram.

DRAFT

APPENDIX B

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION'S RESPONSE AND ACCEPTANCE OF THE SITE-SPECIFIC SOIL CLEANUP GOAL FOR ARSENIC FOR DISPOSAL SITES AT NAS WHITING FIELD

Department of Environmental Protection

Lawton Chiles
Governor

Twin Towers Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Virginia B. Wetherell
Secretary

April 27, 1998

Ms. Linda Martin
Department of the Navy, Southern Division
Naval Facilities Engineering Command
2155 Eagle Drive, PO Box 190010
North Charleston, SC 29419-9010

file: arsenic1.doc

RE: Request for Site-Specific Arsenic Soil Cleanup Levels: Covered Landfill Sites, NAS Whiting Field

Dear Ms. Martin:

I have reviewed the request for approval of a site-specific Soil Cleanup Goal for arsenic at the "covered landfill sites" at NAS Whiting Field from Mr. Gerald Walker, ABB Environmental Services, dated April 22, 1998 (received April 22, 1998). Based on the prior presentation to Department Staff and the summary information furnished in the letter and the attached Appendix I, the request is granted to utilize a site-specific Soil Cleanup Goal for arsenic of 4.62 mg/kg at Sites 1, 2, 9, 10, 11, 12, 13, 14, 15 and 16., with the following conditions:

1. The sites may be utilized for activities that involve less than full-time contact with the site. This may include, but is not limited to, a.) parks b.) recreation areas that receive heavy use (such as soccer or baseball fields) or, c.) agricultural sites where farming practices result in moderate site contact (approximately 100 days/year, or less).

2. The Navy must assure adherence to the land use by incorporating the site and conditions in a legally binding Land Use Contol agreement.

3. The above Soil Cleanup Goal shall not be utilized at any other site without specific Department approval.

If you have questions or require further clarification, please contact me at (904) 921-4230.

Sincerely,

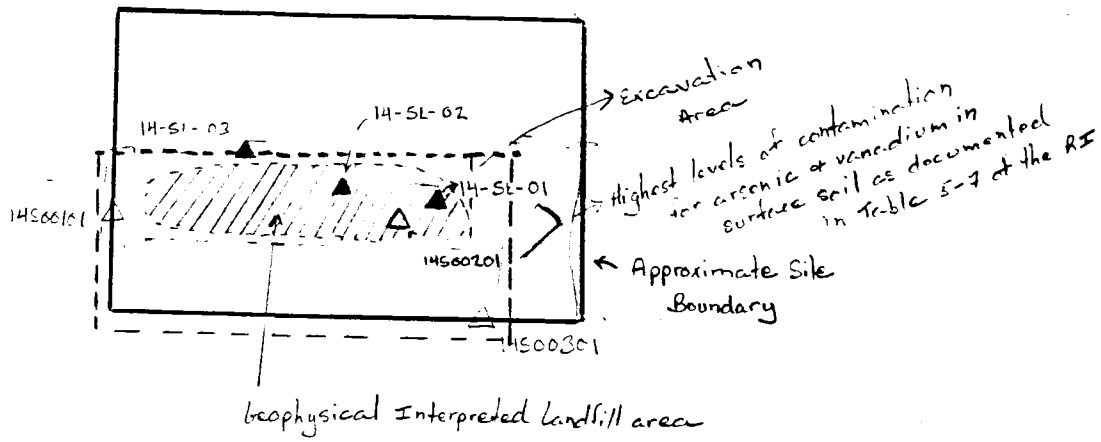
James H. Cason, P.G.
Remedial Project Manager

APPENDIX C

VOLUME ESTIMATES FOR CONTAMINATED MEDIA

Project: Whiting Field Site 14 FS Volume Calculations
Comp. By: JW
Chck. By:
Date: 1/10/99
Job #: 44230/0253411

- Determine the amt. of soil to be excavated at Site 14:
- Original schematic is located on Figure 3-2 of the RI:



Volume = length × width × depth of excavation

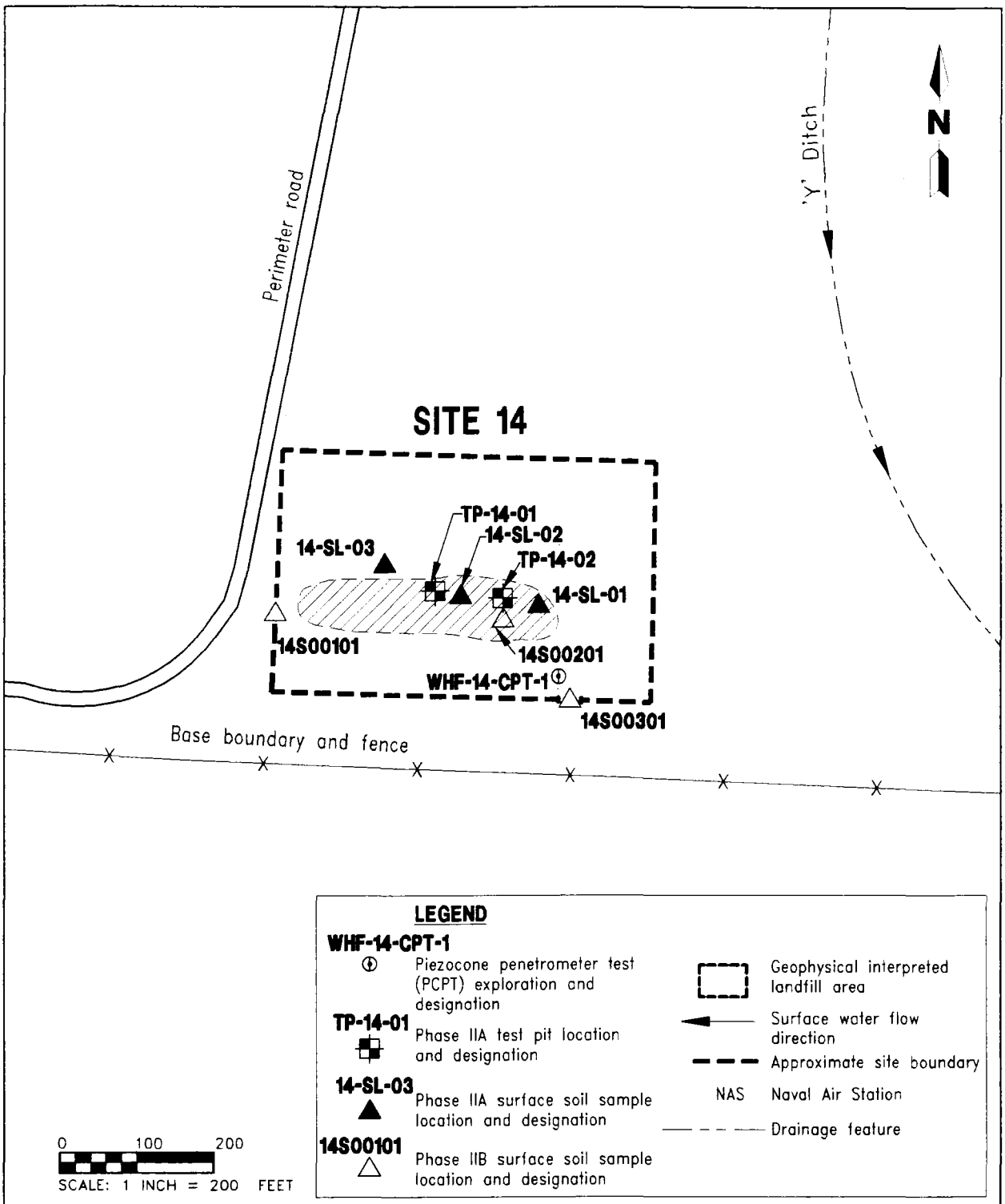
length - approx 420'
width - approx 250'
depth - 2'

∴ Volume = (350') × (100') × (2')

= 168,000 ft³
= 6,200 yd³

0 100 200
Scale: 1 inch = 200 feet

22-14 50 SH.
22-142 100 SHEETS
22-144 200 SHEETS
AMPAD



SITE MAP

K:\02534\02534-11\FSY\02534719.DWG, PDP-VC 03/21/00 10:29:50, ACAD14

FEASIBILITY STUDY REPORT
SITE 14, SHORT-TERM SANITARY LANDFILL

NAS WHITING FIELD
MILTON, FLORIDA

APPENDIX D

COST CALCULATIONS FOR REMEDIAL ALTERNATIVES

ALTERNATIVE #1: No Action, Site 14

	Quantity	Unit	Unit Cost	Total Cost
FIVE YEAR SITE REVIEW COSTS				
Five-year Site Reviews (every 5 years for 30 years)				
Meetings (includes travel time)				
Senior Scientist	16	hrs	$90.00	$1,440
Mid-level Engineer	16	hrs	$60.00	$960
ODCs (includes per diem and rental car)	1	lump sum	$110.00	$110
Five-year Report				
Report				
Senior Scientist	15	hrs	$90.00	$1,350
Mid-level Engineer	20	hrs	$60.00	$1,200
ODCs (includes photocopying, etc.)	1	lump sum	$250.00	$250
Total 5-year costs				*$5,310*
Present Worth of 5-year costs at i=6%				*$17,352*
TOTAL FIVE YEAR SITE REVIEW COSTS				**$17,352**
CONTINGENCY @ 10 PERCENT				**$1,735**
TOTAL COST OF ALTERNATIVE #1				**$19,087**

ALTERNATIVE #2: Land Use Controls, Site 14

	Quantity	Unit	Unit Cost	Total Cost
DIRECT COSTS				
Land Use Controls (LUCs)				
Survey Plat	1	lump sum	$2,500.00	$2,500
Land Use Restriction Fees (Filling, Legal, etc.	1	lump sum	$5,000.00	$5,000
Land Use Implementation Plan:				
Senior Scientist	20	hrs	$90.00	$1,800
Mid-level Engineer	40	hrs	$60.00	$2,400
ODCs (includes photocopying, etc.)	1	lump sum	$250.00	$250
TOTAL DIRECT COSTS				**$11,950**
Operation and Maintenance (O&M) Costs				
Quarterly Inspection				
Senior Scientist	0	hrs	$90.00	$0
Mid-level Engineer	32	hrs	$60.00	$1,920
ODCs (per diem, rental vehicle, etc.)	1	lump sum	$320.00	$320
Quarterly Reporting				
Senior Scientist	8	hrs	$90.00	$720
Mid-level Engineer	32	hrs	$60.00	$1,920
ODCs (per diem, rental vehicle, etc.)	1	lump sum	$1,000.00	$1,000
Annual Reporting				
Senior Scientist	2	hrs	$90.00	$180
Mid-level Engineer	8	hrs	$60.00	$480
ODCs (per diem, rental vehicle, etc.)	1	lump sum	$250.00	$250
Subtotal				$6,790
Present Worth of Land Use Control costs at i=6%				***$93,464***
Five-year Site Reviews (every 5 years for 30 years)				
Meetings (includes travel time)				
Senior Scientist	16	hrs	$90.00	$1,440
Mid-level Engineer	16	hrs	$60.00	$960
ODCs (includes per diem and rental car)	1	lump sum	$110.00	$110
Five-year Report				
Report				
Senior Scientist	15	hrs	$90.00	$1,350
Mid-level Engineer	20	hrs	$60.00	$1,200
ODCs (includes photocopying, etc.)	1	lump sum	$250.00	$250
Subtotal				$5,310
Present Worth of 5-year costs at i=6%				***$17,352***

TOTAL O&M COSTS	**$110,816**
COST OF ALTERNATIVE #2	**$122,766**
CONTINGENCY @10 PERCENT	**$12,277**
TOTAL COST OF ALTERNATIVE #2	**$135,043**

ALTERNATIVE #3: Soil Excavation and Disposal, Site 14

	Quantity	Unit		Unit Cost		Total Cost
CAPITAL COSTS						
TOTAL DIRECT COSTS						
Mobilization						
Miscellaneous						
Storage Trailer	1	month	$	650.00	$	650.00
Trailer Delivery, Setup, Removal	1	each	$	500.00	$	500.00
Toilet/Water Cooler Service	1	month	$	250.00	$	250.00
Misc. Equipment	1	LS	$	2,500.00	$	2,500.00
Labor (Site Preparation)						
Foreman (1 man @ 5 days @ 10hrs/day)	50	hrs	$	60.00	$	3,000.00
Equipment (Mobilization)						
Dump Truck	3	each	$	250.00	$	750.00
Backhoe	1	each	$	250.00	$	250.00
Pressure Washer	1	each	$	250.00	$	250.00
Equipment (Mobilization)	1	LS	$	1,200.00	$	1,200.00
General Site Mobilization	1	LS	$	250.00	$	250.00
Mobilization					**$**	**9,600.00**
Soil Sampling						
Soil Sampling and Analysis (Waste Characterization)						
Sampling Plan						
Mid-level Engineer/Scientist	24	hrs	$	75.00	$	1,800.00
ODCs	1	LS	$	250.00	$	250.00
Sample Collection						
Associate Scientist	16	hrs	$	60.00	$	960.00
Technician	16	hrs	$	40.00	$	640.00
ODCs, Sample Equipment, Supplies	1	LS	$	500.00	$	500.00
Waste Characterization and Clean Fill Analysis						
TCLP, Metals, VOCs, SVOCs, Pest/Herb, TRPH	10	each	$	800.00	$	8,000.00
Soil Samping and Analysis					**$**	**12,150.00**
Site Preparation						
Labor (Site Preparation)						
Laborers (2 men @ 3 days @ 8 hrs/day)	48	hrs	$	36.00	$	1,728.00
Foreman (labor included in mobilization)						

	Quantity	Unit		Unit Cost		Total Cost
CAPITAL COSTS						
TOTAL DIRECT COSTS						
Equipment and Disposal Costs						
Backhoe and Operator	3	days	$	1,200.00	$	3,600.00
Miscellaneous Tools	1	LS	$	300.00	$	300.00
Transport and Disposal - Wood Debris	150	tons	$	69.00	$	10,350.00
Signs	6	each	$	50.00	$	300.00
Site Preparation					**$**	**16,278.00**
Clearing and Grubbing						
Foreman (1 wk @ 50 hrs/wk)	40	hrs	$	60.00	$	2,400.00
Grubbing, Removal, & Stockpile (Labor Incl)	1	LS	$	4,500.00	$	4,500.00
Transport and Disposal (Grub and Stumps)	1	LS	$	500.00	$	500.00
Clearing and Grubbing					**$**	**7,400.00**
Loading and Off-site Landfill Disposal (6,200 cy = 7,500 tons)						
Backhoe and operator	10	days	$	1,200.00	$	12,000.00
Laborers (2 @ 10 days @ 10 hrs/day)	200	hrs	$	40.00	$	8,000.00
Site Superintendent	80	hrs	$	60.00	$	4,800.00
RCRA Subtitle D (Solid Waste) Landfill						
Transportation and Disposal	7500	tons	$	52.00	$	390,000.00
Loading and Off-site Landfill Disposal (7,500 tons)					**$**	**414,800.00**
Vegetative Support Layer						
Backfill - 1.5' layer	5580	yd^3	$	16.00	$	89,280.00
Topsoil - 6" layer	1550	yd^3	$	10.00	$	15,500.00
Site Superintendent (4 day @ 8 hrs/day)	32	hrs	$	60.00	$	1,920.00
Vegetative Support Layer					**$**	**106,700.00**
Site Restoration						
Fertlize, Seed, Mulch	2	acres	$	2,000.00	$	4,000.00
Demob of Equipment	1	LS	$	1,000.00	$	1,000.00
Site Restoration					**$**	**5,000.00**

	Quantity	Unit	Unit Cost	Total Cost
CAPITAL COSTS				
TOTAL DIRECT COSTS				
TOTAL DIRECT COSTS				**$ 571,928.00**
INDIRECT COSTS				
Health and Safety (@ 3% of Direct Costs)				$ 17,157.84
Administative Fees (@ 3% of Direct Costs)				$ 17,157.84
Engineering and Design (@ 10% of Direct Costs)				$ 57,192.80
Construction Support Services (@ 10% of Direct Costs)				$ 57,192.80
TOTAL INDIRECT COSTS				**$ 148,701.28**
TOAL CAPITAL COSTS - Total Direct Costs + Total Indirect Costs				***$ 720,629.28***
TOTAL CAPITAL COSTS & O&M COSTS				***$ 720,629.28***
Contingency (@ 10%)				**$ 72,062.93**
TOTAL COST OF ALTERNATIVE #3				***$ 792,692.21***

APPENDIX E

RESPONSE TO AGENCY COMMENTS

Response to EPA Review Comments
Site 14, Short-Term Sanitary Landfill
Draft Feasibility Study

1. **Cover Page**. The EPA ID number should be included on the cover page both inside and outside.

   Response: The EPA ID number will be added to the cover page and the report title page.

2. **Glossary, Page –viii-**. The abbreviation "BRA" for "baseline risk assessment" should be included. "CPC" should be changed to "COPC". In the definition for "LUCIP", change the word "Installation" to "Implementation". The definition for "RA" should be "remedial action" instead of risk assessment. On page –vii-, remove "guidance material" from the definition for "TBC". These abbreviations should be changed throughout the document, accordingly, wherever they occur.

   Response: As suggested by the reviewer, the abbreviation "BRA" for "baseline risk assessment" will be included. Also "CPC" will be changed to "COPC". In the definition for "LUCIP", the word "Installation" will be replaced by "Implementation". The report will be revised to reflect "RA" means "remedial action" and not risk assessment. On page –vii-, the phrase "guidance material" will de deleted from the definition for "TBC". These abbreviations will be changed throughout the document.

3. **Section 1.0, Page 1-1**. Change the word "Priority" to "Priorities" in the first sentence of the second paragraph.

   Response: The word "Priority" will be changed to "Priorities" in the first sentence of the second paragraph.

4. **Section 1.4, Page 1-4**. The RI summary should address in further detail the existence of methane at the site and the need for remedial action, if any.

   Response: The bullet item 2 will be expanded to include additional information on existence of methane. Remedial action pertaining to methane will be added to the text.

5. **Table 2-1, Page 2-4**. Remove the reference to the Safe Drinking Water Act. Groundwater monitoring will be addressed within the context of the Site 40 RI/FS. On page 2-5, remove the references to the Florida Groundwater Classes and the Florida Drinking Water Standards.

   Response: The reference to the Safe Drinking Water Act will be deleted. Also, references to Florida Groundwater Classes and the Florida Drinking Water Standards will be deleted.

6. **Section 2.2, Page 2-7**. In the second paragraph, delete the words "legally binding".

   Response: The last sentence will be deleted and the words "and the MOA" will be added to the previous sentence.

7. **Section 4.2.2, Page 4-4, Overall Protection of Human Health and Environment**. In the first sentence, add the words "potential future" in between "namely" and "residents". In the second sentence at the top of page 4-5, change "...maintains its LUCAP and LUCIP." to "...properly maintains and administers its LUCAP and LUCIP."

   Response: The first sentence will be revised to add the words "potential future" in between "namely" and "residents". The second sentence at the top of page 4-5 will be deleted.

8. **Section 4.3.1, Page 4-6, Soil Removal**. Site characterization to determine the extent of the removal should

be addressed in the FS.

Response: The following text will be added to section 2.3 between the current paragraph and paragraph 2.

"The chemicals of concern for which RAOs were identified are arsenic and vanadium in surface soil. All six samples collected at the site contained these contaminants above their respective residential SCTLs. Calculations presenting the extent of contamination are included in Appendix C."

Calculation presented in Appendix C will be cited.

9. **Section 5.1.3, Page 5-1, Modifying Criteria**. The text states that a summary of State acceptance will be included in the final FS; however, only a response to the State's comments is typically prepared.

   Response: The text will be revised to state a response to the State's comments will be included in the final FS.

10. **Section 5.2.2, Page 5-2**. The third sentence should be deleted as it is speculative.

    Response: The third sentence of the 4th paragraph will be deleted.

11. **References, Page Ref-1**. Delete the words "Washington, D.C." in the last reference. Jon Johnston is the Branch Chief of the Federal Facilities Branch within EPA, Region IV.

    Response: The words "Washington, D.C." will be deleted.

Response to FDEP Comments on the Draft Feasibility Study
Site 14, Short-Term Sanitary Landfill
NAS Whiting Field, Milton, Florida

1. Page 1-5, second "bulleted" item: vanadium also exceeded the Florida SCTLs. Vanadium should also be added to the next "bulleted" item.

   Response: Vanadium will be added to the bulleted items.

2. Figure 1-1: in the legend, "RI/FS" is not necessary and should be deleted.

   Response: "RI/FS" will be deleted from Figure 1-1 legend.

3. Page 2-6, under RAO 1: in the paragraph which begins, "Because Site 14...," please include that fill and cover material obtained at NASWF included subsurface soil which contained elevated arsenic levels. This is the basis for the elevated site-specific commercial/industrial direct exposure SCTL that has been granted. To simply state that Site 14 is a "disposal site" is not an adequate explanation.

   Response: The referenced paragraph will be revised as follows:

   Because Site 14 and several other sites at NAS Whiting Field are disposal sites, the Navy requested that the FDEP consider a site-specific SCTL for arsenic because the fill and cover material obtained at NAS Whiting Field included subsurface soil containing elevated arsenic levels. The Navy recommended a SCTL for arsenic at NAS Whiting Field covered landfill sites (Sites 1, 2, 9, 10, 11, 12, 13, 14, 15, and 16) of 4.62 milligrams per kilogram. This request is included as Appendix A of this report.

4. Page 2-7, second paragraph: delete the last sentence and add to the preceding sentence, "and the MOA."

   Response: The last sentence will be deleted and the phrase "and the MOA" will be added to the second paragraph.

5. Page 2-10, second bulleted item: delete "post-closure activities" and substitute, "land use controls." Please do not use "LUCs" and further, please consider not using them in most of this document.

   Response: As recommended by the reviewer, "land use controls" will replace the phrase "post closure activities". Also throughout the document, LUCs will be replaced with "land use controls".

6. Page 3-1, second paragraph, second bulleted item: please replace "LUCs" with "land use controls."

   Response: As recommended by the reviewer, "land use controls" will replace LUCs.

7. Page 4-4 and 4-5, Section 4.2.2 and 4.2.2: please delete all references to "LUCAP", since this actually the Memorandum of Agreement already in effect. All discussion of the LUCAP should be deleted since the adopted document is a Memorandum of Agreement and is not referred to as a LUCAP.

   Response: All references to LUCAP will be deleted. Also, discussions related LUCAP will be deleted from the report.

8. Page 4-5, first paragraph: delete the remaining words after "considered to be reliable controls".

   Response: The first paragraph on Page 4-5 will be revised as recommended by the reviewer.

9. Page 5-2, Section 5.2.2, paragraph three: an explanation of the fact that removal of the top two feet of contaminated surface soil and placing two feet of clean soil cover on site would still not address the remaining contamination in the subsurface soils. In that situation, if excavation of the two feet of the clean

soil cover occurred, it would expose receptors to contaminated soil. Therefore, even though excavation and soil covering were accomplished, land use controls would still be required at Site 14 which address this possibility.

Response: Paragraph will be revised as follows:

Alternative 3 would reduce the volume of contaminated soil at Site 14. Alternative 3 is the only alternative where off-site disposal of contaminated soil would reduce the toxicity and volume on site. However, the removal of the top two feet of contaminated surface soil and placement of two feet of clean soil cover on site would still not address the contamination in subsurface soils. If excavation of the two feet of the clean soil cover occurred, it would expose receptors to contaminated soil. Therefore, if excavation and soil covering were accomplished, land use controls would still be required at Site 14. Alternatives 1 and 2 would not reduce the toxicity or mobility of contaminants at the site because these alternatives do not involve treatment of contaminants in media at the site.

Department of Environmental Protection

FILE
Rec'd 12/24/98

Lawton Chiles
Governor

Twin Towers Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Kirby B. Green, III
Secretary

December 8, 1998

Ms. Linda Martin
Department of the Navy, Southern Division
Naval Facilities Engineering Command
2155 Eagle Drive, PO Box 190010
North Charleston, SC 29419-9010

file: 15rfi_1.doc

RE: Draft Remedial Investigation Report, Site 15, Southwest Landfill, NAS Whiting Field

Dear Ms. Martin:

I have reviewed the subject document dated June 1998 (received June 30, 1998). Based on my review and since we are planning on addressing the ground water investigation at that time, I suggest that the Partnering team should examine the adequacy of the soil and ground water data in this document at the Partnering meeting in January. Site 15 is an unlined, uncapped industrial landfill in the Sand and Gravel Aquifer and I am not comfortable simply concluding that "all ground water issues will be addressed as part of the RI for the facility ground water study to be completed in the future." I will be much more comfortable addressing the ground water from a basewide basis once the basic contamination relationships of the site soils, buried debris and the ground water at the individual sites are generally known. Two years ago, when the Partnering team was considering the possibility of naming the facility ground water as a separate unit, my understanding was that each individual site would be adequately assessed. Does this mean that all sites will be fully characterized prior to the basewide ground water assessment? The answer is, no, but it is necessary that we have a good enough understanding of each site so that certain tasks, such as interim actions, if appropriate, can be accomplished now when the site is still under active assessment. For the record, I feel this way about every site at NAS Whiting Field. Site 15 typifies this situation and I believe that we need to adequately characterize the contaminant regime before concluding that we are finished and can move on to other things. In addition to this general comment, the Navy should adequately address the following comments in preparing the final draft:

1. As we have previously discussed for other sites at NAS Whiting Field, please insure that the soil, surface water and ground water data are evaluated with respect to the soil, surface and ground water (Table 1 and Table 3b) values in Chapter 62-785, F.A.C. Please note that the evaluation for soil should be the lower of either the direct exposure or the appropriate leachability level, if ground water is indicated to be contaminated. Please modify the appropriate tables to reflect this change. Please reevaluate the existing COPC, risk evaluations, etc., as necessary to also reflect this change. Table G-1 should be corrected to reflect the screening concentrations for those contaminants that were

detected in significant concentrations in the ground water; for example, the screening value for total xylenes is 300 ug/kg, not 100 ug/kg. Note that Table G-3 lists incorrect Florida groundwater guidance concentrations for 1,2-dichloroethene, chlorobenzene, naphthalene, xylenes and cyanide. Some of the TCLs in the Department's former guidelines, 1994 Ground Water Guidance Concentrations, have been superseded by the values in Chapter 62-785, F.A.C. (Table 3b). Finally, the previous Soil Cleanup Goals Memoranda from Mr. John Ruddell and others should not be used since they have also been superseded by Chapter 62-785, F.A.C. The use of the TCLs from Chapter 62-785, F.A.C. will eliminate the errors such as those seen in copper, vanadium and others presently noted in Tables 5-9 and 5-10. Finally, footnote 12 in Table 5-10 (page 5-44) is incorrect in that the 1998 FDEP document is not appended and my name in the references (page Ref-3) is misspelled.

2. Please present a modified version of Figure 3-4 which shows the analytical values for significant contaminants in the site ground water such as benzene and TCE. If the ground water contaminant data are plotted as requested, there is the suggestion that some of the TCE contamination that is observed may originate from Site 15. The figure will also illustrate the areal distribution of contaminants at Site 15 and also the fact that TCE and petroleum compounds are found in the ground water between Site 15 and the base boundary. I suggest that this be included and discussed in Section 9.1, Conclusions. In addition, a statement should be added which relates the contaminants in the soil and ground water, including exceedances of leaching values from Chapter 62-785, F.A.C., if any are present. All of the previous suggestions will help make the final report more comprehensive and help link the data from Site 15, which has significant ground water contamination, to the information that will be obtained in the basewide ground water study.

3. Please provide a discussion for the use of the terms, "shallow," "intermediate" and "deep" when discussing monitoring wells. A summary table which explains the depth ranges for each type and which groups the various wells into those classifications would be good. A cross-section diagram similar to the one presently used for the Clear Creek area would also help the reader understand the situation, especially if the diagram can be related to the figure that was requested in comment 2.

4. I have concerns as to whether the characterization of the subsurface soil for Site 15 is adequate since only five samples were obtained and there was no testing to determine if the landfill is a continuing source of contamination to the ground water. If a cap is determined to be a potential remedy in the future, additional information regarding the ground water levels and how they may interact with the base of the landfill will also be required in order to assess the adequacy of the cap. In this regard, a review of the Test Pit and CPT Logs data in Appendix C is quite informative, especially Test Pit 15-06, which notes the presence of "solvent cans with solvent." With respect to those CPT logs, there is much information to be obtained from it and I respectfully suggest that prior to

RI Rep - CTO 116

FILE

Harding Lawson Associates

HLA

2534-2010

March 11, 1999

Mr. Craig Benedikt, Remedial Project Manager
Federal Facilities Branch
USEPA Region IV
61 Forsyth Street
Atlanta, Georgia 30303

Subject: **Draft Response to Comments for the Remedial Investigation Report**
Site 15, Southwest Landfill
Naval Air Station Whiting Field, Milton, Florida
Contract No. N62467-89D-0317/116

Dear Craig:

On behalf of Southern Division Naval Facilities Engineering Command (SOUTHNAVFACENGCOM), Harding Lawson Associates is pleased to submit the subject document for your review and comments. Copies of the response to comments have also been forwarded to the Naval Air Station Whiting Field Partnering team.

If you have any questions please call me at (850) 656-1293.

Sincerely,

HARDING LAWSON ASSOCIATES

Rao Angara
Task Order Manager

enclosure

cc: Ms. L. Martin, SDIV (1 copy)
Ms. A. Twitty, CH2M Hill (1 copy)
Mr. J. Cason, FDEP (1 copy)
Mr. T. Conrad, BEI (1 copy)
Mr. T. Hansen, TtNUS (1 copy)
Mr. G. Walker, TtNUS (1 copy)
Mr. P. Ottinger, TtNUS (1 copy)
Mr. J. Holland, NASWF (1 copy)

Engineering and
Environmental Services

2590 Executive Center Circle East, Tallahassee, FL 32301 850/656-1293 Fax 850/656-3386

Response to Review Comments
for Remedial Investigation Report
Site 15, Southwest Landfill

Florida Department of Environmental Protection

1. As we have previously discussed for other sites at NAS Whiting Field, please insure that the soil, surface water and ground water are evaluated with respect to the soil, surface and ground water (Table 1 and Table 3b) values in Chapter 62-785, F.A.C. Please note that the evaluation for soil should be the lower of either the direct exposure or the leachability level, if ground water is indicated to be contaminated. Please modify the appropriate tables to reflect this change. Please reevaluate the existing COPC, risk evaluation, etc., as necessary to also reflect this change. Table G-1 should be corrected to reflect the screening concentrations for those contaminants that were detected in significant concentrations in the groundwater, for example, the screening value for total xylenes is 300 ug/kg, not 100 ug/kg. Note that Table G-3 lists incorrect Florida groundwater guidance concentrations for 1,2-dichloroethene, chlorobenzene, naphthalene, xylenes and cyanide. Some of the TCLs in the Department's former guidelines, 1994 Ground Water Guidance Concentrations, have been superseded by the values in Chapter 62-785, F.A.C. (Table 3b). Finally, the previous Soil Cleanup Goals Memoranda from Mr. John Ruddell and others should not be used since they have also been superseded by Chapter 62-785, F.A.C. The use of the TCLs from Chapter 62-785, F>A.C. will eliminate the errors such as those seen in copper, vanadium, and others presently noted in Tables 5-9 and 5-10. Finally, footnote 12 in Table 5-10 (page 5-44) is incorrect in that the 1998 FDEP document is not appended and my name in the references (page Ref-3) is misspelled.

   Response: As recommended by the reviewer, all data will be compared against the criteria specified in Chapter 62-785, F.A.C. All relevant tables will be updated as necessary.

2. Please present a modified version of Figure 3-4 which shows the analytical values for significant contaminants in the site ground water such as benzene and TCE. If the ground water contaminant data are plotted as requested, there is the suggestion that some of the TCE contamination that is observed may originate from Site 15. The figure will also illustrate the areal distribution of contaminants at Site 15 and also the fact that TCE and petroleum compounds are found in the ground water between Site 15 and the base boundary. I suggest that this be included and discussed in Section 9.1, Conclusions. In addition, a statement should be added which relates the contaminants in the soil and ground water, including exceedances of leaching values from Chapter 62-785, F.A.C., if any are present. All of the previous suggestions will help make the final report more comprehensive and help link data from Site 15, which has significant ground water contamination, to the information that will be obtained in the basewide ground water study.

   Response: As recommended by the reviewer, a modified version of Figure 3-4 will be presented showing significant contaminants in the site ground water. Discussion

of areal distribution of contaminants will be provided in section 9.1, as well as statements relating soil and ground water contamination.

3. Please provide a discussion for the use of the terms, "shallow," "intermediate" and "deep" when discussing monitoring wells. A summary table which explains the depth ranges for each type and which groups the various wells into those classifications would be good. A cross-section diagram similar to the one presently used for the Clear Creek area would also help the reader understand the situation, especially if the diagram can be related to the figure that was requested in comment 2.

   Response: As recommended by the reviewer, discussion of use of terms "shallow," "intermediate," and "deep" will be provided when discussing monitoring wells. A summary table and cross-section diagram will also be provided.

4. I have concerns as to whether the characterization of the subsurface soil for Site 15 is adequate since only five samples were obtained and there was no testing to determine if the landfill is a continuing source of contamination to the ground water. If a cap is determined to be a potential remedy in the future, additional information regarding the groundwater levels and how they may interact with the base of the landfill will also be required in order to assess the adequacy of the cap. In this regard, a review of the Test Pit and CPT Logs data in Appendix C is quite informative, especially Test Pit 15-06, which notes the presence of "solvent cans with solvent." With respect to those CPT logs, there is much information to be obtained from it and I respectfully suggest that prior to preparing a focused feasibility study (which I think is not appropriate at this time), the author of that study should carefully review it.

   Response: DISCUSS AT MEETING.

5. Figure 6-6: please correct this figure, placing the FDEP acceptable level as 1E-06.

   Response: Figure 6-6 will be revised as recommended.

Response to Review Comments
for Remedial Investigation Report
Site 15, Southwest Landfill

U.S. Environmental Protection Agency

GENERAL COMMENTS

1. In each of the statistical summary tables presented in the report, the mean of the detected concentrations is presented. Since any exceedances of the screening criteria should be based on the maximum detected concentrations, it is not clear why the mean of the detected concentrations are presented. This purpose of presenting the mean of the detected concentrations should be clarified.

   Response: The mean of the detected concentrations is a byproduct of the statistical analysis for the risk assessment and has been included in the tables. The maximum detected concentration is also represented in the tables under the detected concentration range.

2. The Soil Cleanup Goals for Florida (FSCGs) Memorandum from John M. Ruddell, dated September 29, 1995 states in the first paragraph that "If there is groundwater contamination above Florida standards and minimum criteria or if there was a recent discharge, the leachability-based cleanup goals should also be considered using the applicable direct contact scenario (residential and industrial). The lowest of the two should be the final cleanup goal for the upper two feet of soil. For below two feet, the leachability based-goal should be applied if the parameters of concern are detected above the Florida criteria." It is not apparent that this procedure was followed in the screening process. This should be clarified. It should also be noted that the FSCGs usually only apply to the upper two feet of soil as stated in the Applicability of Soil Cleanup Goals for Florida from John M. Ruddell, dated January 19, 1996. However, the report uses these goals for comparison to subsurface soils collected from depths to 12 feet below ground surface. This apparent deviation from the procedures specified in the RSCGs should be addressed.

   Response: As recommended by the reviewer, the leachability-based cleanup target levels will also be considered during the screening process, due to ground water contamination.

3. Surface soil samples were collected from 0 to 12 inches. However, Florida guidance (as referenced in the previous comment) suggests that surface soil is defined as the upper two feet of soil. The rationale for collecting samples from 0 to 12 inches should be provided.

   Response: DISCUSS AT MEETING.

4. The statistical summary tables should identify the exceedances of the screening criteria by highlighting or bolding the analytes and/or the concentrations. In addition, figures should be provided to show the locations of the exceedances.

Response: As recommended by the reviewer, exceedances of the screening criteria will be bolded in the statistical summary tables. Figures will also be provided to show the locations of the exceedances.

5. Several errors were noted in the text of the report including changes in font and redundant page numbers (for an example, see Page 5-46). The report should be reviewed carefully by the Navy.

   Response: Errors in the text of the report, including font changes and redundant page numbering will be corrected, as requested.

SPECIFIC COMMENTS

6. **Page 1-1, Fifth Paragraph**. The depth of the trenches and information on whether the waste is located beneath the water table should be provided, if known (note that the test pit and monitoring well logs do not provide this information). This information is relevant to the Feasibility Study and the selection of alternatives and/or the design of the selected alternative. If not presently known, this information should be determined.

   Response: There is no documentation available on the depth of the trenches at Site 15. Based on the depth to the water table (approximately 16 to 90 feet bls) it is not anticipated that the trenches intersect the water table.

7. **Page 3-1, Eighth Paragraph**. Subsurface soil samples were collected in October 1992 and a soil gas survey for methane and total VOCs was conducted in September 1995. Figures 5-7 through 5-10 show the results of the screening at 1.5 feet and 3.0 feet below land surface. The following comments concern these soil gas survey results:

   It is not clear why subsurface soil samples were not collected during Phase IIB in the area from soil gas survey locations 17, 6, 97 and 98 (see Figures 5-7 and 5-9) on the western part of the site, or sample location 20 (Figure 5-9) on the northern part of the site. This additional information would have been useful in attempting to identify the source and nature of the VOCs which were shown by the soil gas concentrations as being in excess of 5,000 ppm. Justification for not collecting these subsurface soil samples should be provided.

   Groundwater samples collected downgradient of these elevated VOC areas (e.g., from WHF-15-1, WHF-15-6S, and WHF-15-6D) in 1996 and 1997 do not appear to substantiate the elevated VOC levels detected during the soil gas survey. Potential explanations for this anomaly should be provided.

Response: DISCUSS AT MEETING

8. **Page 3-5, Sixth Paragraph**. This paragraph does not continue logically to the next page of text (Page 3-7). It appears that a number of words are missing. This discrepancy should be corrected.

   Response: The text in question will be revised to include the missing words.

9. **Page 5-2, Figure 5-1**. It is recommended that an additional downgradient geologic cross-section be constructed. For example, WHF-1466-6 to WHF-15-7 to WH-15-6 to WHF-15-8 would be a good selection for constructing the additional geologic cross-section.

   Response: It appears that the existing cross-sections provide an adequate profile of the subsurface geology at Site 15. Therefore, additional cross-sections are not necessary.

10. **Pages 5-16 and 5-17, Table 5-3**. Monitoring wells WHF-15-8S, WHF-15-8I, WHF-15-8D, WHF-16-7S, WHF-16-7I, and WHF-16-7D should be added to this table to provide vertical hydraulic gradients between Sites 15 & 16 and Clear Creek. In particular, the gradient for WHF- 16-7 may indicate whether the groundwater was discharging to Clear Creek on the date(s) that the measurements were collected.

    Response: From a hydrogeologic standpoint it is known that groundwater discharges to Clear Creek. Vertical gradients in Site 16 monitoring wells are not relevant to the Site 15 RI as they are cross-gradient from the site. Groundwater flow issues will be further addressed in the basewide groundwater investigation.

11. **Page 5-19, First Paragraph**. This paragraph presents seepage velocities for the shallow zone of the aquifer only. The seepage velocities for the intermediate and deep zones should also be discussed.

    Response: Seepage velocities for other parts of the aquifer will be addressed in the basewide groundwater investigation.

12. **Page 5-20, Table 5-5**. The seepage velocities presented in this table only apply to the shallow zone of the sand and gravel aquifer. The seepage velocities for the intermediate and deep zones should also be presented in this table.

    Response: Seepage velocities for other parts of the aquifer will be addressed in the basewide groundwater investigation.

13. **Page 5-45, Second Paragraph**. This paragraph should be checked for accuracy (it appears that a sentence was repeated). In addition, a concentration of 1,7000 is listed. This should be corrected to 1,700, 17,000, or whatever is correct.

    Response: As recommended, the repeated sentence will be removed and the concentration will be changed to 1,700.

14. **Page 5-51, Table 5-14**. It seems highly coincidental that the mean of the detected concentrations is the same as the background concentrations for mercury through zinc. These numbers should be confirmed.

    Response: The values will be confirmed and modified if necessary.

15. **Page 5-53, Fifth Paragraph**. It is stated that the preferred groundwater data set is from the Phase IIB sampling event since low-flow sampling methodology was applied. This statement is acceptable. However, Table 5-20 and 5-21 only present the statistics from the second Phase IIB sampling event in 1997. It is not clear why the data from the first Phase IIB sampling event in 1996 was not included. This should be explained and, if appropriate, the 1996 data should be added to the data set. In addition, note that the reference to Tables 6-20 and 6-21 in this paragraph should be Tables 5-20 and 5-21.

    Response: The 1996 data was not used in Tables 5-20 and 5-21 because the 1997 was the most current data set and represents the most current condition of groundwater quality. The 1996 data will be used as appropriate to discuss groundwater concentration trends and distribution. The reference to the tables will be changed as suggested.

16. **Page 5-79, Fourth Paragraph**. With respect to the filtered and non-filtered samples, this paragraph should also note that, in several instances, the filtered samples contained higher concentrations of the same analytes than non-filtered samples. In addition, the authors of the RI report should be aware that EPA Region 4 will not consider the use of filtered samples in any steps of the CERCLA decision making process, including risk assessment determinations.

    Response: The text will be revised to include a discussion comparing filtered and unfiltered data. Only unfiltered data was used in the RI including the risk assessment.

17. **Page 5-74, Table 5-20**. The reporting limit ranges for several analytes exceeded the screening criteria including 1,1-dichloroethene, 1,2-dichloroethane, benzene, trichloroethene, naphthalene, and bis-(2-ethylhexyl)phthalate. This should be noted in the text of the report.

    Response: It will be noted in the text that the reporting limit ranges for the above analytes exceeded the screening criteria.

18. **Page 5-76, Table 5-21**. The reporting limit range for antimony exceeded the screening criteria. This should be noted in the text of the report.

    Response: It will be noted in the text that the reporting limit range for antimony exceeded the screening criteria.

19. **Page 8-12, Sixth Paragraph**. It is noted in this paragraph that subsurface soil is discussed with respect to fate and transport. However, this discussion is missing from this section. A discussion of the fate and transport of contaminants in the subsurface soil should be added.

    Response: The subsurface soil fate and transport section will be added to this section.

20. **Page 8-13, Second Paragraph**. This paragraph (regarding surface soil) states that the metals in the soil are not likely to be mobile since metal analytes readily adsorb to, or are natural constituents of, clays and other minerals. While the statement may be true, it is not apparent that it is highly applicable to the conditions at Site 15. The test pits and monitoring well logs show that the surface soil is predominantly sand. This paragraph should be modified or removed from the report.

    Response: The paragraph will be removed from the report.

21. **Page 8-13, Third Paragraph**. In addition to surface water contamination via runoff from contaminated surface soil, the potential for the contamination of Clear Creek via groundwater discharge should be discussed.

    Response: The potential for groundwater discharge to Clear Creek will be included in this paragraph.

22. **Page 8-13, Seventh Paragraph**. According to this paragraph, contaminated sediment transport to Clear Creek is not believed possible. It should be stated that this hypothesis will be evaluated during the Site 39, Clear Creek Flood Plain investigation. Additionally, the surface transport of contaminated sediment to the ditch along the southern end of the site, and potential ecological exposure, should be discussed.

    Response: Text will be included to identify that sediment transport to Clear Creek will be addressed during the Clear Creek Flood Plain investigation. Transport of sediment to the ditch at the southern end of the site will be included in the report.

23. **Page 8-14, First Paragraph**. The last sentence states that Clear Creek is located 1500 feet southwest of the site. This is inconsistent with other statements in the report which specify the distance as 1200 feet (e.g., Page vi, Bullet 6). This discrepancy should be

corrected.

Response: The last sentence has been changed to state that Clear Creek is located 1200 feet southwest of the site.

24. **Page 8-14, Fifth Paragraph**. In the second sentence, it is stated that a seepage velocity of 139 feet/year was calculated for the surficial aquifer from eight monitoring wells at Site 15. This sentence should be clarified since:

- the identification of discrete aquifers ("surficial aquifer" implies that there are deeper aquifers) has not been made in the report, and

- the seepage velocity was calculated from four monitoring wells at Site 15 and four monitoring wells at Site 16.

Additionally, the seepage velocity of 139 feet/year was calculated based on data from shallow monitoring wells and does not represent the seepage velocity of the deeper aquifer zones. Information on the seepage velocities in the deeper aquifer zones should be added. Also, it should be noted that WHF-15-2I and WHF-15-3I had significantly higher hydraulic conductivities (see Page 5-18, Table 5-4) than the shallow wells at Site 15.

It is not clear why the last sentence contains the phrase "50-year time frame". The distance of 4,587 feet for potential contaminant migration is calculated based on the seepage velocity of 139 feet/year and a 33-year time frame. To avoid confusion, the "50-year time frame" should be removed. Furthermore, the calculation of the distance of potential contaminant migration should be based on the "worst-case scenario" using the maximum seepage velocity from the shallow, intermediate, and deep zones.

Response: Seepage velocities in deeper zones of the aquifer will be addressed in the basewide groundwater investigation. The "50-year time frame" phrase will be removed from the text.

25. **Page 8-14, Seventh Paragraph**. It should be clarified whether additional sediment and surface water samples will be collected from Clear Creek in the RI for Site 39, Clear Creek Flood Plain, to evaluate the potential impacts of Site 15.

Response: Text will be added to indicate that additional surface water and sediment samples will be collected during the RI for Site 39.

26. **Page 9-1, First Paragraph**. The second bullet refers to "total organic carbon" which is not relevant with respect to the soil gas survey. "Total organic carbon" should be replaced with "total VOCs".

The fifth bullet incorrectly states that the detected concentrations of arsenic in surface soil did not exceed the FDEP-approved site-specific non-residential goal of 4.2 ug/l (note that ug/l is not the correct units for soil samples). Table 5-10 on page 5-43 shows that arsenic concentrations ranged from 0.75 mg/kg to 6.8 mg/kg. In addition, the FDEP-approved site specific non-residential goal is shown as 4.62 mg/kg in Table 5-10 and not 4.2 ug/l as stated in this paragraph. These discrepancies should be corrected.

The first sentence of the sixth bullet should refer to "subsurface soil" samples and not "surface soil" samples. In addition, it is stated that the concentration of Arochlor-1242 exceeded the Florida industrial-use soil cleanup goal. However, the detected concentration was 2,200 ug/kg and the Florida industrial-use soil cleanup goal is 3,500 ug/kg (see Page 5-49, Table 5-13). The Region III RBC (industrial) was exceeded, as stated. These discrepancies should be corrected.

Response: The reference to "total organic carbon" in the second bullet will be replaced with "total VOCs." The fifth bullet will be changed to include arsenic's correct FDEP-approved site-specific target level of 4.62 mg/kg. Text stating that arsenic did exceed the site-specific non-residential target level will be added. The sixth bullet will be changed to refer to "subsurface soil." Aroclor-1242 has exceeded the Florida SCTL for leachability instead of the industrial value and will be changed accordingly .

Site 15 Human Health and Ecological Risk Review Comments:

GENERAL COMMENTS

27. The results of investigations conducted at Site 15 are presented in Section 5 (Investigative Results section) of the document. Throughout the chapter, the analytical results and the various screening criteria are presented in table form for each media evaluated. Generally, it appears that USEPA Region III Risk-Based Concentrations (RBCs) are not adjusted by 0.1 for noncarcinogenic constituents. However, this does not seem to be consistent throughout the section. For example, it appears that the values have been adjusted on Table 5-14. The RBCs have been appropriately adjusted during screening in the risk assessment section of the document. Therefore, it is acceptable for the values to remain unadjusted in the Investigative Results section since they are presented for informational purposes only. However, the information that is presented should be consistent. Section 5 of the document should be reviewed and corrected accordingly.

Response: Section 5 tables will be revised to be consistent in the presentation of USEPA Region III Risk-Based Concentrations.

SPECIFIC COMMENTS

28. **Section 5.5, Page 5-45**. The section presents a discussion of the surface soil analytical results for Site 15. The text states that dibutylphthalate was detected in six samples at concentrations ranging from 730 to 1,100 ug/kg. This is inconsistent with the information presented on Table 5-9. According to the table, the range of dibutylphthalate concentrations is 560 to 1,100 ug/kg. The discrepancy between the text and table should be corrected.

    Response: The range of dibutylphthalate will be changed to 560 to 1,100 ug/kg as shown in Table 5-9.

29. **Table 6-8**. The table presents a summary of the risks calculated for receptors identified under future land use. According to Table 6-8, the hazard indices calculated for ingestion of groundwater for the adult and child are three and seven, respectively. However, this is inconsistent with the values presented in Tables G-24 and G-25. These tables indicate that adult and child hazard indices are four and eight, respectively. The discrepancy should be corrected.

    Response: Table 6-8 has been reviewed and the hazard indices for ingestion of groundwater for the adult and child will be changed, according to Tables G-24 and G-25, to four and eight, respectively.

30. **Section 6.8, Page 6-34**. It is stated in the text that the human health contaminants of potential concern (HHCPCs) detected in subsurface soil do not pose unacceptable carcinogenic risk to the receptors evaluated. However, no subsurface HHCPC were identified at Site 15. The text of this section and the Executive Summary should be amended in order to avoid unnecessary confusion.

    Response: The text will be revised to indicate that no HHCPCs were identified for subsurface soil.

31. **Figure 7-2, Page 7-6**. Figure 7-2 shows the contaminant pathway model for Site 15 ecological receptors. Shading of the boxes indicates exposure pathways that are quantitatively evaluated for receptors in Site 15. Nonshaded boxes indicate insignificant exposure pathways. The soil-to-food-to-ingestion pathway for terrestrial invertebrates is not shaded meaning it is not considered to be a significant exposure pathway. This is somewhat misleading because the soil-to-food-to-ingestion pathway is a significant route of exposure. However, since the majority of food for terrestrial invertebrates comes from soil, exposure via soil ingestion and food ingestion can be lumped into one exposure route. Soil ingestion and food ingestion should both be shaded and a note should be

provided about them being essentially one pathway and that they will be analyzed as such.

Response: The box for terrestrial invertebrate soil-to-food-to-ingestion pathway will be shaded in Figure 7-2. The following footnote will be added to the table; The ingestion exposure routes for terrestrial invertebrates include the ingestion of soil and food items containing chemicals accumulated from Site 15 surface soil.

32. **Section 7.2.3, Pages 7-7 and 7-8**. This section presents the hypotheses developed to gauge risks associated with exposure to surface soil. Hypothesis number 4 on page 7-8 discusses ECPC in groundwater. The first sentence of the fifth paragraph on page 7-7 should be changed to, "Four hypotheses were developed to gauge potential risks associated with exposure to Site 15 surface soil *and groundwater*."

Response: The second paragraph in Section 7.2.3 will replaced with the following: *"Four questions were developed to gauge potential risks associated with exposure to Site 15 surface soil and groundwater. These questions are designed for multiple species and trophic levels and represent both individual and community dynamics. Questions for the Site 15 ERA include the following:"*

33. **Table 7-1, Page 7-8**. Table 7-1 shows the endpoints selected for the ecological risk assessment. In Section 7.2.3, the assessment endpoints are defined as representing the ecological component to be protected. However, in Table 7-1 the assessment endpoints for terrestrial plants and terrestrial invertebrates are stated as being a reduction in the biomass of terrestrial plants used as forage material and a reduction in the abundance of earthworms used as forage material, respectively. Reductions in forage material are not ecological components to be protected. The assessment endpoints in Table 7-1 are not consistent with the definition of an assessment endpoint provided in section 7.2.3. This inconsistency should be corrected.

Response: The receptors for the first two assessment endpoints in Table 7-1 will be changed from terrestrial plants and invertebrates to wildlife species. Therefore, a reduction in forage material is an ecological component to be protected, as a reduction in forage material would have a direct effect on the receptors of concern (i.e. wildlife species).

34. **Table 7-2, Page 7-13**. Table 7-2 provides information on the selection of ECPCs such as detected concentrations and screening values. It is reported in Table 7-2 that the ecological screening value for zinc is not available. However, when referencing Beyer (1990), a screening value of 200 mg/kg was found. This value should be use in Table 7-2.

Response: The screening value of 200 mg/kg will be added to Table 7-2, and the ERA

will be revised accordingly.

35. **Section 7.4.1, Page 7-18**. The second paragraph on page 7-18 involves groundwater EPCs. It is explained that a 10-fold attenuation factor is applied to the RME concentration in order to derive a realistic exposure concentration for groundwater constituents in the surface water of Clear Creek. It is unclear as to how the "10-fold attenuation factor" was derived. This needs to be clarified.

Response: The 10-fold attenuation factor is a conservative estimate of the attenuation that occurs between groundwater and surface water exposure.

36. **Section 7.4.2, Page 7-18**. Several sections in chapter 7 (e.g. Section 7.4.2 and Section 7.3) refer the reader to information in the General Information Report (GIR) prepared by ABB-ES in 1998. Information such as PDE calculation methodologies and background investigation data are only available in the GIR and are not provided in this report. It would be helpful for pertinent information to be provided in an appendix to this report.

Response: The background data are provided in the NAS Whiting Field GIR and will not be added to the RI report. The GIR was created to reduce the presentation of redundant information in the RI reports and contains a large amount of technical information that would be unwieldy to append to each RI report.

37. **Table 7-4, Page 7-19**. This table provides the equations used to calculate the potential dietary exposures for wildlife receptors. The variable "TN" is given three different definitions in Table 7-3. They are as follows, 1) the tissue concentration in food item N, 2) the secondary prey item concentration, and 3) the primary prey item concentration. Clarification (e.g., T_p for primary prey item tissue concentration and T_s for secondary prey item tissue concentration) in Table 7-3 would be beneficial.

Response: The variable T_N will be modified so that T_{N1} refers to the tissue concentraion of the primary prey item, T_{N2} refers to the tissue concentration of the secondary prey item, and T_N refers to the tissue concentration of either the primary or secondary prey item.

The rationale provided in the ERA for not calculating bird tissue concentrations is the lack of avian bioaccumulation factors (BAFs). Since contaminant concentrations in birds as a secondary prey items were not calculated, it should be stated in section 7.4 how PDEs for the red fox and red-tailed hawk were calculated without the avian BAFs.

Response: The text in section will not be revised however an uncertainty will be added in Section 7.7 to address this issue. The following uncertainty will be added to section 7.7. The PDEs for the red fox and red-tailed hawk assume no exposure from small birds as prey items due to a lack of avian BAFs. Birds make-up a small portion of the red fox

and red-tailed hawk diet, and for this evaluation it is assumed that small birds would not provide a source of contaminant exposure. In addition, the risks predicted (i.e. the HQs and HIs) for the red fox and red-tailed hawk were so low that it is unlikely that including avian BAFs (if they were available) would alter the findings of the ERA.

38. **Section 7.4.2, Pages 7-18 and 7-20**. The second bullet in Section 7.4.2 provides a discussion of the short-tailed shrew as a wildlife receptor. The home range of the short-tailed shrew is not provided in this discussion although the home ranges for other ecological receptors are provided in this section. The home range of the short-tailed shrew should be provided in the first bullet.

The second bullet on page 7-20 provides a discussion of the red-tailed hawk as a wildlife receptor. The home range of the red-tailed hawk is not provided in this discussion, although the home ranges for other ecological receptors are provided in this section. The home range of the red-tailed hawk should be provided in the fourth bullet.

Response: The home range for the short-tailed shrew will be included as suggested. The first sentence in this paragraph will be revised as follows; "…. , and brush, and has a home range of approximately 1 acre".

The home range for the red-tailed hawk will be included as suggested. The first sentence of this paragraph will be revised as follows; "… on small mammals, and has a home range of approximately 800 acres".

39. **Table 7-6, Page 7-21**. This table describes the exposure parameters for representative wildlife species used as receptors in this remedial investigation. Many of the parameters are cited from the *Wildlife Exposure Factors Handbook* (USEPA, 1993); however, it is not consistently stated whether an average of the exposure parameter is calculated or if a certain study was selected. For example, it is not explained in Table 7-5 how the values in the column titled, "Assumed Diet for Terrestrial Exposure Assessment (% of diet)," were derived. The dietary composition data for the deer mouse (surrogate for the cotton mouse) provided in the handbook are seasonal percentages with invertebrates comprising as much as 63% of the deer mouse's diet, but Table 7-6 states that invertebrates make up 10% of the deer mouse's diet. It should be clarified in Table 7-6 how the values in the dietary composition column were derived from the data provided in the handbook.

The food ingestion rate (FIR) for the red-tailed hawk was calculated using the bird equation based on body weight from the *Wildlife Exposure Factors Handbook* (USEPA, 1993). An FIR of 0.133 kg/day for the red-tailed hawk is presented in table 7-6; however, when calculated using the EPA bird equation and the body weight provided in Table 7-6, an FIR of 0.059 kg/day results. This calculation should be reevaluated and checked for accuracy.

In Table 7-6 it is stated that the body weight of the red-tailed hawk is 1.02 kg with a footnote of [I]. However, footnote [I] refers to the bird food ingestion equation, not to the derivation of body weight. The footnote for the red-tailed hawk body weight should be changed to indicate the source of the body weight value.

Response: The dietary composition data in Table 7-6 were derived based on average exposure parameters cited in the *Wildlife Exposure Factors Handbook* (USEPA, 1993). The table footnotes will be revised to clarify this distinction.

The food ingestion rates were re-calculated for the eastern meadowlark and red-tailed hawk. The FIR for the eastern meadowlark is correct. However, the FIR for the red-tailed hawk was calculated incorrectly, the correct FIR for the red-tailed hawk should be 0.059 kg/day. The ERA will be revised as required.

The footnote will be changed to [h], as the body weight for the red-tailed hawk, used in this evaluation was presented in Terres 1980.

40. **Section 7.6.4, Page 7-32**. In this section, it was concluded that it is unlikely that the predicted levels of zinc in the groundwater will have an adverse effect on aquatic receptors in Clear Creek. This was concluded in spite of the fact that the predicted groundwater exposure concentrations of zinc (27 µg/L) exceed the AQUIRE value of 17 µg/L. The reasoning behind this conclusion is that a review of additional AQUIRE data for zinc indicated that the predicted 27 µg/L exposure concentration would not result in adverse effects to the majority of the aquatic receptors in Clear Creek. Although this conclusion is believed to be accurate, the reasoning behind this conclusion should be further discussed in this section.

Response: The text will be modified to include more details on the reasoning behind the conclusion of no adverse effect to aquatic receptors from exposure to zinc. The following text will be added to this section: The AQUIRE data on zinc was reviewed for toxicity information on specific receptors that would most likely inhabit Clear Creek. The results of this review indicated that exposure to concentrations of zinc at 27 ug/L would not pose a risk to these aquatic receptors.

41. **Section 9.1, Page 9-1**. The text states that three volatile organic compounds (VOCs), seven semi-volatile organic compounds (SVOCs), and one pesticide compound were detected in Site 15 surface soil samples. However, these constituents are actually found in subsurface soil samples. The text of this section and the Executive Summary should be corrected accordingly.

Response: The text of section 9.1 and the Executive Summary will be corrected to refer to subsurface soil samples.

42. **Table H-1**. This table presents bioaccumulation factors (BAFs) for terrestrial invertebrates, terrestrial plants, mammals, and birds.

It is not possible to confirm the mammal BAFs for semivolatiles using the cited Travis and Arms equation for biotransfer factors with conversion to BAFs. The average ingestion rate used for this calculation in the ERA was not provided. Provide more information on the calculation of the mammal BAFs and re-confirm the calculated mammal BAFs.

Table F-1 provides a plant BAF of 6.7E-03 for bis(2-ethylhexyl)phthalate, Di-n-butylphthalate, and butylbenzylphthalate. However, when recalculated using the equation in footnote [d], a plant BAF of 8.7E-03 was obtained for bis(2-ethylhexyl)phthalate, 7.6E-03 for Di-n-butylphthalate, and 1.1E-02 for butylbenzylphthalate. Please review these calculations and address the discrepancies.

Response: The average ingestion rate for lactating and non-lactating cows is 12 kg feed/day (dry weight). As noted in footnote [e] in Table H-1, this value was converted to a wet weight prior to calculation of a BAF. This ingestion rate for lactating and non-lactating cows will be included in footnote [e], in Table H-1. The mammal BAFs for Di-n-butylphthalate, and bis(2-ethylhexyl)phthalate, calculated using this equation are 2.4E-01 and 1.9E-01, respectively. The BAF for Di-n-butylphthalate will be used as a surrogate for butylbenzylphthalate, as a BAF was not calculated for this analyte because it has a log Kow value of <5.

The calculations were reviewed and the USEPA reviewer is correct in stating that the plant BAF for bis(2-ethylhexyl)phthalate and Di-n-butylphthalate should be 7.6E-03 and 8.7E-03, respectively. However, the BAF for Di-n-butylphthalate will be used as a surrogate for butylbenzylphthalate, as a BAF was not calculated for this analyte because it has a log Kow value of <5.

43. **Table H-2**. Table H-2 presents ingestion toxicity information. The Lowest Observed Adverse Effect Level (LOAEL) column heading should not be under the lethal reference toxicity value (RTV) heading. The LOAEL should be presented only with sublethal RTVs. The column headings need to be verified to ensure that they reflect the data in the column and be revised as necessary.

Response: LOAEL values for mortality are available (i.e., mortality in 6% of the population); therefore, it is appropriate to list these values under the "lethal RTV" heading. As described in Section 7.5.1 of the ERA, data used to select lethal RTVs includes NOAEL and LOAEL data, as well as well as LD 50 values from literature.

44. **Table H-3**. Table H-3 presents the RTVs selected for the ERA while Table H-2 presents

ingestion toxicity data for wildlife.

For zinc, an LD50 derived lethal RTV of 502 mg/kg/BW/day was used in Table H-3 and a LOAEL derived sublethal RTV of 20 mg/kg/BW/day was used in Table H-3. However a lower lethal RTV of 3.9 mg/kg/BW/day and a lower sublethal RTV of 16 mg/kg/BW/day are both available as listed in Table H-2. The lowest possible RTVs should be used in Table H-3. Please review this calculation and address this discrepancy.

Response: The lethal and sublethal RTVs presented in Table H-3 were used as the selected RTVs because the effects measured in the laboratory tests were more closely related to the chosen assessment endpoints. The alternatives listed in Table H-2 (i.e., lethal RTV of 390mg/kg/BW-day and sublethal RTV of 160 mg/kg/BW-day) are consistent with the selected RTVs, and are based on effects that are not as closely related to the chosen assessment endpoints as the selected RTVs. In addition, the RTV values identified in the reviewers comment are not consistent with the RTVs listed in Table H-2.

EDITORIAL COMMENTS

45. **Section 7.5, Page 7-25**. The first sentence on page 7-25 mentions Site 18 when it is believed that Site 15 is being referred to. This discrepancy should be addressed.

    Response: The first sentence on page 7-25 will be corrected to refer to site 15.

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FILE

Harding Lawson Associates

HLA

2534-2015

May 16, 1999

Mr. Craig Benedikt, Remedial Project Manager
Federal Facilities Branch
USEPA Region IV
61 Forsyth Street
Atlanta, Georgia 30303

Subject: **Final Response to Comments for the Remedial Investigation Report**
Site 15, Southwest Landfill
Naval Air Station Whiting Field, Milton, Florida
Contract No. N62467-89D-0317/116

Dear Craig:

On behalf of Southern Division Naval Facilities Engineering Command (SOUTHNAVFACENGCOM), Harding Lawson Associates is pleased to submit the revised response to comments for your review and comments. Copies of the revised response to comments have also been forwarded to the Naval Air Station Whiting Field Partnering team.

If you have any questions please call me at (850) 656-1293.

Sincerely,

HARDING LAWSON ASSOCIATES

Rao Angara
Principal Project Manager

enclosure

cc: Ms. L. Martin, SDIV (1 copy)
Ms. A. Twitty, CH2M Hill (1 copy)
Mr. J. Cason, FDEP (1 copy)
Mr. T. Conrad, BEI (1 copy)
Mr. T. Hansen, TtNUS (1 copy)
Mr. G. Walker, TtNUS (1 copy)
Mr. P. Ottinger, TtNUS (1 copy)
Mr. J. Holland, NASWF (1 copy)
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Engineering and
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Response to Review Comments
for Remedial Investigation Report
Site 15, Southwest Landfill

Florida Department of Environmental Protection

1. As we have previously discussed for other sites at NAS Whiting Field, please insure that the soil, surface water and ground water are evaluated with respect to the soil, surface and ground water (Table 1 and Table 3b) values in Chapter 62-785, F.A.C. Please note that the evaluation for soil should be the lower of either the direct exposure or the leachability level, if ground water is indicated to be contaminated. Please modify the appropriate tables to reflect this change. Please reevaluate the existing COPC, risk evaluation, etc., as necessary to also reflect this change. Table G-1 should be corrected to reflect the screening concentrations for those contaminants that were detected in significant concentrations in the groundwater, for example, the screening value for total xylenes is 300 ug/kg, not 100 ug/kg. Note that Table G-3 lists incorrect Florida groundwater guidance concentrations for 1,2-dichloroethene, chlorobenzene, naphthalene, xylenes and cyanide. Some of the TCLs in the Department's former guidelines, 1994 Ground Water Guidance Concentrations, have been superseded by the values in Chapter 62-785, F.A.C. (Table 3b). Finally, the previous Soil Cleanup Goals Memoranda from Mr. John Ruddell and others should not be used since they have also been superseded by Chapter 62-785, F.A.C. The use of the TCLs from Chapter 62-785, F>A.C. will eliminate the errors such as those seen in copper, vanadium, and others presently noted in Tables 5-9 and 5-10. Finally, footnote 12 in Table 5-10 (page 5-44) is incorrect in that the 1998 FDEP document is not appended and my name in the references (page Ref-3) is misspelled.

   Response: As recommended by the reviewer, all data will be compared against the criteria specified in Chapter 62-785, F.A.C. All relevant tables will be updated as necessary.

2. Please present a modified version of Figure 3-4 which shows the analytical values for significant contaminants in the site ground water such as benzene and TCE. If the ground water contaminant data are plotted as requested, there is the suggestion that some of the TCE contamination that is observed may originate from Site 15. The figure will also illustrate the areal distribution of contaminants at Site 15 and also the fact that TCE and petroleum compounds are found in the ground water between Site 15 and the base boundary. I suggest that this be included and discussed in Section 9.1, Conclusions. In addition, a statement should be added which relates the contaminants in the soil and ground water, including exceedances of leaching values from Chapter 62-785, F.A.C., if any are present. All of the previous suggestions will help make the final report more comprehensive and help link data from Site 15, which has significant ground water contamination, to the information that will be obtained in the basewide ground water study.

   Response: As recommended by the reviewer, a modified version of Figure 3-4 will be presented showing significant contaminants in the site ground water. Discussion

of areal distribution of contaminants will be provided in section 9.1, as well as statements relating soil and ground water contamination.

3. Please provide a discussion for the use of the terms, "shallow," "intermediate" and "deep" when discussing monitoring wells. A summary table which explains the depth ranges for each type and which groups the various wells into those classifications would be good. A cross-section diagram similar to the one presently used for the Clear Creek area would also help the reader understand the situation, especially if the diagram can be related to the figure that was requested in comment 2.

   Response: As recommended by the reviewer, discussion of use of terms "shallow," "intermediate," and "deep" will be provided when discussing monitoring wells. A summary table and cross-section diagram will also be provided.

4. I have concerns as to whether the characterization of the subsurface soil for Site 15 is adequate since only five samples were obtained and there was no testing to determine if the landfill is a continuing source of contamination to the ground water. If a cap is determined to be a potential remedy in the future, additional information regarding the groundwater levels and how they may interact with the base of the landfill will also be required in order to assess the adequacy of the cap. In this regard, a review of the Test Pit and CPT Logs data in Appendix C is quite informative, especially Test Pit 15-06, which notes the presence of "solvent cans with solvent." With respect to those CPT logs, there is much information to be obtained from it and I respectfully suggest that prior to preparing a focused feasibility study (which I think is not appropriate at this time), the author of that study should carefully review it.

   Response: *Notes in the field log book state that at a depth of 12-13 feet bls, solvent cans were found in test pit TP-15-06. The logbook describes municipal and industrial (aircraft parts, motor cycle muffler, etc) waste as being found in the test pits. Although collection of additional samples will enable the Navy to better characterize the site, the presumptive remedy for the Site 15 landfill is to cap the area. With capping as a remedial alternative, additional data will not be necessary.*

5. Figure 6-6: please correct this figure, placing the FDEP acceptable level as 1E-06.

   Response: Figure 6-6 will be revised as recommended.

Response to Review Comments
for Remedial Investigation Report
Site 15, Southwest Landfill

U.S. Environmental Protection Agency

GENERAL COMMENTS

1. In each of the statistical summary tables presented in the report, the mean of the detected concentrations is presented. Since any exceedances of the screening criteria should be based on the maximum detected concentrations, it is not clear why the mean of the detected concentrations are presented. This purpose of presenting the mean of the detected concentrations should be clarified.

   Response: The mean of the detected concentrations is a byproduct of the statistical analysis for the risk assessment and has been included in the tables. The maximum detected concentration is also represented in the tables under the detected concentration range.

2. The Soil Cleanup Goals for Florida (FSCGs) Memorandum from John M. Ruddell, dated September 29, 1995 states in the first paragraph that "If there is groundwater contamination above Florida standards and minimum criteria or if there was a recent discharge, the leachability-based cleanup goals should also be considered using the applicable direct contact scenario (residential and industrial). The lowest of the two should be the final cleanup goal for the upper two feet of soil. For below two feet, the leachability based-goal should be applied if the parameters of concern are detected above the Florida criteria." It is not apparent that this procedure was followed in the screening process. This should be clarified. It should also be noted that the FSCGs usually only apply to the upper two feet of soil as stated in the Applicability of Soil Cleanup Goals for Florida from John M. Ruddell, dated January 19, 1996. However, the report uses these goals for comparison to subsurface soils collected from depths to 12 feet below ground surface. This apparent deviation from the procedures specified in the RSCGs should be addressed.

   Response: As recommended by the reviewer, the leachability-based cleanup target levels will also be considered during the screening process, due to ground water contamination.

3. Surface soil samples were collected from 0 to 12 inches. However, Florida guidance (as referenced in the previous comment) suggests that surface soil is defined as the upper two feet of soil. The rationale for collecting samples from 0 to 12 inches should be provided.

   Response: *At the time the surface soil samples were collected the EPA sample depth requirement was 0-1 foot bls which was adopted by the Whiting Field team.*

4. The statistical summary tables should identify the exceedances of the screening criteria by highlighting or bolding the analytes and/or the concentrations. In addition, figures

should be provided to show the locations of the exceedances.

Response: As recommended by the reviewer, exceedances of the screening criteria will be bolded in the statistical summary tables. Figures will also be provided to show the locations of the exceedances.

5. Several errors were noted in the text of the report including changes in font and redundant page numbers (for an example, see Page 5-46). The report should be reviewed carefully by the Navy.

Response: Errors in the text of the report, including font changes and redundant page numbering will be corrected, as requested.

SPECIFIC COMMENTS

6. **Page 1-1, Fifth Paragraph**. The depth of the trenches and information on whether the waste is located beneath the water table should be provided, if known (note that the test pit and monitoring well logs do not provide this information). This information is relevant to the Feasibility Study and the selection of alternatives and/or the design of the selected alternative. If not presently known, this information should be determined.

Response: There is no documentation available on the depth of the trenches at Site 15. Based on the depth to the water table (approximately 16 to 90 feet bls) it is not anticipated that the trenches intersect the water table.

7. **Page 3-1, Eighth Paragraph**. Subsurface soil samples were collected in October 1992 and a soil gas survey for methane and total VOCs was conducted in September 1995. Figures 5-7 through 5-10 show the results of the screening at 1.5 feet and 3.0 feet below land surface. The following comments concern these soil gas survey results:

It is not clear why subsurface soil samples were not collected during Phase IIB in the area from soil gas survey locations 17, 6, 97 and 98 (see Figures 5-7 and 5-9) on the western part of the site, or sample location 20 (Figure 5-9) on the northern part of the site. This additional information would have been useful in attempting to identify the source and nature of the VOCs which were shown by the soil gas concentrations as being in excess of 5,000 ppm. Justification for not collecting these subsurface soil samples should be provided.

Groundwater samples collected downgradient of these elevated VOC areas (e.g., from WHF-15-1, WHF-15-6S, and WHF-15-6D) in 1996 and 1997 do not appear to substantiate the elevated VOC levels detected during the soil gas survey. Potential explanations for this anomaly should be provided.

Response: *Data presented on Figures 5-7 through 5-10 provide soil gas surveys as total organic vapor readings including methane. For most of the samples, methane contributed 100% to the reading. These results support a general absence of VOC's in monitoring wells CEF-15-1S, CEF-15-6S, and CEF-15-6D.*

8. **Page 3-5, Sixth Paragraph**. This paragraph does not continue logically to the next page of text (Page 3-7). It appears that a number of words are missing. This discrepancy should be corrected.

   Response: The text in question will be revised to include the missing words.

9. **Page 5-2, Figure 5-1**. It is recommended that an additional downgradient geologic cross-section be constructed. For example, WHF-1466-6 to WHF-15-7 to WH-15-6 to WHF-15-8 would be a good selection for constructing the additional geologic cross-section.

   Response: It appears that the existing cross-sections provide an adequate profile of the subsurface geology at Site 15. Therefore, additional cross-sections are not necessary.

10. **Pages 5-16 and 5-17, Table 5-3**. Monitoring wells WHF-15-8S, WHF-15-8I, WHF-15-8D, WHF-16-7S, WHF-16-7I, and WHF-16-7D should be added to this table to provide vertical hydraulic gradients between Sites 15 & 16 and Clear Creek. In particular, the gradient for WHF- 16-7 may indicate whether the groundwater was discharging to Clear Creek on the date(s) that the measurements were collected.

    Response: From a hydrogeologic standpoint it is known that groundwater discharges to Clear Creek. Vertical gradients in Site 16 monitoring wells are not relevant to the Site 15 RI as they are cross-gradient from the site. Groundwater flow issues will be further addressed in the basewide groundwater investigation.

11. **Page 5-19, First Paragraph**. This paragraph presents seepage velocities for the shallow zone of the aquifer only. The seepage velocities for the intermediate and deep zones should also be discussed.

    Response: Seepage velocities for other parts of the aquifer will be addressed in the basewide groundwater investigation.

12. **Page 5-20, Table 5-5**. The seepage velocities presented in this table only apply to the shallow zone of the sand and gravel aquifer. The seepage velocities for the intermediate and deep zones should also be presented in this table.

Response: Seepage velocities for other parts of the aquifer will be addressed in the basewide groundwater investigation.

13. **Page 5-45, Second Paragraph**. This paragraph should be checked for accuracy (it appears that a sentence was repeated). In addition, a concentration of 1,7000 is listed. This should be corrected to 1,700, 17,000, or whatever is correct.

    Response: As recommended, the repeated sentence will be removed and the concentration will be changed to 1,700.

14. **Page 5-51, Table 5-14**. It seems highly coincidental that the mean of the detected concentrations is the same as the background concentrations for mercury through zinc. These numbers should be confirmed.

    Response: The values will be confirmed and modified if necessary.

15. **Page 5-53, Fifth Paragraph**. It is stated that the preferred groundwater data set is from the Phase IIB sampling event since low-flow sampling methodology was applied. This statement is acceptable. However, Table 5-20 and 5-21 only present the statistics from the second Phase IIB sampling event in 1997. It is not clear why the data from the first Phase IIB sampling event in 1996 was not included. This should be explained and, if appropriate, the 1996 data should be added to the data set. In addition, note that the reference to Tables 6-20 and 6-21 in this paragraph should be Tables 5-20 and 5-21.

    Response: The 1996 data was not used in Tables 5-20 and 5-21 because the 1997 was the most current data set and represents the most current condition of groundwater quality. The 1996 data will be used as appropriate to discuss groundwater concentration trends and distribution. The reference to the tables will be changed as suggested.

16. **Page 5-79, Fourth Paragraph**. With respect to the filtered and non-filtered samples, this paragraph should also note that, in several instances, the filtered samples contained higher concentrations of the same analytes than non-filtered samples. In addition, the authors of the RI report should be aware that EPA Region 4 will not consider the use of filtered samples in any steps of the CERCLA decision making process, including risk assessment determinations.

    Response: The text will be revised to include a discussion comparing filtered and unfiltered data. Only unfiltered data was used in the RI including the risk assessment.

17. **Page 5-74, Table 5-20**. The reporting limit ranges for several analytes exceeded the screening criteria including 1,1-dichloroethene, 1,2-dichloroethane, benzene, trichloroethene, naphthalene, and bis-(2-ethylhexyl)phthalate. This should be noted in the text of the report.

Response: It will be noted in the text that the reporting limit ranges for the above analytes exceeded the screening criteria.

18. **Page 5-76, Table 5-21**. The reporting limit range for antimony exceeded the screening criteria. This should be noted in the text of the report.

    Response: It will be noted in the text that the reporting limit range for antimony exceeded the screening criteria.

19. **Page 8-12, Sixth Paragraph**. It is noted in this paragraph that subsurface soil is discussed with respect to fate and transport. However, this discussion is missing from this section. A discussion of the fate and transport of contaminants in the subsurface soil should be added.

    Response: The subsurface soil fate and transport section will be added to this section.

20. **Page 8-13, Second Paragraph**. This paragraph (regarding surface soil) states that the metals in the soil are not likely to be mobile since metal analytes readily adsorb to, or are natural constituents of, clays and other minerals. While the statement may be true, it is not apparent that it is highly applicable to the conditions at Site 15. The test pits and monitoring well logs show that the surface soil is predominantly sand. This paragraph should be modified or removed from the report.

    Response: The paragraph will be removed from the report.

21. **Page 8-13, Third Paragraph**. In addition to surface water contamination via runoff from contaminated surface soil, the potential for the contamination of Clear Creek via groundwater discharge should be discussed.

    Response: The potential for groundwater discharge to Clear Creek will be included in this paragraph.

22. **Page 8-13, Seventh Paragraph**. According to this paragraph, contaminated sediment transport to Clear Creek is not believed possible. It should be stated that this hypothesis will be evaluated during the Site 39, Clear Creek Flood Plain investigation. Additionally, the surface transport of contaminated sediment to the ditch along the southern end of the site, and potential ecological exposure, should be discussed.

    Response: Text will be included to identify that sediment transport to Clear Creek will be addressed during the Clear Creek Flood Plain investigation. Transport of sediment to the ditch at the southern end of the site will be included in the report.

23. **Page 8-14, First Paragraph**. The last sentence states that Clear Creek is located 1500 feet southwest of the site. This is inconsistent with other statements in the report which specify the distance as 1200 feet (e.g., Page vi, Bullet 6). This discrepancy should be corrected.

    Response: The last sentence has been changed to state that Clear Creek is located 1200 feet southwest of the site.

24. **Page 8-14, Fifth Paragraph**. In the second sentence, it is stated that a seepage velocity of 139 feet/year was calculated for the surficial aquifer from eight monitoring wells at Site 15. This sentence should be clarified since:

    - the identification of discrete aquifers ("surficial aquifer" implies that there are deeper aquifers) has not been made in the report, and

    - the seepage velocity was calculated from four monitoring wells at Site 15 and four monitoring wells at Site 16.

    Additionally, the seepage velocity of 139 feet/year was calculated based on data from shallow monitoring wells and does not represent the seepage velocity of the deeper aquifer zones. Information on the seepage velocities in the deeper aquifer zones should be added. Also, it should be noted that WHF-15-2I and WHF-15-3I had significantly higher hydraulic conductivities (see Page 5-18, Table 5-4) than the shallow wells at Site 15.

    It is not clear why the last sentence contains the phrase "50-year time frame". The distance of 4,587 feet for potential contaminant migration is calculated based on the seepage velocity of 139 feet/year and a 33-year time frame. To avoid confusion, the "50-year time frame" should be removed. Furthermore, the calculation of the distance of potential contaminant migration should be based on the "worst-case scenario" using the maximum seepage velocity from the shallow, intermediate, and deep zones.

    Response: Seepage velocities in deeper zones of the aquifer will be addressed in the basewide groundwater investigation. The "50-year time frame" phrase will be removed from the text.

25. **Page 8-14, Seventh Paragraph**. It should be clarified whether additional sediment and surface water samples will be collected from Clear Creek in the RI for Site 39, Clear Creek Flood Plain, to evaluate the potential impacts of Site 15.

    Response: Text will be added to indicate that additional surface water and sediment samples will be collected during the RI for Site *39 to evaluate potential impacts of the IR sites on Clear Creek.*

26. **Page 9-1, First Paragraph**. The second bullet refers to "total organic carbon" which is not relevant with respect to the soil gas survey. "Total organic carbon" should be replaced with "total VOCs".

    The fifth bullet incorrectly states that the detected concentrations of arsenic in surface soil did not exceed the FDEP-approved site-specific non-residential goal of 4.2 ug/l (note that ug/l is not the correct units for soil samples). Table 5-10 on page 5-43 shows that arsenic concentrations ranged from 0.75 mg/kg to 6.8 mg/kg. In addition, the FDEP-approved site specific non-residential goal is shown as 4.62 mg/kg in Table 5-10 and not 4.2 ug/l as stated in this paragraph. These discrepancies should be corrected.

    The first sentence of the sixth bullet should refer to "subsurface soil" samples and not "surface soil" samples. In addition, it is stated that the concentration of Arochlor-1242 exceeded the Florida industrial-use soil cleanup goal. However, the detected concentration was 2,200 ug/kg and the Florida industrial-use soil cleanup goal is 3,500 ug/kg (see Page 5-49, Table 5-13). The Region III RBC (industrial) was exceeded, as stated. These discrepancies should be corrected.

    Response: *The reference to "total organic carbon" in the second bullet will be replaced with "total VOCs."*

    The fifth bullet will be changed to include arsenic's correct FDEP-approved site-specific target level of 4.62 mg/kg. Text stating that arsenic did exceed the site-specific non-residential target level will be added.

    The sixth bullet will be changed to refer to "subsurface soil." Aroclor-1242 has exceeded the Florida SCTL for leachability instead of the industrial value and will be changed accordingly.

Site 15 Human Health and Ecological Risk Review Comments:

GENERAL COMMENTS

27. The results of investigations conducted at Site 15 are presented in Section 5 (Investigative Results section) of the document. Throughout the chapter, the analytical results and the various screening criteria are presented in table form for each media evaluated. Generally, it appears that USEPA Region III Risk-Based Concentrations (RBCs) are not adjusted by 0.1 for noncarcinogenic constituents. However, this does not seem to be consistent throughout the section. For example, it appears that the values have been adjusted on Table 5-14. The RBCs have been appropriately adjusted during screening in the risk assessment section of the document. Therefore, it is acceptable for

the values to remain unadjusted in the Investigative Results section since they are presented for informational purposes only. However, the information that is presented should be consistent. Section 5 of the document should be reviewed and corrected accordingly.

Response: Section 5 tables will be revised to be consistent in the presentation of USEPA Region III Risk-Based Concentrations.

SPECIFIC COMMENTS

28. **Section 5.5, Page 5-45**. The section presents a discussion of the surface soil analytical results for Site 15. The text states that dibutylphthalate was detected in six samples at concentrations ranging from 730 to 1,100 ug/kg. This is inconsistent with the information presented on Table 5-9. According to the table, the range of dibutylphthalate concentrations is 560 to 1,100 ug/kg. The discrepancy between the text and table should be corrected.

    Response: The range of dibutylphthalate will be changed to 560 to 1,100 ug/kg as shown in Table 5-9.

29. **Table 6-8**. The table presents a summary of the risks calculated for receptors identified under future land use. According to Table 6-8, the hazard indices calculated for ingestion of groundwater for the adult and child are three and seven, respectively. However, this is inconsistent with the values presented in Tables G-24 and G-25. These tables indicate that adult and child hazard indices are four and eight, respectively. The discrepancy should be corrected.

    Response: Table 6-8 has been reviewed and the hazard indices for ingestion of groundwater for the adult and child will be changed, according to Tables G-24 and G-25, to four and eight, respectively.

30. **Section 6.8, Page 6-34**. It is stated in the text that the human health contaminants of potential concern (HHCPCs) detected in subsurface soil do not pose unacceptable carcinogenic risk to the receptors evaluated. However, no subsurface HHCPC were identified at Site 15. The text of this section and the Executive Summary should be amended in order to avoid unnecessary confusion.

    Response: The text will be revised to indicate that no HHCPCs were identified for subsurface soil.

31. **Figure 7-2, Page 7-6**. Figure 7-2 shows the contaminant pathway model for Site 15 ecological receptors. Shading of the boxes indicates exposure pathways that are

quantitatively evaluated for receptors in Site 15. Nonshaded boxes indicate insignificant exposure pathways. The soil-to-food-to-ingestion pathway for terrestrial invertebrates is not shaded meaning it is not considered to be a significant exposure pathway. This is somewhat misleading because the soil-to-food-to-ingestion pathway is a significant route of exposure. However, since the majority of food for terrestrial invertebrates comes from soil, exposure via soil ingestion and food ingestion can be lumped into one exposure route. Soil ingestion and food ingestion should both be shaded and a note should be provided about them being essentially one pathway and that they will be analyzed as such.

Response: The box for terrestrial invertebrate soil-to-food-to-ingestion pathway will be shaded in Figure 7-2. The following footnote will be added to the table; The ingestion exposure routes for terrestrial invertebrates include the ingestion of soil and food items containing chemicals accumulated from Site 15 surface soil.

32. **Section 7.2.3, Pages 7-7 and 7-8**. This section presents the hypotheses developed to gauge risks associated with exposure to surface soil. Hypothesis number 4 on page 7-8 discusses ECPC in groundwater. The first sentence of the fifth paragraph on page 7-7 should be changed to, "Four hypotheses were developed to gauge potential risks associated with exposure to Site 15 surface soil *and groundwater*."

Response: The second paragraph in Section 7.2.3 will replaced with the following: *"Four questions were developed to gauge potential risks associated with exposure to Site 15 surface soil and groundwater. These questions are designed for multiple species and trophic levels and represent both individual and community dynamics. Questions for the Site 15 ERA include the following:"*

33. **Table 7-1, Page 7-8**. Table 7-1 shows the endpoints selected for the ecological risk assessment. In Section 7.2.3, the assessment endpoints are defined as representing the ecological component to be protected. However, in Table 7-1 the assessment endpoints for terrestrial plants and terrestrial invertebrates are stated as being a reduction in the biomass of terrestrial plants used as forage material and a reduction in the abundance of earthworms used as forage material, respectively. Reductions in forage material are not ecological components to be protected. The assessment endpoints in Table 7-1 are not consistent with the definition of an assessment endpoint provided in section 7.2.3. This inconsistency should be corrected.

Response: The receptors for the first two assessment endpoints in Table 7-1 will be changed from terrestrial plants and invertebrates to wildlife species. Therefore, a reduction in forage material is an ecological component to be protected, as a reduction in forage material would have a direct effect on the receptors of concern (i.e. wildlife species).

34. **Table 7-2, Page 7-13**. Table 7-2 provides information on the selection of ECPCs such as detected concentrations and screening values. It is reported in Table 7-2 that the ecological screening value for zinc is not available. However, when referencing Beyer (1990), a screening value of 200 mg/kg was found. This value should be use in Table 7-2.

    Response: The screening value of 200 mg/kg will be added to Table 7-2, and the ERA will be revised accordingly.

35. **Section 7.4.1, Page 7-18**. The second paragraph on page 7-18 involves groundwater EPCs. It is explained that a 10-fold attenuation factor is applied to the RME concentration in order to derive a realistic exposure concentration for groundwater constituents in the surface water of Clear Creek. It is unclear as to how the "10-fold attenuation factor" was derived. This needs to be clarified.

    Response: The 10-fold attenuation factor is a conservative estimate of the attenuation that occurs between groundwater and surface water exposure.

36. **Section 7.4.2, Page 7-18**. Several sections in chapter 7 (e.g. Section 7.4.2 and Section 7.3) refer the reader to information in the General Information Report (GIR) prepared by ABB-ES in 1998. Information such as PDE calculation methodologies and background investigation data are only available in the GIR and are not provided in this report. It would be helpful for pertinent information to be provided in an appendix to this report.

    Response: The background data are provided in the NAS Whiting Field GIR and will not be added to the RI report. The GIR was created to reduce the presentation of redundant information in the RI reports and contains a large amount of technical information that would be unwieldy to append to each RI report.

37. **Table 7-4, Page 7-19**. This table provides the equations used to calculate the potential dietary exposures for wildlife receptors. The variable "TN" is given three different definitions in Table 7-3. They are as follows, 1) the tissue concentration in food item N, 2) the secondary prey item concentration, and 3) the primary prey item concentration. Clarification (e.g., T_p for primary prey item tissue concentration and T_s for secondary prey item tissue concentration) in Table 7-3 would be beneficial.

    Response: The variable T_N will be modified so that T_{N1} refers to the tissue concentraion of the primary prey item, T_{N2} refers to the tissue concentration of the secondary prey item, and T_N refers to the tissue concentration of either the primary or secondary prey item.

    The rationale provided in the ERA for not calculating bird tissue concentrations is the lack of avian bioaccumulation factors (BAFs). Since contaminant concentrations in birds

as a secondary prey items were not calculated, it should be stated in section 7.4 how PDEs for the red fox and red-tailed hawk were calculated without the avian BAFs.

Response: The text in section will not be revised however an uncertainty will be added in Section 7.7 to address this issue. The following uncertainty will be added to section 7.7. The PDEs for the red fox and red-tailed hawk assume no exposure from small birds as prey items due to a lack of avian BAFs. Birds make-up a small portion of the red fox and red-tailed hawk diet, and for this evaluation it is assumed that small birds would not provide a source of contaminant exposure. In addition, the risks predicted (i.e. the HQs and HIs) for the red fox and red-tailed hawk were so low that it is unlikely that including avian BAFs (if they were available) would alter the findings of the ERA.

38. **Section 7.4.2, Pages 7-18 and 7-20**. The second bullet in Section 7.4.2 provides a discussion of the short-tailed shrew as a wildlife receptor. The home range of the short-tailed shrew is not provided in this discussion although the home ranges for other ecological receptors are provided in this section. The home range of the short-tailed shrew should be provided in the first bullet.

The second bullet on page 7-20 provides a discussion of the red-tailed hawk as a wildlife receptor. The home range of the red-tailed hawk is not provided in this discussion, although the home ranges for other ecological receptors are provided in this section. The home range of the red-tailed hawk should be provided in the fourth bullet.

Response: The home range for the short-tailed shrew will be included as suggested. The first sentence in this paragraph will be revised as follows; "…. , and brush, and has a home range of approximately 1 acre".

The home range for the red-tailed hawk will be included as suggested. The first sentence of this paragraph will be revised as follows; "… on small mammals, and has a home range of approximately 800 acres".

39. **Table 7-6, Page 7-21**. This table describes the exposure parameters for representative wildlife species used as receptors in this remedial investigation. Many of the parameters are cited from the *Wildlife Exposure Factors Handbook* (USEPA, 1993); however, it is not consistently stated whether an average of the exposure parameter is calculated or if a certain study was selected. For example, it is not explained in Table 7-5 how the values in the column titled, "Assumed Diet for Terrestrial Exposure Assessment (% of diet)," were derived. The dietary composition data for the deer mouse (surrogate for the cotton mouse) provided in the handbook are seasonal percentages with invertebrates comprising as much as 63% of the deer mouse's diet, but Table 7-6 states that invertebrates make up 10% of the deer mouse's diet. It should be clarified in Table 7-6 how the values in the dietary composition column were derived from the data provided in the handbook.

The food ingestion rate (FIR) for the red-tailed hawk was calculated using the bird equation based on body weight from the *Wildlife Exposure Factors Handbook* (USEPA, 1993). An FIR of 0.133 kg/day for the red-tailed hawk is presented in table 7-6; however, when calculated using the EPA bird equation and the body weight provided in Table 7-6, an FIR of 0.059 kg/day results. This calculation should be reevaluated and checked for accuracy.

In Table 7-6 it is stated that the body weight of the red-tailed hawk is 1.02 kg with a footnote of [I]. However, footnote [I] refers to the bird food ingestion equation, not to the derivation of body weight. The footnote for the red-tailed hawk body weight should be changed to indicate the source of the body weight value.

Response: The dietary composition data in Table 7-6 were derived based on average exposure parameters cited in the *Wildlife Exposure Factors Handbook* (USEPA, 1993). The table footnotes will be revised to clarify this distinction.

The food ingestion rates were re-calculated for the eastern meadowlark and red-tailed hawk. The FIR for the eastern meadowlark is correct. However, the FIR for the red-tailed hawk was calculated incorrectly, the correct FIR for the red-tailed hawk should be 0.059 kg/day. The ERA will be revised as required.

The footnote will be changed to [h], as the body weight for the red-tailed hawk, used in this evaluation was presented in Terres 1980.

40. **Section 7.6.4, Page 7-32**. In this section, it was concluded that it is unlikely that the predicted levels of zinc in the groundwater will have an adverse effect on aquatic receptors in Clear Creek. This was concluded in spite of the fact that the predicted groundwater exposure concentrations of zinc (27 µg/L) exceed the AQUIRE value of 17 µg/L. The reasoning behind this conclusion is that a review of additional AQUIRE data for zinc indicated that the predicted 27 µg/L exposure concentration would not result in adverse effects to the majority of the aquatic receptors in Clear Creek. Although this conclusion is believed to be accurate, the reasoning behind this conclusion should be further discussed in this section.

Response: The text will be modified to include more details on the reasoning behind the conclusion of no adverse effect to aquatic receptors from exposure to zinc. The following text will be added to this section: The AQUIRE data on zinc was reviewed for toxicity information on specific receptors that would most likely inhabit Clear Creek. The results of this review indicated that exposure to concentrations of zinc at 27 ug/L would not pose a risk to these aquatic receptors.

41. **Section 9.1, Page 9-1**. The text states that three volatile organic compounds (VOCs), seven semi-volatile organic compounds (SVOCs), and one pesticide compound were

detected in Site 15 surface soil samples. However, these constituents are actually found in subsurface soil samples. The text of this section and the Executive Summary should be corrected accordingly.

Response: The text of section 9.1 and the Executive Summary will be corrected to refer to subsurface soil samples.

42. **Table H-1**. This table presents bioaccumulation factors (BAFs) for terrestrial invertebrates, terrestrial plants, mammals, and birds.

It is not possible to confirm the mammal BAFs for semivolatiles using the cited Travis and Arms equation for biotransfer factors with conversion to BAFs. The average ingestion rate used for this calculation in the ERA was not provided. Provide more information on the calculation of the mammal BAFs and re-confirm the calculated mammal BAFs.

Table F-1 provides a plant BAF of 6.7E-03 for bis(2-ethylhexyl)phthalate, Di-n-butylphthalate, and butylbenzylphthalate. However, when recalculated using the equation in footnote [d], a plant BAF of 8.7E-03 was obtained for bis(2-ethylhexyl)phthalate, 7.6E-03 for Di-n-butylphthalate, and 1.1E-02 for butylbenzylphthalate. Please review these calculations and address the discrepancies.

Response: The average ingestion rate for lactating and non-lactating cows is 12 kg feed/day (dry weight). As noted in footnote [e] in Table H-1, this value was converted to a wet weight prior to calculation of a BAF. This ingestion rate for lactating and non-lactating cows will be included in footnote [e], in Table H-1. The mammal BAFs for Di-n-butylphthalate, and bis(2-ethylhexyl)phthalate, calculated using this equation are 2.4E-01 and 1.9E-01, respectively. The BAF for Di-n-butylphthalate will be used as a surrogate for butylbenzylphthalate, as a BAF was not calculated for this analyte because it has a log Kow value of <5.

The calculations were reviewed and the USEPA reviewer is correct in stating that the plant BAF for bis(2-ethylhexyl)phthalate and Di-n-butylphthalate should be 7.6E-03 and 8.7E-03, respectively. However, the BAF for Di-n-butylphthalate will be used as a surrogate for butylbenzylphthalate, as a BAF was not calculated for this analyte because it has a log Kow value of <5.

43. **Table H-2**. Table H-2 presents ingestion toxicity information. The Lowest Observed Adverse Effect Level (LOAEL) column heading should not be under the lethal reference toxicity value (RTV) heading. The LOAEL should be presented only with sublethal RTVs. The column headings need to be verified to ensure that they reflect the data in the column and be revised as necessary.

Response: LOAEL values for mortality are available (i.e., mortality in 6% of the population); therefore, it is appropriate to list these values under the "lethal RTV" heading. As described in Section 7.5.1 of the ERA, data used to select lethal RTVs includes NOAEL and LOAEL data, as well as well as LD 50 values from literature.

44. **Table H-3**. Table H-3 presents the RTVs selected for the ERA while Table H-2 presents ingestion toxicity data for wildlife.

For zinc, an LD50 derived lethal RTV of 502 mg/kg/BW/day was used in Table H-3 and a LOAEL derived sublethal RTV of 20 mg/kg/BW/day was used in Table H-3. However a lower lethal RTV of 3.9 mg/kg/BW/day and a lower sublethal RTV of 16 mg/kg/BW/day are both available as listed in Table H-2. The lowest possible RTVs should be used in Table H-3. Please review this calculation and address this discrepancy.

Response: The lethal and sublethal RTVs presented in Table H-3 were used as the selected RTVs because the effects measured in the laboratory tests were more closely related to the chosen assessment endpoints. The alternatives listed in Table H-2 (i.e., lethal RTV of 390mg/kg/BW-day and sublethal RTV of 160 mg/kg/BW-day) are consistent with the selected RTVs, and are based on effects that are not as closely related to the chosen assessment endpoints as the selected RTVs. In addition, the RTV values identified in the reviewers comment are not consistent with the RTVs listed in Table H-2.

EDITORIAL COMMENTS

45. **Section 7.5, Page 7-25**. The first sentence on page 7-25 mentions Site 18 when it is believed that Site 15 is being referred to. This discrepancy should be addressed.

Response: The first sentence on page 7-25 will be corrected to refer to site 15.

Final Response to Review Comments
For Remedial Investigation Report
Site 15, Southwest Landfill

Florida Department of Environmental Protection

1. As we have previously discussed for other sites at NAS Whiting Field, please insure that the soil, surface water and ground water are evaluated with respect to the soil, surface and ground water (Table 1 and Table 3b) values in Chapter 62-785, F.A.C. Please note that the evaluation for soil should be the lower of either the direct exposure or the leachability level, if ground water is indicated to be contaminated. Please modify the appropriate tables to reflect this change. Please reevaluate the existing COPC, risk evaluation, etc., as necessary to also reflect this change. Table G-1 should be corrected to reflect the screening concentrations for those contaminants that were detected in significant concentrations in the groundwater, for example, the screening value for total xylenes is 300 ug/kg, not 100 ug/kg. Note that Table G-3 lists incorrect Florida groundwater guidance concentrations for 1,2-dichloroethene, chlorobenzene, naphthalene, xylenes and cyanide. Some of the TCLs in the Department's former guidelines, 1994 Ground Water Guidance Concentrations, have been superseded by the values in Chapter 62-785, F.A.C. (Table 3b). Finally, the previous Soil Cleanup Goals Memoranda from Mr. John Ruddell and others should not be used since they have also been superseded by Chapter 62-785, F.A.C. The use of the TCLs from Chapter 62-785, F>A.C. will eliminate the errors such as those seen in copper, vanadium, and others presently noted in Tables 5-9 and 5-10. Finally, footnote 12 in Table 5-10 (page 5-44) is incorrect in that the 1998 FDEP document is not appended and my name in the references (page Ref-3) is misspelled.

   Response: As recommended by the reviewer, all data will be compared against the criteria specified in Chapter 62-785, F.A.C. All relevant tables will be updated as necessary.

2. Please present a modified version of Figure 3-4 which shows the analytical values for significant contaminants in the site ground water such as benzene and TCE. If the ground water contaminant data are plotted as requested, there is the suggestion that some of the TCE contamination that is observed may originate from Site 15. The figure will also illustrate the areal distribution of contaminants at Site 15 and also the fact that TCE and petroleum compounds are found in the ground water between Site 15 and the base boundary. I suggest that this be included and discussed in Section 9.1, Conclusions. In addition, a statement should be added which relates the contaminants in the soil and ground water, including exceedances of leaching values from Chapter 62-785, F.A.C., if any are present. All of the previous suggestions will help make the final report more comprehensive and help link data from Site 15, which has significant ground water contamination, to the information that will be obtained in the basewide ground water study.

   Response: As recommended by the reviewer, a modified version of Figure 3-4 will be presented showing significant contaminants in the site ground water. Discussion

of areal distribution of contaminants will be provided in section 9.1, as well as statements relating soil and ground water contamination.

3. Please provide a discussion for the use of the terms, "shallow," "intermediate" and "deep" when discussing monitoring wells. A summary table which explains the depth ranges for each type and which groups the various wells into those classifications would be good. A cross-section diagram similar to the one presently used for the Clear Creek area would also help the reader understand the situation, especially if the diagram can be related to the figure that was requested in comment 2.

   Response: As recommended by the reviewer, discussion of use of terms "shallow," "intermediate," and "deep" will be provided when discussing monitoring wells. A summary table and cross-section diagram will also be provided.

4. I have concerns as to whether the characterization of the subsurface soil for Site 15 is adequate since only five samples were obtained and there was no testing to determine if the landfill is a continuing source of contamination to the ground water. If a cap is determined to be a potential remedy in the future, additional information regarding the groundwater levels and how they may interact with the base of the landfill will also be required in order to assess the adequacy of the cap. In this regard, a review of the Test Pit and CPT Logs data in Appendix C is quite informative, especially Test Pit 15-06, which notes the presence of "solvent cans with solvent." With respect to those CPT logs, there is much information to be obtained from it and I respectfully suggest that prior to preparing a focused feasibility study (which I think is not appropriate at this time), the author of that study should carefully review it.

   Response: *Notes in the field log book state that at a depth of 12-13 feet bls, solvent cans were found in test pit TP-15-06. The logbook describes municipal and industrial (aircraft parts, motor cycle muffler, etc) waste as being found in the test pits. Although collection of additional samples will enable the Navy to better characterize the site, the presumptive remedy for the Site 15 landfill is to cap the area. With capping as a remedial alternative, additional data will not be necessary.*

5. Figure 6-6: please correct this figure, placing the FDEP acceptable level as 1E-06.

   Response: Figure 6-6 will be revised as recommended.

Final Response to Review Comments
For Remedial Investigation Report
Site 15, Southwest Landfill

U.S. Environmental Protection Agency

GENERAL COMMENTS

1. In each of the statistical summary tables presented in the report, the mean of the detected concentrations is presented. Since any exceedances of the screening criteria should be based on the maximum detected concentrations, it is not clear why the mean of the detected concentrations are presented. This purpose of presenting the mean of the detected concentrations should be clarified.

   Response: The mean of the detected concentrations is a byproduct of the statistical analysis for the risk assessment and has been included in the tables. The maximum detected concentration is also represented in the tables under the detected concentration range.

2. The Soil Cleanup Goals for Florida (FSCGs) Memorandum from John M. Ruddell, dated September 29, 1995 states in the first paragraph that "If there is groundwater contamination above Florida standards and minimum criteria or if there was a recent discharge, the leachability-based cleanup goals should also be considered using the applicable direct contact scenario (residential and industrial). The lowest of the two should be the final cleanup goal for the upper two feet of soil. For below two feet, the leachability based-goal should be applied if the parameters of concern are detected above the Florida criteria." It is not apparent that this procedure was followed in the screening process. This should be clarified. It should also be noted that the FSCGs usually only apply to the upper two feet of soil as stated in the Applicability of Soil Cleanup Goals for Florida from John M. Ruddell, dated January 19, 1996. However, the report uses these goals for comparison to subsurface soils collected from depths to 12 feet below ground surface. This apparent deviation from the procedures specified in the RSCGs should be addressed.

   Response: As recommended by the reviewer, the leachability-based cleanup target levels will also be considered during the screening process, due to ground water contamination.

3. Surface soil samples were collected from 0 to 12 inches. However, Florida guidance (as referenced in the previous comment) suggests that surface soil is defined as the upper two feet of soil. The rationale for collecting samples from 0 to 12 inches should be provided.

   Response: *At the time the surface soil samples were collected the EPA sample depth requirement was 0-1 foot bls which was adopted by the Whiting Field team.*

4. The statistical summary tables should identify the exceedances of the screening criteria

by highlighting or bolding the analytes and/or the concentrations. In addition, figures should be provided to show the locations of the exceedances.

Response: As recommended by the reviewer, exceedances of the screening criteria will be bolded in the statistical summary tables. Figures will also be provided to show the locations of the exceedances.

5. Several errors were noted in the text of the report including changes in font and redundant page numbers (for an example, see Page 5-46). The report should be reviewed carefully by the Navy.

Response: Errors in the text of the report, including font changes and redundant page numbering will be corrected, as requested.

SPECIFIC COMMENTS

6. **Page 1-1, Fifth Paragraph**. The depth of the trenches and information on whether the waste is located beneath the water table should be provided, if known (note that the test pit and monitoring well logs do not provide this information). This information is relevant to the Feasibility Study and the selection of alternatives and/or the design of the selected alternative. If not presently known, this information should be determined.

Response: There is no documentation available on the depth of the trenches at Site 15. Based on the depth to the water table (approximately 16 to 90 feet bls) it is not anticipated that the trenches intersect the water table.

7. **Page 3-1, Eighth Paragraph**. Subsurface soil samples were collected in October 1992 and a soil gas survey for methane and total VOCs was conducted in September 1995. Figures 5-7 through 5-10 show the results of the screening at 1.5 feet and 3.0 feet below land surface. The following comments concern these soil gas survey results:

It is not clear why subsurface soil samples were not collected during Phase IIB in the area from soil gas survey locations 17, 6, 97 and 98 (see Figures 5-7 and 5-9) on the western part of the site, or sample location 20 (Figure 5-9) on the northern part of the site. This additional information would have been useful in attempting to identify the source and nature of the VOCs which were shown by the soil gas concentrations as being in excess of 5,000 ppm. Justification for not collecting these subsurface soil samples should be provided.

Groundwater samples collected downgradient of these elevated VOC areas (e.g., from WHF-15-1, WHF-15-6S, and WHF-15-6D) in 1996 and 1997 do not appear to

substantiate the elevated VOC levels detected during the soil gas survey. Potential explanations for this anomaly should be provided.

Response: *Data presented on Figures 5-7 through 5-10 provide soil gas surveys as total organic vapor readings including methane. For most of the samples, methane contributed 100% to the reading. These results support a general absence of VOCs in monitoring wells CEF-15-1S, CEF-15-6S, and CEF-15-6D.*

8. **Page 3-5, Sixth Paragraph**. This paragraph does not continue logically to the next page of text (Page 3-7). It appears that a number of words are missing. This discrepancy should be corrected.

   Response: The text in question will be revised to include the missing words.

9. **Page 5-2, Figure 5-1**. It is recommended that an additional downgradient geologic cross-section be constructed. For example, WHF-1466-6 to WHF-15-7 to WH-15-6 to WHF-15-8 would be a good selection for constructing the additional geologic cross-section.

   Response: It appears that the existing cross-sections provide an adequate profile of the subsurface geology at Site 15. Therefore, additional cross-sections are not necessary.

10. **Pages 5-16 and 5-17, Table 5-3**. Monitoring wells WHF-15-8S, WHF-15-8I, WHF-15-8D, WHF-16-7S, WHF-16-7I, and WHF-16-7D should be added to this table to provide vertical hydraulic gradients between Sites 15 & 16 and Clear Creek. In particular, the gradient for WHF- 16-7 may indicate whether the groundwater was discharging to Clear Creek on the date(s) that the measurements were collected.

    Response: From a hydrogeologic standpoint it is known that groundwater discharges to Clear Creek. Vertical gradients in Site 16 monitoring wells are not relevant to the Site 15 RI as they are cross-gradient from the site. Groundwater flow issues will be further addressed in the basewide groundwater investigation.

11. **Page 5-19, First Paragraph**. This paragraph presents seepage velocities for the shallow zone of the aquifer only. The seepage velocities for the intermediate and deep zones should also be discussed.

    Response: Seepage velocities for other parts of the aquifer will be addressed in the basewide groundwater investigation.

12. **Page 5-20, Table 5-5**. The seepage velocities presented in this table only apply to the shallow zone of the sand and gravel aquifer. The seepage velocities for the intermediate and deep zones should also be presented in this table.

Response: Seepage velocities for other parts of the aquifer will be addressed in the basewide groundwater investigation.

13. **Page 5-45, Second Paragraph**. This paragraph should be checked for accuracy (it appears that a sentence was repeated). In addition, a concentration of 1,7000 is listed. This should be corrected to 1,700, 17,000, or whatever is correct.

    Response: As recommended, the repeated sentence will be removed and the concentration will be changed to 1,700.

14. **Page 5-51, Table 5-14**. It seems highly coincidental that the mean of the detected concentrations is the same as the background concentrations for mercury through zinc. These numbers should be confirmed.

    Response: The values will be confirmed and modified if necessary.

15. **Page 5-53, Fifth Paragraph**. It is stated that the preferred groundwater data set is from the Phase IIB sampling event since low-flow sampling methodology was applied. This statement is acceptable. However, Table 5-20 and 5-21 only present the statistics from the second Phase IIB sampling event in 1997. It is not clear why the data from the first Phase IIB sampling event in 1996 was not included. This should be explained and, if appropriate, the 1996 data should be added to the data set. In addition, note that the reference to Tables 6-20 and 6-21 in this paragraph should be Tables 5-20 and 5-21.

    Response: The 1996 data was not used in Tables 5-20 and 5-21 because the 1997 was the most current data set and represents the most current condition of groundwater quality. The 1996 data will be used as appropriate to discuss groundwater concentration trends and distribution. The reference to the tables will be changed as suggested.

16. **Page 5-79, Fourth Paragraph**. With respect to the filtered and non-filtered samples, this paragraph should also note that, in several instances, the filtered samples contained higher concentrations of the same analytes than non-filtered samples. In addition, the authors of the RI report should be aware that EPA Region 4 will not consider the use of filtered samples in any steps of the CERCLA decision making process, including risk assessment determinations.

    Response: The text will be revised to include a discussion comparing filtered and unfiltered data. Only unfiltered data was used in the RI including the risk assessment.

17. **Page 5-74, Table 5-20**. The reporting limit ranges for several analytes exceeded the screening criteria including 1,1-dichloroethene, 1,2-dichloroethane, benzene, trichloroethene, naphthalene, and bis-(2-ethylhexyl)phthalate. This should be noted in

the text of the report.

Response: It will be noted in the text that the reporting limit ranges for the above analytes exceeded the screening criteria.

18. **Page 5-76, Table 5-21**. The reporting limit range for antimony exceeded the screening criteria. This should be noted in the text of the report.

    Response: It will be noted in the text that the reporting limit range for antimony exceeded the screening criteria.

19. **Page 8-12, Sixth Paragraph**. It is noted in this paragraph that subsurface soil is discussed with respect to fate and transport. However, this discussion is missing from this section. A discussion of the fate and transport of contaminants in the subsurface soil should be added.

    Response: The subsurface soil fate and transport section will be added to this section.

20. **Page 8-13, Second Paragraph**. This paragraph (regarding surface soil) states that the metals in the soil are not likely to be mobile since metal analytes readily adsorb to, or are natural constituents of, clays and other minerals. While the statement may be true, it is not apparent that it is highly applicable to the conditions at Site 15. The test pits and monitoring well logs show that the surface soil is predominantly sand. This paragraph should be modified or removed from the report.

    Response: The paragraph will be removed from the report.

21. **Page 8-13, Third Paragraph**. In addition to surface water contamination via runoff from contaminated surface soil, the potential for the contamination of Clear Creek via groundwater discharge should be discussed.

    Response: The potential for groundwater discharge to Clear Creek will be included in this paragraph.

22. **Page 8-13, Seventh Paragraph**. According to this paragraph, contaminated sediment transport to Clear Creek is not believed possible. It should be stated that this hypothesis will be evaluated during the Site 39, Clear Creek Flood Plain investigation. Additionally, the surface transport of contaminated sediment to the ditch along the southern end of the site, and potential ecological exposure, should be discussed.

    Response: Text will be included to identify that sediment transport to Clear Creek will be addressed during the Clear Creek Flood Plain investigation. Transport of sediment to the ditch at the southern end of the site will be included in the report.

23. **Page 8-14, First Paragraph**. The last sentence states that Clear Creek is located 1500 feet southwest of the site. This is inconsistent with other statements in the report which specify the distance as 1200 feet (e.g., Page vi, Bullet 6). This discrepancy should be corrected.

    Response: The last sentence has been changed to state that Clear Creek is located 1200 feet southwest of the site.

24. **Page 8-14, Fifth Paragraph**. In the second sentence, it is stated that a seepage velocity of 139 feet/year was calculated for the surficial aquifer from eight monitoring wells at Site 15. This sentence should be clarified since:

    - the identification of discrete aquifers ("surficial aquifer" implies that there are deeper aquifers) has not been made in the report, and

    - the seepage velocity was calculated from four monitoring wells at Site 15 and four monitoring wells at Site 16.

    Additionally, the seepage velocity of 139 feet/year was calculated based on data from shallow monitoring wells and does not represent the seepage velocity of the deeper aquifer zones. Information on the seepage velocities in the deeper aquifer zones should be added. Also, it should be noted that WHF-15-2I and WHF-15-3I had significantly higher hydraulic conductivities (see Page 5-18, Table 5-4) than the shallow wells at Site 15.

    It is not clear why the last sentence contains the phrase "50-year time frame". The distance of 4,587 feet for potential contaminant migration is calculated based on the seepage velocity of 139 feet/year and a 33-year time frame. To avoid confusion, the "50-year time frame" should be removed. Furthermore, the calculation of the distance of potential contaminant migration should be based on the "worst-case scenario" using the maximum seepage velocity from the shallow, intermediate, and deep zones.

    Response: Seepage velocities in deeper zones of the aquifer will be addressed in the basewide groundwater investigation. The "50-year time frame" phrase will be removed from the text.

25. **Page 8-14, Seventh Paragraph**. It should be clarified whether additional sediment and surface water samples will be collected from Clear Creek in the RI for Site 39, Clear Creek Flood Plain, to evaluate the potential impacts of Site 15.

Response: Text will be added to indicate that additional surface water and sediment samples will be collected during the RI for Site *39 to evaluate potential impacts of the IR sites on Clear Creek.*

26. **Page 9-1, First Paragraph**. The second bullet refers to "total organic carbon" which is not relevant with respect to the soil gas survey. "Total organic carbon" should be replaced with "total VOCs".

The fifth bullet incorrectly states that the detected concentrations of arsenic in surface soil did not exceed the FDEP-approved site-specific non-residential goal of 4.2 ug/l (note that ug/l is not the correct units for soil samples). Table 5-10 on page 5-43 shows that arsenic concentrations ranged from 0.75 mg/kg to 6.8 mg/kg. In addition, the FDEP-approved site specific non-residential goal is shown as 4.62 mg/kg in Table 5-10 and not 4.2 ug/l as stated in this paragraph. These discrepancies should be corrected.

The first sentence of the sixth bullet should refer to "subsurface soil" samples and not "surface soil" samples. In addition, it is stated that the concentration of Arochlor-1242 exceeded the Florida industrial-use soil cleanup goal. However, the detected concentration was 2,200 ug/kg and the Florida industrial-use soil cleanup goal is 3,500 ug/kg (see Page 5-49, Table 5-13). The Region III RBC (industrial) was exceeded, as stated. These discrepancies should be corrected.

Response: *The reference to "total organic carbon" in the second bullet will be replaced with "total VOCs."*

The fifth bullet will be changed to include arsenic's correct FDEP-approved site-specific target level of 4.62 mg/kg. Text stating that arsenic did exceed the site-specific non-residential target level will be added.

The sixth bullet will be changed to refer to "subsurface soil." Aroclor-1242 has exceeded the Florida SCTL for leachability instead of the industrial value and will be changed accordingly.

Site 15 Human Health and Ecological Risk Review Comments:

GENERAL COMMENTS

27. The results of investigations conducted at Site 15 are presented in Section 5 (Investigative Results section) of the document. Throughout the chapter, the analytical results and the various screening criteria are presented in table form for each media evaluated. Generally, it appears that USEPA Region III Risk-Based Concentrations (RBCs) are not adjusted by 0.1 for noncarcinogenic constituents. However, this does not

seem to be consistent throughout the section. For example, it appears that the values have been adjusted on Table 5-14. The RBCs have been appropriately adjusted during screening in the risk assessment section of the document. Therefore, it is acceptable for the values to remain unadjusted in the Investigative Results section since they are presented for informational purposes only. However, the information that is presented should be consistent. Section 5 of the document should be reviewed and corrected accordingly.

Response: Section 5 tables will be revised to be consistent in the presentation of USEPA Region III Risk-Based Concentrations.

SPECIFIC COMMENTS

28. **Section 5.5, Page 5-45**. The section presents a discussion of the surface soil analytical results for Site 15. The text states that dibutylphthalate was detected in six samples at concentrations ranging from 730 to 1,100 ug/kg. This is inconsistent with the information presented on Table 5-9. According to the table, the range of dibutylphthalate concentrations is 560 to 1,100 ug/kg. The discrepancy between the text and table should be corrected.

    Response: The range of dibutylphthalate will be changed to 560 to 1,100 ug/kg as shown in Table 5-9.

29. **Table 6-8**. The table presents a summary of the risks calculated for receptors identified under future land use. According to Table 6-8, the hazard indices calculated for ingestion of groundwater for the adult and child are three and seven, respectively. However, this is inconsistent with the values presented in Tables G-24 and G-25. These tables indicate that adult and child hazard indices are four and eight, respectively. The discrepancy should be corrected.

    Response: Table 6-8 has been reviewed and the hazard indices for ingestion of groundwater for the adult and child will be changed, according to Tables G-24 and G-25, to four and eight, respectively.

30. **Section 6.8, Page 6-34**. It is stated in the text that the human health contaminants of potential concern (HHCPCs) detected in subsurface soil do not pose unacceptable carcinogenic risk to the receptors evaluated. However, no subsurface HHCPC were identified at Site 15. The text of this section and the Executive Summary should be amended in order to avoid unnecessary confusion.

    Response: The text will be revised to indicate that no HHCPCs were identified for subsurface soil.

31. **Figure 7-2, Page 7-6**. Figure 7-2 shows the contaminant pathway model for Site 15 ecological receptors. Shading of the boxes indicates exposure pathways that are quantitatively evaluated for receptors in Site 15. Nonshaded boxes indicate insignificant exposure pathways. The soil-to-food-to-ingestion pathway for terrestrial invertebrates is not shaded meaning it is not considered to be a significant exposure pathway. This is somewhat misleading because the soil-to-food-to-ingestion pathway is a significant route of exposure. However, since the majority of food for terrestrial invertebrates comes from soil, exposure via soil ingestion and food ingestion can be lumped into one exposure route. Soil ingestion and food ingestion should both be shaded and a note should be provided about them being essentially one pathway and that they will be analyzed as such.

    Response: The box for terrestrial invertebrate soil-to-food-to-ingestion pathway will be shaded in Figure 7-2. The following footnote will be added to the table; The ingestion exposure routes for terrestrial invertebrates include the ingestion of soil and food items containing chemicals accumulated from Site 15 surface soil.

32. **Section 7.2.3, Pages 7-7 and 7-8**. This section presents the hypotheses developed to gauge risks associated with exposure to surface soil. Hypothesis number 4 on page 7-8 discusses ECPC in groundwater. The first sentence of the fifth paragraph on page 7-7 should be changed to, "Four hypotheses were developed to gauge potential risks associated with exposure to Site 15 surface soil *and groundwater*."

    Response: The second paragraph in Section 7.2.3 will replaced with the following: *"Four questions were developed to gauge potential risks associated with exposure to Site 15 surface soil and groundwater. These questions are designed for multiple species and trophic levels and represent both individual and community dynamics. Questions for the Site 15 ERA include the following:"*

33. **Table 7-1, Page 7-8**. Table 7-1 shows the endpoints selected for the ecological risk assessment. In Section 7.2.3, the assessment endpoints are defined as representing the ecological component to be protected. However, in Table 7-1 the assessment endpoints for terrestrial plants and terrestrial invertebrates are stated as being a reduction in the biomass of terrestrial plants used as forage material and a reduction in the abundance of earthworms used as forage material, respectively. Reductions in forage material are not ecological components to be protected. The assessment endpoints in Table 7-1 are not consistent with the definition of an assessment endpoint provided in section 7.2.3. This inconsistency should be corrected.

    Response: The receptors for the first two assessment endpoints in Table 7-1 will be changed from terrestrial plants and invertebrates to wildlife species. Therefore, a reduction in forage material is an ecological component to be protected, as a reduction in

forage material would have a direct effect on the receptors of concern (i.e. wildlife species).

34. **Table 7-2, Page 7-13**. Table 7-2 provides information on the selection of ECPCs such as detected concentrations and screening values. It is reported in Table 7-2 that the ecological screening value for zinc is not available. However, when referencing Beyer (1990), a screening value of 200 mg/kg was found. This value should be use in Table 7-2.

    Response: The screening value of 200 mg/kg will be added to Table 7-2, and the ERA will be revised accordingly.

35. **Section 7.4.1, Page 7-18**. The second paragraph on page 7-18 involves groundwater EPCs. It is explained that a 10-fold attenuation factor is applied to the RME concentration in order to derive a realistic exposure concentration for groundwater constituents in the surface water of Clear Creek. It is unclear as to how the "10-fold attenuation factor" was derived. This needs to be clarified.

    Response: The 10-fold attenuation factor is a conservative estimate of the attenuation that occurs between groundwater and surface water exposure.

36. **Section 7.4.2, Page 7-18**. Several sections in chapter 7 (e.g. Section 7.4.2 and Section 7.3) refer the reader to information in the General Information Report (GIR) prepared by ABB-ES in 1998. Information such as PDE calculation methodologies and background investigation data are only available in the GIR and are not provided in this report. It would be helpful for pertinent information to be provided in an appendix to this report.

    Response: The background data are provided in the NAS Whiting Field GIR and will not be added to the RI report. The GIR was created to reduce the presentation of redundant information in the RI reports and contains a large amount of technical information that would be unwieldy to append to each RI report.

37. **Table 7-4, Page 7-19**. This table provides the equations used to calculate the potential dietary exposures for wildlife receptors. The variable "TN" is given three different definitions in Table 7-3. They are as follows, 1) the tissue concentration in food item N, 2) the secondary prey item concentration, and 3) the primary prey item concentration. Clarification (e.g., T_p for primary prey item tissue concentration and T_s for secondary prey item tissue concentration) in Table 7-3 would be beneficial.

    Response: The variable T_N will be modified so that T_{N1} refers to the tissue concentraion of the primary prey item, T_{N2} refers to the tissue concentration of the secondary prey item, and T_N refers to the tissue concentration of either the primary or secondary prey item.

The rationale provided in the ERA for not calculating bird tissue concentrations is the lack of avian bioaccumulation factors (BAFs). Since contaminant concentrations in birds as a secondary prey items were not calculated, it should be stated in section 7.4 how PDEs for the red fox and red-tailed hawk were calculated without the avian BAFs.

Response: The text in section will not be revised however an uncertainty will be added in Section 7.7 to address this issue. The following uncertainty will be added to section 7.7. The PDEs for the red fox and red-tailed hawk assume no exposure from small birds as prey items due to a lack of avian BAFs. Birds make-up a small portion of the red fox and red-tailed hawk diet, and for this evaluation it is assumed that small birds would not provide a source of contaminant exposure. In addition, the risks predicted (i.e. the HQs and HIs) for the red fox and red-tailed hawk were so low that it is unlikely that including avian BAFs (if they were available) would alter the findings of the ERA.

38. **Section 7.4.2, Pages 7-18 and 7-20**. The second bullet in Section 7.4.2 provides a discussion of the short-tailed shrew as a wildlife receptor. The home range of the short-tailed shrew is not provided in this discussion although the home ranges for other ecological receptors are provided in this section. The home range of the short-tailed shrew should be provided in the first bullet.

The second bullet on page 7-20 provides a discussion of the red-tailed hawk as a wildlife receptor. The home range of the red-tailed hawk is not provided in this discussion, although the home ranges for other ecological receptors are provided in this section. The home range of the red-tailed hawk should be provided in the fourth bullet.

Response: The home range for the short-tailed shrew will be included as suggested. The first sentence in this paragraph will be revised as follows; "…. , and brush, and has a home range of approximately 1 acre".

The home range for the red-tailed hawk will be included as suggested. The first sentence of this paragraph will be revised as follows; "… on small mammals, and has a home range of approximately 800 acres".

39. **Table 7-6, Page 7-21**. This table describes the exposure parameters for representative wildlife species used as receptors in this remedial investigation. Many of the parameters are cited from the *Wildlife Exposure Factors Handbook* (USEPA, 1993); however, it is not consistently stated whether an average of the exposure parameter is calculated or if a certain study was selected. For example, it is not explained in Table 7-5 how the values in the column titled, "Assumed Diet for Terrestrial Exposure Assessment (% of diet)," were derived. The dietary composition data for the deer mouse (surrogate for the cotton mouse) provided in the handbook are seasonal percentages with invertebrates comprising as much as 63% of the deer mouse's diet, but Table 7-6 states that invertebrates make up

10% of the deer mouse's diet. It should be clarified in Table 7-6 how the values in the dietary composition column were derived from the data provided in the handbook.

The food ingestion rate (FIR) for the red-tailed hawk was calculated using the bird equation based on body weight from the *Wildlife Exposure Factors Handbook* (USEPA, 1993). An FIR of 0.133 kg/day for the red-tailed hawk is presented in table 7-6; however, when calculated using the EPA bird equation and the body weight provided in Table 7-6, an FIR of 0.059 kg/day results. This calculation should be reevaluated and checked for accuracy.

In Table 7-6 it is stated that the body weight of the red-tailed hawk is 1.02 kg with a footnote of [I]. However, footnote [I] refers to the bird food ingestion equation, not to the derivation of body weight. The footnote for the red-tailed hawk body weight should be changed to indicate the source of the body weight value.

Response: The dietary composition data in Table 7-6 were derived based on average exposure parameters cited in the *Wildlife Exposure Factors Handbook* (USEPA, 1993). The table footnotes will be revised to clarify this distinction.

The food ingestion rates were re-calculated for the eastern meadowlark and red-tailed hawk. The FIR for the eastern meadowlark is correct. However, the FIR for the red-tailed hawk was calculated incorrectly, the correct FIR for the red-tailed hawk should be 0.059 kg/day. The ERA will be revised as required.

The footnote will be changed to [h], as the body weight for the red-tailed hawk, used in this evaluation was presented in Terres 1980.

40. **Section 7.6.4, Page 7-32**. In this section, it was concluded that it is unlikely that the predicted levels of zinc in the groundwater will have an adverse effect on aquatic receptors in Clear Creek. This was concluded in spite of the fact that the predicted groundwater exposure concentrations of zinc (27 μg/L) exceed the AQUIRE value of 17 μg/L. The reasoning behind this conclusion is that a review of additional AQUIRE data for zinc indicated that the predicted 27 μg/L exposure concentration would not result in adverse effects to the majority of the aquatic receptors in Clear Creek. Although this conclusion is believed to be accurate, the reasoning behind this conclusion should be further discussed in this section.

Response: The text will be modified to include more details on the reasoning behind the conclusion of no adverse effect to aquatic receptors from exposure to zinc. The following text will be added to this section: The AQUIRE data on zinc was reviewed for toxicity information on specific receptors that would most likely inhabit Clear Creek. The results of this review indicated that exposure to concentrations of zinc at 27 ug/L would not pose a risk to these aquatic receptors.

41. **Section 9.1, Page 9-1**. The text states that three volatile organic compounds (VOCs), seven semi-volatile organic compounds (SVOCs), and one pesticide compound were detected in Site 15 surface soil samples. However, these constituents are actually found in subsurface soil samples. The text of this section and the Executive Summary should be corrected accordingly.

    Response: The text of section 9.1 and the Executive Summary will be corrected to refer to subsurface soil samples.

42. **Table H-1**. This table presents bioaccumulation factors (BAFs) for terrestrial invertebrates, terrestrial plants, mammals, and birds.

    It is not possible to confirm the mammal BAFs for semivolatiles using the cited Travis and Arms equation for biotransfer factors with conversion to BAFs. The average ingestion rate used for this calculation in the ERA was not provided. Provide more information on the calculation of the mammal BAFs and re-confirm the calculated mammal BAFs.

    Table F-1 provides a plant BAF of 6.7E-03 for bis(2-ethylhexyl)phthalate, Di-n-butylphthalate, and butylbenzylphthalate. However, when recalculated using the equation in footnote [d], a plant BAF of 8.7E-03 was obtained for bis(2-ethylhexyl)phthalate, 7.6E-03 for Di-n-butylphthalate, and 1.1E-02 for butylbenzylphthalate. Please review these calculations and address the discrepancies.

    Response: The average ingestion rate for lactating and non-lactating cows is 12 kg feed/day (dry weight). As noted in footnote [e] in Table H-1, this value was converted to a wet weight prior to calculation of a BAF. This ingestion rate for lactating and non-lactating cows will be included in footnote [e], in Table H-1. The mammal BAFs for Di-n-butylphthalate, and bis(2-ethylhexyl)phthalate, calculated using this equation are 2.4E-01 and 1.9E-01, respectively. The BAF for Di-n-butylphthalate will be used as a surrogate for butylbenzylphthalate, as a BAF was not calculated for this analyte because it has a log Kow value of <5.

    The calculations were reviewed and the USEPA reviewer is correct in stating that the plant BAF for bis(2-ethylhexyl)phthalate and Di-n-butylphthalate should be 7.6E-03 and 8.7E-03, respectively. However, the BAF for Di-n-butylphthalate will be used as a surrogate for butylbenzylphthalate, as a BAF was not calculated for this analyte because it has a log Kow value of <5.

43. **Table H-2**. Table H-2 presents ingestion toxicity information. The Lowest Observed Adverse Effect Level (LOAEL) column heading should not be under the lethal reference toxicity value (RTV) heading. The LOAEL should be presented only with sublethal

RTVs. The column headings need to be verified to ensure that they reflect the data in the column and be revised as necessary.

Response: LOAEL values for mortality are available (i.e., mortality in 6% of the population); therefore, it is appropriate to list these values under the "lethal RTV" heading. As described in Section 7.5.1 of the ERA, data used to select lethal RTVs includes NOAEL and LOAEL data, as well as well as LD 50 values from literature.

44. **Table H-3**. Table H-3 presents the RTVs selected for the ERA while Table H-2 presents ingestion toxicity data for wildlife.

For zinc, an LD50 derived lethal RTV of 502 mg/kg/BW/day was used in Table H-3 and a LOAEL derived sublethal RTV of 20 mg/kg/BW/day was used in Table H-3. However a lower lethal RTV of 3.9 mg/kg/BW/day and a lower sublethal RTV of 16 mg/kg/BW/day are both available as listed in Table H-2. The lowest possible RTVs should be used in Table H-3. Please review this calculation and address this discrepancy.

Response: The lethal and sublethal RTVs presented in Table H-3 were used as the selected RTVs because the effects measured in the laboratory tests were more closely related to the chosen assessment endpoints. The alternatives listed in Table H-2 (i.e., lethal RTV of 390mg/kg/BW-day and sublethal RTV of 160 mg/kg/BW-day) are consistent with the selected RTVs, and are based on effects that are not as closely related to the chosen assessment endpoints as the selected RTVs. In addition, the RTV values identified in the reviewers comment are not consistent with the RTVs listed in Table H-2.

EDITORIAL COMMENTS

45. **Section 7.5, Page 7-25**. The first sentence on page 7-25 mentions Site 18 when it is believed that Site 15 is being referred to. This discrepancy should be addressed.

Response: The first sentence on page 7-25 will be corrected to refer to site 15.

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Mr. William Sirmans, Santa Rosa County Health Department
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Harding Lawson Associates

2534-2046

December 21, 1999

Mr. Craig Benedikt
Remedial Project Manager
Federal Facilities Branch
USEPA Region IV
61 Forsyth Street
Atlanta, Georgia 30303

Subject: **Final Remedial Investigation Report**
Site 15, Southwest Landfill
Naval Air Station Whiting Field, Milton, Florida
Contract No. N62467-89D-0317/116

Dear Craig:

On behalf of Southern Division Naval Facilities Engineering Command, Harding Lawson Associates is pleased to submit one copy of the subject document for your review and files. Copies of the report have also been forwarded to the Naval Air Station Whiting Field Partnering team.

If you have any questions please call me at (850) 656-1293.

Sincerely,

HARDING LAWSON ASSOCIATES

Rao Angara
Task Order Manager

enclosure

cc: Ms. L. Martin, SDIV (2 copies)
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Engineering and
Environmental Services

2590 Executive Center Circle E, Suite 100, Tallahassee, FL 32301 850/656-1293 Fax: 850/656-3386

Harding Lawson Associates

December 20, 1999

Mr. William Sirmans
Santa Rosa County Health Department
5527 Stewart Street
Milton, Fl 32570-4375

Subject: **Naval Air Station (NAS) Whiting Field Installation Restoration Program Document Available for Review.**

Dear Mr. Sirmans:

This letter is notification of the completion and availability of an Installation Restoration Program document for NAS Whiting Field, Milton, Florida. The document is titled:

Final Report, Remedial Investigation
Site 15, Southwest Landfill
Naval Air Station Whiting Field
Milton, Florida

This document is available at the West Florida Regional, Milton Branch Library, 805 Alabama Street, Milton, Florida and at the NAS Whiting Field Public Works office, Building 1418, 7151 USS Wasp Street, NAS Whiting Field, Milton, Florida. If you have any questions concerning the document or the environmental program in general, you should contact either the Public Affairs Officer, NAS Whiting Field (850/623-7651) or Mr. Jim Holland of the Public Works Department (850/623-7667 ext. 49).

Sincerely,

Harding Lawson Associates

Rao Angara
Project Manager

cc: Linda Martin; SouthDiv
Jim Holland; NAS WHF PWD
file: 2534-01

Engineering and
Environmental Services

2590 Executive Center Circle East, Tallahassee, FL 32301 850/656-1293 Fax: 850/656-3386

Harding Lawson Associates

December 20, 1999

Mr. Tom Dillon
Coastal Resource Coordinator
U. S. Department of Commerce, NOAA,
Hazardous Materials Response Branch
c/o USEPA Emergency Response Section
61 Forsyth Street, Waste Management Division
Atlanta, Ga 30303

Subject: **Naval Air Station (NAS) Whiting Field Installation Restoration Program Document Available for Review.**

Dear Mr. Dillon:

This letter is notification of the completion and availability of an Installation Restoration Program document for NAS Whiting Field, Milton, Florida. The document is titled:

Final Report, Remedial Investigation
Site 15, Southwest Landfill
Naval Air Station Whiting Field
Milton, Florida

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Sincerely,

Harding Lawson Associates

Rao Angara
Project Manager

cc: Linda Martin; SouthDiv
Jim Holland; NAS WHF PWD
file: 2534-01

Engineering and
Environmental Services

2590 Executive Center Circle East, Tallahassee, FL 32301 850/656-1293 Fax: 850/656-3386

Harding Lawson Associates

December 20, 1999

Mr. Hunter Walker
Santa Rosa County Administrator
Santa Rosa County Commission
6865 Caroline Street
Milton, Fl. 32570

Subject: **Naval Air Station (NAS) Whiting Field Installation Restoration Program Document Available for Review.**

Dear Mr. Walker:

This letter is notification of the completion and availability of an Installation Restoration Program document for NAS Whiting Field, Milton, Florida. The document is titled:

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Site 15, Southwest Landfill
Naval Air Station Whiting Field
Milton, Florida

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Sincerely,

Harding Lawson Associates

Rao Angara
Project Manager

cc: Linda Martin; SouthDiv
Jim Holland; NAS WHF PWD
file: 2534-01

Engineering and
Environmental Services

2590 Executive Center Circle East, Tallahassee, FL 32301 850/656-1293 Fax: 850/656-3386

Harding Lawson Associates

December 20, 1999

Ms. Gail Carmody
Fish and Wildlife Service
1612 June Avenue
Panama City, Fl 32405

Subject: **Naval Air Station (NAS) Whiting Field Installation Restoration Program Document Available for Review.**

Dear Ms. Carmody:

This letter is notification of the completion and availability of an Installation Restoration Program document for NAS Whiting Field, Milton, Florida. The document is titled:

Final Report, Remedial Investigation
Site 15, Southwest Landfill
Naval Air Station Whiting Field
Milton, Florida

This document is available at the West Florida Regional, Milton Branch Library, 805 Alabama Street, Milton, Florida and at the NAS Whiting Field Public Works office, Building 1418, 7151 USS Wasp Street, NAS Whiting Field, Milton, Florida. If you have any questions concerning the document or the environmental program in general, you should contact either the Public Affairs Officer, NAS Whiting Field (850/623-7651) or Mr. Jim Holland of the Public Works Department (850/623-7667 ext. 49).

Sincerely,

Harding Lawson Associates

Rao Angara
Project Manager

cc: Linda Martin; SouthDiv
Jim Holland; NAS WHF PWD
file: 2534-01

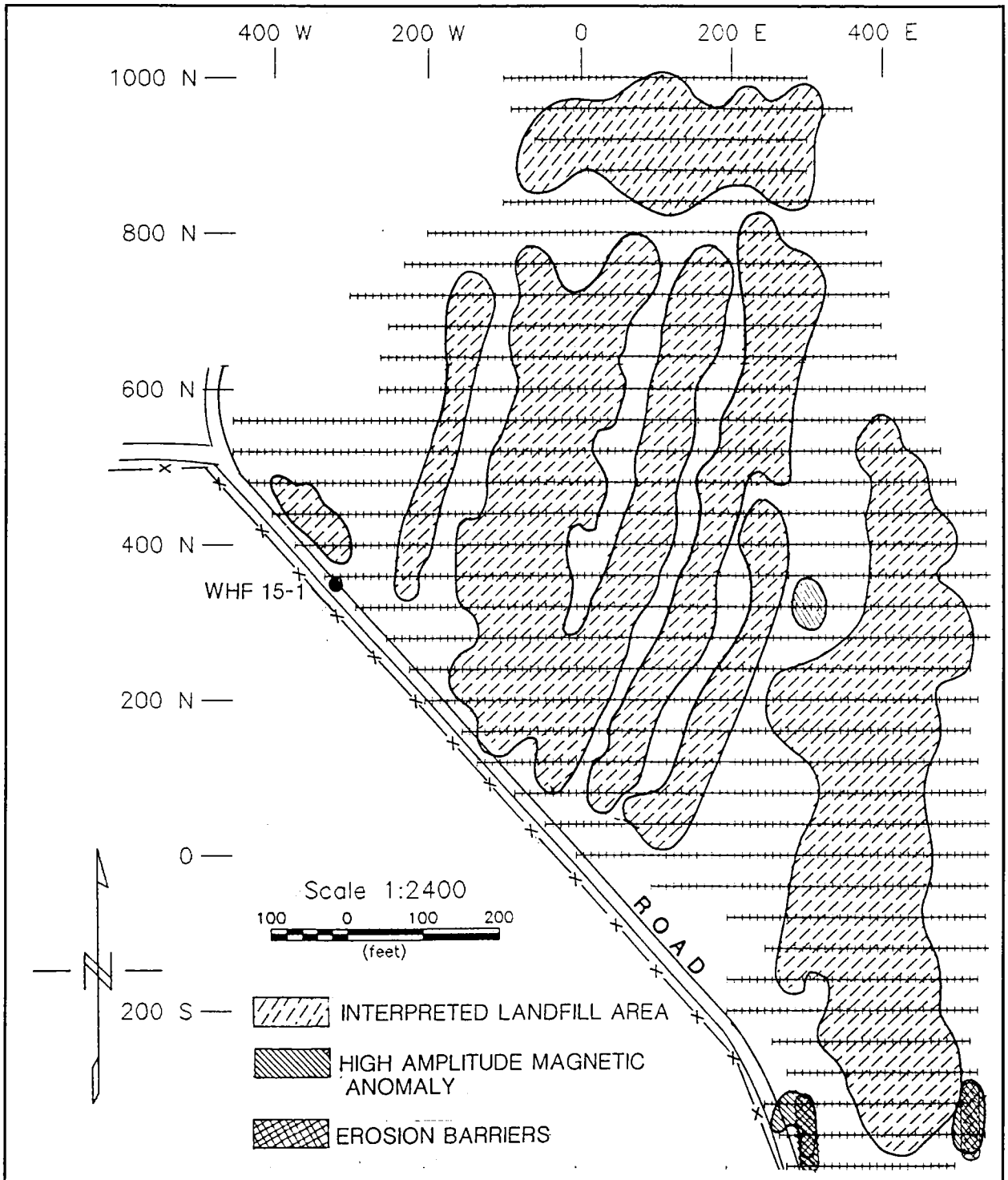
Engineering and
Environmental Services

2590 Executive Center Circle East, Tallahassee, FL 32301 850/656-1293 Fax: 850/656-3386

APPENDIX A

GEOPHYSICAL SURVEY

APPENDIX A



SOURCE: BLACKHAWK GEOSCIENCES, INC. 1992.

FIGURE C-1
SITE 15
GEOPHYSICAL SURVEY GRID LINES
AND INTERPRETED ANOMALY LOCATIONS

REMEDIAL INVESTIGATION REPORT
SITE 15, SOUTHWEST LANDFILL

NAS WHITING FIELD
MILTON, FLORIDA

02534-09-X15 FIG C-1 012998MAW

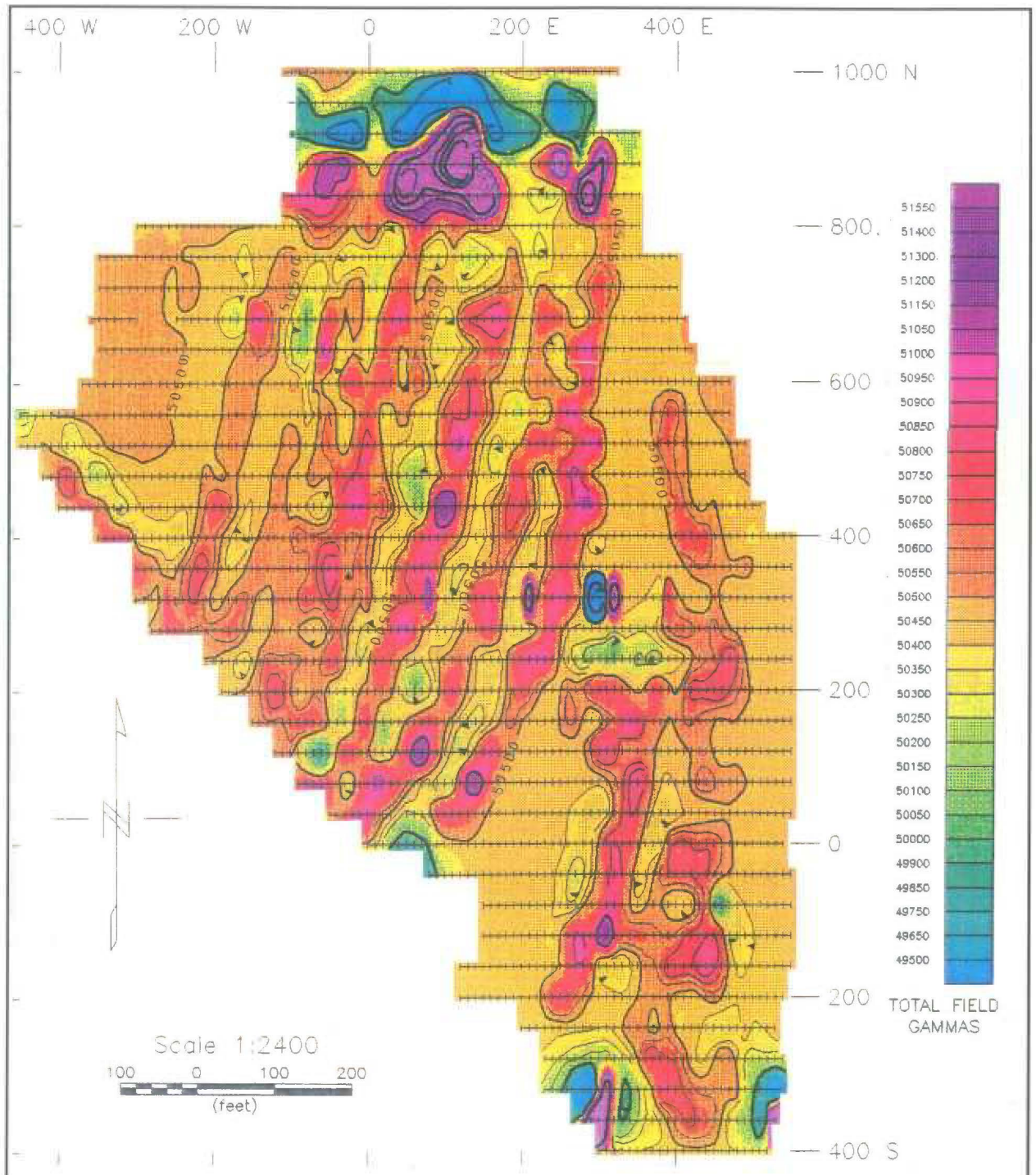


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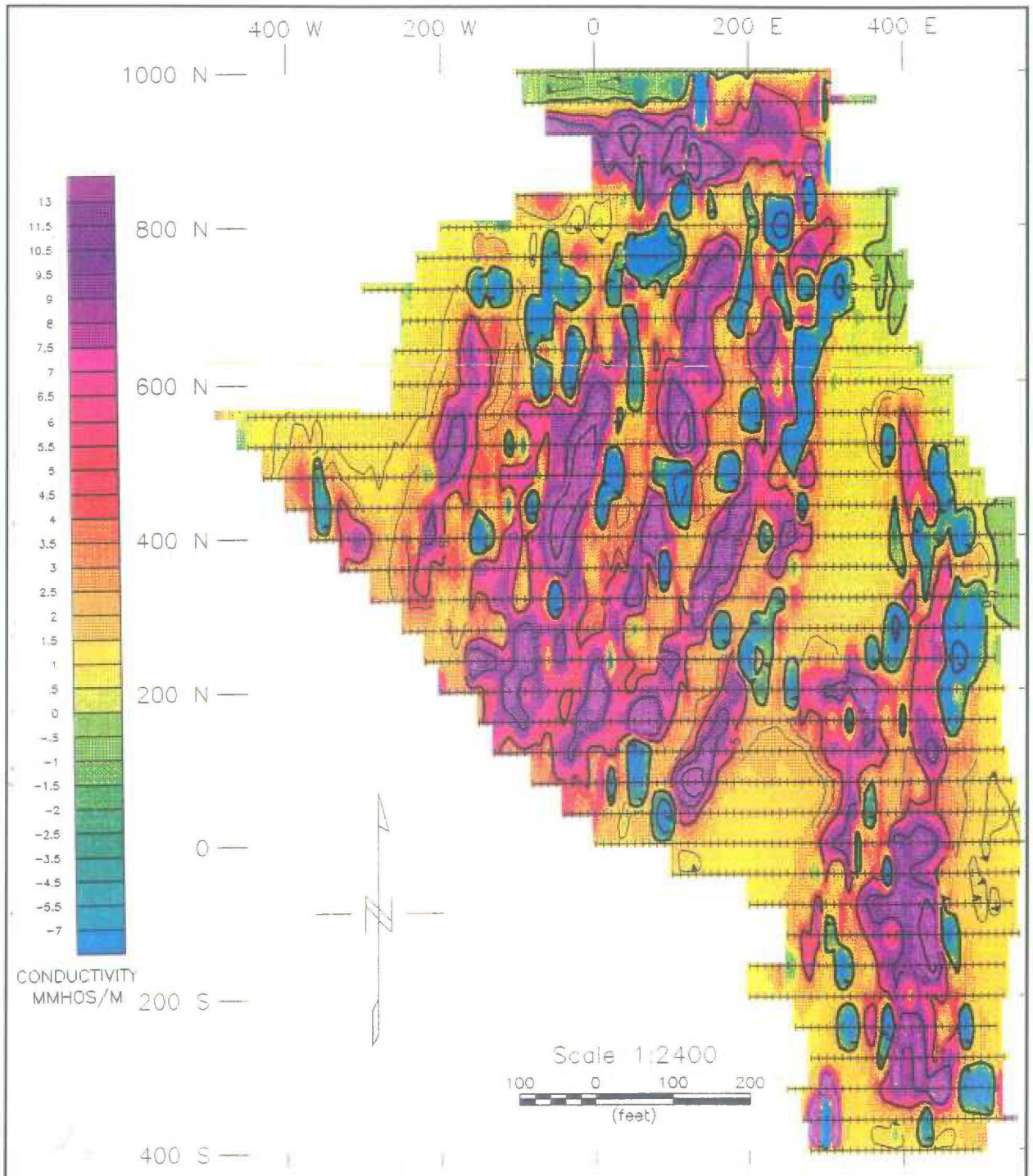
FIGURE C-2
SITE 15
TOTAL MAGNETIC FIELD
ISOPLETH MAP

REMEDIAL INVESTIGATION REPORT
SITE 15, SOUTHWEST LANDFILL

NAS WHITING FIELD
MILTON, FLORIDA

02534-09-X15 FIG C-2 012998MAW



SOURCE: BLACKHAWK GEOSCIENCES, INC. 1992.

FIGURE C-3
SITE 15
EM-31 CONDUCTIVITY
ISOPLETH MAP

REMEDIAL INVESTIGATION REPORT
SITE 15, SOUTHWEST LANDFILL

NAS WHITING FIELD
MILTON, FLORIDA

02534-09-X15 FIG C-3 012998MAW

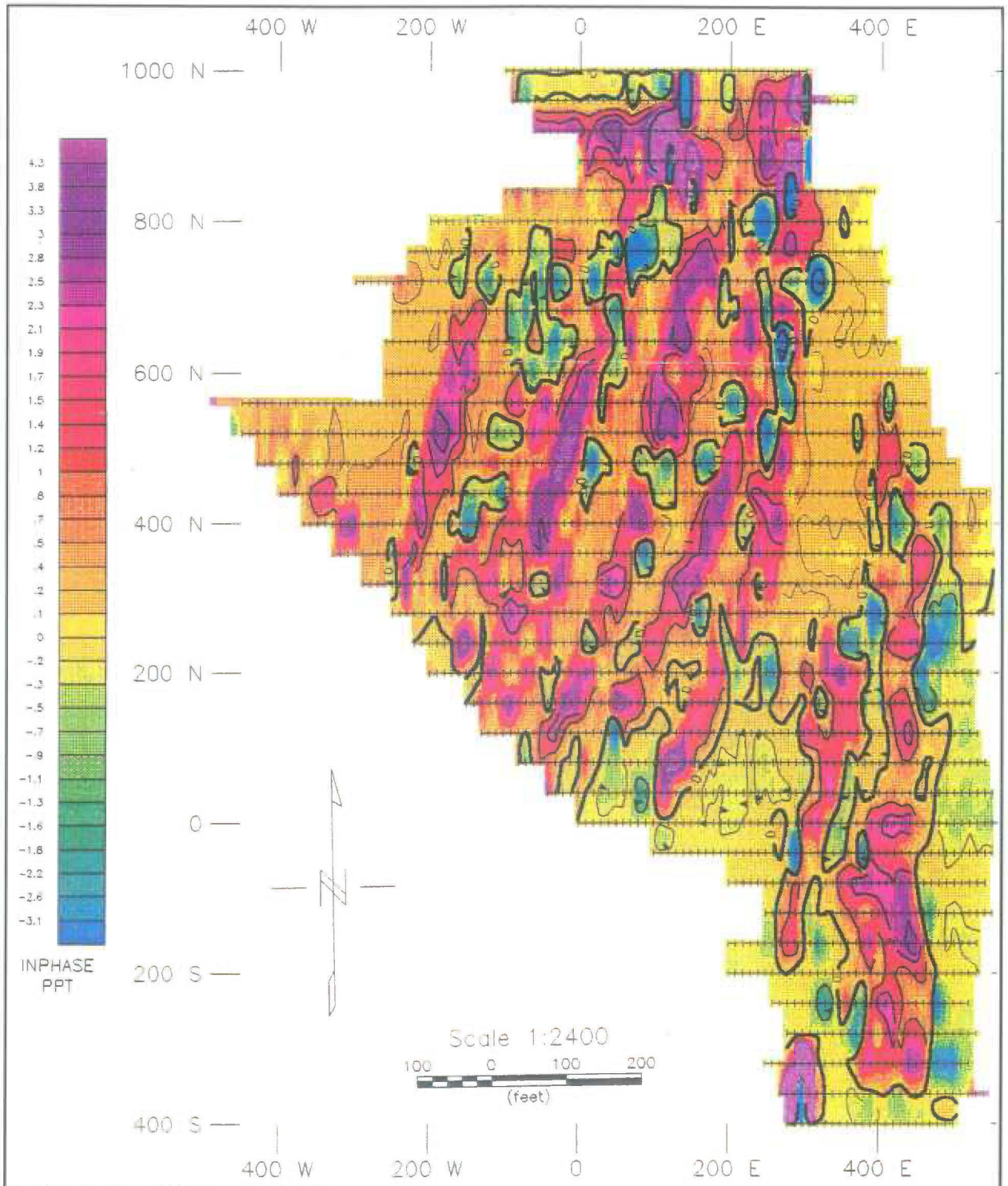


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FIGURE C-4
SITE 15
EM-31 INPHASE
ISOPLETH MAP

REMEDIAL INVESTIGATION REPORT
SITE 15, SOUTHWEST LANDFILL

NAS WHITING FIELD
MILTON, FLORIDA

02534-09-X15 FIG C-4 012998MAW

APPENDIX B

APPENDIX B

QUALITY CONTROL DATA

APPENDIX A

Groundwater and Subsurface Soil Investigation, Phase IIB
NAS Whiting Field, Milton Florida
PARCC Summary Tables

Draft Version

12/12/97

APPENDIX A

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NAS Whiting Field, Milton, Florida

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Table 1

SDG#: WF022 | **VALIDATION SAMPLE TABLE** | **LDC#:** 1932A

Project Name: NAS Whiting Field | Parameters/Analytical Method | **Job#:** 8532-20

Client ID #	Lab ID #	QC Type	Matrix	Date Collected	VOA	SVOA	Pesticides /PCBs	Metals	Cyanide
BKT01001	RB858001	TB	water	7-16-96	X				
BKR01001	RB858002	R	water	7-16-96	X	X	X	X	X
BKG00101	RB858003		water	7-16-96	X	X	X	X	X
BKG00101D	RB858004	FD	water	7-16-96	X	X	X	X	X
BKG00102	RB858005		water	7-16-96	X	X	X	X	X
BKG00102F	RB858006		water	7-16-96				X	
BKG00103	RB858007		water	7-16-96	X	X	X	X	X
BKG00202	RB858008		water	7-17-96	X	X	X	X	X
BKG00201	RB858009		water	7-17-96	X	X	X	X	X
BKF01001	RB858010	SB	water	7-17-96	X	X	X	X	X
17T01101	RB873001	TB	water	7-18-96	X				
17G00102	RB873002		water	7-18-96	X	X	X	X	X
17G00101	RB873003		water	7-18-96	X	X	X	X	X
17G00201	RB873004		water	7-18-96	X	X	X	X	X
17G00301	RB873005		water	7-18-96	X	X	X	X	X
17G00201F	RB873006		water	7-18-96				X	
01G00101	RB873007		water	7-19-96	X	X	X	X	X
01G00102	RB873008		water	7-19-96	X	X	X	X	X
01G00102D	RB873009		water	7-19-96	X	X	X	X	X
BKG00101MS	RB858003MS	MS	water	7-16-96	X	X	X	X	X
BKG00101MSD	RB858003MSD	MSD	water	7-16-96	X	X	X	X	X

TB = Trip Blank, R = Rinsate, SB = Source Blank, FD = Field Duplicate, MS = Matrix Spike, MSD = Matrix Spike Duplicate, DUP = Duplicate

Table 1

SDG#: WF023 — **VALIDATION SAMPLE TABLE** — **LDC#:** 1942A

Project Name: NAS Whiting Field — Parameters/Analytical Method — **Job#:** 8532-20

Client ID #	Lab ID #	QC Type	Matrix	Date Collected	VOA	SVOA	Pesticides /PCBs	Metals	Cyanide
01T01201	RB887001	TB	water	7-22-96	X				
01G00401	RB887002		water	7-22-96	X	X	X	X	X
01G00201	RB887003		water	7-22-96	X	X	X	X	X
01G00201F	RB887004		water	7-22-96				X	
01R01101	RB887005	R	water	7-23-96	X	X	X	X	X
01G00301	RB887006		water	7-23-96	X	X	X	X	X
BKG00301	RB887007		water	7-23-96	X	X	X	X	X
02G00201	RB887008		water	7-23-96	X	X	X	X	X
02G00101	RB887009		water	7-23-96	X	X	X	X	X
02G00101F	RB887010		water	7-23-96				X	
18G00301	RB887011		water	7-24-96	X	X	X	X	X
02G00301	RB887012		water	7-24-96	X	X	X	X	X
02G00301D	RB887013	FD	water	7-24-96	X	X	X	X	X
16T01301	RB887014		water	7-25-96	X				
16G00701	RB887015		water	7-25-96	X	X	X	X	X
16G00702	RB887016		water	7-25-96	X	X	X	X	X
16G00702DL	RB887016DL		water	7-25-96	X				
16G00703	RB887017		water	7-25-96	X	X	X	X	X
16G00703DL	RB887017DL		water	7-25-96	X				
18G00201	RB887018		water	7-26-96	X	X	X	X	X
02G00301MS	RB887012MS	MS	water	7-24-96	X	X	X	X	X
02G00301MSD	RB887012MSD	MSD	water	7-24-96	X	X	X	X	X

TP Trip Blank, R = Rinsate, SB = Source Blank, FD = Field Duplicate, MS = Matrix Spike, MSD = Matrix Spike Duplicate, DUP = Duplicate

Table 1

SDG#: WF024 — **VALIDATION SAMPLE TABLE** — **LDC#:** 1943A

Project Name: NAS Whiting Field — Parameters/Analytical Method — **Job#:** 8532-20

Client ID #	Lab ID #	QC Type	Matrix	Date Collected	VOA	SVOA	Pesticides /PCBs	Metals	Cyanide
18T01401	RB920001	TB	water	7-29-96	X				
18G00101	RB920002		water	7-29-96	X	X	X	X	X
15G00401	RB920003		water	7-30-96	X	X	X	X	X
BKG00203	RB920004		water	7-30-96	X	X	X	X	X
15R01201	RB920005	R	water	7-31-96	X	X	X	X	X
BKG00203F	RB920006		water	7-30-96				X	
15G00702	RB920007		water	7-31-96	X	X	X	X	X
15G00702F	RB920008		water	7-31-96				X	
15G00701	RB920009		water	7-31-96	X	X	X	X	X
15G00701D	RB920010	FD	water	7-31-96	X	X	X	X	X
15G00701MS	RB920009MS	MS	water	7-31-96	X	X	X	X	X
15G00701MSD	RB920009MSD	MSD	water	7-31-96	X	X	X	X	X

TB = Trip Blank, R = Rinsate, SB = Source Blank, FD = Field Duplicate, MS = Matrix Spike, MSD = Matrix Spike Duplicate, DUP = Duplicate

Table 1

SDG#: WF025 | **VALIDATION SAMPLE TABLE** | **LDC#: 1956A**

Project Name: NAS Whiting Field | Parameters/Analytical Method | **Job#: 8532-20**

Client ID #	Lab ID #	QC Type	Matrix	Date Collected	VOA	SVOA	Pesticides /PCBs	Metals	Cyanide
15T01501	RB956001	TB	water	8-5-96	X				
15G00703	RB956002		water	8-5-96	X	X	X	X	X
15G00503	RB956003		water	8-6-96	X	X	X	X	X
15G00503DL	RB956003DL		water	8-6-96	X				
15G00502	RB956004		water	8-6-96	X	X	X	X	X
15G00501	RB956005		water	8-6-96	X	X	X	X	X
15G00601	RB956006		water	8-7-96	X	X	X	X	X
15G00603	RB956007		water	8-7-96	X	X	X	X	X
15G00601D	RB956008	FD	water	8-7-96	X	X	X	X	X
15G00503F	RB956009		water	8-6-96				X	
15G00501F	RB956010		water	8-6-96				X	
15R01301	RB956011	R	water	8-7-96	X	X	X	X	X
15T01601	RB956012	TB	water	8-8-96	X				
15G00301	RB956013		water	8-8-96	X	X	X	X	X
15G00302	RB956014		water	8-8-96	X	X	X	X	X
15G00303	RB956015		water	8-9-96	X	X	X	X	X
15G00101	RB956016		water	8-8-96	X	X	X	X	X
15G00203	RB956017		water	8-9-96	X	X	X	X	X
15G00301F	RB956018		water	8-8-96				X	
15G00203F	RB956019		water	8-9-96				X	
15G00601MS	RB956006MS	MS	water	8-7-96	X	X	X	X	X
15G00601MSD	RB956006MSD	MSD	water	8-7-96	X	X	X	X	X

TB = Trip Blank, R = Rinsate, SB = Source Blank, FD = Field Duplicate, MS = Matrix Spike, MSD = Matrix Spike Duplicate, DUP = Duplicate

Table 1

SDG#: WF026 | **VALIDATION SAMPLE TABLE** | **LDC#:** 1957A

Project Name: NAS Whiting Field | Parameters/Analytical Method | **Job#:** 8532-20

Client ID #	Lab ID #	QC Type	Matrix	Date Collected	VOA	SVOA	Pesticides /PCBs	Metals	Cyanide
15T01701	RB980001	TB	water	8-12-96	X				
15G00202	RB980002		water	8-12-96	X	X	X	X	X
15G00201	RB980003		water	8-13-96	X	X	X	X	X
15G00802	RB980004		water	8-13-96	X	X	X	X	X
15G00802R	RB980004R		water	8-13-96		X			
15G00801	RB980005		water	8-13-96	X	X	X	X	X
16G00201	RB980006		water	8-14-96	X	X	X	X	X
15G00803	RB980007		water	8-14-96	X	X	X	X	X
16G00803D	RB980008	FD	water	8-14-96	X	X	X	X	X
15G00202F	RB980009		water	8-12-96				X	
15G00201F	RB980010		water	8-13-96				X	
15G00802F	RB980011		water	8-13-96				X	
15R01401	RB980012	R	water	8-14-96	X	X	X	X	X
15G00803F	RB980013		water	8-14-96				X	
16G00201F	RB980014		water	8-14-96				X	
16T01801	RB980015	TB	water	8-15-96	X				
16G00202	RB980016		water	8-15-96	X	X	X	X	X
16G00202DL	RB980016DL		water	8-15-96	X				
16G00203	RB980017		water	8-15-96	X	X	X	X	X
16G00602	RB980018		water	8-15-96	X	X	X	X	X
16G00601	RB980019		water	8-16-96	X	X	X	X	X
16G00403	RB980020		water	8-16-96	X	X	X	X	X
16G00403DL	RB980020DL		water	8-16-96	X				
16G00403D	RB980021		water	8-16-96	X	X	X	X	X

TB = Trip Blank, R = Rinsate, SB = Source Blank, FD = Field Duplicate, MS = Matrix Spike, MSD = Matrix Spike Duplicate, DUP – Duplicate

Table 1

SDG#: WF026 — **VALIDATION SAMPLE TABLE** — **LDC#:** 1957A

Project Name: NAS Whiting Field — Parameters/Analytical Method — **Job#:** 8532-20

Client ID #	Lab ID #	QC Type	Matrix	Date Collected	VOA	SVOA	Pesticides /PCBs	Metals	Cyanide
16G00403DDL	RB980021DL		water	8-16-96	X				
16G00601F	RB980022		water	8-16-96				X	
16G00403F	RB980023		water	8-16-96				X	
15G00803MS	RB980007MS	MS	water	8-14-96	X	X	X	X	X
15G00803MSD	RB980007MSD	MSD	water	8-14-96	X	X	X	X	X

TP Trip Blank, R = Rinsate, SB = Source Blank, FD = Field Duplicate, MS = Matrix Spike, MSD = Matrix Spike Duplicate, DUP = Duplicate

Table 1

SDG#: WF025					VALIDATION SAMPLE TABLE	LDC#: 1970A
Project Name: NAS Whiting Field					Parameters/Analytical Method	**Job#:** 8532-20
Client ID #	**Lab ID #**	**QC Type**	**Matrix**	**Date Collected**	**Pesticides/PCBs**	
15G00502RE	RB956004RE		water	8-6-96	X	

TB = Trip Blank, R = Rinsate, SB = Source Blank, FD = Field Duplicate, MS = Matrix Spike, MSD = Matrix Spike Duplicate, DUP = Duplicate

Table 1

SDG#: WF027 — **VALIDATION SAMPLE TABLE** — **LDC#:** 1970B

Project Name: NAS Whiting Field — Parameters/Analytical Method — **Job#:** 8532-20

Client ID #	Lab ID #	QC Type	Matrix	Date Collected	VOA	SVOA	Pesticides /PCBs	Metals	Cyanide
16T01901	RC016001	TB	water	8-19-96	X				
16G00401	RC016002		water	8-19-96	X	X	X	X	X
16G00402	RC016003		water	8-19-96	X	X	X	X	X
16G00101	RC016004		water	8-19-96	X	X	X	X	X
16G00301	RC016005		water	8-20-96	X	X	X	X	X
16G00302	RC016006		water	8-20-96	X	X	X	X	X
16G00304	RC016007		water	8-20-96	X	X	X	X	X
16G00303	RC016008		water	8-21-96	X	X	X	X	X
16G00501	RC016009		water	8-21-96	X	X	X	X	X
16G00303F	RC016010		water	8-21-96				X	
16G00501F	RC016011		water	8-21-96				X	
16R01501	RC016012	R	water	8-21-96	X	X	X	X	X
16G00501D	RC016013	FD	water	8-21-96	X	X	X	X	X
66T02001	RC016014	TB	water	8-22-96	X				
66G02101	RC016015		water	8-22-96	X	X	X	X	X
66G02103	RC016016		water	8-22-96	X	X	X	X	X
66G02102	RC016017		water	8-22-96	X	X	X	X	X
09G00101	RC016018		water	8-23-96	X	X	X	X	X
09G00301	RC016019		water	8-23-96	X	X	X	X	X
09G00301D	RC016020	FD	water	8-23-96	X	X	X	X	X
66G02102F	RC016021		water	8-23-96				X	
09G00301F	RC016022		water	8-23-96				X	
16G00501MS	RC016009MS	MS	water	8-21-96	X	X	X	X	X
16G00501MSD	RC016009MSD	MSD	water	8-21-96	X	X	X	X	X

TP Trip Blank, R = Rinsate, SB = Source Blank, FD = Field Duplicate, MS = Matrix Spike, MSD = Matrix Spike Duplicate, DUP = Duplicate

Table 1

SDG#: WF028 | **VALIDATION SAMPLE TABLE** | **LDC#:** 1974A

Project Name: NAS Whiting Field | Parameters/Analytical Method | **Job#:** 8532-20

Client ID #	Lab ID #	QC Type	Matrix	Date Collected	VOA	SVOA	Pesticides /PCBs	Metals	Cyanide
10T02101	RC044001	TB	water	8-26-96	X				
09G00201	RC044002		water	8-26-96	X	X	X	X	X
10G00101	RC044003		water	8-26-96	X	X	X	X	X
10G00201	RC044004		water	8-26-96	X	X	X	X	X
11G00402	RC044005		water	8-26-96	X	X	X	X	X
11G00102	RC044006		water	8-27-96	X	X	X	X	X
11G00401	RC044007		water	8-27-96	X	X	X	X	X
11T02201	RC044008	TB	water	8-28-96	X				
11G00301	RC044009		water	8-28-96	X	X	X	X	X
11G00101	RC044010		water	8-28-96	X	X	X	X	X
11G00201	RC044011		water	8-28-96	X	X	X	X	X
12G00101	RC044012		water	8-27-96	X	X	X	X	X
12G00201	RC044013		water	8-27-96	X	X	X	X	X
11G00201F	RC044014		water	8-28-96				X	
11G00301F	RC044015		water	8-28-96				X	
11R01601	RC044016		water	8-28-96	X	X	X	X	X
12G00101D	RC044017	FD	water	8-27-96	X	X	X	X	X
11G00201D	RC044018	FD	water	8-28-96	X	X	X	X	X
12G00101MS	RC044012MS	MS	water	8-27-96	X	X	X	X	X
12G00101MSD	RC044012MSD	MSD	water	8-27-96	X	X	X	X	X

TB = Trip Blank, R = Rinsate, SB = Source Blank, FD = Field Duplicate, MS = Matrix Spike, MSD = Matrix Spike Duplicate, DUP = Duplicate

Table 1

SDG#: WF029 | **VALIDATION SAMPLE TABLE** | **LDC#:** 1989A

Project Name: NAS Whiting Field | Parameters/Analytical Method | **Job#:** 8532-20

Client ID #	Lab ID #	QC Type	Matrix	Date Collected	VOA	SVOA	Pesticides /PCBs	Metals	Cyanide
13T02301	RC092001	TB	water	9-9-96	X				
13G00101	RC092002		water	9-9-96	X	X	X	X	X
13G00102	RC092003		water	9-9-96	X	X	X	X	X
13G00201	RC092004		water	9-10-96	X	X	X	X	X
13G00103	RC092005		water	9-10-96	X	X	X	X	X
14G00201	RC092006		water	9-10-96	X	X	X	X	X
14G00101	RC092007		water	9-11-96	X	X	X	X	X
13R01701	RC092008	R	water	9-11-96	X	X	X	X	X
14G00101D	RC092009	FD	water	9-11-96	X	X	X	X	X
13G00103F	RC092010		water	9-10-96				X	
66T02401	RC092011	TB	water	9-12-96	X				
66G00901	RC092012		water	9-12-96	X	X	X	X	X
66G00904	RC092013		water	9-12-96	X	X	X	X	X
66G00902	RC092014		water	9-13-96	X	X	X	X	X
66G00903	RC092015		water	9-13-96	X	X	X	X	X
66G00903F	RC092016		water	9-13-96				X	
14G00101MS	RC092007MS	MS	water	9-11-96	X	X	X	X	X
14G00101MSD	RC092007MSD	MSD	water	9-11-96	X	X	X	X	X

TP - Trip Blank, R = Rinsate, SB = Source Blank, FD = Field Duplicate, MS = Matrix Spike, MSD = Matrix Spike Duplicate, DUP = Duplicate

SDG#: WF030 | **VALIDATION SAMPLE TABLE** | **LDC#:** 2000A

Project Name: NAS Whiting Field | Parameters/Analytical Method | **Job#:** 8532-20

Client ID #	Lab ID #	QC Type	Matrix	Date Collected	VOA	SVOA	Pesticides /PCBs	Metals	Cyanide
66T02501	RC121001	TB	water	9-16-96	X				
66G00801	RC121002		water	9-16-96	X	X	X	X	X
66G00802	RC121003		water	9-16-96	X	X	X	X	X
66G00803	RC121004		water	9-17-96	X	X	X	X	X
66G00804	RC121005		water	9-17-96	X	X	X	X	X
66G00602	RC121006		water	9-17-96	X	X	X	X	X
66G00601	RC121007		water	9-18-96	X	X	X	X	X
66G00603	RC121008		water	9-18-96	X	X	X	X	X
66G00804F	RC121009		water	9-17-96				X	
66R01801	RC121010		water	9-18-96	X	X	X	X	X
66G00601D	RC121011	FD	water	9-18-96	X	X	X	X	X
66T02601	RC121012	TB	water	9-19-96	X				
66G00604	RC121013		water	9-19-96	X	X	X	X	X
66G02201	RC121014		water	9-19-96	X	X	X	X	X
66G02202	RC121015		water	9-19-96	X	X	X	X	X
66G02203	RC121016		water	9-20-96	X	X	X	X	X
66G02203D	RC121017	FD	water	9-20-96	X	X	X	X	X
66G00601MS	RC121007MS	MS	water	9-18-96	X	X	X	X	X
66G00601MSD	RC121007MSD	MSD	water	9-18-96	X	X	X	X	X

TB = Trip Blank, R = Rinsate, SB = Source Blank, FD = Field Duplicate, MS = Matrix Spike, MSD = Matrix Spike Duplicate, DUP = Duplicate

Table 1

SDG#: WF031 | **VALIDATION SAMPLE TABLE** | **LDC#:** 2031A

Project Name: NAS Whiting Field | Parameters/Analytical Method | **Job#:** 8532-20

Client ID #	Lab ID #	QC Type	Matrix	Date Collected	VOA	SVOA	Pesticides /PCBs	Metals	Cyanide
05T02701	MB928001	TB	water	9-23-96	X				
05G00801	MB928002		water	9-23-96	X	X	X	X	X
05G00802	MB928003		water	9-23-96	X	X	X	X	X
05G00901	MB928004		water	9-24-96	X	X	X	X	X
05G00902	MB928005		water	9-24-96	X	X	X	X	X
05G01002	MB928006		water	9-24-96	X	X	X	X	X
05G01001	MB928007		water	9-25-96	X	X	X	X	X
05G00301	MB928008		water	9-25-96	X	X	X	X	X
05G00301RE	MB928008RE		water	9-25-96		X			
05G00801F	MB928009		water	9-23-96				X	
05G00902F	MB928010		water	9-24-96				X	
05R01901	MB928011	R	water	9-25-96	X	X	X	X	X
05G01001D	MB928012	FD	water	9-25-96	X	X	X	X	X
33T02801	MB958001	TB	water	9-26-96	X				
05G00101	MB958002		water	9-26-96	X	X	X	X	X
33G00501	MB958003		water	9-26-96	X	X	X	X	X
33G00201	MB958004		water	9-26-96	X	X	X	X	X
33G00101	MB958005		water	9-27-96	X	X	X	X	X
33G00301	MB958006		water	9-27-96	X	X	X	X	X
33G00301D	MB958007	FD	water	9-27-96	X	X	X	X	X
05G01001MS	MB928007MS	MS	water	9-25-96	X	X	X	X	X
05G01001MSD	MB928007MSD	MSD	water	9-25-96	X	X	X		
05G01001DUP	MB928007DUP	DUP	water	9-25-96				X	X

TB = Trip Blank, R = Rinsate, SB = Source Blank, FD = Field Duplicate, MS = Matrix Spike, MSD = Matrix Spike Duplicate, DUP = Duplicate

Table 1

SDG#: WF031B					VALIDATION SAMPLE TABLE				LDC#: 2121A
Project Name: NAS Whiting Field					Parameters/Analytical Method				**Job#:** 7560-32
Client ID #	**Lab ID #**	**QC Type**	**Matrix**	**Date Collected**	**VOA (CLP-1.9)**	**SVOA (CLP-1.9)**	**Pesticides /PCBs (CLP-1.9)**	**Metals (CLP-2.1)**	**Cyanide**
05G01002	MC447001		water	11-21-96	X	X	X	X	X
16T04001	MC447002	TB	water	11-21-96	X				

TB = Trip Blank, R = Rinsate, SB = Source Blank, FD = Field Duplicate, MS = Matrix Spike, MSD = Matrix Spike Duplicate, DUP - Duplicate

Table 1

SDG#: WF032 — **VALIDATION SAMPLE TABLE** — **LDC#:** 2046A

Project Name: NAS Whiting Field — Parameters/Analytical Method — **Job#:** 8532-20

Client ID #	Lab ID #	QC Type	Matrix	Date Collected	VOA (CLP-1.9)	SVOA (CLP-1.9)	Pesticides /PCBs (CLP-1.9)	Metals	Cyanide
06T02901	MC011001	TB	water	9-30-96	X				
33G00401	MC011002		water	9-30-96	X	X	X	X	X
06G00102	MC011003		water	10-1-96	X	X	X	X	X
06G00101	MC011004		water	10-1-96	X	X	X	X	X
06G00301	MC011005		water	10-2-96	X	X	X	X	X
06R02001	MC011006	R	water	10-2-96	X	X	X	X	X
29G00501	MC011007		water	10-2-96	X	X	X	X	X
29G00501D	MC011008	FD	water	10-2-96	X	X	X	X	X
29T03001	MC037001	TB	water	10-3-96	X				
29G00101	MC037002		water	10-3-96	X	X	X	X	X
66G01201	MC037003		water	10-3-96	X	X	X	X	X
66G00102	MC037004		water	10-4-96	X	X	X	X	X
29G00501MS	MC011007MS	MS	water	10-2-96	X	X	X	X	X
29G00501MSD	MC011007MSD	MSD	water	10-2-96	X	X	X		
29G00501DUP	MC011007DUP	DUP	water	10-2-96				X	X

TP - Trip Blank, R = Rinsate, SB = Source Blank, FD = Field Duplicate, MS = Matrix Spike, MSD = Matrix Spike Duplicate, DUP - Duplicate

Table 1

SDG#: WF033 | **VALIDATION SAMPLE TABLE** | **LDC#:** 2069A

Project Name: NAS Whiting Field | Parameters/Analytical Method | **Job#:** 8532-20

Client ID #	Lab ID #	QC Type	Matrix	Date Collected	VOA (CLP-1.9)	SVOA (CLP-1.9)	Pesticides /PCBs (CLP-1.9)	Metals	Cyanide
29T03101	MC085001	TB	water	10-7-96	X				
26G00401	MC085002		water	10-7-96	X	X	X	X	X
26G00301	MC085003		water	10-8-96	X	X	X	X	X
66G00202	MC085004		water	10-8-96	X	X	X	X	X
29G00201	MC085005		water	10-8-96	X	X	X	X	X
66G01901	MC085006		water	10-9-96	X	X	X	X	X
66R02101	MC085007	R	water	10-9-96	X	X	X	X	X
66T03201	MC118001	TB	water	10-10-96	X				
66G00201	MC118002		water	10-9-96	X	X	X	X	X
66G00201D	MC118003	FD	water	10-9-96	X	X	X	X	X
07G00101	MC118004		water	10-10-96	X	X	X	X	X
30G00501	MC118005		water	10-10-96	X	X	X	X	X
66G00301	MC118006		water	10-11-96	X	X	X	X	X
66G00201MS	MC118002MS	MS	water	10-9-96	X	X	X	X	X
66G00201MSD	MC118002MSD	MSD	water	10-9-96	X	X	X		
66G00201DUP	MC118002DUP	DUP	water	10-9-96				X	X

TB = Trip Blank, R = Rinsate, SB = Source Blank, FD = Field Duplicate, MS = Matrix Spike, MSD = Matrix Spike Duplicate, DUP = Duplicate

Table 1

SDG#: WF034 | **VALIDATION SAMPLE TABLE** | **LDC#:** 2070A

Project Name: NAS Whiting Field | Parameters/Analytical Method | **Job#:** 8532-20

Client ID #	Lab ID #	QC Type	Matrix	Date Collected	VOA (CLP-1.9)	SVOA (CLP-1.9)	Pesticides /PCBs (CLP-1.9)	Metals	Cyanide
66T03301	MC153001	TB	water	10-14-96	X				
66G02001	MC153002		water	10-14-96	X	X	X	X	X
66G00302	MC153003		water	10-15-96	X	X	X	X	X
66G01801	MC153004		water	10-16-96	X	X	X	X	X
30G00301	MC153005		water	10-16-96	X	X	X	X	X
30G00401	MC153006		water	10-16-96	X	X	X	X	X
66R02201	MC153007	R	water	10-16-96	X	X	X	X	X
30G00301D	MC153008	FD	water	10-16-96	X	X	X	X	X
66T03401	MC176001	TB	water	10-17-96	X				
66G01101	MC176002		water	10-17-96	X	X	X	X	X
66G01301	MC176003		water	10-17-96	X	X	X	X	X
66G00501	MC176004		water	10-18-96	X	X	X	X	X
66G00501F	MC176005		water	10-18-96				X	
30G00301MS	MC153005MS	MS	water	10-16-96	X	X	X	X	X
30G00301MSD	MC153005MSD	MSD	water	10-16-96	X	X	X		
30G00301DUP	MC153005DUP	DUP	water	10-16-96				X	X

T Trip Blank, R = Rinsate, SB = Source Blank, FD = Field Duplicate, MS = Matr ke, MSD = Matrix Spike Duplicate, DUP = Duplicate

Table 1

SDG#: WF035 | **VALIDATION SAMPLE TABLE** | **LDC#:** 2076A

Project Name: NAS Whiting Field | Parameters/Analytical Method | **Job#:** 8532-20

Client ID #	Lab ID #	QC Type	Matrix	Date Collected	VOA (CLP-1.9)	SVOA (CLP-1.9)	Pesticides /PCBs (CLP-1.9)	Metals	Cyanide
66T03501	MC214001	TB	water	10-21-96	X				
66G00401	MC214002		water	10-21-96	X	X	X	X	X
66G01601	MC214003		water	10-22-96	X	X	X	X	X
66G01501	MC214004		water	10-22-96	X	X	X	X	X
66G01701	MC214005		water	10-23-96	X	X	X	X	X
66R02301	MC214006	R	water	10-23-96	X	X	X	X	X
66G01701D	MC214007	FD	water	10-23-96	X	X	X	X	X
66T03601	MC231001	TB	water	10-24-96	X				
66G00101	MC231002		water	10-24-96	X	X	X	X	X
08G00101	MC231003		water	10-24-96	X	X	X	X	X
66G01001	MC231004		water	10-25-96	X	X	X	X	X
66G01701MS	MC214005MS	MS	water	10-23-96	X	X	X	X	X
66G01701MSD	MC214005MSD	MSD	water	10-23-96	X	X	X		
66G01701DUP	MC214005DUP	DUP	water	10-23-96				X	X

TB = Trip Blank, R = Rinsate, SB = Source Blank, FD = Field Duplicate, MS = Matrix Spike, MSD = Matrix Spike Duplicate, DUP = Duplicate

Table 1

SDG#: WF036 — **VALIDATION SAMPLE TABLE** — **LDC#:** 2077A

Project Name: NAS Whiting Field — Parameters/Analytical Method — **Job#:** 8532-20

Client ID #	Lab ID #	QC Type	Matrix	Date Collected	VOA (CLP-1.9)	SVOA (CLP-1.9)	Pesticides /PCBs (CLP-1.9)	Metals	Cyanide
66T03701	MC262001	TB	water	10-28-96	X				
66G00701	MC262002		water	10-29-96	X	X	X	X	X
54G00201	MC262003		water	10-29-96	X	X	X	X	X
54G00101	MC262004		water	10-30-96	X	X	X	X	X
31G00201	MC262005		water	10-30-96	X	X	X	X	X
31G00201F	MC262006		water	10-30-96				X	
54R02401	MC262007	R	water	10-30-96	X	X	X	X	X
54G00101D	MC262008	FD	water	10-30-96	X	X	X	X	X
31T03801	MC284001	TB	water	10-31-96	X				
31G00301	MC284002		water	10-31-96	X	X	X	X	X
31G00402	MC284003		water	10-31-96	X	X	X	X	X
31G00403	MC284004		water	11-1-96	X	X	X	X	X
54G00101MS	MC262004MS	MS	water	10-30-96	X	X	X	X	X
54G00101MSD	MC262004MSD	MSD	water	10-30-96	X	X	X		
54G00101DUP	MC262004DUP	DUP	water	10-30-96				X	X

TB = Trip Blank, R = Rinsate, SB = Source Blank, FD = Field Duplicate, MS = Matrix Spike, MSD = Matrix Spike Duplicate, DUP = Duplicate

le 1

SDG#: WF037 | **VALIDATION SAMPLE TABLE** | **LDC#:** 2071A

Project Name: NAS Whiting Field | Parameters/Analytical Method | **Job#:** 8532-20

Client ID #	Lab ID #	QC Type	Matrix	Date Collected	VOA (CLP-1.9)	SVOA (CLP-1.9)	Pesticides /PCBs (CLP-1.9)	Metals	Cyanide
15T03901	MC424001	TB	water	11-18-96	X				
15G00502	MC424002		water	11-18-96	X				
15G00503	MC424003		water	11-18-96	X				
16G00202	MC424004		water	11-19-96	X				
16G00203	MC424005		water	11-19-96	X				
15G00802	MC424006		water	11-20-96	X				
15G00803	MC424007		water	11-20-96	X				
15G00803D	MC424008	FD	water	11-20-96	X				
15R02501	MC424009	R	water	11-20-96	X				
15F00201	MC424010		water	11-20-96	X	X	X	X	X
16G00702	MC448001		water	11-21-96	X				
16G00703	MC448002		water	11-21-96	X				
16G00403	MC448003		water	11-22-96	X				
16T04001	MC448004	TB	water	11-21-96	X				
15G00803MS	MC424007MS	MS	water	11-20-96	X				
15G00803MSD	MC424007MSD	MSD	water	11-20-96	X				

TB = Trip Blank, R = Rinsate, SB = Source Blank, FD = Field Duplicate, MS = Matrix Spike, MSD = Matrix Spike Duplicate, DUP = Duplicate

Table 1

SDG#: WF038 | **VALIDATION SAMPLE TABLE** | **LDC#:** 2099A

Project Name: NAS Whiting Field | Parameters/Analytical Method | **Job#:** 7560-32

Client ID #	Lab ID #	QC Type	Matrix	Date Collected	VOA (CLP-1.9)
36T04101	MC687001	TB	water	12-17-96	X
36BO0101	MC687002		soil	12-17-96	X
36BO0102	MC687003		soil	12-17-96	X
36BO0103	MC687004		soil	12-17-96	X
36BO0201	MC687005		soil	12-17-96	X
36BO0202	MC687006		soil	12-17-96	X
36BO0203	MC687007		soil	12-17-96	X
36BO0301	MC687008		soil	12-17-96	X
36BO0302	MC687009		soil	12-17-96	X
36BO0303	MC687010		soil	12-17-96	X
36BO0303D	MC687011	FD	soil	12-17-96	X
36BO0401	MC687012		soil	12-18-96	X
36BO0401DL	MC687012DL		soil	12-18-96	X
36BO0402	MC687013		soil	12-18-96	X
36BO0403	MC687014		soil	12-18-96	X
36BO0403D	MC687015	FD	soil	12-18-96	X
36RO2601	MC687016	R	water	12-18-96	X
36BO0303MS	MC687011MS	MS	soil	12-17-96	X
36BO0303MSD	MC687011MSD	MSD	soil	12-17-96	X

TP – Trip Blank, R = Rinsate, SB = Source Blank, FD = Field Duplicate, MS = Matrix Spike, MSD = Matrix Spike Duplicate, DUP – Duplicate

Table 1

SDG#: WF039 | **VALIDATION SAMPLE TABLE** | **LDC#:** 2102A

Project Name: NAS Whiting Field | Parameters/Analytical Method | **Job#:** 7560-32

Client ID #	Lab ID #	QC Type	Matrix	Date Collected	VOA (CLP-1.9)
35TO4201	MC698001	TB	water	12-19-96	X
35BO0101	MC698002		soil	12-20-96	X
35BO0102	MC698003		soil	12-20-96	X
35BO0102DL	MC698003DL		soil	12-20-96	X
35BO0103	MC698004		soil	12-20-96	X
35BO0104	MC698005		soil	12-20-96	X
35BO0105	MC698006		soil	12-20-96	X
35BO0106	MC698007		soil	12-21-96	X
35BO0201	MC698008		soil	12-21-96	X
35BO0202	MC698009		soil	12-21-96	X
35BO0203	MC698010		soil	12-21-96	X
35RO2701	MC698011	R	water	12-21-96	X
35BO0301	MC698012		soil	12-21-96	X
35BO0302	MC698013		soil	12-21-96	X
35BO0303	MC698014		soil	12-21-96	X
35BO0302D	MC698015	FD	soil	12-21-96	X
35BO0203D	MC698016	FD	soil	12-21-96	X
35BO0203MS	MC698010MS	MS	soil	12-21-96	X
35BO0203MSD	MC698010MSD	MSD	soil	12-21-96	X

TB = Trip Blank, R = Rinsate, SB = Source Blank, FD = Field Duplicate, MS = Matrix Spike, MSD = Matrix Spike Duplicate, DUP = Duplicate

Table 1

SDG#: WF040 | VALIDATION SAMPLE TABLE | **LDC#:** 2120A

Project Name: NAS Whiting Field | Parameters/Analytical Method | **Job#:** 7560-32

Client ID #	Lab ID #	QC Type	Matrix	Date Collected	VOA (CLP-1.9)
35TO4301	MC783001	TB	water	1-7-97	X
35BO0401	MC783002		soil	1-7-97	X
35BO0402	MC783003		soil	1-7-97	X
35BO0403	MC783004		soil	1-7-97	X
35BO0501	MC783005		soil	1-7-97	X
35BO0501DL	MC783005DL		soil	1-7-97	X
35BO0502	MC783006		soil	1-7-97	X
35BO0503	MC783007		soil	1-7-97	X
35BO0201	MC783008		soil	1-8-97	X
35BO0202	MC783009		soil	1-8-97	X
35BO0203	MC783010		soil	1-8-97	X
35BO0101	MC783011		soil	1-8-97	X
35BO0102	MC783012		soil	1-8-97	X
35BO0103	MC783013		soil	1-8-97	X
35BO0301	MC783014		soil	1-9-97	X
35BO0302	MC783015		soil	1-9-97	X
35BO0303	MC783016		soil	1-9-97	X
35R02801	MC783017	R	water	1-9-97	X
35BO0203D	MC783018	FD	soil	1-8-97	X
35BO0103D	MC783019	FD	soil	1-8-97	X
35BO0203MS	MC783010MS	MS	soil	1-8-97	X
35BO0203MSD	MC783010MSD	MSD	soil	1-8-97	X

TB – Trip Blank, R = Rinsate, SB = Source Blank, FD = Field Duplicate, MS = Matrix Spike, MSD = Matrix Spike Duplicate, DUP – Duplicate

Table 1

SDG#: WF041 | VALIDATION SAMPLE TABLE | **LDC#:** 2323A

Project Name: NAS Whiting | Parameters/Analytical Method

Client ID #	Lab ID #	QC Type	Matrix	Date Collected	VOA (1.9)	SVOA (1.9)	Pesticides /PCBs (1.9)	Metals (2.1)
35T04501	MD908001	TB	water	6-11-97	X			
35F00301	MD908002		water	6-11-97	X	X	X	X
35R03001	MD908003	R	water	6-11-97	X	X	X	X
35G00101	MD908004		water	6-11-97	X	X	X	X
35G00101D	MD908005	FD	water	6-11-97	X	X	X	X
35G00101DRE	MD908005RE	FD	water	6-11-97		X		
35G00103	MD908006		water	6-11-97	X	X	X	X
35G00103F	MD908007		water	6-11-97				X
35G00102	MD908008		water	6-12-97	X	X	X	X
37G00102	MD908009		water	6-12-97	X	X	X	X
37T04601	MD926001	TB	water	6-12-97	X			
36G00101	MD926002		water	6-12-97	X	X	X	X
36G00101F	MD926003		water	6-12-97				X
37G00101	MD926004		water	6-12-97	X	X	X	X
36G00102	MD926005		water	6-13-97	X	X	X	X
36G00102RE	MD926005RE		water	6-13-97		X		
36G00103	MD926006		water	6-13-97	X	X	X	X
36G00103RE	MD926006RE		water	6-13-97		X		
35T04701	MD950001	TB	water	6-15-97	X			
35G00202	MD950002		water	6-15-97	X	X	X	X
35G00202D	MD950003	FD	water	6-15-97	X	X	X	X
35G00203	MD950004		water	6-15-97	X	X	X	X
35G00201	MD950005		water	6-16-97	X	X	X	X
35G00201F	MD950006		water	6-16-97				X

TB = Trip Blank, R = Rinsate, SB = Source Blank, FD = Field Duplicate, MS = Matrix Spike, MSD = Matrix Spike Duplicate, DUP = Duplicate

Table 1

SDG#: WF041 | **VALIDATION SAMPLE TABLE** | **LDC#:** 2323A

Project Name: NAS Whiting

					Parameters/Analytical Method			
Client ID #	**Lab ID #**	**QC Type**	**Matrix**	**Date Collected**	**VOA (1.9)**	**SVOA (1.9)**	**Pesticides /PCBs (1.9)**	**Metals (2.1)**
13T04801	MD985001	TB	water	6-16-97	X			
13G00301	MD985002		water	6-16-97	X	X	X	X
13G00301F	MD985003		water	6-16-97				X
13G00401	MD985004		water	6-16-97	X	X	X	X
35G00101MS	MD908004MS	MS	water	6-11-97	X	X	X	X
35G00101MSD	MD908004MSD	MSD	water	6-11-97	X	X	X	
35G00101DUP	MD908004DUP	DUP	water	6-11-97				X

TB = Trip Blank, R = Rinsate, SB = Source Blank, FD = Field Duplicate, MS = Matrix Spike, MSD = Matrix Spike Duplicate, DUP = Duplicate

Table 1

SDG#: WF042					VALIDATION SAMPLE TABLE	LDC#: 2311A
Project Name: NAS Whiting					Parameters/Analytical Method	
Client ID #	**Lab ID #**	**QC Type**	**Matrix**	**Date Collected**	**VOA (1.9)**	
05T04901	ME007001	TB	water	6-18-97	X	
05G00301	ME007002		water	6-17-97	X	
05G00901	ME007003		water	6-18-97	X	
05G00902	ME007004		water	6-19-97	X	
05G00902D	ME007005	FD	water	6-19-97	X	
05R03101	ME007006	R	water	6-17-97	X	
05T05001	ME021001		water	6-20-97	X	
05G01001	ME021002		water	6-20-97	X	
05G01002	ME021003		water	6-20-97	X	
05G00902MS	ME007004MS	MS	water	6-19-97	X	
05G00902MSD	ME007004MSD	MSD	water	6-19-97	X	

TB = Trip Blank, R = Rinsate, SB = Source Blank, FD = Field Duplicate, MS = Matrix Spike, MSD = Matrix Spike Duplicate, DUP = Duplicate

Table 1

SDG#: WF043 | **VALIDATION SAMPLE TABLE** | **LDC#:** 2315A

Project Name: NAS Whiting | Parameters/Analytical Method

Client ID #	Lab ID #	QC Type	Matrix	Date Collected	VOA (1.9)
05T05101	ME042001	TB	water	6-23-97	X
05R03201	ME042002	R	water	6-23-97	X
05G00801	ME042003		water	6-24-97	X
05G00802	ME042004		water	6-24-97	X
05G00802D	ME042005	FD	water	6-24-97	X
33T05201	ME053001	TB	water	6-24-97	X
33G00501	ME053002		water	6-24-97	X
33G00101	ME053003		water	6-24-97	X
33G00201	ME053004		water	6-25-97	X
33G00301	ME053005		water	6-25-97	X
33G00301DL	ME053005DL		water	6-25-97	X
33T05301	ME073001	TB	water	6-25-97	X
06G00102	ME073002		water	6-26-97	X
06G00301	ME073003		water	6-26-97	X
33G00401	ME073004		water	6-26-97	X
30T05401	ME087001	TB	water	6-26-97	X
07G00101	ME087002		water	6-26-97	X
07G00101D	ME087003	FD	water	6-26-97	X
30G00501	ME087004		water	6-26-97	X
30G00301	ME087005		water	6-27-97	X
30G00401	ME087006		water	6-27-97	X
05G00802MS	ME042004MS	MS	water	6-24-97	X
05G00802MSD	ME042004MSD	MSD	water	6-24-97	X

TB = Trip Blank, R = Rinsate, SB = Source Blank, FD = Field Duplicate, MS = Matrix Spike, MSD = Matrix Spike Duplicate, DUP = Duplicate

Table 1

SDG#: WF044 | **VALIDATION SAMPLE TABLE** | **LDC#:** 2322A

Project Name: NAS Whiting

Parameters/Analytical Method

Client ID #	Lab ID #	QC Type	Matrix	Date Collected	VOA (1.9)
06T05501	ME100001	TB	water	6-29-97	X
06R03301	ME100002	R	water	6-29-97	X
66G00201	ME100003		water	6-29-97	X
06G00101	ME100004		water	6-29-97	X
66G00202	ME100005		water	6-30-97	X
66T05601	ME110001	TB	water	6-30-97	X
66G01201	ME110002		water	6-30-97	X
66G01201D	ME110003	FD	water	6-30-97	X
66G00102	ME110004		water	7-1-97	X
66G01301	ME110005		water	7-1-97	X
66T05701	ME133001	TB	water	7-2-97	X
66G00401	ME133002		water	7-2-97	X
66G02001	ME133003		water	7-2-97	X
66T05801	ME135001	TB	water	7-2-97	X
66G00603	ME135002		water	7-2-97	X
66G00603D	ME135003	FD	water	7-2-97	X
66G00604	ME135004		water	7-2-97	X
66G00601	ME135005		water	7-3-97	X
66G00602	ME135006		water	7-3-97	X
66G01201MS	ME110002MS	MS	water	6-30-97	X
66G01201MSD	ME110002MSD	MSD	water	6-30-97	X

TB = Trip Blank, R = Rinsate, SB = Source Blank, FD = Field Duplicate, MS = Matrix Spike, MSD = Matrix Spike Duplicate, DUP = Duplicate

Table 1

SDG#: WF045 | **VALIDATION SAMPLE TABLE** | **LDC#:** 2345A

Project Name: NAS Whiting

Parameters/Analytical Method

Client ID #	Lab ID #	QC Type	Matrix	Date Collected	VOA (1.9)	SVOA (1.9)	Pesticides /PCBs (1.9)	Metals (2.1)	Cyanide
OWT05901	ME149001	TB	water	7-7-97	X				
OWR03401	ME149002	R	water	7-7-97	X	X	X	X	X
OWG00501	ME149003		water	7-8-97	X	X	X	X	X
OWG00502	ME149004		water	7-8-97	X	X	X	X	X
OWG00502D	ME149005	FD	water	7-8-97	X	X	X	X	X
OWG00503	ME149006		water	7-8-97	X	X	X	X	X
OWG00503F	ME149007		water	7-8-97				X	
OWT06001	ME159001	TB	water	7-8-97	X				
OWG00101	ME159002		water	7-9-97	X	X	X	X	X
OWG00101RE	ME159002RE		water	7-9-97		X			
OWG00102	ME159003		water	7-9-97	X	X	X	X	X
OWG00102RE	ME159003RE		water	7-9-97		X			
OWG00103	ME159004		water	7-9-97	X	X	X	X	X
OWG00103RE	ME159004RE		water	7-9-97		X			
66T06101	ME175001	TB	water	7-9-97	X				
66G02301	ME175002		water	7-9-97	X	X	X	X	X
66G02301RE	ME175002RE		water	7-9-97		X			
66G02302	ME175003		water	7-9-97	X	X	X	X	X
66G02303	ME175004		water	7-10-97	X	X	X	X	X
OWT06201	ME190001	TB	water	7-10-97	X				
OWG00302	ME190002		water	7-10-97	X	X	X	X	X
OWG00302D	ME190003	FD	water	7-10-97	X	X	X	X	X
OWG00303	ME190004		water	7-10-97	X	X	X	X	X
OWG00301	ME190005		water	7-11-97	X	X	X	X	X

TB = Trip Blank, R = Rinsate, SB = Source Blank, FD = Field Duplicate, MS = Matrix Spike, MSD = Matrix Spike Duplicate, DUP = Duplicate

Table 1

SDG#: WF045	VALIDATION SAMPLE TABLE	LDC#: 2345A
Project Name: NAS Whiting	Parameters/Analytical Method	

Client ID #	Lab ID #	QC Type	Matrix	Date Collected	VOA (1.9)	SVOA (1.9)	Pesticides /PCBs (1.9)	Metals (2.1)	Cyanide
OWG00301F	ME190006		water	7-11-97				X	
OWT06401	ME226001	TB	water	7-14-97	X				
OWT06401DL	ME226001DL		water	7-14-97	X				
OWG00401	ME226002		water	7-14-97	X	X	X	X	X
OWG00201	ME226003		water	7-15-97	X	X	X	X	X
OWG00502MS	ME149004MS	MS	water	7-8-97	X	X	X	X	X
OWG00502MSD	ME149004MSD	MSD	water	7-8-97	X	X	X		
OWG00502DUP	ME149004DUP	DUP	water	7-8-97				X	X

TB = Trip Blank, R = Rinsate, SB = Source Blank, FD = Field Duplicate, MS = Matrix Spike, MSD = Matrix Spike Duplicate, DUP = Duplicate

Table 1

SDG#: WF046 | **VALIDATION SAMPLE TABLE** | **LDC#: 2377A**

Project Name: NAS Whiting

Parameters/Analytical Method

Client ID #	Lab ID #	QC Type	Matrix	Date Collected	VOA (1.9)	SVOA (1.9)	Pesticides /PCBs (1.9)	Metals (4.0)	Cyanide
OWT06501	ME241001	TB	water	7-15-97	X				
31R03301	ME241002	R	water	7-15-97	X	X	X	X	X
31G00101	ME241003		water	7-15-97	X	X	X	X	X
31G00101D	ME241004	FD	water	7-15-97	X	X	X	X	X
OWT06601	ME261001	TB	water	7-16-97	X				
31G00401	ME261002		water	7-16-97	X	X	X	X	X
31G00402	ME261003		water	7-16-97	X				
31G00403	ME261004		water	7-16-97	X				
31G00301	ME261005		water	7-16-97	X				
31T06701	ME305001	TB	water	7-21-97	X				
31G00201	ME305002		water	7-21-97	X				
31G00101MS	ME241003MS	MS	water	7-15-97	X	X	X	X	
31G00101MSD	ME241003MSD	MSD	water	7-15-97	X	X	X		
31G00101DUP	ME241003DUP	DUP	water	7-15-97				X	

TB = Trip Blank, R = Rinsate, SB = Source Blank, FD = Field Duplicate, MS = Matrix Spike, MSD = Matrix Spike Duplicate, DUP = Duplicate

Table 1

SDG#: WF047 | **VALIDATION SAMPLE TABLE** | **LDC#: 2346A**

Project Name: NAS Whiting

Parameters/Analytical Method

Client ID #	Lab ID #	QC Type	Matrix	Date Collected	VOA OLV01.0	Metals (2.1)
39W028	ME243001		water	7-15-97	X	
39W027	ME243002		water	7-15-97	X	
39W024	ME243003		water	7-15-97	X	
39W032	ME243004		water	7-15-97	X	X
39W034	ME243005		water	7-15-97	X	X
39W034D	ME243006		water	7-15-97	X	X
39W031	ME243007		water	7-15-97	X	
STOR_BLK	ME243008		water	7-17-97	X	
39T10001	ME244001	TB	water	7-15-97	X	
39W001	ME244002		water	7-15-97	X	
39W002	ME244003		water	7-15-97	X	X
39W003	ME244004		water	7-15-97	X	
39W004	ME244005		water	7-15-97	X	
39W005	ME244006		water	7-15-97	X	
39W006	ME244007		water	7-15-97	X	
39W007	ME244008		water	7-15-97	X	
39W008	ME244009		water	7-15-97	X	
39W014	ME267001		water	7-16-97	X	
39W015	ME267002		water	7-16-97	X	
39W016	ME267003		water	7-16-97	X	X
39W012	ME267004		water	7-16-97	X	
39W012D	ME267005	FD	water	7-16-97	X	
39W013	ME267006		water	7-16-97	X	
39W017	ME267007		water	7-16-97	X	

TB = Trip Blank, R = Rinsate, SB = Source Blank, FD = Field Duplicate, MS = Matrix Spike, MSD = Matrix Spike Duplicate, DUP = Duplicate

Table 1

SDG#: WF047 — **VALIDATION SAMPLE TABLE** — **LDC#:** 2346A

Project Name: NAS Whiting — Parameters/Analytical Method

Client ID #	Lab ID #	QC Type	Matrix	Date Collected	VOA OLV01.0	Metals (2.1)
STOR_BLK2	ME267008		water	7-18-97	X	
39W034MS	ME243005MS	MS	water	7-15-97	X	X
39W034MSD	ME243005MSD	MSD	water	7-15-97	X	
39W034DUP	ME243005DUP	DUP	water	7-15-97		X

TB – Trip Blank, R = Rinsate, SB = Source Blank, FD = Field Duplicate, MS = Matrix Spike, MSD = Matrix Spike Duplicate, DUP – Duplicate

Table 1

SDG#: WF048 | **VALIDATION SAMPLE TABLE** | **LDC#:** 2338A

Project Name: NAS Whiting

Parameters/Analytical Method

Client ID #	Lab ID #	QC Type	Matrix	Date Collected	VOA (1.9)
39D002	ME245001		soil	7-15-97	X
39D001	ME245002		soil	7-15-97	X
39D007	ME245003		soil	7-15-97	X
39D023	ME264001		soil	7-16-97	X
39D026	ME264002		soil	7-16-97	X
39D016	ME264003		soil	7-16-97	X
39D013	ME264004		soil	7-16-97	X
39D019	ME264005		soil	7-17-97	X
39D018	ME264006		soil	7-17-97	X
39D018D	ME264007	FD	soil	7-17-97	X
39D022	ME264008		soil	7-17-97	X
39R03401	ME264009	R	water	7-16-97	X
39D018MS	ME264006MS	MS	soil	7-17-97	X
39D018MSD	ME264006MSD	MSD	soil	7-17-97	X

TB = Trip Blank, R = Rinsate, SB = Source Blank, FD = Field Duplicate, MS = Matrix Spike, MSD = Matrix Spike Duplicate, DUP = Duplicate

Table 1

SDG#: WF049 | **VALIDATION SAMPLE TABLE** | **LDC#: 2347A**

Project Name: NAS Whiting

Parameters/Analytical Method

Client ID #	Lab ID #	QC Type	Matrix	Date Collected	VOA (1.9)	SVOA (1.9)
39T10201	ME262001	TB	water	7-15-97	X	
39W023	ME262002		water	7-16-97	X	
39W026	ME262003		water	7-16-97	X	
39W025	ME262004		water	7-16-97	X	
39W029	ME262005		water	7-16-97	X	
39W030	ME262006		water	7-16-97	X	
39U001	ME262007		water	7-16-97	X	X
39W018	ME263001		water	7-17-97	X	
39W019	ME263002		water	7-17-97	X	
39W020	ME263003		water	7-17-97	X	
39W021	ME263004		water	7-17-97	X	
39W021D	ME263005	FD	water	7-17-97	X	
39W022	ME263006		water	7-17-97	X	
39T10401	ME263007	TB	water	7-17-97	X	
39W021MS	ME263004MS	MS	water	7-17-97	X	
39W021MSD	ME263004MSD	MSD	water	7-17-97	X	

TP - Trip Blank, R = Rinsate, SB = Source Blank, FD = Field Duplicate, MS = Matrix Spike, MSD = Matrix Spike Duplicate, DUP = Duplicate

Table 1

SDG#: WF051 | **VALIDATION SAMPLE TABLE** | **LDC#:** 2360A

Project Name: NAS Whiting

Parameters/Analytical Method

Client ID #	Lab ID #	QC Type	Matrix	Date Collected	VOA (1.9)	Metals (CLP)
16T06801	ME306001	TB	water	7-21-97	X	
16R03501	ME306002	R	water	7-21-97	X	
16G00401	ME306003		water	7-22-97	X	
16G00401D	ME306004	FD	water	7-22-97	X	
16G00402	ME306005		water	7-22-97	X	
16G00403	ME306006		water	7-22-97	X	
16T06901	ME322001	TB	water	7-22-97	X	
16G00302	ME322002		water	7-22-97	X	X
16G00303	ME322003		water	7-22-97	X	X
16G00202	ME322004		water	7-23-97	X	X
16G00203	ME322005		water	7-23-97	X	X
16T07001	ME340001	TB	water	7-23-97	X	
16G00601	ME340002		water	7-23-97	X	X
16G00601F	ME340003		water	7-23-97		X
16G00602	ME340004		water	7-23-97	X	X
16R03601	MW340005	R	water	7-23-97		X
16G00304	ME340006		water	7-24-97	X	X
16G00304F	ME340007		water	7-24-97		X
16G00301	ME340008		water	7-24-97	X	X
16G00101	ME340009		water	7-24-97	X	X
16G00101D	ME340010	FD	water	7-24-97	X	X
16T07101	ME348001	TB	water	7-25-97	X	
16G00702	ME348002		water	7-25-97	X	X
16G00702DL	ME348002DL		water	7-25-97	X	

TB = Trip Blank, R = Rinsate, SB = Source Blank, FD = Field Duplicate, MS = Matrix Spike, MSD = Matrix Spike Duplicate, DUP = Duplicate

Table 1

SDG#: WF051 — **VALIDATION SAMPLE TABLE** — **LDC#:** 2360A

Project Name: NAS Whiting — Parameters/Analytical Method

Client ID #	Lab ID #	QC Type	Matrix	Date Collected	VOA (1.9)	Metals (CLP)
16G00703	ME348003		water	7-25-97	X	X
16G00703DL	ME348003DL		water	7-25-97	X	
16G00701	ME348004		water	7-25-97	X	X
16G00401MS	ME306003MS	MS	water	7-22-97	X	
16G00401MSD	ME306003MSD	MSD	water	7-22-97	X	

TB = Trip Blank, R = Rinsate, SB = Source Blank, FD = Field Duplicate, MS = Matrix Spike, MSD = Matrix Spike Duplicate, DUP = Duplicate

Table 1

SDG#: WF052 | **VALIDATION SAMPLE TABLE** | **LDC#:** 2354A

Project Name: NAS Whiting

Client ID #	Lab ID #	QC Type	Matrix	Date Collected	VOA (OLV01.0)
39018	ME346001		water	7-25-97	X
39019	ME346002		water	7-25-97	X
39020	ME346003		water	7-25-97	X
39021	ME346004		water	7-25-97	X
39020D	ME346005	FD	water	7-25-97	X
39029	ME346006		water	7-25-97	X
39T10501	ME346007	TB	water	7-25-97	X
STORAGEBLK	ME346008		water	7-26-97	X
39020MS	ME346003MS	MS	water	7-25-97	X
39020MSD	ME346003MSD	MSD	water	7-25-97	X

TB = Trip Blank, R = Rinsate, SB = Source Blank, FD = Field Duplicate, MS = Matrix Spike, MSD = Matrix Spike Duplicate, DUP = Duplicate

Table 1

SDG#: WF053 | **VALIDATION SAMPLE TABLE** | **LDC#:** 2384A

Project Name: NAS Whiting

Parameters/Analytical Method

Client ID #	Lab ID #	QC Type	Matrix	Date Collected	VOA (1.9)	Metals (2.1)
15T07201	ME367001	TB	water	7-27-97	X	
15R03701	ME367002	R	water	7-27-97	X	X
15G00601	ME367003		water	7-27-97	X	X
15G00602	ME367004		water	7-27-97	X	X
15G00602D	ME367005	FD	water	7-27-97	X	X
15T07301	ME377001	TB	water	7-28-97	X	
15G00201	ME377002		water	7-28-97	X	X
15G00101	ME377003		water	7-28-97	X	X
15G00202	ME377004		water	7-29-97	X	X
15G00203	ME377005		water	7-29-97	X	X
15T07401	ME390001	TB	water	7-29-97	X	
15G00301	ME390002		water	7-29-97	X	X
15G00302	ME390003		water	7-29-97	X	X
15G00701	ME390004		water	7-30-97	X	X
15G00702	ME390005		water	7-30-97	X	X
15T07501	ME404001	TB	water	7-30-97	X	
15G00401	ME404002		water	7-30-97	X	X
15G00703	ME404003		water	7-30-97	X	X
15G00703D	ME404004	FD	water	7-30-97	X	X
15G00501	ME404005		water	7-31-97	X	X
15G00501F	ME404006		water	7-31-97		X
15G00502	ME404007		water	7-31-97	X	X
15G00503	ME404008		water	7-31-97	X	X
15G00602MS	ME367004MS	MS	water	7-27-97	X	X

TB = Trip Blank, R = Rinsate, SB = Source Blank, FD = Field Duplicate, MS = Matrix Spike, MSD = Matrix Spike Duplicate, DUP = Duplicate

Table 1

SDG#: WF053 | **VALIDATION SAMPLE TABLE** | **LDC#:** 2384A

Project Name: NAS Whiting | Parameters/Analytical Method

Client ID #	Lab ID #	QC Type	Matrix	Date Collected	VOA (1.9)	Metals (2.1)
15G00602MSD	ME367004MSD	MSD	water	7-27-97	X	
15G00602DUP	ME367004DUP	DUP	water	7-27-97		X

TB = Trip Blank, R = Rinsate, SB = Source Blank, FD = Field Duplicate, MS = Matrix Spike, MSD = Matrix Spike Duplicate, DUP = Duplicate

Table 1

SDG#: WF054 | **VALIDATION SAMPLE TABLE** | **LDC#:** 2399A

Project Name: NAS Whiting | Parameters/Analytical Method

Client ID #	Lab ID #	QC Type	Matrix	Date Collected	VOA (1.9)	Metals (2.1)
15T07601	ME441001	TB	water	8-4-97	X	
15G00801	ME441002		water	8-4-97	X	X
15G00801D	ME441003	FD	water	8-4-97	X	X
15G00802	ME441004		water	8-4-97	X	X
15R03801	ME441005	R	water	8-5-97	X	X
15G00803	ME441006		water	8-5-97	X	X
15G00303	ME441007		water	8-5-97	X	X
30T07701	ME450001	TB	water	8-5-97	X	
30R03901	ME450002	R	water	8-6-97	X	X
30G00302	ME450003		water	8-6-97	X	X
15G00801MS	ME441002MS	MS	water	8-4-97	X	X
15G00801MSD	ME441002MSD	MSD	water	8-4-97	X	
15G00801DUP	ME441002DUP	DUP	water	8-4-97		X

TB = Trip Blank, R = Rinsate, SB = Source Blank, FD = Field Duplicate, MS = Matrix Spike, MSD = Matrix Spike Duplicate, DUP = Duplicate

Table 1

SDG#: WF055 | **VALIDATION SAMPLE TABLE** | **LDC#:** 2511A

Project Name: NAS Whiting

Parameters/Analytical Method

Client ID #	Lab ID #	QC Type	Matrix	Date Collected	VOA (1.9)
OWT08001	MF004001	TB	water	10-27-97	X
OWR04101	MF004002	R	water	10-27-97	X
OWG00401	MF004003		water	10-27-97	X
OWG00401D	MF004004		water	10-27-97	X
13R04201	MF004005	R	water	10-28-97	X
13G00401	MF004006		water	10-28-97	X
OWG00401MS	MF004003MS	MS	water	10-27-97	X
OWG00401MSD	MF004003MSD	MSD	water	10-27-97	X

TB = Trip Blank, R = Rinsate, SB = Source Blank, FD = Field Duplicate, MS = Matrix Spike, MSD = Matrix Spike Duplicate, DUP = Duplicate

Table II
Summary of Rejected Data (Organics)
Groundwater and Subsurface Soil Investigation, Phase IIB
NAS Whiting Field, Milton Florida

Organic Compounds				
SDG	**Fraction**	**Sample**	**Compound**	**Reason**
WF022	Volatiles	All samples	No rejected results	-
	Semivolatiles	All samples	No rejected results	-
	Pesticides & PCBS	All samples	No rejected results	-
WF023	Volatiles	All samples	No rejected results	-
	Semivolatiles	All samples	No rejected results	-
	Pesticides & PCBs	All samples	No rejected results	-
WF024	Volatiles	All samples	No rejected results	-
	Semivolatiles	All samples	No rejected results	-
	Pesticides & PCBs	All samples	No rejected results	-
WF025	Volatiles	All samples	No rejected results	-
	Semivolatiles	All samples	No rejected results	-
	Pesticides & PCBs	All samples	No rejected results	-
WF026	Volatiles	All samples	No rejected results	-
	Semivolatiles	All samples	No rejected results	-
	Pesticides & PCBs	All samples	No rejected results	-
WF027	Volatiles	16G00501	2-Butanone	Initial & Continuing Calibration (RRF)
		16G00501D	2-Butanone	
		16R01501	2-Butanone	
		66G02101	2-Butanone	
		66G02103	2-Butanone	
		66T02001	2-Butanone	
	Semivolatiles	All samples	No rejected results	-
	Pesticides & PCBs	All samples	No rejected results	-
WF028	Volatiles	All samples	No rejected results	-
	Semivolatiles	All samples	No rejected results	-
	Pesticides & PCBs	All samples	No rejected results	-
WF029	Volatiles	All samples	No rejected results	-
	Semivolatiles	All samples	No rejected results	-
	Pesticides & PCBs	All samples	No rejected results	-
WF030	Volatiles	All samples	No rejected results	-
	Semivolatiles	All samples	No rejected results	-
	Pesticides & PCBs	All samples	No rejected results	-
WF031	Volatiles	All samples	No rejected results	-
	Semivolatiles	All samples	No rejected results	-
	Pesticides & PCBs	All samples	No rejected results	-
WF031B	Volatiles	All samples	No rejected results	-
	Semivolatiles	All samples	No rejected results	-
	Pesticides & PCBs	All samples	No rejected results	-
WF032	Volatiles	All samples	No rejected results	-
	Semivolatiles	All samples	No rejected results	-
	Pesticides & PCBs	29G00501	Heptachlor epoxide	Target compound identification (RT)
		29G00501D	Heptachlor epoxide	
WF033	Volatiles	All samples	No rejected results	-
	Semivolatiles	All samples	No rejected results	-
	Pesticides & PCBs	All samples	No rejected results	-
WF034	Volatiles	All samples	No rejected results	-
	Semivolatiles	All samples	No rejected results	-
	Pesticides & PCBs	All samples	No rejected results	-
WF035	Volatiles	All samples	No rejected results	-
	Semivolatiles	All samples	No rejected results	-
	Pesticides & PCBs	All samples	No rejected results	-

Table II
Summary of Rejected Data (Organics)
Groundwater and Subsurface Soil Investigation, Phase IIB
NAS Whiting Field, Milton Florida

Organic Compounds				
SDG	Fraction	Sample	Compound	Reason
WF036	Volatiles Semivolatiles Pesticides & PCBs	All samples All samples All samples	No rejected results No rejected results No rejected results	- - -
WF037	Volatiles Semivolatiles Pesticides & PCBs	All samples All samples All samples	No rejected results No rejected results No rejected results	- - -
WF038	Volatiles	All samples	No rejected results	-
WF039	Volatiles	All samples	No rejected results	-
WF040	Volatiles	All samples	No rejected results	-
WF041	Volatiles Semivolatiles Pesticides & PCBs	All samples All samples All samples	No rejected results No rejected results No rejected results	- - -
WF042	Volatiles	All samples	No rejected results	-
WF043	Volatiles	All samples	No rejected results	-
WF044	Volatiles	All samples	No rejected results	-
WF045	Volatiles Semivolatiles Pesticides & PCBs	All samples All samples All samples	No rejected results No rejected results No rejected results	- - -
WF046	Volatiles Semivolatiles Pesticides & PCBs	All samples All samples All samples	No rejected results No rejected results No rejected results	- - -
WF047	Volatiles	39T10001 39W001 39W002 39W003 39W004 39W005 39W006 39W007 39W008 39W012 39W012D 39W013 39W014 39W015 39W016 39W017 39W024 39W027 39W028 39W031 39W032 39W034 39W034D STOR_BLK STOR_BLK2	Acetone & 2-Butanone Acetone & 2-Butanone Acetone & 2-Butanone Acetone & 2-Butanone Acetone & 2-Butanone Acetone & 2-Butanone Acetone & 2-Butanone Acetone & 2-Butanone 2-Butanone Acetone & 2-Butanone Acetone & 2-Butanone Acetone & 2-Butanone Acetone & 2-Butanone Acetone & 2-Butanone Acetone & 2-Butanone Acetone & 2-Butanone 2-Butanone 2-Butanone 2-Butanone 2-Butanone Acetone & 2-Butanone 2-Butanone Acetone & 2-Butanone 2-Butanone 2-Butanone	Initial & Continuing Calibration (RRF)
WF048	Volatiles	All samples	No rejected results	-

Table II
Summary of Rejected Data (Organics)
Groundwater and Subsurface Soil Investigation, Phase IIB
NAS Whiting Field, Milton Florida

Organic Compounds

SDG	Fraction	Sample	Compound	Reason
WF049	Volatiles	39T10201 39T10401 39W016 39W019 39W020 39W021 39W021D 39W022 39W023 39W025 39W026 39W029 39W030	Acetone & 2-Butanone Acetone & 2-Butanone Acetone 2-Butanone Acetone & 2-Butanone Acetone & 2-Butanone Acetone & 2-Butanone Acetone & 2-Butanone Acetone & 2-Butanone Acetone & 2-Butanone Acetone & 2-Butanone 2-Butanone 2-Butanone	Initial & Continuing calibration (RRF)
WF049	Semivolatiles	All samples	No rejected results	-
WF051	Volatiles	All samples	No rejected results	-
WF052	Volatiles	39G018 39G019 39G020 39G020D 39G021 39G029 39R10501 STORAGE BLK	Acetone & 2-Butanone Acetone & 2-Butanone Acetone & 2-Butanone Acetone & 2-Butanone Acetone & 2-Butanone Acetone & 2-Butanone Acetone & 2-Butanone Acetone	Initial & Continuing Calibration (RRF)
WF053	Volatiles	All samples	No rejected results	-
WF054	Volatiles	All samples	No rejected results	-
WF055	Volatiles	All samples	No rejected results	-

Table III
Summary of Rejected Data (Inorganics)
Groundwater and Subsurface Soil Investigation, Phase IIB
NAS Whiting Field, Milton Florida

Inorganic Analytes				
SDG	Fraction	Sample	Analyte	Reason
WF022	All metals	All samples	No rejected results	-
	Cyanide	All samples	No rejected results	-
WF023	All metals	All samples	No rejected results	-
	Cyanide	All samples	No rejected results	-
WF024	All metals	All samples	No rejected results	-
	Cyanide	All samples	No rejected results	-
WF025	All metals	All samples	No rejected results	-
	Cyanide	All samples	No rejected results	-
WF026	All metals	All samples	No rejected results	-
	Cyanide	All samples	No rejected results	-
WF027	All metals	All samples	No rejected results	-
	Cyanide	All samples	No rejected results	-
WF028	All metals	All samples	No rejected results	-
	Cyanide	All samples	No rejected results	-
WF029	All metals	All samples	No rejected results	-
	Cyanide	All samples	No rejected results	-
WF030	All metals	All samples	No rejected results	-
	Cyanide	All samples	No rejected results	-
WF031	All metals	All samples	No rejected results	-
	Cyanide	05G00101	Cyanide	Matrix spike (%R)
		05G00301	Cyanide	
		05G00801	Cyanide	
		05G00802	Cyanide	
		05G00901	Cyanide	
		05G00902	Cyanide	
		05G01001	Cyanide	
		05G01001D	Cyanide	
		05G01002	Cyanide	
		05R01901	Cyanide	
		33G00101	Cyanide	
		33G00201	Cyanide	
		33G00301	Cyanide	
		33G00301D	Cyanide	
		33G00501	Cyanide	
WF031B	All metals	All samples	No rejected results	-
	Cyanide	All samples	No rejected results	-
WF032	All metals	All samples	No rejected results	-
	Cyanide	All samples	No rejected results	-
WF033	All metals	All samples	No rejected results	-
	Cyanide	All samples	No rejected results	-
WF034	All metals	All samples	No rejected results	-
	Cyanide	All samples	No rejected results	-
WF035	All metals	All samples	No rejected results	-
	Cyanide	All samples	No rejected results	-
WF036	All metals	All samples	No rejected results	-
	Cyanide	All samples	No rejected results	-
WF037	All metals	All samples	No rejected results	-
	Cyanide	15F00201	Cyanide	Matrix spike (%R)
WF041	All metals	All samples	No rejected results	-
	Cyanide	All samples	No rejected results	-

Table III
Summary of Rejected Data (Inorganics)
Groundwater and Subsurface Soil Investigation, Phase IIB
NAS Whiting Field, Milton Florida

Inorganic Analytes				
SDG	Fraction	Sample	Analyte	Reason
WF045	All metals Cyanide	All samples All samples	No rejected results No rejected results	- -
WF046	All metals Cyanide	All samples All samples	No rejected results No rejected results	- -
WF047	All metals	All samples	No rejected results	-
WF051	All metals	All samples	No rejected results	-
WF053	All metals	All samples	No rejected results	-
WF054	All metals	All samples	No rejected results	-

Table IV
Summary of Percent Recoveries (%R) and Relative Percent Differences (RPD) for Matrix Spike/Matrix Spike Duplicates
Groundwater and Subsurface Soil Investigation, Phase IIB
NAS Whiting Field, Milton Florida

Organic Compounds

SDG	Client ID	Compound	Criteria		% Recovery		RPD	Qualifier
			% Recovery	RPD	MS	MSD		
WF022	BKG00101	Volatiles	-	-	-	-	-	None
		Semivolatiles						
		4-Chloro-3-methylphenol	23-97	-	108	115	-	J (all detects)
		4-Nitrophenol	10-80	-	88	93	-	J (all detects)
		2,4-Dinitrotoluene	24-96	-	100	108	-	J (all detects)
		Pentachlorophenol	9-103	-	106	118	-	J (all detects)
		Pesticides/PCBs	-	-	-	-	-	None
WF023	02G00301	Volatiles	-	-	-	-	-	None
		Semivolatiles						
		4-Nitrophenol	10-80	-	88	82	-	J (all detects)
		2,4-Dinitrotoluene	24-96	-	97	-	-	J (all detects)
		Pentachlorophenol	9-103	-	139	122	-	J (all detects)
		Pesticides/PCBs	-	-	-	-	-	None
WF024	15G00701	Volatiles	-	-	-	-	-	None
		Semivolatiles						
		4-Nitrophenol	10-80	-	100	102	-	J (all detects)
		2,4-Dinitrotoluene	24-96	-	102	106	-	J (all detects)
		Pentachlorophenol	9-103	-	147	148	-	J (all detects)
		Pesticides/PCBs	-	-	-	-	-	None
WF025	15G00601	Volatiles	-	-	-	-	-	None
		Semivolatiles						
		4-Nitrophenol	10-80	-	99	102	-	J (all detects)
		2,4-Dinitrotoluene	24-96	-	101	103	-	J (all detects)
		Pentachlorophenol	9-103	-	124	130	-	J (all detects)
		Pesticides/PCBs	-	-	-	-	-	None

Table IV
Summary of Percent Recoveries (%R) and Relative Percent Differences (RPD) for Matrix Spike/Matrix Spike Duplicates
Groundwater and Subsurface Soil Investigation, Phase IIB
NAS Whiting Field, Milton Florida

Organic Compounds

SDG	Client ID	Compound	Criteria		% Recovery		RPD	Qualifier
			% Recovery	RPD	MS	MSD		
WF026	15G00803	Volatiles	-	-	-	-	-	None
		Semivolatiles						
		4-Chloro-3-methylphenol	23-97	-	99	-	-	J (all detects)
		4-Nitrophenol	10-80	-	108	114	-	J (all detects)
		Pentachlorophenol	9-103	-	140	144	-	J (all detects)
		2,4-Dinitrotoluene	24-96	-	-	100	-	J (all detects)
		Pesticides/PCBs	-	-	-	-	-	None
WF027	16G00501	Volatiles						
		Benzene	-	≤11	-	-	12	J
		Semivolatiles						
		4-Nitrophenol	10-80	-	91	91	-	J (all detects)
		Pentachlorophenol	9-103	-	104	104	-	J (all detects)
		Pesticides/PCBs	-	-	-	-	-	None
WF028	12G00101	Volatiles	-	-	-	-	-	None
		Semivolatiles						
		4-Nitrophenol	10-80	-	83	-	-	J (all detects)
		Pesticides/PCBs	-	-	-	-	-	None
WF029	14G00101	Volatiles	-	-	-	-	-	None
		Semivolatiles						
		4-Nitrophenol	10-80	-	88	91	-	J (all detects)
		Pentachlorophenol	9-103	-	-	106	-	J (all detects)
		Pesticides/PCBs	-	-	-	-	-	None
WF030	66G00601	Volatiles	-	-	-	-	-	None
		Semivolatiles						
		4-Nitrophenol	10-80	-	85	89	-	J (all detects)
		Pesticides/PCBs	-	-	-	-	-	None

Table IV
Summary of Percent Recoveries (%R) and Relative Percent Differences (RPD) for Matrix Spike/Matrix Spike Duplicates
Groundwater and Subsurface Soil Investigation, Phase IIB
NAS Whiting Field, Milton Florida

Organic Compounds

SDG	Client ID	Compound	Criteria		% Recovery		RPD	Qualifier
			% Recovery	RPD	MS	MSD		
WF031	05G01001	Volatiles	-	-	-	-	-	None
		Semivolatiles						
		Phenol	-	≤42	-	-	50	None
		2-Chlorophenol	-	≤40	-	-	50	None
		4-Chloro-3-methylphenol	-	≤42	-	-	51	None
		4-Nitrophenol	10-80	≤50	-	95	58	None
		Pentachlorophenol	-	≤50	-	-	52	None
		1,4-Dichlorobenzene	-	≤28	-	-	45	J
		N-Nitroso-di-n-propylamine	-	≤38	-	-	56	J
		1,2,4-Trichlorobenzene	-	≤28	-	-	41	J
		Acenaphthene	-	≤31	-	-	84	J
		2,4-Dinitrotoluene	-	≤38	-	-	52	J
		Pyrene	-	≤31	-	-	54	J
		Pesticides/PCBs	-	-	-	-	-	None
WF031B	None	Volatiles	-	-	-	-	-	-
		Semivolatiles	-	-	-	-	-	-
		Pesticides/PCBs	-	-	-	-	-	-
WF032	29G00501	Volatiles	-	-	-	-	-	None
		Semivolatiles	-	-	-	-	-	None
		Pesticides/PCBs	-	-	-	-	-	None
WF033	66G00201	Volatiles						
		1,1-Dichloroethene	-	≤14	-	-	16	None
		Semivolatiles						
		4-Nitrophenol	10-80	-	-	83	-	None
		Pesticides & PCBs	-	-	-	-	-	None
WF034	30G00301	Volatiles	-	-	-	-	-	None
		Semivolatiles						
		Acenaphthene	46-118	≤31	44	-	37	None
		1,4-Dichlorobenzene	-	≤28	-	-	33	None
		1,2,4-Trichlorobenzene	-	≤28	-	-	34	None
		2,4-Dinitrotoluene	-	≤38	-	-	40	None
		Pyrene	-	≤31	-	-	36	None

Table IV
Summary of Percent Recoveries (%R) and Relative Percent Differences (RPD) for Matrix Spike/Matrix Spike Duplicates
Groundwater and Subsurface Soil Investigation, Phase IIB
NAS Whiting Field, Milton Florida

Organic Compounds

SDG	Client ID	Compound	Criteria		% Recovery		RPD	Qualifier
			% Recovery	RPD	MS	MSD		
WF034 cont.	30G00301	Pesticides/PCBs	-	-	-	-	-	None
WF035	66G01701	Volatiles	-	-	-	-	-	None
		Semivolatiles	-	-	-	-	-	None
		Pesticides/PCBs	-	-	-	-	-	None
WF036	54G00101	Volatiles	-	-	-	-	-	None
		Semivolatiles						
		4-Nitrophenol	10-80	-	101	81	-	None
		1,4-Dichlorobenzene	-	≤28	-	-	30	J
		1,2,4-Trichlorobenzene	-	≤28	-	-	36	J
		Pesticides/PCBs	-	-	-	-	-	None
WF037	15G00803	Volatiles	-	-	-	-	-	None
WF038	36BO0303	Volatiles	-	-	-	-	-	None
WF039	35BO0203	Volatiles	-	-	-	-	-	None
WF040	37BO0203	Volatiles	-	-	-	-	-	None
WF041	35G00101	Volatiles	-	-	-	-	-	None
		Semivolatiles	-	-	-	-	-	None
		Pesticides & PCBs						
		Aldrin	40-120	-	124	121	-	J (all detects)
WF042	05G00902	Volatiles	-	-	-	-	-	None
WF043	05G00802	Volatiles	-	-	-	-	-	None
WF044	66G01201	Volatiles						
		Trichloroethene	-	≤14	-	-	40	None
WF045	OWG00502	Volatiles	-	-	-	-	-	None
		Semivolatiles						
		4-Nitrophenol	10-80	-	96	109	-	J (all detects)
		2,4-Dinitrotoluene	24-96	-	-	100	-	J (all detects)

Table IV
Summary of Percent Recoveries (%R) and Relative Percent Differences (RPD) for Matrix Spike/Matrix Spike Duplicates
Groundwater and Subsurface Soil Investigation, Phase IIB
NAS Whiting Field, Milton Florida

Organic Compounds

SDG	Client ID	Compound	Criteria		% Recovery		RPD	Qualifier
			% Recovery	RPD	MS	MSD		
WF045 cont.	OWG00502	Pesticides & PCBs						
		gamma-BHC	-	≤15	-	-	28	J
		Heptachlor	-	≤20	-	-	24	J
		Aldrin	40-120	≤22	-	128	29	J
		Dieldrin	52-126	≤18	-	134	22	J
		Endrin	56-121	≤21	-	144	22	J
WF046	31G00101	Volatiles	-	-	-	-	-	None
		Semivolatiles						
		4-Nitrophenol	10-80	-	88	96	-	J (all detects)
		Pesticides & PCBs						
		Endrin	56-121	-	127	-	-	J (all detects)
WF047	39W034	Volatiles	-	-	-	-	-	None
WF048	39D018	Volatiles	-	-	-	-	-	None
WF049	39W021	Volatiles	-	-	-	-	-	None
	None	Semivolatiles	-	-	-	-	-	None
WF051	16G00401	Volatiles	-	-	-	-	-	None
WF052	39020	Volatiles	-	-	-	-	-	None
WF053	15G00602	Volatiles	-	-	-	-	-	None
WF054	15G00801	Volatiles	-	-	-	-	-	None
WF055	13G00401	Volatiles	-	-	-	-	-	None

Table V
Summary of Relative Percent Differences (RPD) for Original and Field Duplicate Samples
Groundwater and Subsurface Soil Investigation, Phase IIB
NAS Whiting Field, Milton Florida

SDG	Organic Compounds			RPD
WF022	**Client ID**	**BKG00101**	**BKG00101D**	
	Laboratory ID	**RB858003**	**RB858004**	
	Collection Date	**7/16/96**	**7/16/96**	
	Acetone	ND	8 ug/L	Not calculable
	Semivolatiles	ND	ND	-
	Pesticides/PCBs	ND	ND	-
WF022	**Client ID**	**01G00102**	**01G00102D**	
	Laboratory ID	**RB873008**	**RB873009**	
	Collection Date	**7/19/96**	**7/19/96**	
	Acetone	4 ug/L	2 ug/L	67
	Semivolatiles	ND	ND	-
	Pesticides/PCBs	ND	ND	-
WF023	**Client ID**	**02G00301**	**02G00301D**	
	Laboratory ID	**RB887012**	**RB887013**	
	Collection Date	**7/24/96**	**7/24/96**	
	Acetone	ND	10 ug/L	Not calculable
	Carbon disulfide	1 ug/L	ND	Not calculable
	Semivolatiles	ND	ND	-
	Pesticides/PCBs	ND	ND	-
WF024	**Client ID**	**15G00701**	**15G00701D**	
	Laboratory ID	**RB920009**	**RB920010**	
	Collection Date	**7/31/96**	**7/31/96**	
	Acetone	2	ND	Not calculable
	Semivolatiles	ND	ND	-
	Pesticides/PCBs	ND	ND	-
WF025	**Client ID**	**15G00601**	**15G00601D**	
	Laboratory ID	**RB956006**	**RB956008**	
	Collection Date	**8/7/96**	**8/7/96**	
	Acetone	5 ug/L	8 ug/L	46
	1,2-Dichloroethene (total)	1 ug/L	1 ug/L	0
	Chlorobenzene	5 ug/L	5 ug/L	0
	Ethylbenzene	10U ug/L	1 ug/L	Not calculable
	1,4-Dichlorobenzene	12 ug/L	12 ug/L	0
	Naphthalene	4 ug/L	4 ug/L	0
	Diethylphthalate	1 ug/L	1 ug/L	0
	Pesticides/PCBs	ND	ND	-
WF026	**Client ID**	**15G00803**	**15G00803D**	
	Laboratory ID	**RB980007**	**RB980008**	
	Collection Date	**8/14/96**	**8/14/96**	
	Acetone	25 ug/L	5 ug/L	133
	2-Butanone	7 ug/L	10U ug/L	Not calculable
	Trichloroethene	4 ug/L	4 ug/L	0
	Bis(2-ethylhexyl)phthalate	2 ug/L	1 ug/L	67
	4,4'-DDT	0.16 ug/L	0.079 ug/L	68

Table V
Summary of Relative Percent Differences (RPD) for Original and Field Duplicate Samples
Groundwater and Subsurface Soil Investigation, Phase IIB
NAS Whiting Field, Milton Florida

SDG	Organic Compounds			RPD
WF026	**Client ID**	**16G00403**	**16G00403D**	
	Laboratory ID	**RB980020**	**RB980021**	
	Collection Date	**8/16/96**	**8/16/96**	
	Acetone	3 ug/L	2 ug/L	40
	1,2-Dichloroethene (total)	1 ug/L	2 ug/L	67
	Benzene	600 ug/L	600 ug/L	0
	Phenol	8 ug/L	8 ug/L	0
	Naphthalene	1 ug/L	2 ug/L	67
	Bis(2-ethylhexyl)phthalate	1 ug/L	10U ug/L	Not calculable
	Pesticides/PCBs	ND	ND	None
WF026	**Client ID**	**16G00403DL**	**16G00403DDL**	
	Laboratory ID	**RB980020DL**	**RB9890021DL**	
	Collection Date	**8/16/96**	**8/16/96**	
	Acetone	18 ug/L	24 ug/L	29
	Benzene	700 ug/L	740 ug/L	6
WF027	**Client ID**	**16G00501**	**16G00501D**	
	Laboratory ID	**RC016009**	**RC016013**	
	Collection Date	**8/21/96**	**8/21/96**	
	Volatiles	ND	ND	None
	Bis(2-ethylhexyl)phthalate	2 ug/L	10U ug/L	Not calculable
	Pesticides/PCBs	ND	ND	None
WF027	**Client ID**	**09G00301**	**09G00301D**	
	Laboratory ID	**RC016019**	**RC016020**	
	Collection Date	**8/23/96**	**8/23/96**	
	Acetone	46 ug/L	18 ug/L	88
	2-Butanone	2 ug/L	10U ug/L	Not calculable
	Semivolatiles	ND	ND	None
	Pesticides/PCBs	ND	ND	None
WF028	**Client ID**	**11G00201**	**11G00201D**	
	Laboratory ID	**RC044011**	**RC044018**	
	Collection Date	**8/28/96**	**8/28/96**	
	Acetone	5 ug/L	11 ug/L	75
	Phenol	4 ug/L	6 ug/L	40
	Bis(2-ethylhexyl)phthalate	5 ug/L	4 ug/L	22
	Pesticides/PCBs	ND	ND	None
WF028	**Client ID**	**12G00101**	**12G00101D**	
	Laboratory ID	**RC044012**	**RC044017**	
	Collection Date	**8/27/96**	**8/27/96**	
	Acetone	3 ug/L	6 ug/L	67
	Bis(2-ethylhexyl)phthalate	2 ug/L	2 ug/L	0
	Pesticides/PCBs	ND	ND	None

Table V
Summary of Relative Percent Differences (RPD) for Original and Field Duplicate Samples
Groundwater and Subsurface Soil Investigation, Phase IIB
NAS Whiting Field, Milton Florida

SDG	Organic Compounds			RPD
WF029	**Client ID**	**14G00101**	**14G00101D**	
	Laboratory ID	**RC092007**	**RC092009**	
	Collection Date	**9/11/96**	**9/11/96**	
	Acetone	8 ug/L	4 ug/L	67
	Carbon disulfide	3 ug/L	10U ug/L	Not calculable
	Methylene chloride	1 ug/L	10U ug/L	Not calculable
	Bis(2-ethylhexyl)phthalate	4 ug/L	4 ug/L	0
	Pesticides/PCBs	ND	ND	None
WF030	**Client ID**	**66G00601**	**66G00601D**	
	Laboratory ID	**RC121007**	**RC121011**	
	Collection Date	**9/18/96**	**9/18/96**	
	Acetone	2 ug/L	8 ug/L	120
	Methylene chloride	2 ug/L	10U ug/L	Not calculable
	Bis(2-ethylhexyl)phthalate	2 ug/L	3 ug/L	40
	Pesticides/PCBs	ND	ND	None
WF030	**Client ID**	**66G02203**	**66G02203D**	
	Laboratory ID	**RC121016**	**RC121017**	
	Collection Date	**9/20/96**	**9/20/96**	
	Acetone	4 ug/L	10U ug/L	Not calculable
	Bis(2-ethylhexyl)phthalate	2 ug/L	10U ug/L	Not calculable
	Pesticides/PCBs	ND	ND	None
WF031	**Client ID**	**05G01001**	**05G01001D**	
	Laboratory ID	**MB928007**	**MB928012**	
	Collection Date	**9/25/96**	**9/25/96**	
	Volatiles	ND	ND	None
	Semivolatiles	ND	ND	None
	Pesticides/PCBs	ND	ND	None
WF031	**Client ID**	**33G00301**	**33G00301D**	
	Laboratory ID	**MB958006**	**MB958007**	
	Collection Date	**9/27/96**	**9/27/96**	
	1,1-Dichloroethene	5 ug/L	6 ug/L	18
	1,2-Dichloroethene (total)	4 ug/L	3 ug/L	29
	Trichloroethene	300 ug/L	300 ug/L	0
	Di-n-butylphthalate	1 ug/L	1 ug/L	0
	Pesticides/PCBs	ND	ND	None

Table V
Summary of Relative Percent Differences (RPD) for Original and Field Duplicate Samples
Groundwater and Subsurface Soil Investigation, Phase IIB
NAS Whiting Field, Milton Florida

SDG	Organic Compounds			RPD
WF032	**Client ID**	**29G00501**	**29G00501D**	
	Laboratory ID	**MC011007**	**MC011008**	
	Collection Date	**10/2/96**	**10/2/96**	
	Volatiles	ND	ND	None
	Semivolatiles	ND	ND	None
	Pesticides/PCBs	ND	ND	None
WF033	**Client ID**	**66G00201**	**66G00201D**	
	Laboratory ID	**MC118002**	**MC118003**	
	Collection Date	**10/9/96**	**10/9/96**	
	Trichloroethene	1 ug/L	1 ug/L	0
	Toluene	1 ug/L	1 ug/L	0
	Semivolatiles	ND	ND	None
	Pesticides/PCBs	ND	ND	None
WF034	**Client ID**	**30G00301**	**30G00301D**	
	Laboratory ID	**MC153005**	**MC153008**	
	Collection Date	**10/16/96**	**10/16/96**	
	1,2-Dichloroethene (total)	31 ug/L	31 ug/L	0
	Trichloroethene	340 ug/L	340 ug/L	0
	Di-n-butylphthalate	2 ug/L	10U ug/L	Not calculable
	Pesticides/PCBs	ND	ND	None
WF035	**Client ID**	**66G01701**	**66G01701D**	
	Laboratory ID	**MC214005**	**MC214007**	
	Collection Date	**10/23/96**	**10/23/96**	
	Volatiles	ND	ND	None
	Di-n-butylphthalate	3 ug/L	2 ug/L	40
	Pesticides/PCBs	ND	ND	None
WF036	**Client ID**	**54G00101**	**54G00101D**	
	Laboratory ID	**MC262004**	**MC262008**	
	Collection Date	**10/30/96**	**10/30/96**	
	Volatiles	ND	ND	None
	Diethylphthalate	1 ug/L	10U ug/L	Not calculable
	Di-n-butylphthalate	1 ug/L	10U ug/L	Not calculable
	Pesticides/PCBs	ND	ND	None
WF037	**Client ID**	**15G00803**	**15G00803D**	
	Laboratory ID	**MC424007**	**MC424008**	
	Collection Date	**11/20/96**	**11/20/96**	
	Trichloroethene	5 ug/L	5 ug/L	0
WF038	**Client ID**	**36BO0303**	**36BO0303D**	
	Laboratory ID	**MC687010**	**MC687011**	
	Collection Date	**12/17/96**	**12/17/96**	
	Volatiles	ND	ND	None

Table V
Summary of Relative Percent Differences (RPD) for Original and Field Duplicate Samples
Groundwater and Subsurface Soil Investigation, Phase IIB
NAS Whiting Field, Milton Florida

SDG	Organic Compounds			RPD
WF038	**Client ID**	36BO0403	36BO0403D	
	Laboratory ID	MC687014	MC687015	
	Collection Date	12/18/96	12/18/96	
	Volatiles	ND	ND	None
WF039	**Client ID**	35BO0302	35BO0302D	
	Laboratory ID	MC698013	MC698015	
	Collection Date	12/21/96	12/21/96	
	Volatiles	ND	ND	None
WF039	**Client ID**	35BO0203	35BO0203D	
	Laboratory ID	MC698010	MC698016	
	Collection Date	12/21/96	12/21/96	
	Volatiles	ND	ND	None
WF040	**Client ID**	37BO0203	37BO0203D	
	Laboratory ID	MC783010	MC783018	
	Collection Date	1/8/97	1/8/97	
	Acetone	14 ug/Kg	12 ug/Kg	15
	Methylene chloride	2 ug/Kg	10 ug/Kg	133
WF040	**Client ID**	37BO0103	37BO0103D	
	Laboratory ID	MC783013	MC783019	
	Collection Date	1/8/97	1/8/97	
	Acetone	18 ug/Kg	22 ug/Kg	20
	Methylene chloride	3 ug/Kg	11 ug/Kg	114
WF041	**Client ID**	35G00101	35G00101D	
	Laboratory ID	MD908004	MD908005	
	Collection Date	6/11/97	6/11/97	
	Volatiles			
	1,1-Dichlcroethene	6 ug/L	7 ug/L	15
	1,1,1-Trichloroethane	2 ug/L	2 ug/L	0
	Xylene (total)	2 ug/L	1 ug/L	67
	Semivolatiles	ND	ND	-
	Pesticides & PCBs	ND	ND	-
WF041	**Client ID**	35G00202	35G00202D	
	Laboratory ID	MD950002	MD950003	
	Collection Date	6/15/97	6/15/97	
	Volatiles			
	Chloroform	3 ug/L	3 ug/L	0
	Semivolatiles			
	Bis(2-ethylhexyl)phthalate	10U ug/L	5 ug/L	Not calculable
	Pesticides & PCBs	ND	ND	-
WF042	**Client ID**	05G00902	05G00902D	
	Laboratory ID	ME007004	ME007005	
	Collection Date	6/19/97	6/19/97	
	Volatiles	ND	ND	-

Table V
Summary of Relative Percent Differences (RPD) for Original and Field Duplicate Samples
Groundwater and Subsurface Soil Investigation, Phase IIB
NAS Whiting Field, Milton Florida

SDG	Organic Compounds			RPD
WF043	**Client ID**	05G00802	05G00802D	
	Laboratory ID	ME042004	ME042005	
	Collection Date	6/24/97	6/24/97	
	Volatiles			
	Benzene	1 ug/L	10U ug/L	Not calculable
	Trichloroethene	4 ug/L	10U ug/L	Not calculable
	Xylenes (total)	1 ug/L	10U ug/L	Not calculable
WF043	**Client ID**	07G00101	07G00101D	
	Laboratory ID	ME087002	ME087003	
	Collection Date	6/26/97	6/26/97	
	Acetone	540 ug/L	490 ug/L	10
	Benzene	3900 ug/L	4400 ug/L	12
	Toluene	14000 ug/L	16000 ug/L	13
	Ethylbenzene	1800 ug/L	2000 ug/L	10
	Xylenes, total	3200 ug/L	3600 ug/L	12
WF044	**Client ID**	66G01201	66G01201D	
	Laboratory ID	ME110002	ME110003	
	Collection Date	6/30/97	6/30/97	
	Volatiles			
	1,1-Dichloroethene	3 ug/L	2 ug/L	40
	1,2-Dichloroethene (total)	3 ug/L	3 ug/L	0
	Trichloroethene	120 ug/L	96 ug/L	22
WF044	**Client ID**	66G00603	66G00603D	
	Laboratory ID	ME135002	ME135003	
	Collection Date	7/2/97	7/2/97	
	Volatiles			
	Trichloroethene	1 ug/L	1 ug/L	0
WF045	**Client ID**	OWG00502	OWG00502D	
	Laboratory ID	ME149004	ME149005	
	Collection Date	7/8/97	7/8/97	
	Volatiles			
	Acetone	3 ug/Kg	2 ug/Kg	40
	Semivolatiles	ND	ND	-
	Pesticides & PCBs	ND	ND	-
WF045	**Client ID**	OWG00302	OWG00302D	
	Laboratory ID	ME190002	ME190003	
	Collection Date	7/10/97	7/10/97	
	Volatiles	ND	ND	-
	Pesticides & PCBs	ND	ND	-
	Semivolatiles			
	Di-n-butylphthalate	4 ug/L	6 ug/L	40
WF046	**Client ID**	31G00101	31G00101D	
	Laboratory ID	ME241003	ME241004	
	Collection Date	7/15/97	7/15/97	
	Volatiles	ND	ND	-
	Pesticides & PCBs	ND	ND	-
	Semivolatiles			
	Di-n-butylphthalate	6 ug/L	3 ug/L	67

Table V
Summary of Relative Percent Differences (RPD) for Original and Field Duplicate Samples
Groundwater and Subsurface Soil Investigation, Phase IIB
NAS Whiting Field, Milton Florida

SDG	Organic Compounds			RPD
WF047	**Client ID**	39W034	39W034D	
	Laboratory ID	ME243005	ME243006	
	Collection Date	7/15/97	7/15/97	
	Volatiles			
	Acetone	4 ug/L	5U ug/L	Not calculable
	Carbon disulfide	1U ug/L	1 ug/L	Not calculable
WF047	**Client ID**	39W012	39W012D	
	Laboratory ID	ME267004	ME267005	
	Collection Date	7/16/97	7/16/97	
	Volatiles			
	Methylene chloride	2U ug/L	1 ug/L	Not calculable
	Benzene	2 ug/L	2 ug/L	0
WF048	**Client ID**	39D018	39D018D	
	Laboratory ID	ME264006	ME264007	
	Collection Date	7/17/97	7/17/97	
	Volatiles			
	Acetone	27 ug/Kg	27 ug/Kg	0
	Trichloroethene	2 ug/Kg	2 ug/Kg	0
WF049	**Client ID**	39W021	39W021D	
	Laboratory ID	ME263004	ME263005	
	Collection Date	7/17/97	7/17/97	
	Volatiles	ND	ND	-
WF051	**Client ID**	16G00401	16G00401D	
	Laboratory ID	ME306003	ME306003	
	Collection Date	7/22/97	7/22/97	
	Volatiles			
	Acetone	18 ug/L	14 ug/L	25
WF051	**Client ID**	16G00101	16G00101D	
	Laboratory ID	ME340009	ME340010	
	Collection Date	7/24/97	7/24/97	
	Volatiles	ND	ND	-
WF052	**Client ID**	39020	39020D	
	Laboratory ID	ME346004	ME346005	
	Collection Date	7/25/97	7/25/97	
	Volatiles	ND	ND	-
WF053	**Client ID**	15G00602	15G00602D	
	Laboratory ID	ME367004	ME367005	
	Collection Date	7/27/97	7/27/97	
	Volatiles			
	Trichloroethene	2 ug/L	2 ug/L	0
WF053	**Client ID**	15G00703	15G00703D	
	Laboratory ID	ME404003	ME404004	
	Collection Date	7/30/97	7/30/97	
	Volatiles			
	1,2-Trichloroethene (total)	1 ug/L	2 ug/L	67
	Trichloroethene	36 ug/L	38 ug/L	5
	1,1-Dichloroethene	2 ug/L	10U ug/L	Not calculable

Table V
Summary of Relative Percent Differences (RPD) for Original and Field Duplicate Samples
Groundwater and Subsurface Soil Investigation, Phase IIB
NAS Whiting Field, Milton Florida

SDG	Organic Compounds			RPD
WF054	**Client ID**	15G00801	15G00801D	
	Laboratory ID	ME441002	ME441003	
	Collection Date	8/4/97	8/4/97	
	Volatiles			
	Chlorobenzene	4 ug/L	4 ug/L	0
WF055	**Client ID**	OWG00401	OWG00401D	
	Laboratory ID	MF004003	MF004004	
	Collection Date	10/27/97	10/27/97	
	Volatiles	ND	ND	-

Table VI
Summary of Surrogate Recoveries
Groundwater and Subsurface Soil Investigation, Phase IIB
NAS Whiting Field, Milton Florida

Organic Compounds

SDG	Client ID	Compound	Percent Recovery	QC Limits	# of Samples	Qualifier
WF022	All	Volatiles	All within QC limits	-	-	None
	All	Semivolatiles	All within QC limits	-	-	None
		Pesticides/PCBs			10	
	BKR01001	Decachlorobiphenyl	58	60-150		J
		Decachlorobiphenyl	58	60-150		J
	BKG00101	Tetrachloro-m-xylene	59	60-150		J
		Tetrachloro-m-xylene	57	60-150		J
	BKG00102	Decachlorobiphenyl	37	60-150		J
		Decachlorobiphenyl	37	60-150		J
	BKG00103	Decachlorobiphenyl	40	60-150		J
		Decachlorobiphenyl	41	60-150		J
	BKG00202	Decachlorobiphenyl	47	60-150		J
		Decachlorobiphenyl	47	60-150		J
	BKG00201	Decachlorobiphenyl	43	60-150		J
		Decachlorobiphenyl	43	60-150		J
	BKF01001	Tetrachloro-m-xylene	59	60-150		J
		Tetrachloro-m-xylene	59	60-150		J
		Decachlorobiphenyl	51	60-150		J
		Decachlorobiphenyl	47	60-150		J
	17G00101	Decachlorobiphenyl	58	60-150		J
		Decachlorobiphenyl	56	60-150		J
	17G00201	Decachlorobiphenyl	22	60-150		J
		Decachlorobiphenyl	21	60-150		J
	01G00102D	Decachlorobiphenyl	59	60-150		J
		Decachlorobiphenyl	56	60-150		J
WF023	All	Volatiles	All within QC limits	-	-	None
	All	Semivolatiles	All within QC limits	-	-	None
		Pesticides/PCBs			5	
	01G00201	Decachlorobiphenyl	32	60-150		J
		Decachlorobiphenyl	28	60-150		J
	01G00301	Decachlorobiphenyl	49	60-150		J
		Decachlorobiphenyl	47	60-150		J
	02G00101	Decachlorobiphenyl	41	60-150		J
		Decachlorobiphenyl	42	60-150		J
	16G00703	Decachlorobiphenyl	59	60-150		J
		Decachlorobiphenyl	55	60-150		J
	18G00301	Decachlorobiphenyl	48	60-150		J
		Decachlorobiphenyl	46	60-150		J

Table VI
Summary of Surrogate Recoveries
Groundwater and Subsurface Soil Investigation, Phase IIB
NAS Whiting Field, Milton Florida

Organic Compounds

SDG	Client ID	Compound	Percent Recovery	QC Limits	# of Samples	Qualifier
WF024	All	Volatiles	All within QC limits	-	-	None
	All	Semivolatiles	All within QC limits	-	-	None
		Pesticides/PCBs			1	
	BKG00203	Decachlorobiphenyl	52	60-150	-	J
		Decachlorobiphenyl	48	60-150	-	J
WF025	All	Volatiles	All within QC limits	-	-	None
	All	Semivolatiles	All within QC limits	-	-	None
		Pesticides/PCBs			5	
	15G00101	Decachlorobiphenyl	21	60-150		J
		Decachlorobiphenyl	20	60-150		J
	15G00303	Tetrachloro-m-xylene	57	60-150		J
		Tetrachloro-m-xylene	58	60-150		J
	15G00502	Tetrachloro-m-xylene	155	60-150		J (all detects)
		Tetrachloro-m-xylene	162	60-150		J (all detects)
	15R01301	Decachlorobiphenyl	59	60-150		J
	15G00502RE	Decachlorobiphenyl	53	60-150		J
		Decachlorobiphenyl	54	60-150		J
WF026	All	Volatiles	All within QC limits	-	-	None
		Semivolatiles			2	
	15G00802	2-Fluorobiphenyl	161	43-116		J (all detects) all B/N
		Terphenyl-d14	163	33-141		J (all detects) all B/N
	15G00802R	2-Fluorobiphenyl	182	43-116		J (all detects) all B/N
		Terphenyl-d14	153	33-141		J (all detects) all B/N

Table VI
Summary of Surrogate Recoveries
Groundwater and Subsurface Soil Investigation, Phase IIB
NAS Whiting Field, Milton Florida

Organic Compounds

SDG	Client ID	Compound	Percent Recovery	QC Limits	# of Samples	Qualifier
WF026 cont.		Pesticides/PCBs			9	
	15G00201	Decachlorobiphenyl	52	60-150		J
		Decachlorobiphenyl	50	60-150		J
	15G00202	Decachlorobiphenyl	58	60-150		J
		Decachlorobiphenyl	58	60-150		J
	15G00801	Decachlorobiphenyl	43	60-150		J
		Decachlorobiphenyl	38	60-150		J
	15G00803	Decachlorobiphenyl	58	60-150		J
		Decachlorobiphenyl	58	60-150		J
	16G00201	Decachlorobiphenyl	43	60-150		J
		Decachlorobiphenyl	37	60-150		J
	16G00203	Decachlorobiphenyl	44	60-150		J
		Decachlorobiphenyl	43	60-150		J
	16G00403	Decachlorobiphenyl	40	60-150		J
		Decachlorobiphenyl	39	60-150		J
	16G00403D	Decachlorobiphenyl	47	60-150		J
		Decachlorobiphenyl	46	60-150		J
	16G00601	Decachlorobiphenyl	25	60-150		J
		Decachlorobiphenyl	25	60-150		J
WF027	All	Volatiles	All within QC limits	-	-	None
	All	Semivolatiles	All within QC limits	-	-	None
		Pesticides/PCBs			2	
	16G00304	Decachlorobiphenyl	46	60-150		J
		Decachlorobiphenyl	43	60-150		J
	66G02103	Decachlorobiphenyl	58	60-150		J
		Decachlorobiphenyl	58	60-150		J
WF028	All	Volatiles	All within QC limits	-	-	None
	All	Semivolatiles	All within QC limits	-	-	None
		Pesticides/PCBs			5	
	10G00101	Decachlorobiphenyl	50	60-150		J
		Decachlorobiphenyl	48	60-150		J
	11G00101	Decachlorobiphenyl	47	60-150		J
		Decachlorobiphenyl	47	60-150		J
	11G00301	Decachlorobiphenyl	25	60-150		J
		Decachlorobiphenyl	24	60-150		J
	11G00401	Decachlorobiphenyl	29	60-150		J
		Decachlorobiphenyl	29	60-150		J
	11G00201D	Decachlorobiphenyl	59	60-150		J

Table VI
Summary of Surrogate Recoveries
Groundwater and Subsurface Soil Investigation, Phase IIB
NAS Whiting Field, Milton Florida

Organic Compounds

SDG	Client ID	Compound	Percent Recovery	QC Limits	# of Samples	Qualifier
WF029	All	Volatiles	All within QC limits	-	-	None
	All	Semivolatiles	All within QC limits	-	-	None
		Pesticides/PCBs			3	
	13G00101	Decachlorobiphenyl	23	60-150		J
		Decachlorobiphenyl	23	60-150		J
	66G00901	Decachlorobiphenyl	43	60-150		J
		Decachlorobiphenyl	42	60-150		J
	66G00903	Decachlorobiphenyl	52	60-150		J
		Decachlorobiphenyl	52	60-150		J
WF030	All	Volatiles	All within QC limits	-	-	None
	All	Semivolatiles	All within QC limits	-	-	None
		Pesticides/PCBs			1	
	66G00804	Decachlorobiphenyl	31	60-150		J
		Decachlorobiphenyl	31	60-150		J
WF031	All	Volatiles	All within QC limits	-	-	None
	All	Semivolatiles	All within QC limits	-	-	None
		Pesticides/PCBs			3	
	05G00301	Tetrachloro-m-xylene	56	60-150		J
		Tetrachloro-m-xylene	52	60-150		J
	05G00101	Decachlorobiphenyl	164	60-150		J (all detects)
	05G01002	Tetrachloro-m-xylene	57	60-150		J
WF031B	All	Volatiles	All within QC limits	-	-	None
	All	Semivolatiles	All within QC limits	-	-	None
	All	Pesticides/PCBs	All within QC limits	-	-	None
WF032	All	Volatiles	All within QC limits	-	-	None
	All	Semivolatiles	All within QC limits	-	-	None
	29G00101	Pesticides/PCBs			1	
		Tetrachloro-m-xylene	54	60-150		J
		Tetrachloro-m-xylene	56	60-150		J

Table VI
Summary of Surrogate Recoveries
Groundwater and Subsurface Soil Investigation, Phase IIB
NAS Whiting Field, Milton Florida

Organic Compounds

SDG	Client ID	Compound	Percent Recovery	QC Limits	# of Samples	Qualifier
WF033	All	Volatiles	All within QC limits	-	-	None
	All	Semivolatiles	All within QC limits	-	-	None
		Pesticides/PCBs			3	
	07G00101	Tetrachloro-m-xylene	174	60-150		J (all detects)
	30G00501	Tetrachloro-m-xylene	59	60-150		J
	66G00201D	Tetrachloro-m-xylene	25	60-150		J
		Tetrachloro-m-xylene	36	60-150		J
WF034	All	Volatiles	All within QC limits	-	-	None
	All	Semivolatiles	All within QC limits	-	-	None
		Pesticides/PCBs			1	
	66G01801	Tetrachloro-m-xylene	164	60-150		J (all detects)
WF035	All	Volatiles	All within QC limits	-	-	None
	All	Semivolatiles	All within QC limits	-	-	None
		Pesticides/PCBs			1	
	08G00101	Tetrachloro-m-xylene	59	60-150		J
WF036	All	Volatiles	All within QC limits	-	-	None
	All	Semivolatiles	All within QC limits	-	-	None
		Pesticides/PCBs			1	
	54G00101	Tetrachloro-m-xylene	57	60-150		J
		Tetrachloro-m-xylene	52	60-150		J
WF037	All	Volatiles	All within QC limits	-	-	None
	All	Semivolatiles	All within QC limits	-	-	None
	All	Pesticides/PCBs	All within QC limits	-	-	None
WF038	All	Volatiles	All within QC limits	-	-	None
WF039	All	Volatiles	All within QC limits	-	-	None
WF040	All	Volatiles	All within QC limits	-	-	None

Table VI
Summary of Surrogate Recoveries
Groundwater and Subsurface Soil Investigation, Phase IIB
NAS Whiting Field, Milton Florida

Organic Compounds

SDG	Client ID	Compound	Percent Recovery	QC Limits	# of Samples	Qualifier
WF041	All	Volatiles	All within QC limits	-	-	None
	All	Semivolatiles	All within QC limits	-	-	None
		Pesticides & PCBs			2	
	35G00201	Decachlorobiphenyl	58	60-150		J
	36G00103	Tetrachloro-m-xylene	57	60-150		J
		Tetrachloro-m-xylene	58	60-150		J
WF042	All	Volatiles	-	-	-	None
WF043	All	Volatiles	-	-	-	None
WF044	All	Volatiles	-	-	-	None
WF045	All	Volatiles	-	-	-	None
		Semivolatiles			3	
	OWG00101	2-Fluorophenol	0	21-110		J (all detects)
		Phenol-d5	0	10-110		R (all non-detects)
		2-Chlorophenol-d4	0	33-110		
		1,2-Dichlorobenzene-d4	0	16-110		
		Nitrobenzene-d5	0	35-114		
		2-Fluorobiphenyl	0	43-116		
		2,4,6-Tribromophenol	0	10-123		
		Terphenyl-d14	0	33-141		
	OWG00102	2-Fluorophenol	0	21-110		J (all detects)
		Phenol-d5	0	10-110		R (all non-detects)
		2-Chlorophenol-d4	0	33-110		
		1,2-Dichlorobenzene-d4	0	16-110		
		Nitrobenzene-d5	0	35-114		
		2-Fluorobiphenyl	0	43-116		
		2,4,6-Tribromophenol	0	10-123		
		Terphenyl-d14	0	33-141		

Table VI
Summary of Surrogate Recoveries
Groundwater and Subsurface Soil Investigation, Phase IIB
NAS Whiting Field, Milton Florida

Organic Compounds

SDG	Client ID	Compound	Percent Recovery	QC Limits	# of Samples	Qualifier
WF045 cont.	OWG00103	2-Fluorophenol	0	21-110		J (all detects)
		Phenol-d5	0	10-110		R (all non-detects)
		2-Chlorophenol-d4	0	33-110		
		1,2-Dichlorobenzene-d4	0	16-110		
		Nitrobenzene-d5	0	35-114		
		2-Fluorobiphenyl	0	43-116		
		2,4,6-Tribromophenol	0	10-123		
		Terphenyl-d14	0	33-141		
		Pesticides & PCBs			4	
	OWG00101	Tetrachloro-m-xylene	45	60-150		J
		Tetrachloro-m-xylene	52	60-150		J
	OWG00103	Tetrachloro-m-xylene	59	60-150		J
	OWG00302	Tetrachloro-m-xylene	54	60-150		J
		Tetrachloro-m-xylene	52	60-150		J
	OWG00302D	Tetrachloro-m-xylene	53	60-150		J
		Tetrachloro-m-xylene	52	60-150		J
WF046	All	Volatiles	-	-	-	None
	All	Semivolatiles	-	-	-	None
		Pesticides & PCBs			2	
	31G00101	Tetrachloro-m-xylene	48	60-150		J
		Tetrachloro-m-xylene	55	60-150		J
	31R03301	Tetrachloro-m-xylene	59	60-150		J
WF047	All	Volatiles	-	-	-	None
WF048	All	Volatiles	-	-	-	None
WF049	All	Volatiles	-	-	-	None
	All	Semivolatiles	-	-	-	None
WF051	All	Volatiles	-	-	-	None
WF052	All	Volatiles	-	-	-	None
WF053	All	Volatiles	-	-	-	None
WF054	All	Volatiles	-	-	-	None

Table VI
Summary of Surrogate Recoveries
Groundwater and Subsurface Soil Investigation, Phase IIB
NAS Whiting Field, Milton Florida

Organic Compounds

SDG	Client ID	Compound	Percent Recovery	QC Limits	# of Samples	Qualifier
WF055	All	Volatiles	-	-	-	None

Notes: J = estimated value
UJ = undetected, but number that is reported as the quantification limit is an estimated value.

Table VII
Summary of Compounds Exceeding Instrument Calibration
Groundwater and Subsurface Soil Investigation, Phase IIB
NAS Whiting Field, Milton Florida

Organic Compounds

SDG	Date	Compound	Initial Calibration %RSD	Continuing Calibration %D	Qualifier
WF022		Volatiles			
	6/25/96	Acetone	30.2	-	J
	7/19/96	Chloromethane	-	28.8	J
		Chloroethane	-	48.7	J
	7/22/96	Chloroethane	-	30.6	J
		Semivolatiles			
	8/13/96	4,6-Dinitro-2-methylphenol	-	27.2	J
		Pentachlorophenol	-	25.4	J
	8/14/96	4-Chloroaniline	-	31.6	J
		2,4-Dinitrophenol	-	27.6	J
		4,6-Dinitro-2-methylphenol	-	33.8	J
	All	Pesticides/PCBs	-	-	None
WF023		Volatiles			
	6/25/96	Acetone	30.2	-	J
	7/25/96	Acetone	-	33.2	J
	7/31/96	Acetone	-	30.4	J
		Methylene chloride	-	31.7	J
		Carbon disulfide	-	27.2	J
	8/1/96	Chloroethane	-	27.5	J
		Carbon disulfide	-	27.5	J
		Methylene chloride	-	37.8	J
		Semivolatiles			
	8/20/96	4-Nitroaniline	-	37.8	J
		Chrysene	-	27.8	J
	8/21/96	4-Nitroaniline	-	31.5	J
		Chrysene	-	28.5	J
		Benzo(g,h,i)perylene	-	32.7	J
	8/25/96	4,4'-DDT	23.6	-	J
WF024		Volatiles			
	6/25/96	Acetone	30.2	-	J
	8/5/96	Acetone	33.8	-	J
	8/2/96	Chloroethane	-	29.5	J
		Carbon disulfide	-	30.8	J
		Methylene chloride	-	41.0	J
		Semivolatiles			
	8/21/96	4-Nitroaniline	-	28.7	J
		Chrysene	-	29.5	J
		Indeno(1,2,3-cd)pyrene	-	28.1	J
		Dibenz(a,h)anthracene	-	34.0	J
		Benzo(g,h,i)perylene	-	37.6	J
	All	Pesticides/PCBs	-	-	None

Table VII
Summary of Compounds Exceeding Instrument Calibration
Groundwater and Subsurface Soil Investigation, Phase IIB
NAS Whiting Field, Milton Florida

Organic Compounds					
SDG	**Date**	**Compound**	**Initial Calibration %RSD**	**Continuing Calibration %D**	**Qualifier**
WF025		Volatiles			
	8/5/96	Acetone	33.8	-	J
	8/14/96	Chloromethane	26.7	-	J
		Chloroethane	28.5	-	J
		Acetone	29.7	-	J
		Semivolatiles			
	9/9/96	2,4-Dinitrophenol	-	29.9	J
		4-Nitroaniline	-	27.6	J
		4,6-Dinitro-2-methylphenol	-	30.7	J
		Pyrene	-	30.0	J
		3,3'-Dichlorobenzidine	-	37.0	J
		2,4-Dinitrophenol	-	35.6	J
		4-Nitroaniline	-	29.4	J
		4,6-Dinitro-2-methylphenol	-	32.0	J
		Pentachlorophenol	-	27.8	J
		3,3'-Dichlorobenzidine	-	27.8	J
	8/25/96	4,4'-DDT	23.6	-	J
WF026		Volatiles			
	8/5/96	Acetone	33.8	-	J
	8/19/96	Chloromethane	-	46.5	J
		Chloroethane	-	77.1	J
		1,1-Dichloroethane	-	28.6	J
		2-Butanone	-	30.3	J
	8/20/96	Chloromethane	-	32.5	J
		Chloroethane	-	32.4	J
	8/22/96	Acetone	-	37.9	J
		Carbon disulfide	-	28.0	J
		2-Butanone	-	27.8	J
		Semivolatiles			
	9/10/96	2,4-Dinitrophenol	-	35.6	J
		4-Nitroaniline	-	29.4	J
		4,6-Dinitro-2-methylphenol	-	32.0	J
		Pentachlorophenol	-	27.8	J
		3,3'-Dichlorobenzidine	-	27.8	J
	9/10/96	4-Chloroaniline	-	36.8	J
		3-Nitroaniline	-	37.9	J
		2,4-Dinitrophenol	-	29.3	J
		4-Nitroaniline	-	49.5	J
		4,6-Dinitro-2-methylphenol	-	29.4	J
		Pentachlorophenol	-	29.6	J
		3,3'-Dichlorobenzidine	-	54.1	J
		Pesticides & PCBs			
	9/14/96	alpha-BHC	22.2	-	J
		delta-BHC	22.1	-	J

Table VII
Summary of Compounds Exceeding Instrument Calibration
Groundwater and Subsurface Soil Investigation, Phase IIB
NAS Whiting Field, Milton Florida

Organic Compounds

SDG	Date	Compound	Initial Calibration %RSD	Continuing Calibration %D	Qualifier
WF027		Volatiles			
	9/1/96	2-Butanone	39.1	-	J
		2-Butanone	0.014 (RRF)	-	J(detects) / R(ND)
	8/5/96	Acetone	33.8	-	J
	9/2/96	Acetone	-	102.4	J
		2-Butanone	-	36.3	J
	8/22/96	Acetone	-	37.9	J
		Carbon disulfide	-	28.0	J
		2-Butanone	-	27.8	J
	8/29/96	Bromomethane	-	31.0	J
		Chloroethane	-	63.9	J
		Acetone	-	37.2	J
	9/2/96	Chloromethane	-	32.4	J
		Chloroethane	-	28.4	J
		Acetone	-	49.2	J
		2-Butanone	-	38.7	J
		4-Methyl-2-pentanone	-	35.7	J
		2-Hexanone	-	38.9	J
		2-Butanone	-	0.019 (RRF)	J (detects) / R (ND)
	9/3/96	Chloromethane	-	27.4	J
		Acetone	-	34.7	J
		2-Butanone	-	32.6	J
		4-Methyl-2-pentanone	-	32.9	J
		2-Hexanone	-	38.9	J
		Semivolatiles			
	9/10/96	4-Chloroaniline	-	36.8	J
		3-Nitroaniline	-	37.9	J
		2,4-Dinitrophenol	-	29.3	J
		4-Nitroaniline	-	49.5	J
		4,6-Dinitro-2-methylphenol	-	29.4	J
		Pentachlorophenol	-	29.6	J
		3,3'-Dichlorobenzidine	-	54.1	J
	9/20/96	3,3'-Dichlorobenzidine	-	30.4	J
	All	Pesticides/PCBs	-	-	None
WF028		Volatiles			
	8/5/96	Acetone	33.8	-	J
	9/2/96	Chloromethane	-	32.4	J
		Chloroethane	-	28.4	J
		Acetone	-	49.2	J
		2-Butanone	-	38.7	J
		4-Methyl-2-pentanone	-	35.7	J
		2-Hexanone	-	38.9	J
	9/3/96	Chloromethane	-	27.4	J
		Acetone	-	34.7	J
		2-Butanone	-	32.6	J
		4-Methyl-2-pentanone	-	32.9	J
		2-Hexanone	-	38.9	J

Table VII
Summary of Compounds Exceeding Instrument Calibration
Groundwater and Subsurface Soil Investigation, Phase IIB
NAS Whiting Field, Milton Florida

Organic Compounds					
SDG	**Date**	**Compound**	**Initial Calibration %RSD**	**Continuing Calibration %D**	**Qualifier**
WF028 cont.	9/6/96	Chloromethane	-	35.4	J
		Acetone	-	41.0	J
		2-Butanone	-	41.8	J
		1,2-Dichloropropane	-	27.6	J
		4-Methyl-2-pentanone	-	40.5	J
		2-Hexanone	-	43.3	J
		Bromoform	-	26.2	J
		1,1,2,2-Tetrachloroethane	-	26.5	J
		Semivolatiles			
	9/20/96	3,3'-Dichlorobenzidine	-	30.4	J
	9/26/96	Benzo(k)fluoroanthene	-	28.5	J
	All	Pesticides/PCBs	-	-	None
WF029		Volatiles			
	9/17/96	Chloromethane	-	38.1	J
		Methylene chloride	-	33.6	J
	9/18/96	2-Hexanone	-	26.5	J
		Semivolatiles			
	9/26/96	Benzo(k)fluoranthene	-	28.5	J
	9/26/96	Benzo(k)fluoranthene	-	25.6	J
	All	Pesticides/PCBs	-	-	None
WF030		Volatiles			
	9/20/96	Methylene chloride	-	35.2	J
	9/23/96	Methylene chloride	-	30.2	J
		Semivolatiles			
	10/16/96	2,4-Dinitrophenol	-	25.8	J
		4-Nitrophenol	-	28.0	J
	All	Pesticides/PCBs	-	-	None
WF031	All	Volatiles	-	-	None
	All	Semivolatiles	-	-	None
		Pesticides & PCBs			
	11/5/96	delta-BHC	21.2	-	J
WF031B	All	Volatiles	-	-	None
		Semivolatiles			
	11/28/96	Di-n-octylphthalate	-	25.3	J
		Pesticides & PCBs			
	12/9-10/97	Alpha-BHC	23.9	-	J
WF032		Volatiles			
	10/10/96	1,1,2,2-Tetrachloroethane	-	27.8	J
		Semivolatiles			
	11/3/96	Hexachlorobutadiene	-	33.5	J
		Hexachlorocyclopentadiene	-	31.5	J
		Di-n-octylphthalate	-	27.0	J
		Pesticides & PCBs			
	11/5/96	delta-BHC	21.2	-	J

Table VII
Summary of Compounds Exceeding Instrument Calibration
Groundwater and Subsurface Soil Investigation, Phase IIB
NAS Whiting Field, Milton Florida

Organic Compounds

SDG	Date	Compound	Initial Calibration %RSD	Continuing Calibration %D	Qualifier
WF033		Volatiles			
	10/16/96	Acetone	-	25.3	J
		Semivolatiles			
	11/4/96	Hexachlorobutadiene	-	31.2	J
		Hexachlorocyclopentadiene	-	27.9	J
	All	Pesticides/PCBs	-	-	None
WF034	All	Volatiles	-	-	None
		Semivolatiles			
	11/26/96	Di-n-octylpthalate	-	33.9	J
	All	Pesticides/PCBs	-	-	None
WF035	All	Volatiles	-	-	None
		Semivolatiles			
	11/26/96	Bis(2-ethylhexyl)phthalate	-	25.6	J
		Di-n-octylphthalate	-	32.1	J
	11/27/96	Di-n-octylphthalate	-	30.0	J
		Pesticides & PCBs			
	11/5/96	delta-BHC	21.2	-	J
WF036	All	Volatiles	-	-	None
		Semivolatiles			
		Di-n-octylphthalate	-	30.0	J
		Di-n-octylphthalate	-	25.3	J
		Pesticides & PCBs			
		alpha-BHC	23.9	-	J
WF037	All	Volatiles	-	-	None
		Semivolatiles			
	11/28/96	Di-n-octylphthalate	-	25.3	J
		Pesticides & PCBs			
	12/9-10/96	alpha-BHC	23.9	-	J
WF038		Volatiles			
	12/26/96	Acetone	-	30.6	J
WF039		Volatiles			
	12/26/96	Acetone	-	30.6	J
WF040	All	Volatiles	-	-	None
WF041	All	Volatiles	-	-	None
	All	Semivolatiles	-	-	None
		Pesticides & PCBs			
	6/11-12/97	Methoxychlor	24.2	-	J
		delta-BHC	21.5	-	J
WF042	All	Volatiles	-	-	None
WF043	All	Volatiles	-	-	None

Table VII
Summary of Compounds Exceeding Instrument Calibration
Groundwater and Subsurface Soil Investigation, Phase IIB
NAS Whiting Field, Milton Florida

Organic Compounds

SDG	Date	Compound	Initial Calibration %RSD	Continuing Calibration %D	Qualifier
WF044		Volatiles			
	7/7/97	Bromomethane	-	33.5	J
WF045	All	Volatiles	-	-	None
	All	Semivolatiles	-	-	None
		Pesticides & PCBs			
	7/31/97	alpha-BHC	20.3	-	J
		alpha-BHC	24.2	-	J
		gamma-BHC	21.9	-	J
WF046	All	Volatiles	-	-	None
	All	Semivolatiles	-	-	None
		Pesticides & PCBs			
	7/31/97	alpha-BHC	20.3	-	J
		alpha-BHC	24.2	-	J
		gamma-BHC	21.9	-	J
WF047		Volatiles			
	7/21/97	Acetone	35.4	-	J
	7/21/97	Acetone	0.023 RRF	-	J (all detects) R (all non-detects)
		2-Butanone	0.030 RRF	-	J (all detects) R (all non-detects)
	7/28/97	Bromomethane	-	34.6	J
		Acetone	-	35.1	J
	7/29/97	Bromomethane	-	30.5	J
		Acetone	-	30.9	J
	7/21/97	Acetone	-	0.020 (RRF)	J (all detects) R (all non-detects)
		2-Butanone	-	0.030 (RRF)	J (all detects) R (all non-detects)
	7/22/97	Acetone	-	0.020 (RRF)	J (all detects) R (all non-detects)
		2-Butanone	-	0.030 (RRF)	J (all detects) R (all non-detects)
	7/28/97	Acetone	-	0.015 (RRF)	J (all detects) R (all non-detects)
		2-Butanone	-	0.026 (RRF)	J (all detects) R (all non-detects)
	7/29/97	Acetone	-	0.015 (RRF)	J (all detects) R (all non-detects)
		2-Butanone	-	0.026 (RRF)	J (all detects) R (all non-detects)
WF048		Volatiles			
	7/25/97	Bromomethane	36.5	-	J
	7/26/97	Bromomethane	-	28.7	J

Table VII
Summary of Compounds Exceeding Instrument Calibration
Groundwater and Subsurface Soil Investigation, Phase IIB
NAS Whiting Field, Milton Florida

Organic Compounds

SDG	Date	Compound	Initial Calibration %RSD	Continuing Calibration %D	Qualifier
WF049	7/21/97	Volatiles			
		Acetone	35.4	-	J
	7/21/97	Acetone	0.023 (RRF)	-	J (all detects) R (all non-detects)
		2-Butanone	0.030 (RRF)	-	J (all detects) R (all non-detects)
	7/28/97	Bromomethane	-	34.6	J
		Acetone	-	35.1	J
	7/22/97	Acetone	-	0.020 (RRF)	J (all detects) R (all non-detects)
		2-Butanone	-	0.030 (RRF)	J (all detects) R (all non-detects)
	7/28/97	Acetone	-	0.015 (RRF)	J (all detects) R (all non-detects)
		2-Butanone	-	0.026 (RRF)	J (all detects) R (all non-detects)
	All	Semivolatiles	-	-	None
WF051	All	Volatiles	-	-	None
WF052		Volatiles			
	7/21/97	Acetone	35.4	-	J
	7/21/97	Acetone	0.023 (RRF)	-	J (all detects) R (all non-detects)
		2-Butanone	0.030 (RRF)	-	J (all detects) R (all non-detects)
	7/29/97	Bromomethane	-	30.5	J
		Acetone	-	30.9	J
	7/29/97	Acetone	-	0.016 (RRF)	J (all detects) R (all non-detects)
		2-Butanone	-	0.026 (RRF)	J (all detects) R (all non-detects)
WF053		Volatiles			
	8/8/97	Acetone	-	36.4	J
WF054		Volatiles			
	8/19/97	Acetone	39.1	-	J
	8/8/97	Acetone	-	36.4	J
	8/19/97	Acetone	-	30.3	J

Table VII
Summary of Compounds Exceeding Instrument Calibration
Groundwater and Subsurface Soil Investigation, Phase IIB
NAS Whiting Field, Milton Florida

Organic Compounds

SDG	Date	Compound	Initial Calibration %RSD	Continuing Calibration %D	Qualifier
WF055	All	Volatiles	-	-	None

Notes: %RSD = percent Relative Standard Deviation for initial calibrations

%D = percent Difference for continuing calibrations

J = the compound was positively identified; the associated numerical value is the approximate concentration of the compound in the sample, either because its concentration was lower than the QL (laboratory "J" flag), or because QC criteria were not met (validation "J").

UJ = the compound was not detected above the reported sample QL. However, the reported sample QL is approximate; the compound concentration may not reliably be presumed to be less than the QL value.

R = the sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the compound cannot be verified.

Table VIII
Summary of Method Blank Contamination
Groundwater and Subsurface Soil Investigation, Phase IIB
NAS Whiting Field, Milton Florida

Organic Compounds

SDG	Compound	Concentration	Associated Samples
WF022	Volatiles		BKT01001
	Acetone	8 ug/L	BKR01001
			BKG00101
			BKG00101D
			BKG00102
			BKG00103
	Methylene chloride	1 ug/L	BKG00202
	Acetone	16 ug/L	BKG00201
			BKF01001
	Acetone	14 ug/L	17T01101
			17G00102
			17G00101
			17G00201
			17G00301
			01G00101
			01G00102
			01G00102D
		ND	
	Semivolatiles	ND	-
	Pesticides/PCBs		-
WF023	Volatiles		01T01201
	Methylene chloride	2 ug/L	01G00401
	Acetone	15 ug/L	01G00201
			01G00301
			BKG00301
			02G00201
			02G00101
			18G00301
			02G00301
			02G00301D
	Semivolatiles	ND	-
	Pesticides/PCBs	ND	-
WF024	Volatiles		18T01401
	Acetone	2 ug/L	18G00101
			15G00401
			BKG00203
			15R01201
			15G00701
	Semivolatiles	ND	-
	Pesticides/PCBs	ND	-
WF025	Volatiles		15G00503DL
	Acetone	3 ug/L	15R01301
			15T01601
			15G00301
			15G00302
			15G00303
			15G00101
			15G00203
	Semivolatiles	ND	-
	Pesticides/PCBs	ND	-

Table VIII
Summary of Method Blank Contamination
Groundwater and Subsurface Soil Investigation, Phase IIB
NAS Whiting Field, Milton Florida

Organic Compounds

SDG	Compound	Concentration	Associated Samples
WF026	Volatiles		15T01701
	Acetone	11 ug/L	15G00202
			15G00201
			15G00802
			15G00801
			16G00201
			15G00803D
			15R01401
	Acetone	4 ug/L	15G00803
			16T01801
			16G00202
			16G00203
	Acetone	5 ug/L	16G00202DL
			16G00602
			16G00601
			16G00403
			16G00403DL
			16G00403D
			16G00403DDL
	Semivolatiles	ND	-
	Pesticides/PCBs	ND	-
WF027	Volatiles		16G00401
	Acetone	5 ug/L	16G00402
			16G00101
			16G00301
	Acetone	5 ug/L	09G00301
	Acetone	6 ug/L	16G00501
	Trichloroethene	1 ug/L	16R01501
	Xylenes (total)	2 ug/L	16G00501D
			66T02001
			66G02101
			66G02103
	Acetone	11 ug/L	16G00303
			66G02102
			09G00101
	-		09G00301D
	Semivolatiles	ND	-
	Pesticides/PCBs	ND	-
WF028	Volatiles		10T02101
	Acetone	5 ug/L	09G00201
			10G00201
			11G00102
			11G00401
			11T02201
			11G00301
	Acetone	11 ug/L	10G00101
			11G00402
			11G00201
			12G00201

Table VIII
Summary of Method Blank Contamination
Groundwater and Subsurface Soil Investigation, Phase IIB
NAS Whiting Field, Milton Florida

Organic Compounds			
SDG	**Compound**	**Concentration**	**Associated Samples**
WF028 cont.	Acetone	5 ug/L	11G00101
	Carbon disulfide	6 ug/L	12G00101
			11R01601
			12G00101D
			11G00201D
	Semivolatiles	ND	-
	Pesticides/PCBs	ND	-
WF029	Volatiles		13T02301
	Acetone	3 ug/L	13G00101
			13R01701
	Acetone	3 ug/L	13G00102
			13G00201
			13G00103
			14G00201
			14G00101
			14G00101D
			66T02401
			66G00901
			66G00904
			66G00902
			66G00903
	Semivolatiles		
	Bis(2-ethylhexyl)phthalate	1 ug/L	All samples in SDG WF029
	Pesticides/PCBs	ND	-
WF030	Volatiles		66T02501
	Acetone	3 ug/L	66G00801
			66G00802
			66G00803
			66G00804
	Semivolatiles		
	Bis(2-ethylhexyl)phthalate	2 ug/L	All samples in SDG WF030
	Pesticides/PCBs	ND	-
WF031	Volatiles	ND	-
	Semivolatiles		
	Di-n-butylphthalate	3 ug/L	05G00801
	Bis(2-ethylhexyl)phthalate	3 ug/L	05G00802
			05G00901
			05G00902
	Di-n-butylphthalate	2 ug/L	05G01001
	Bis(2-ethylhexyl)phthalate	2 ug/L	05G00301
			05R01901
			05G01001D
	Di-n-butylphthalate	2 ug/L	05G00101
			33G00501
			33G00201
			33G00101
			33G00301
			33G00301D
	Pesticides/PCBs	ND	-

Table VIII
Summary of Method Blank Contamination
Groundwater and Subsurface Soil Investigation, Phase IIB
NAS Whiting Field, Milton Florida

Organic Compounds			
SDG	**Compound**	**Concentration**	**Associated Samples**
WF031B	Volatiles	ND	-
	Semivolatiles	ND	-
	Pesticides/PCBs	ND	-
WF032	Volatiles	ND	-
	Semivolatiles		
	Di-n-butylphthalate	1 ug/L	33G00401 06G00102 06G00101 06G00301 06R02001 29G00501 29G00501D
	Di-n-butylphthalate	3 ug/L	29G00101 66G01201 66G00102
	Pesticides/PCBS	ND	-
WF033	Volatiles	ND	-
	Semivolatiles	ND	-
	Pesticides/PCBs	ND	-
WF034	Volatiles	ND	-
	Semivolatiles		
	Bis(2-ethylhexyl)phthalate	2 ug/L	66G01101 66G01301 66G00501
	Pesticides/PCBs	ND	-
WF035	Volatiles	ND	-
	Semivolatiles	ND	-
	Pesticides/PCBs	ND	-
WF036	Volatiles	ND	-
	Semivolatiles		
	Di-n-butylphthalate	2 ug/L	66G00701 54G00201 54G00101 31G00201 54R02401 54G00101D
	Pesticides/PCBs	ND	-
WF037	Volatiles	ND	-
	Semivolatiles		
	Di-n-butylphthalate	4 ug/L	All samples in SDG WF037
	Pesticides/PCBs	ND	-

Table VIII
Summary of Method Blank Contamination
Groundwater and Subsurface Soil Investigation, Phase IIB
NAS Whiting Field, Milton Florida

Organic Compounds

SDG	Compound	Concentration	Associated Samples
WF038	Volatiles		36BO0101
	Acetone	7 ug/Kg	36BO0102
			36BO0103
			36BO0201
			36BO0202
			36BO0203
			36BO0301
			36BO0302
			36BO0303
			36BO0303D
			36BO0401
			36BO0402
			36BO0403
			36BO0403D
WF039	Volatiles		35BO0203D
	Acetone	7 ug/Kg	
	Methylene chloride	4 ug/Kg	35BO0102DL
			35BO0105
			35BO0201
WF040	Volatiles		All water samples in SDG WF040
	Acetone	3 ug/L	
	Bromomethane	2 ug/L	
	Acetone	3 ug/Kg	35BO0402
			35BO0501
			35BO0501DL
			35BO0502
			37BO0201
			37BO0202
			37BO0101
			37BO0102
			37BO0103
			37BO0301
			37BO0302
			37BO0303
			37BO0203D
			37BO0103D
WF041	Volatiles	ND	-
	Pesticides & PCBs	ND	-
	Semivolatiles		13G00301
	Di-n-butylphthalate	1 ug/L	13G00401
	Bis(2-ethylhexyl)phthalate	2 ug/L	
WF042	Volatiles	ND	-
WF043	Volatiles		
	Acetone	6 ug/L	33T05301
			06G00102
			06G00301
			33G00401
WF044	Volatiles		66T05601
	Acetone	3 ug/L	66G01201
			66G01201D
			66G00102
			66G01301

Table VIII
Summary of Method Blank Contamination
Groundwater and Subsurface Soil Investigation, Phase IIB
NAS Whiting Field, Milton Florida

Organic Compounds

SDG	Compound	Concentration	Associated Samples
WF044 cont.	Acetone	11 ug/L	66T05701 66G00401 66G02001 66T05801 66G00603 66G00603D 66G00604 66G00601 66G00602
WF045	Volatiles Acetone	5ug/L	OWT05901 OWR03401 OWG00501 OWG00502 OWG00502D OWG00503 OWT06001 OWG00101 OWG00102 OWG00103 66T06101 66G02301 66G02302 66G02303
	Acetone	5 ug/L	OWT06201 OWG00302 OWG00302D OWG00303 OWG00301 OWT06401 OWT06401DL OWG00401 OWG00201
	Semivolatiles Di-n-butylphthalate	2 ug/L	OWR03401 OWG00501 OWG00502 OWG00502D OWG00503
	Phenol 2-Chlorophenol 1,4-Dichlorobenzene N-Nitroso-di-n-propylamine 1,2,4-Trichlorobenzene 4-Chloro-3-methylphenol Acenaphthylene Acenaphthene 4-Nitrophenol 2,4-Dinitrotoluene Pentachlorophenol Pyrene	72 ug/L 67 ug/L 33 ug/L 49 ug/L 36 ug/L 62 ug/L 12 ug/L 39 ug/L 69 ug/L 43 ug/L 65 ug/L 42 ug/L	OWG00101 OWG00102 OWG00103
	Di-n-butylphthalate	5 ug/L	66G02301 66G02302 66G02303
	Di-n-butylphthalate	4 ug/L	OWG00401 OWG00201
	Pesticides & PCBs	ND	-

Table VIII
Summary of Method Blank Contamination
Groundwater and Subsurface Soil Investigation, Phase IIB
NAS Whiting Field, Milton Florida

Organic Compounds			
SDG	**Compound**	**Concentration**	**Associated Samples**
WF046	Volatiles 2-Butanone	4 ug/L	All samples in SDG WF046
	Semivolatiles Di-n-butylphthalate	3 ug/L	31R03301 31G00101 31G00101D
	Pesticides & PCBs	ND	-
WF047	Volatiles Acetone	4 ug/L	39W028 39W027 39W024 39W032 39W034D 39W031 39T10001 39W001 39W002 39W003 39W004 39W005
WF048	Volatiles 2-Butanone	4 ug/L	39R03401
	Acetone	3 ug/Kg	39D002
	2-Butanone	4 ug/Kg	39D001 39D007 39D023 39D026 39D016 39D013 39D019 39D018 39D018D 39D022
WF049	Volatiles 2-Butanone	4 ug/L	39U001
	Semivolatiles	ND	-
WF051	Volatiles 2-Butanone	4 ug/L	16T06801 16R03501
WF052	Volatiles	ND	-
WF053	Volatiles Methylene chloride	8 ug/L	15G00602D 15T07501 15G00401 15G00703 15G00703D 15G00501 15G00502 15G00503
WF054	Volatiles Acetone	4 ug/L	30T07701 30R03901 30G00302

Table VIII Summary of Method Blank Contamination Groundwater and Subsurface Soil Investigation, Phase IIB NAS Whiting Field, Milton Florida			
Organic Compounds			
SDG	Compound	Concentration	Associated Samples
WF054 cont.	Methylene chloride	8 ug/L	15T07601 15G00801 15G00801D 15G00802 15R03801 15G00803 15G00303
WF055	Volatiles	ND	-

Table IX
Summary of Field Blank Contamination
Groundwater and Subsurface Soil Investigation, Phase IIB
NAS Whiting Field, Milton Florida

Organic Compounds

SDG	Parameter	Concentration	Qualifier
WF022	**Client ID:** BKF01001		
	Laboratory ID: RB858010		
	Collection Date: 7/17/96		
	Type: Source blank		
	Volatiles		
	Acetone	4 ug/L	10U ug/L[1]
	Semivolatiles		
	Di-n-butylphthalate	6 ug/L	None
	Pesticides/PCBs	ND	None
WF022	**Client ID:** BKR01001		
	Laboratory ID: RB858002		
	Collection Date: 7/16/96		
	Type: Equipment rinsate		
	Volatiles	ND	None
	Semivolatiles		
	Di-n-butylphthalate	5 ug/L	None
	Bis(2-ethylhexyl)phthalate	2 ug/L	None
	Pesticides/PCBs	ND	None
WF022	**Client ID:** BKT01001		
	Laboratory ID: RB858001		
	Collection Date: 7/16/96		
	Type: Trip blank		
	Volatiles		
	Acetone	3 ug/L	10U ug/L[1]
WF022	**Client ID:** 17T01101		
	Laboratory ID: RB873001		
	Collection Date: 7/18/96		
	Type: Trip blank		
	Volatiles		
	Acetone	8 ug/L	10U ug/L[1]
WF023	**Client ID:** 01R01101		
	Laboratory ID: RB887005		
	Collection Date: 7/23/96		
	Type: Equipment rinsate		
	Volatiles		
	Acetone	4 ug/L	None
	Semivolatiles		
	Di-n-butylphthalate	6 ug/L	None
	Pesticides/PCBS	ND	None
WF023	**Client ID:** 01T01201		
	Laboratory ID: RB887001		
	Collection Date: 7/22/96		
	Type: Trip blank		
	Volatiles		
	Methylene chloride	2 ug/L	10U ug/L[1]
	Acetone	3 ug/L	10U ug/L[1]

Table IX
Summary of Field Blank Contamination
Groundwater and Subsurface Soil Investigation, Phase IIB
NAS Whiting Field, Milton Florida

Organic Compounds

SDG	Parameter	Concentration	Qualifier
WF023	**Client ID:** 16T01301		
	Laboratory ID: RB887014		
	Collection Date: 7/25/96		
	Type: Trip blank		
	Volatiles		
	Acetone	2 ug/L	None
WF024	**Client ID:** 18T01401		
	Laboratory ID: RB92001		
	Collection Date: 7/29/96		
	Type: Trip blank		
	Volatiles		
	Methylene chloride	2 ug/L	None
	Acetone	4 ug/L	10U ug/L[1]
	Chloroform	1 ug/L	None
WF024	**Client ID:** 15R01201		
	Laboratory ID: RB920005		
	Collection Date: 7/31/96		
	Type: Equipment rinsate		
	Volatiles		
	Acetone	6 ug/L	10U ug/L[1]
	Semivolatiles		
	Di-n-butylphthalate	6 ug/L	None
	Pesticides/PCBs	ND	None
WF025	**Client ID:** 15R01301		
	Laboratory ID: RB956011		
	Collection Date: 8/7/96		
	Type: Equipment rinsate		
	Volatiles	ND	None
	Semivolatiles		
	Di-n-butylphthalate	6 ug/L	None
	Pesticides/PCBs	ND	None
WF025	**Client ID:** 15T01501		
	Laboratory ID: RB956001		
	Collection Date: 8/5/96		
	Type: Trip blank		
	Volatiles		
	Methylene chloride	2 ug/L	None
	Acetone	4 ug/L	None
WF025	**Client ID:** 15T01601		
	Laboratory ID: RB956012		
	Collection Date: 8/8/96		
	Type: Trip blank		
	Volatiles		
	Methylene chloride	1 ug/L	None
	Acetone	2 ug/L	10U ug/L

Table IX
Summary of Field Blank Contamination
Groundwater and Subsurface Soil Investigation, Phase IIB
NAS Whiting Field, Milton Florida

Organic Compounds

SDG	Parameter	Concentration	Qualifier
WF026	**Client ID:** 15T01701		
	Laboratory ID: RB980001		
	Collection Date: 8/12/96		
	Type: Trip blank		
	Volatiles		
	Methylene chloride	1 ug/L	None
WF026	**Client ID:** 16T01801		
	Laboratory ID: RB980015		
	Collection Date: 8/15/96		
	Type: Trip blank		
	Volatiles		
	Methylene chloride	1 ug/L	None
	Acetone	3 ug/L	10U ug/L[1]
WF026	**Client ID:** 15R01401		
	Laboratory ID: RB980012		
	Collection Date: 8/14/96		
	Type: Equipment rinsate		
	Volatiles		
	Acetone	6 ug/L	10U ug/L[1]
	Semivolatiles		
	Di-n-butylphthalate	6 ug/L	None
	Pesticides/PCBS	ND	None
WF027	**Client ID:** 16T01901		
	Laboratory ID: RC016001		
	Collection Date: 8/19/96		
	Type: Trip blank		
	Volatiles		
	Methylene chloride	5 ug/L	None
	Acetone	6 ug/L	None
WF027	**Client ID:** 66T02001		
	Laboratory ID: RC016014		
	Collection Date: 8/22/96		
	Type: Trip blank		
	Volatiles		
	Methylene chloride	3 ug/L	None
WF027	**Client ID:** 16R01501		
	Laboratory ID: RC016012		
	Collection Date: 8/21/96		
	Type: Equipment rinsate		
	Volatiles	ND	None
	Semivolatiles		
	Di-n-butylphthalate	5 ug/L	None
	Pesticides/PCBs	ND	None

Table IX
Summary of Field Blank Contamination
Groundwater and Subsurface Soil Investigation, Phase IIB
NAS Whiting Field, Milton Florida

Organic Compounds

SDG	Parameter	Concentration	Qualifier
WF028	**Client ID:** 11T02201		
	Laboratory ID: RC044008		
	Collection Date: 8/28/96		
	Type: Trip blank		
	Volatiles		
	Methylene chloride	2 ug/L	None
	Acetone	8 ug/L	10U ug/L[1]
WF028	**Client ID:** 10T02101		
	Laboratory ID: RC044001		
	Collection Date: 8/26/96		
	Type: Trip blank		
	Volatiles		
	Methylene chloride	2 ug/L	None
WF028	**Client ID:** 11R01601		
	Laboratory ID: RC044016		
	Collection Date: 8/28/96		
	Type: Equipment rinsate		
	Volatiles		
	Acetone	9 ug/L	10U ug/L[1]
	Semivolatiles		
	Di-n-butylphthalate	5 ug/L	None
	Pesticides/PCBs	ND	None
WF029	**Client ID:** 13R01701		
	Laboratory ID: RC092008		
	Collection Date: 9/11/96		
	Type: Equipment rinsate		
	Volatiles		
	Acetone	3 ug/L	10U ug/L[1]
	Semivolatiles		
	Di-n-butylphthalate	5 ug/L	None
	Bis(2-ethylhexyl)phthalate	1 ug/L	10U ug/L[1]
	Pesticides/PCBs	ND	None
WF029	**Client ID:** 13T02301		
	Laboratory ID: RC092001		
	Collection Date: 9/9/96		
	Type: Trip blank		
	Volatiles		
	Methylene chloride	1 ug/L	None
	Acetone	2 ug/L	10U ug/L[1]
WF029	**Client ID:** 66T02401		
	Laboratory ID: RC092011		
	Collection Date: 9/12/96		
	Type: Trip blank		
	Volatiles		
	Methylene chloride	3 ug/L	None
	Acetone	3 ug/L	10U ug/L[1]

Table IX
Summary of Field Blank Contamination
Groundwater and Subsurface Soil Investigation, Phase IIB
NAS Whiting Field, Milton Florida

Organic Compounds

SDG	Parameter	Concentration	Qualifier
WF030	**Client ID:** 66R01801		
	Laboratory ID: RC121010		
	Collection Date: 9/18/96		
	Type: Equipment rinsate		
	Volatiles		
	Acetone	4 ug/L	None
	Semivolatiles		
	Di-n-butylphthalate	3 ug/L	None
	Bis(2-ethylhexyl)phthalate	1 ug/L	10U ug/L[1]
	Pesticides/PCBs	ND	None
WF030	**Client ID:** 66T02501		
	Laboratory ID: RC121001		
	Collection Date: 9/16/96		
	Type: Trip blank		
	Volatiles		
	Methylene chloride	3 ug/L	None
	Acetone	3 ug/L	10U ug/L[1]
WF030	**Client ID:** 66T02601		
	Laboratory ID: RC121012		
	Collection Date: 9/19/96		
	Type: Trip blank		
	Volatiles		
	Methylene chloride	3 ug/L	None
	Acetone	3 ug/L	None
WF031	**Client ID:** 05T02701		
	Laboratory ID: MB928001		
	Collection Date: 9/23/96		
	Type: Trip blank		
	Volatiles		
	Methylene chloride	2 ug/L	None
WF031	**Client ID:** 33T02801		
	Laboratory ID: MB958001		
	Collection Date: 9/26/96		
	Type: Trip blank		
	Volatiles		
	Methylene chloride	3 ug/L	None
WF031	**Client ID:** 05R01901		
	Laboratory ID: MB928011		
	Collection Date: 9/25/96		
	Type: Equipment rinsate		
	Volatiles	ND	None
	Semivolatiles		
	Di-n-butylphthalate	2 ug/L	10U ug/L[1]
	Pesticides/PCBs	ND	None

Table IX
Summary of Field Blank Contamination
Groundwater and Subsurface Soil Investigation, Phase IIB
NAS Whiting Field, Milton Florida

Organic Compounds

SDG	Parameter	Concentration	Qualifier
WF031B	**Client ID:** 16T04001 **Laboratory ID:** MC447002 **Collection Date:** 11/21/96 **Type:** Trip blank		
	Volatiles	ND	None
WF032	**Client ID:** 06T02901 **Laboratory ID:** MC011001 **Collection Date:** 9/30/96 **Type:** Trip blank		
	Volatiles	ND	None
WF032	**Client ID:** 29T03001 **Laboratory ID:** MC037001 **Collection Date:** 10/3/96 **Type:** Trip blank		
	Volatiles	ND	None
WF032	**Client ID:** 06R02001 **Laboratory ID:** MC011006 **Collection Date:** 10/2/96 **Type:** Equipment rinsate		
	Volatiles	ND	None
	Semivolatiles		
	Di-n-butylphthalate	3 ug/L	10U ug/L[1]
	Pesticides/PCBs	ND	None
WF033	**Client ID:** 29T03101 **Laboratory ID:** MC085001 **Collection Date:** 10/7/96 **Type:** Trip blank		
	Volatiles	ND	None
WF033	**Client ID:** 66T03201 **Laboratory ID:** MC118001 **Collection Date:** 10/10/96 **Type:** Trip blank		
	Volatiles		
	Acetone	26 ug/L	None
WF033	**Client ID:** 66R02101 **Laboratory ID:** MC02101 **Collection Date:** 10/9/96 **Type:** Equipment rinsate		
	Volatiles		
	Methylene chloride	1 ug/L	None
	Semivolatiles		
	Di-n-butylphthalate	6 ug/L	None
	Pesticides/PCBs	ND	None

Table IX
Summary of Field Blank Contamination
Groundwater and Subsurface Soil Investigation, Phase IIB
NAS Whiting Field, Milton Florida

Organic Compounds

SDG	Parameter	Concentration	Qualifier
WF034	**Client ID:** 66T03301 **Laboratory ID:** MC153001 **Collection Date:** 10/14/96 **Type:** Trip blank		
	Volatiles	ND	None
WF034	**Client ID:** 66T03401 **Laboratory ID:** MC176001 **Collection Date:** 10/17/96 **Type:** Trip blank		
	Volatiles	ND	None
WF034	**Client ID:** 66R02201 **Laboratory ID:** MC153007 **Collection Date:** 10/16/96 **Type:** Equipment rinsate		
	Volatiles		
	Toluene	8 ug/L	None
	Ethylbenzene	1 ug/L	None
	Xylenes (total)	2 ug/L	None
	Semivolatiles		
	Di-n-butylphthalate	2 ug/L	None
	Pesticides/PCBs	ND	None
WF035	**Client ID:** 66T03501 **Laboratory ID:** MC214001 **Collection Date:** 10/21/96 **Type:** Trip blank		
	Volatiles	ND	None
WF035	**Client ID:** 66T03601 **Laboratory ID:** MC231001 **Collection Date:** 10/24/96 **Type:** Trip blank		
	Volatiles	ND	None
WF035	**Client ID:** 66R02301 **Laboratory ID:** MC214006 **Collection Date:** 10/23/96 **Type:** Equipment rinsate		
	Volatiles	ND	None
	Semivolatiles		
	Di-n-butylphthalate	3 ug/L	None
	Pesticides/PCBs	ND	None
WF036	**Client ID:** 66T03701 **Laboratory ID:** MC262001 **Collection Date:** 10/28/96 **Type:** Trip blank		
	Volatiles	ND	None

Table IX
Summary of Field Blank Contamination
Groundwater and Subsurface Soil Investigation, Phase IIB
NAS Whiting Field, Milton Florida

Organic Compounds

SDG	Parameter	Concentration	Qualifier
WF036	**Client ID:** 31T03801 **Laboratory ID:** MC284001 **Collection Date:** 10/31/96 **Type:** Trip blank		
	Volatiles	ND	None
WF036	**Client ID:** 54R02401 **Laboratory ID:** MC262007 **Collection Date:** 10/30/96 **Type:** Equipment rinsate		
	Volatiles	ND	None
	Semivolatiles		
	Di-n-butylphthalate	4 ug/L	10U ug/L[1]
	Pesticides/PCBs	ND	ND
WF037	**Client ID:** 15T03901 **Laboratory ID:** MC424001 **Collection Date:** 11/18/96 **Type:** Trip blank		
	Volatiles	ND	None
WF037	**Client ID:** 16T04001 **Laboratory ID:** MC448004 **Collection Date:** 11/21/96 **Type:** Trip blank		
	Volatiles	ND	None
WF037	**Client ID:** 15R02501 **Laboratory ID:** MC424009 **Collection Date:** 11/20/96 **Type:** Equipment rinsate		
	Volatiles	ND	None
WF037	**Client ID:** 15F00201 **Laboratory ID:** MC424010 **Collection Date:** 11/20/96 **Type:** Source blank		
	Volatiles		
	Xylenes (total)	2 ug/L	None
	Semivolatiles		
	Di-n-butylphthalate	4 ug/L	10U ug/L[1]
	Pesticides/PCBs	ND	None
WF038	**Client ID:** 36RO2601 **Laboratory ID:** MC687016 **Collection Date:** 12/18/96 **Type:** Rinsate		
	Volatiles	ND	None

Table IX
Summary of Field Blank Contamination
Groundwater and Subsurface Soil Investigation, Phase IIB
NAS Whiting Field, Milton Florida

Organic Compounds

SDG	Parameter	Concentration	Qualifier
WF038	**Client ID:** 36TO4101 **Laboratory ID:** MC687001 **Collection Date:** 12/17/96 **Type:** Trip Blank		
	Volatiles	ND	None
WF039	**Client ID:** 35TO4201 **Laboratory ID:** MC698001 **Collection Date:** 12/19/97 **Type:** Trip Blank		
	Volatiles	ND	None
WF039	**Client ID:** 35RO2701 **Laboratory ID:** MC698011 **Collection Date:** 12/21/96 **Type:** Equipment rinsate		
	Volatiles	ND	None
WF040	**Client ID:** 35TO4301 **Laboratory ID:** MC783001 **Collection Date:** 1/7/97 **Type:** Trip blank		
	Volatiles		
	Bromomethane	1 ug/L	10U ug/L[1]
WF040	**Client ID:** 37RO2801 **Laboratory ID:** MC783017 **Collection Date:** 1/9/97 **Type:** Equipment rinsate		
	Volatiles		
	Acetone	5 ug/L	10U ug/L[1]
	Carbon disulfide	2 ug/L	None
WF041	**Client ID:** 35T04501 **Laboratory ID:** MD908001 **Collection Date:** 6/11/97 **Type:** Trip blank		
	Volatiles		
	Acetone	6 ug/L	None
WF041	**Client ID:** 37T04601 **Laboratory ID:** MD926001 **Collection Date:** 6/12/97 **Type:** Trip blank		
	Volatiles		
	Methylene chloride	1 ug/L	None
WF041	**Client ID:** 35T04701 **Laboratory ID:** MD950001 **Collection Date:** 6/15/97 **Type:** Trip blank		
	Volatiles		
	Methylene chloride	3 ug/L	None
	Xylene (total)	1 ug/L	None

Table IX
Summary of Field Blank Contamination
Groundwater and Subsurface Soil Investigation, Phase IIB
NAS Whiting Field, Milton Florida

Organic Compounds

SDG	Parameter	Concentration	Qualifier
WF041	**Client ID:** 13T04801		
	Laboratory ID: MD985001		
	Collection Date: 6/16/97		
	Type: Trip blank		
	Volatiles		
	Methylene chloride	2 ug/L	None
	Acetone	6 ug/L	None
WF041	**Client ID:** 35F00301		
	Laboratory ID: MD908002		
	Collection Date: 6/11/97		
	Type: Source blank		
	Semivolatiles		
	Di-n-butylphthalate	3 ug/L	None
	Pesticides & PCBs	**ND**	-
WF041	**Client ID:** 35R03001		
	Laboratory ID: MD908003		
	Collection Date: 6/11/97		
	Type: Equipment rinsate		
	Semivolatiles		
	Di-n-butylphthalate	4 ug/L	None
	Bis(2-ethylhexyl)phthalate	8 ug/L	None
	Pesticides & PCBs	ND	None
WF042	**Client ID:** 05T04901		
	Laboratory ID: ME007001		
	Collection Date: 6/18/97		
	Type: Trip blank		
	Volatiles	ND	None
WF042	**Client ID:** 05T05001		
	Laboratory ID: ME021001		
	Collection Date: 6/20/97		
	Type: Trip blank		
	Volatiles		
	Acetone	2 ug/L	None
WF042	**Client ID:** 05R03101		
	Laboratory ID: ME007006		
	Collection Date: 6/17/97		
	Type: Equipment rinsate		
	Volatiles	ND	None
WF043	**Client ID:** 05R03201		
	Laboratory ID: ME042002		
	Collection Date: 6/23/97		
	Type: Equipment rinsate		
	Volatiles		
	1,2-Dichloropropane	1 ug/L	None

Table IX
Summary of Field Blank Contamination
Groundwater and Subsurface Soil Investigation, Phase IIB
NAS Whiting Field, Milton Florida

Organic Compounds

SDG	Parameter	Concentration	Qualifier
WF043	**Client ID:** 05T05101 **Laboratory ID:** MW042001 **Collection Date:** 6/23/97 **Type:** Trip blank		
	Volatiles	ND	None
WF043	**Client ID:** 33T05201 **Laboratory ID:** MW053001 **Collection Date:** 6/24/97 **Type:** Trip blank		
	Volatiles		
	Acetone	3 ug/L	None
WF043	**Client ID:** 33T05301 **Laboratory ID:** ME073001 **Collection Date:** 6/25/97 **Type:** Trip blank		
	Volatiles	ND	None
WF043	**Client ID:** 30T05401 **Laboratory ID:** ME087001 **Collection Date:** 6/26/97 **Type:** Trip blank		
	Volatiles		
	Acetone	4 ug/L	None
WF044	**Client ID:** 06R03301 **Laboratory ID:** ME100002 **Collection Date:** 6/29/97 **Type:** Equipment rinsate		
	Volatiles		
	Acetone	7 ug/L	None
	Trichloroethene	6 ug/L	None
	Toluene	3 ug/L	None
	Ethylbenzene	1 ug/L	None
	Xylene (total)	2 ug/L	None
WF044	**Client ID:** 06T05501 **Laboratory ID:** ME100001 **Collection Date:** 6/29/97 **Type:** Trip blank		
	Volatiles	ND	None
WF044	**Client ID:** 66T05601 **Laboratory ID:** ME110001 **Collection Date:** 6/30/97 **Type:** Trip blank		
	Volatiles		
	Acetone	5 ug/L	10U ug/L[1]
WF044	**Client ID:** 66T05701 **Laboratory ID:** ME133001 **Collection Date:** 7/2/97 **Type:** Trip blank		
	Volatiles	ND	None

Table IX
Summary of Field Blank Contamination
Groundwater and Subsurface Soil Investigation, Phase IIB
NAS Whiting Field, Milton Florida

Organic Compounds

SDG	Parameter	Concentration	Qualifier
WF044	**Client ID:** 66T05801 **Laboratory ID:** ME135001 **Collection Date:** 7/2/97 **Type:** Trip blank		
	Volatiles		
	Acetone	3 ug/L	10U ug/L[1]
WF045	**Client ID:** OWR03401 **Laboratory ID:** ME149002 **Collection Date:** 7/7/97 **Type:** Equipment rinsate		
	Volatiles		
	Acetone	3 ug/L	10U ug/L[1]
	1,2-Dichloropropane	1 ug/L	None
	Semivolatiles		
	Di-n-butylphthalate	5 ug/L	10U ug/L[1]
	Pesticides & PCBs	ND	None
WF045	**Client ID:** OWT05901 **Laboratory ID:** ME149001 **Collection Date:** 7/7/97 **Type:** Trip blank		
	Volatiles		
	Acetone	2 ug/L	10U ug/L[1]
WF045	**Client ID:** OWT06001 **Laboratory ID:** ME159001 **Collection Date:** 7/8/97 **Type:** Trip blank		
	Volatiles	ND	None
WF045	**Client ID:** 66T06101 **Laboratory ID:** ME175001 **Collection Date:** 7/9/97 **Type:** Trip blank		
	Volatiles		
	Acetone	2 ug/L	10U ug/L[1]
WF045	**Client ID:** OWT06201 **Laboratory ID:** ME190001 **Collection Date:** 7/10/97 **Type:** Trip blank		
	Volatiles	ND	None
WF045	**Client ID:** OWT06401 **Laboratory ID:** ME226001 **Collection Date:** 7/14/97 **Type:** Trip blank		
	Volatiles		
	Acetone	250 ug/L	None

Table IX
Summary of Field Blank Contamination
Groundwater and Subsurface Soil Investigation, Phase IIB
NAS Whiting Field, Milton Florida

Organic Compounds

SDG	Parameter	Concentration	Qualifier
WF045	**Client ID:** OWT06401DL **Laboratory ID:** ME226001DL **Collection Date:** 7/14/97 **Type:** Trip blank		
	Volatiles		
	Acetone	250 ug/L	None
WF046	**Client ID:** 31R03301 **Laboratory ID:** MW241002 **Collection Date:** 7/15/97 **Type:** Equipment rinsate		
	Volatiles		
	1.2-Dichloropropane	1 ug/L	None
	Semivolatiles		
	Di-n-butylphthalate	12 ug/L	12U ug/L[1]
	Pesticides & PCBs	ND	None
WF046	**Client ID:** 31T06501 **Laboratory ID:** ME241001 **Collection Date:** 7/15/97 **Type:** Trip blank		
	Volatiles		
	Acetone	4 ug/L	None
WF046	**Client ID:** 31T06601 **Laboratory ID:** ME261001 **Collection Date:** 7/16/97 **Type:** Trip blank		
	Volatiles		
	Toluene	1 ug/L	None
WF046	**Client ID:** 31T06701 **Laboratory ID:** ME305001 **Collection Date:** 7/21/97 **Type:** Trip blank		
	Volatiles		
	Methylene chloride	1 ug/L	None
WF047	**Client ID:** STOR_BLK **Laboratory ID:** ME243008 **Collection Date:** 7/15/97 **Type:** Storage blank		
	Volatiles	ND	None
WF047	**Client ID:** STOR_BLK2 **Laboratory ID:** ME267008 **Collection Date:** 7/16/97 **Type:** Storage blank		
	Volatiles		
	Acetone	4 ug/L	None
	Toluene	0.4 ug/L	None

Table IX
Summary of Field Blank Contamination
Groundwater and Subsurface Soil Investigation, Phase IIB
NAS Whiting Field, Milton Florida

Organic Compounds

SDG	Parameter	Concentration	Qualifier
WF047	**Client ID:** 39T10001		
	Laboratory ID: ME244001		
	Collection Date: 7/15/97		
	Type: Trip blank		
	Volatiles		
	Carbon disulfide	0.40 ug/L	None
	Toluene	0.50 ug/L	None
WF048	**Client ID:** 39R03401		
	Laboratory ID: ME264009		
	Collection Date: 7/17/97		
	Type: Equipment rinsate		
	Volatiles		
	1,2-Dichloropropane	1 ug/L	None
WF049	**Client ID:** 39T10201		
	Laboratory ID: ME262001		
	Collection Date: 7/15/97		
	Type: Trip blank		
	Volatiles		
	Toluene	0.90 ug/L	None
WF049	**Client ID:** 39T10401		
	Laboratory ID: ME263007		
	Collection Date: 7/17/97		
	Type: Trip blank		
	Volatiles		
	Toluene	0.40 ug/L	None
WF051	**Client ID:** 16R03501		
	Laboratory ID: ME306002		
	Collection Date: 7/21/97		
	Type: Equipment rinsate		
	Volatiles		
	Methylene chloride	1 ug/L	None
WF051	**Client ID:** 16T06801		
	Laboratory ID: ME306001		
	Collection Date: 7/21/97		
	Type: Trip blank		
	Volatiles		
	Methylene chloride	1 ug/L	None
	Acetone	3 ug/L	None
WF051	**Client ID:** 16T06901		
	Laboratory ID: ME322001		
	Collection Date: 7/22/97		
	Type: Trip blank		
	Volatiles	ND	None
WF051	**Client ID:** 16T07001		
	Laboratory ID: ME340001		
	Collection Date: 7/23/97		
	Type: Trip blank		
	Volatiles	ND	None

Table IX
Summary of Field Blank Contamination
Groundwater and Subsurface Soil Investigation, Phase IIB
NAS Whiting Field, Milton Florida

Organic Compounds

SDG	Parameter	Concentration	Qualifier
WF051	**Client ID:** 16T07101 **Laboratory ID:** ME348001 **Collection Date:** 7/25/97 **Type:** Trip blank		
	Volatiles	ND	None
WF052	**Client ID:** STORAGEBLK **Laboratory ID:** ME346008 **Collection Date:** 7/25/97 **Type:** Storage blank		
	Volatiles		
	Methylene chloride	1 ug/L	None
	Acetone	3 ug/L	None
WF052	**Client ID:** 39T10501 **Laboratory ID:** ME346007 **Collection Date:** 7/25/97 **Type:** Trip blank		
	Volatiles	ND	None
WF053	**Client ID:** 15R03701 **Laboratory ID:** ME367002 **Collection Date:** 7/27/97 **Type:** Equipment rinsate		
	Volatiles	ND	None
WF053	**Client ID:** 15T07201 **Laboratory ID:** ME367001 **Collection Date:** 7/27/97 **Type:** Trip blank		
	Volatiles	ND	None
WF053	**Client ID:** 15T07301 **Laboratory ID:** ME377001 **Collection Date:** 7/28/97 **Type:** Trip blank		
	Volatiles	ND	None
WF053	**Client ID:** 15T07401 **Laboratory ID:** ME390001 **Collection Date:** 7/29/97 **Type:** Trip blank		
	Volatiles	ND	None
WF053	**Client ID:** 15T07501 **Laboratory ID:** ME404001 **Collection Date:** 7/30/97 **Type:** Trip blank		
	Volatiles	ND	None
WF054	**Client ID:** 15R03801 **Laboratory ID:** ME441005 **Collection Date:** 8/5/97 **Type:** Equipment rinsate		
	Volatiles	ND	None

Table IX
Summary of Field Blank Contamination
Groundwater and Subsurface Soil Investigation, Phase IIB
NAS Whiting Field, Milton Florida

Organic Compounds

SDG	Parameter	Concentration	Qualifier
WF054	**Client ID:** 30R03901 **Laboratory ID:** ME450002 **Collection Date:** 8/6/97 **Type:** Equipment rinsate		
	Volatiles		
	1,2-Dichloropropane	1 ug/L	None
WF054	**Client ID:** 15T07601 **Laboratory ID:** ME441001 **Collection Date:** 8/4/97 **Type:** Trip blank		
	Volatiles	ND	None
WF054	**Client ID:** 30T07701 **Laboratory ID:** ME450001 **Collection Date:** 8/5/97 **Type:** Trip blank		
	Volatiles	ND	None
WF055	**Client ID:** OWR04101 **Laboratory ID:** MF004002 **Collection Date:** 10/27/97 **Type:** Equipment rinsate		
	Volatiles	ND	None
WF055	**Client ID:** 13R04201 **Laboratory ID:** MF004005 **Collection Date:** 10/28/97 **Type:** Equipment rinsate		
	Volatiles	ND	None
WF055	**Client ID:** OWT08001 **Laboratory ID:** MF004001 **Collection Date:** 10/27/97 **Type:** Trip blank		
	Volatiles	ND	None

[1] = sample result was modified based on an associated method blank concentration.

Note: see detailed data validation report for the discrete qualifiers.

Table X
Summary of Percent Recoveries (%R) and Relative Percent Differences (RPD) for Matrix Spike and Laboratory Duplicate Samples
Groundwater and Subsurface Soil Investigation, Phase IIB
NAS Whiting Field, Milton Florida

Inorganic Analytes

SDG	Client ID	Analyte	Criteria		% Recovery		RPD/Difference	Qualifier
			% Recovery	Difference	MS	MSD		
WF022	BKG00101	Metals	-	-	-	-	-	None
		Cyanide	-	-	-	-	-	None
WF023	02G00301	Metals	-	-	-	-	-	None
		Cyanide	-	-	-	-	-	None
WF024	15G00701	Metals	-	-	-	-	-	None
		Cyanide	-	-	-	-	-	None
WF025	15G00601	Metals	-	-	-	-	-	None
		Cyanide	-	-	-	-	-	None
WF026	15G00803	Metals	-	-	-	-	-	None
		Cyanide	-	-	-	-	-	None
WF027	16G00501	Metals	-	-	-	-	-	None
		Cyanide	-	-	-	-	-	None
WF028	12G00101	Metals	-	-	-	-	-	None
		Cyanide	-	-	-	-	-	None
WF029	14G00101	Metals	-	-	-	-	-	None
		Cyanide	-	-	-	-	-	None
WF030	66G00601	Metals	-	-	-	-	-	None
		Cyanide	-	-	-	-	-	None
WF031	05G01001	Iron	-	±100	-	-	124.8 ug/L	J
		Lead	-	±3.0	-	-	9.2 ug/L	J
		Sodium	-	±5000	-	-	5978 ug/L	J
		Zinc	-	±20.0	-	-	174 ug/L	J
		Cyanide	75-125	-	3.7	-	-	J (det) R (ND)
WF031B	None	Metals	-	-	-	-	-	None
		Cyanide	-	-	-	-	-	None
WF032	29G00501	Metals	-	-	-	-	-	None
		Cyanide	-	-	-	-	-	None
WF033	66G00201	Metals	-	-	-	-	-	None
		Cyanide	-	-	-	-	-	None

Table X
Summary of Percent Recoveries (%R) and Relative Percent Differences (RPD) for Matrix Spike and Laboratory Duplicate Samples
Groundwater and Subsurface Soil Investigation, Phase IIB
NAS Whiting Field, Milton Florida

Inorganic Analytes

SDG	Client ID	Analyte	Criteria		% Recovery		RPD/Difference	Qualifier
			% Recovery	Difference	MS	MSD		
WF034	30G00301	Antimony	75-125	-	126.7	-	-	J (all detects)
		Cyanide	-	-	-	-	-	None
WF035	66G01701	Metals	-	-	-	-	-	None
		Cyanide	-	-	-	-	-	None
WF036	54G00101	Metals	-	-	-	-	-	None
		Cyanide	-	-	-	-	-	None
WF037	15F00201	Metals	-	-	-	-	-	None
		Cyanide	75-125	-	3.7	-	-	J (det) R (ND)
WF041	35G00101	Aluminum	-	≤100	-	-	402 ug/L	J
		Iron	-	≤100	-	-	309 ug/L	J
		Manganese	-	≤10	-	-	75.2 ug/L	J
		Cyanide	-	-	-	-	-	None
WF045	OWG00502	Metals	-	-	-	-	-	None
		Cyanide	-	-	-	-	-	None
WF046	31G00101	Metals	-	-	-	-	-	None
		Cyanide	-	-	-	-	-	None
WF047	39W034	Metals	-	-	-	-	-	None
WF051	None	Metals	-	-	-	-	-	None
WF053	15G00602	Metals	-	-	-	-	-	None
WF054	15G00801	Metals	-	-	-	-	-	None

Table XI
Summary of Relative Percent Differences (RPD) for Original and Field Duplicate Samples
Groundwater and Subsurface Soil Investigation, Phase IIB
NAS Whiting Field, Milton Florida

SDG	Inorganic Analytes			RPD
WF022	**Client ID**	**BKG00101**	**BKG00101D**	
	Laboratory ID	**RB858003**	**RB858004**	
	Collection Date	**7/16/96**	**7/16/96**	
	Aluminum	43.4 ug/L	54.4 ug/L	22
	Barium	15.6 ug/L	15.6 ug/L	0
	Calcium	536 ug/L	558 ug/L	4
	Iron	54.0 ug/L	57.9 ug/L	7
	Lead	ND	0.80 ug/L	Not calculable
	Magnesium	499 ug/L	521 ug/L	4
	Manganese	1.7 ug/L	1.9 ug/L	11
	Selenium	0.67 ug/L	ND	Not calculable
	Sodium	1080 ug/L	1080 ug/L	0
	Zinc	2.4 ug/L	ND	Not calculable
	Cyanide	3.8 ug/L	6.5 ug/L	52
WF022	**Client ID**	**01G00102**	**01G00102D**	
	Laboratory ID	**RB873008**	**RB873009**	
	Collection Date	**7/19/96**	**7/19/96**	
	Aluminum	19.1 ug/L	10.3 ug/L	50
	Barium	15.6 ug/L	15.6 ug/L	0
	Beryllium	0.53 ug/L	ND	Not calculable
	Calcium	5850 ug/L	6250 ug/L	7
	Copper	ND	1.4 ug/L	Not calculable
	Iron	12.2 ug/L	8.8 ug/L	32
	Lead	1.3 ug/L	1.5 ug/L	14
	Magnesium	337 ug/L	331 ug/L	2
	Manganese	6.7 ug/L	9.0 ug/L	29
	Potassium	938 ug/L	842 ug/L	11
	Sodium	2100 ug/L	2070 ug/L	1
	Vanadium	ND	1.6 ug/L	Not calculable
	Zinc	10.2 ug/L	11.4 ug/L	11
	Cyanide	1.9 ug/L	ND	Not calculable
WF023	**Client ID**	**02G00301**	**02G00301D**	
	Laboratory ID	**RB887012**	**RB887013**	
	Collection Date	**7/24/96**	**7/24/96**	
	Aluminum	79.3 ug/L	84.6 ug/L	6
	Barium	128 ug/L	129 ug/L	0.8
	Beryllium	0.39 ug/L	ND	Not calculable
	Calcium	113000 ug/L	113000 ug/L	0
	Iron	36.2 ug/L	38.7 ug/L	7
	Lead	1.4 ug/L	1.3 ug/L	7
	Magnesium	9560 ug/L	9590 ug/L	0.3
	Manganese	13.5 ug/L	13.7 ug/L	1
	Nickel	7.8 ug/L	9.6 ug/L	21
	Potassium	4610 ug/L	4580 ug/L	0.7
	Selenium	1.2 ug/L	0.66 ug/L	58
	Sodium	2200 ug/L	2240 ug/L	2
	Vanadium	3.0 ug/L	2.8 ug/L	7
	Zinc	1.8 ug/L	2.0 ug/L	11
	Cyanide	4.5 ug/L	2.0 ug/L	77

Table XI
Summary of Relative Percent Differences (RPD) for Original and Field Duplicate Samples
Groundwater and Subsurface Soil Investigation, Phase IIB
NAS Whiting Field, Milton Florida

SDG	Inorganic Analytes			RPD
WF024	**Client ID**	**15G00701**	**15G00701D**	
	Laboratory ID	**RB920009**	**RB950010**	
	Collection Date	**7/31/96**	**7/31/96**	
	Aluminum	161 ug/L	173 ug/L	7
	Barium	15.6 ug/L	19.3 ug/L	21
	Calcium	356 ug/L	360 ug/L	1
	Chromium	2.9 ug/L	2.0 ug/L	37
	Iron	183 ug/L	202 ug/L	10
	Lead	0.70 ug/L	0.60 ug/L	15
	Magnesium	433 ug/L	422 ug/L	3
	Manganese	2.8 ug/L	2.6 ug/L	7
	Sodium	1530 ug/L	1610 ug/L	5
	Vanadium	ND	1.2 ug/L	Not calculable
	Zinc	3.4 ug/L	3.6 ug/L	6
	Cyanide	2.6 ug/L	3.2 ug/L	21
WF025	**Client ID**	**15G00601**	**15G00601D**	
	Laboratory ID	**RB956006**	**RB956008**	
	Collection Date	**8/7/96**	**8/7/96**	
	Aluminum	89.4 ug/L	55.8 ug/L	46
	Arsenic	8.0 ug/L	7.8 ug/L	2
	Barium	67.6 ug/L	63.7 ug/L	6
	Calcium	3690 ug/L	3620 ug/L	2
	Iron	31000 ug/L	30500 ug/L	2
	Lead	0.90 ug/L	0.50U ug/L	Not calculable
	Magnesium	1940 ug/L	1900 ug/L	2
	Manganese	139 ug/L	136 ug/L	2
	Potassium	2460 ug/L	2340 ug/L	5
	Sodium	2630 ug/L	2590 ug/L	2
	Zinc	3.4 ug/L	3.3 ug/L	3
	Cyanide	1.5U ug/L	8.1 ug/L	Not calculable
WF026	**Client ID**	**15G00803**	**15G00803D**	
	Laboratory ID	**RB980007**	**RB980008**	
	Collection Date	**8/14/96**	**8/14/96**	
	Aluminum	187 ug/L	146 ug/L	25
	Barium	10.6 ug/L	10.8 ug/L	2
	Calcium	1440 ug/L	1170 ug/L	21
	Chromium	2.9 ug/L	2.0U ug/L	Not calculable
	Cobalt	2.3U ug/L	2.4 ug/L	Not calculable
	Copper	4.0 ug/L	2.4 ug/L	50
	Iron	194 ug/L	175 ug/L	10
	Lead	0.80 ug/L	0.50 ug/L	46
	Magnesium	322 ug/L	296 ug/L	8
	Manganese	33.1 ug/L	32.9 ug/L	0.6
	Potassium	522 ug/L	316U ug/L	Not calculable
	Sodium	5350 ug/L	5380 ug/L	0.6
	Vanadium	2.0 ug/L	1.5 ug/L	29
	Zinc	176 ug/L	178 ug/L	1
	Cyanide	1.6 ug/L	4.2 ug/L	90

Table XI
Summary of Relative Percent Differences (RPD) for Original and Field Duplicate Samples
Groundwater and Subsurface Soil Investigation, Phase IIB
NAS Whiting Field, Milton Florida

SDG	Inorganic Analytes			RPD
WF026	**Client ID**	**16G00403**	**16G00403D**	
	Laboratory ID	**RB980020**	**RB980021**	
	Collection Date	**8/16/96**	**8/16/96**	
	Aluminum	278 ug/L	290 ug/L	4
	Arsenic	1.0 ug/L	0.50U ug/L	Not calculable
	Barium	28.6 ug/L	27.5 ug/L	4
	Calcium	3110 ug/L	3300 ug/L	6
	Chromium	2.3 ug/L	2.9 ug/L	23
	Copper	1.1U ug/L	1.3 ug/L	Not calculable
	Iron	1370 ug/L	879 ug/L	44
	Lead	4.0 ug/L	2.7 ug/L	39
	Magnesium	1320 ug/L	987 ug/L	29
	Manganese	41.3 ug/L	33.5 ug/L	21
	Potassium	540 ug/L	713 ug/L	28
	Sodium	2570 ug/L	2590 ug/L	0.8
	Vanadium	2.2 ug/L	1.2U ug/L	Not calculable
	Zinc	103 ug/L	945 ug/L	161
	Cyanide	2.9 ug/L	1.6 ug/L	58
WF027	**Client ID**	**16G00501**	**16G00501D**	
	Laboratory ID	**RC016009**	**RC016013**	
	Collection Date	**8/21/96**	**8/21/96**	
	Aluminum	12.6 ug/L	16.7 ug/L	28
	Barium	10 ug/L	10 ug/L	0
	Calcium	239 ug/L	234 ug/L	2
	Cobalt	3.2 ug/L	2.3U ug/L	Not calculable
	Iron	9.2 ug/L	5.3 ug/L	54
	Magnesium	276 ug/L	261 ug/L	6
	Manganese	1.0U ug/L	2.1 ug/L	Not calculable
	Sodium	1550 ug/L	1450 ug/L	7
	Zinc	2.6 ug/L	1.6 ug/L	48
WF027	**Client ID**	**09G00301**	**09G00301D**	
	Laboratory ID	**RC016019**	**RC016020**	
	Collection Date	**8/23/96**	**8/23/96**	
	Aluminum	407 ug/L	372 ug/L	9
	Antimony	8.6U ug/L	9.3 ug/L	Not calculable
	Arsenic	2.6 ug/L	2.8 ug/L	7
	Barium	27.1 ug/L	25.8 ug/L	5
	Calcium	15300 ug/L	14600 ug/L	5
	Chromium	4.0 ug/L	2.4 ug/L	50
	Iron	173 ug/L	148 ug/L	16
	Lead	0.50U ug/L	0.60 ug/L	Not calculable
	Magnesium	158 ug/L	160 ug/L	1
	Manganese	1.5 ug/L	1.7 ug/L	12
	Potassium	2390 ug/L	2010 ug/L	17
	Sodium	2070 ug/L	1950 ug/L	6
	Vanadium	16.4 ug/L	14.3 ug/L	14
	Zinc	14.8 ug/L	1.2 ug/L	170

Table XI
Summary of Relative Percent Differences (RPD) for Original and Field Duplicate Samples
Groundwater and Subsurface Soil Investigation, Phase IIB
NAS Whiting Field, Milton Florida

SDG	Inorganic Analytes			RPD
WF028	**Client ID**	**12G00101**	**12G00101D**	
	Laboratory ID	**RC044012**	**RC044017**	
	Collection Date	**8/27/96**	**8/27/96**	
	Aluminum	14.0 ug/L	15.1 ug/L	8
	Barium	14.5 ug/L	14.5 ug/L	0
	Calcium	1840 ug/L	1870 ug/L	2
	Lead	0.60 ug/L	0.50U ug/L	Not calculable
	Magnesium	320 ug/L	327 ug/L	2
	Manganese	1.0U ug/L	1.4 ug/L	Not calculable
	Potassium	2220 ug/L	2290 ug/L	3
	Sodium	2310 ug/L	2360 ug/L	2
	Thallium	0.70 ug/L	0.60U ug/L	Not calculable
	Zinc	6.7 ug/L	5.5 ug/L	20
	Cyanide	1.8U ug/L	2.1 ug/L	Not calculable
WF028	**Client ID**	**11G00201**	**11G00201D**	
	Laboratory ID	**RC044011**	**RC044018**	
	Collection Date	**8/28/96**	**8/28/96**	
	Aluminum	2770 ug/L	2320 ug/L	18
	Arsenic	1.7 ug/L	2.0 ug/L	16
	Barium	50.3 ug/L	51.6 ug/L	3
	Beryllium	0.40 ug/L	0.30U ug/L	Not calculable
	Calcium	35400 ug/L	41800 ug/L	17
	Chromium	20.4 ug/L	19.2 ug/L	6
	Copper	2.0 ug/L	3.1 ug/L	43
	Iron	232 ug/L	337 ug/L	37
	Lead	0.50U ug/L	0.90 ug/L	Not calculable
	Magnesium	388 ug/L	538 ug/L	32
	Manganese	2.2 ug/L	4.8 ug/L	74
	Potassium	12900 ug/L	9610 ug/L	29
	Sodium	3420 ug/L	2950 ug/L	15
	Vanadium	11.0 ug/L	11.0 ug/L	0
	Zinc	3.4 ug/L	24.3 ug/L	151
	Cyanide	1.5U ug/L	3.3 ug/L	Not calculable
WF029	**Client ID**	**14G00101**	**14G00101D**	
	Laboratory ID	**RC092007**	**RC092009**	
	Collection Date	**9/11/96**	**9/11/96**	
	Aluminum	33.1 ug/L	26.5 ug/L	22
	Arsenic	0.50 ug/L	0.50U ug/L	Not calculable
	Barium	22.3 ug/L	22.3 ug/L	0
	Calcium -	3060 ug/L	2870 ug/L	6
	Iron	22.0 ug/L	27.3 ug/L	22
	Lead	1.3 ug/L	0.80 ug/L	48
	Magnesium	702 ug/L	691 ug/L	2
	Manganese	1.9 ug/L	1.9 ug/L	0
	Mercury	0.12 ug/L	0.10U ug/L	Not calculable
	Sodium	1590 ug/L	1570 ug/L	1
	Vanadium	1.2U ug/L	1.4 ug/L	Not calculable
	Zinc	89.5 ug/L	96.8 ug/L	8

Table XI
Summary of Relative Percent Differences (RPD) for Original and Field Duplicate Samples
Groundwater and Subsurface Soil Investigation, Phase IIB
NAS Whiting Field, Milton Florida

SDG	Inorganic Analytes			RPD
WF030	**Client ID**	**66G00601**	**66G00601D**	
	Laboratory ID	**RC121007**	**RC121011**	
	Collection Date	**9/18/96**	**9/18/96**	
	Aluminum	39.9 ug/L	39.7 ug/L	0.5
	Barium	38.1 ug/L	36.2 ug/L	5
	Calcium	863 ug/L	770 ug/L	11
	Copper	1.8 ug/L	1.1U ug/L	**Not calculable**
	Iron	8.2 ug/L	41.9 ug/L	134
	Lead	0.90 ug/L	0.50U ug/L	**Not calculable**
	Magnesium	1130 ug/L	1110 ug/L	2
	Manganese	5.0 ug/L	4.6 ug/L	8
	Potassium	860 ug/L	689 ug/L	22
	Selenium	0.64 ug/L	0.60U ug/L	**Not calculable**
	Sodium	1280 ug/L	1160 ug/L	10
	Zinc	2.9 ug/L	4.8 ug/L	49
WF030	**Client ID**	**66G02203**	**66G02203D**	
	Laboratory ID	**RC121016**	**RC121017**	
	Collection Date	**9/20/96**	**9/20/96**	
	Aluminum	44.0 ug/L	51.9 ug/L	16
	Barium	6.4 ug/L	6.4 ug/L	0
	Calcium	751 ug/L	731 ug/L	3
	Cobalt	2.3U ug/L	2.4 ug/L	Not calculable
	Iron	35.6 ug/L	38.9 ug/L	9
	Magnesium	271 ug/L	242 ug/L	11
	Manganese	9.7 ug/L	9.7 ug/L	0
	Potassium	491 ug/L	316U ug/L	Not calculable
	Sodium	2810 ug/L	2760 ug/L	2
	Zinc	1.2 ug/L	2.2 ug/L	59
	Cyanide	1.8U ug/L	12.0 ug/L	Not calculable
WF031	**Client ID**	**05G01001**	**05G01001D**	
	Laboratory ID	**MB928007**	**MB928012**	
	Collection Date	**9/25/96**	**9/25/96**	
	Barium	27.6 ug/L	27.1 ug/L	2
	Calcium	854 ug/L	803 ug/L	6
	Chromium	0.61 ug/L	0.36 ug/L	52
	Cobalt	0.85 ug/L	0.72 ug/L	17
	Copper	35.6 ug/L	1.7U ug/L	Not calculable
	Iron	40.1 ug/L	31.8U ug/L	Not calculable
	Lead	4.4 ug/L	1.8U ug/L	Not calculable
	Magnesium	874 ug/L	871 ug/L	0.6
	Manganese	3.3 ug/L	2.5 ug/L	28
	Mercury	0.03 ug/L	0.04 ug/L	29
	Nickel	1.4 ug/L	1.4 ug/L	0
	Potassium	3.1U ug/L	825 ug/L	Not calculable
	Selenium	5.4 ug/L	3.9U ug/L	Not calculable
	Sodium	15100 ug/L	14900 ug/L	1
	Thallium	7.4 ug/L	1.9U ug/L	Not calculable
	Vanadium	0.58U ug/L	0.63 ug/L	Not calculable
	Zinc	13.7 ug/L	3.8 ug/L	113

Table XI
Summary of Relative Percent Differences (RPD) for Original and Field Duplicate Samples
Groundwater and Subsurface Soil Investigation, Phase IIB
NAS Whiting Field, Milton Florida

SDG	Inorganic Analytes			RPD
WF031	**Client ID**	**33G00301**	**33G00301D**	
	Laboratory ID	**MB958006**	**MB958007**	
	Collection Date	**9/27/96**	**9/27/96**	
	Aluminum	156	98.7	45
	Antimony	3.5	3.4U	Not calculable
	Barium	59.3	59.9	1
	Calcium	2230	2230	0
	Chromium	0.88	0.34U	Not calculable
	Cobalt	0.70	0.49	35
	Iron	107	50.6	72
	Magnesium	1750	1760	0.6
	Manganese	21.2	21.5	1
	Potassium	31.8	1040	188
	Sodium	5370	5550	3
	Thallium	2.9	3.4	16
	Vanadium	1.0	0.58U	Not calculable
	Zinc	7.4	7.2	3
WF032	**Client ID**	**29G00501**	**29G00501D**	
	Laboratory ID	**MC011007**	**MC011008**	
	Collection Date	**10/2/96**	**10/2/96**	
	Barium	89.7 ug/L	84.2 ug/L	6
	Beryllium	0.14 ug/L	0.19 ug/L	30
	Calcium	1580 ug/L	1470 ug/L	7
	Chromium	2.1 ug/L	2.8 ug/L	29
	Cobalt	0.94 ug/L	0.98 ug/L	4
	Copper	2.7 ug/L	4.4 ug/L	48
	Magnesium	2500 ug/L	2320 ug/L	7
	Manganese	8.4 ug/L	8.0 ug/L	5
	Mercury	0.04 ug/L	0.04 ug/L	0
	Sodium	5040 ug/L	5030 ug/L	0.2
	Zinc	5.1 ug/L	3.8 ug/L	29
	Cyanide	1.0 ug/L	1.2 ug/L	18
WF033	**Client ID**	**66G00201**	**66G00201D**	
	Laboratory ID	**MC118002**	**MC118003**	
	Collection Date	**10/9/96**	**10/9/96**	
	Barium	20.8 ug/L	20.7 ug/L	0.5
	Calcium	3250 ug/L	3100 ug/L	5
	Chromium	0.75 ug/L	0.44 ug/L	52
	Copper	1.7U ug/L	2.7 ug/L	Not calculable
	Iron	73.8 ug/L	31.8U ug/L	Not calculable
	Magnesium	456 ug/L	457 ug/L	0.2
	Manganese	3.4 ug/L	3.2 ug/L	6
	Mercury	0.03 ug/L	0.03 ug/L	0
	Potassium	648 ug/L	1920 ug/L	99
	Sodium	3040 ug/L	3020 ug/L	0.7
	Zinc	3.6 ug/L	6.0 ug/L	50

Table XI
Summary of Relative Percent Differences (RPD) for Original and Field Duplicate Samples
Groundwater and Subsurface Soil Investigation, Phase IIB
NAS Whiting Field, Milton Florida

SDG	Inorganic Analytes			RPD
WF034	**Client ID**	**30G00301**	**30G00301D**	
	Laboratory ID	**MC153005**	**MC153008**	
	Collection Date	**10/16/96**	**10/16/96**	
	Barium	28.0 ug/L	27.8 ug/L	0.7
	Beryllium	0.20 ug/L	0.13U ug/L	Not calculable
	Calcium	1530 ug/L	1480 ug/L	3
	Copper	11.0 ug/L	3.2 ug/L	110
	Iron	626 ug/L	634 ug/L	1
	Lead	3.8 ug/L	2.4 ug/L	45
	Magnesium	642 ug/L	650 ug/L	1
	Manganese	20.7 ug/L	21.0 ug/L	1
	Mercury	0.04 ug/L	0.05 ug/L	22
	Potassium	1880 ug/L	2680 ug/L	35
	Sodium	4600 ug/L	4490 ug/L	2
	Zinc	5.5 ug/L	4.4 ug/L	22
WF035	**Client ID**	**66G01701**	**66G01701D**	
	Laboratory ID	**MC214005**	**MC214007**	
	Collection Date	**10/23/96**	**10/23/96**	
	Aluminum	24.3 ug/L	30.9 ug/L	24
	Barium	10.2 ug/L	10.7 ug/L	5
	Calcium	766 ug/L	816 ug/L	6
	Copper	1.7U ug/L	22.5 ug/L	Not calculable
	Iron	343 ug/L	348 ug/L	1
	Lead	2.0U ug/L	2.6 ug/L	Not calculable
	Magnesium	320 ug/L	324 ug/L	1
	Manganese	4.2 ug/L	5.4 ug/L	25
	Mercury	0.03 ug/L	0.03 ug/L	0
	Selenium	4.0 ug/L	3.9U ug/L	Not calculable
	Sodium	7660 ug/L	7790 ug/L	2
	Zinc	2.5 ug/L	26.3 ug/L	165
WF036	**Client ID**	**54G00101**	**54G00101D**	
	Laboratory ID	**MC262004**	**MC262008**	
	Collection Date	**10/30/96**	**10/30/96**	
	Aluminum	87.6 ug/L	91.6 ug/L	4
	Barium	75.2 ug/L	74.3 ug/L	1
	Beryllium	0.18 ug/L	0.18 ug/L	0
	Calcium	1680 ug/L	1660 ug/L	1
	Chromium	1.2 ug/L	1.0 ug/L	2
	Cobalt	0.90 ug/L	1.4 ug/L	43
	Magnesium	1950 ug/L	1920 ug/L	2
	Manganese	13.9 ug/L	12.9 ug/L	7
	Mercury	0.02 ug/L	0.01U ug/L	Not calculable
	Potassium	2410 ug/L	2530 ug/L	5
	Sodium	2110 ug/L	2070 ug/L	2
	Zinc	4.5 ug/L	3.5 ug/L	25

Table XI
Summary of Relative Percent Differences (RPD) for Original and Field Duplicate Samples
Groundwater and Subsurface Soil Investigation, Phase IIB
NAS Whiting Field, Milton Florida

SDG	Inorganic Analytes			RPD
WF041	**Client ID**	**35G00101**	**35G00101D**	
	Laboratory ID	**MD908004**	**MD908005**	
	Collection Date	**6/11/97**	**6/11/97**	
	Aluminum	47.8 ug/L	45.2 ug/L	6
	Barium	78.8 ug/L	79.0 ug/L	0.2
	Calcium	3150 ug/L	3240 ug/L	3
	Copper	8.2 ug/L	6.8 ug/L	19
	Iron	15.9 ug/L	19.0 ug/L	18
	Lead	1.7 ug/L	0.93U ug/L	Not calculable
	Magnesium	2340 ug/L	2370 ug/L	1
	Manganese	28.7 ug/L	28.9 ug/L	0.7
	Sodium	4330 ug/L	4430 ug/L	2
	Thallium	1.9 ug/L	0.89U ug/L	Not calculable
	Zinc	12.1 ug/L	130 ug/L	166
	Cyanide	ND	ND	-
WF041	**Client ID**	**35G00202**	**35G00202D**	
	Laboratory ID	**MD950002**	**MD950003**	
	Collection Date	**6/15/97**	**6/15/97**	
	Aluminum	65.0 ug/L	50.7 ug/L	25
	Barium	24.8 ug/L	25.3 ug/L	2
	Calcium	973 ug/L	1030 ug/L	6
	Copper	5.6 ug/L	3.5 ug/L	46
	Iron	180 ug/L	196 ug/L	8
	Lead	0.93U ug/L	1.9 ug/L	Not calculable
	Magnesium	813 ug/L	819 ug/L	0.7
	Manganese	9.5 ug/L	9.3 ug/L	2
	Selenium	1.8U ug/L	2.6 ug/L	Not calculable
	Sodium	20900 ug/L	21700 ug/L	4
	Thallium	1.0 ug/L	0.89U ug/L	Not calculable
	Zinc	18.7 ug/L	15.4 ug/L	19
	Cyanide	ND	ND	-
WF045	**Client ID**	**OWG00502**	**OWG00502D**	
	Laboratory ID	**ME149004**	**ME149005**	
	Collection Date	**7/8/97**	**7/8/97**	
	Aluminum	175 ug/L	160 ug/L	9
	Barium	7.3 ug/L	7.1 ug/L	3
	Calcium	648 ug/L	585 ug/L	10
	Copper	2.9 ug/L	4.4 ug/L	41
	Iron	106 ug/L	97.1 ug/L	9
	Magnesium	308 ug/L	317 ug/L	3
	Manganese	3.3 ug/L	3.5 ug/L	6
	Nickel	7.8 ug/L	7.7U ug/L	Not calculable
	Sodium	1990 ug/L	2060 ug/L	3
	Zinc	4.5 ug/L	4.7 ug/L	4
	Cyanide	ND	ND	-

Table XI
Summary of Relative Percent Differences (RPD) for Original and Field Duplicate Samples
Groundwater and Subsurface Soil Investigation, Phase IIB
NAS Whiting Field, Milton Florida

SDG	Inorganic Analytes			RPD
WF045	**Client ID**	**OWG00302**	**OWG00302D**	
	Laboratory ID	**ME190002**	**ME190003**	
	Collection Date	**7/10/97**	**7/10/97**	
	Aluminum	31.5 ug/L	16.6U ug/L	Not calculable
	Barium	10.2 ug/L	10.5 ug/L	3
	Calcium	460 ug/L	454 ug/L	1
	Iron	83.3 ug/L	51.1 ug/L	48
	Lead	1.9 ug/L	1.2U ug/L	Not calculable
	Magnesium	286 ug/L	300 ug/L	5
	Manganese	3.0 ug/L	3.0 ug/L	0
	Sodium	1670 ug/L	1670 ug/L	0
	Zinc	3.4 ug/L	3.8 ug/L	11
	Cyanide	ND	ND	-
WF046	**Client ID**	**31G00101**	**31G00101D**	
	Laboratory ID	**ME241003**	**ME241004**	
	Collection Date	**7/15/97**	**7/15/97**	
	Aluminum	96.0 ug/L	91.1 ug/L	5
	Barium	22.6 ug/L	22.5 ug/L	0.4
	Calcium	857 ug/L	851 ug/L	0.7
	Copper	1.3U ug/L	1.4 ug/L	Not calculable
	Iron	120 ug/L	103 ug/L	15
	Magnesium	662 ug/L	675 ug/L	2
	Manganese	9.7 ug/L	9.9 ug/L	2
	Potassium	1910 ug/L	2200 ug/L	15
	Sodium	1760 ug/L	1890 ug/L	7
	Vanadium	1.8 ug/L	1.7U ug/L	Not calculable
	Zinc	3.5 ug/L	9.8 ug/L	95
	Cyanide	ND	ND	-
WF047	**Client ID**	**39W034**	**39W034D**	
	Laboratory ID	**ME243005**	**ME243006**	
	Collection Date	**7/15/97**	**7/15/97**	
	Aluminum	94.0 ug/L	76.3 ug/L	21
	Barium	22.9 ug/L	22.8 ug/L	0.4
	Calcium	1030 ug/L	1010 ug/L	2
	Copper	8.2 ug/L	1.3U ug/L	Not calculable
	Iron	747 ug/L	751 ug/L	0.5
	Magnesium	871 ug/L	854 ug/L	2
	Manganese	12.5 ug/L	12.6 ug/L	0.8
	Sodium	2210 ug/L	2090 ug/L	6
	Zinc	14.7 ug/L	3.0 ug/L	132
WF051	**Client ID**	**16G00101**	**16G00101D**	
	Laboratory ID	**ME340009**	**ME340010**	
	Collection Date	**7/24/97**	**7/24/97**	
	Barium	20.5 ug/L	20.7 ug/L	1
	Calcium	514 ug/L	520 ug/L	1
	Copper	1.7 ug/L	1.7 ug/L	0
	Iron	11.2 ug/L	14.7 ug/L	27
	Magnesium	617 ug/L	623 ug/L	1
	Manganese	3.2 ug/L	3.0 ug/L	6
	Sodium	2130 ug/L	2110 ug/L	1
	Zinc	3.2 ug/L	8.2 ug/L	88

Table XI
Summary of Relative Percent Differences (RPD) for Original and Field Duplicate Samples
Groundwater and Subsurface Soil Investigation, Phase IIB
NAS Whiting Field, Milton Florida

SDG	Inorganic Analytes			RPD
WF053	**Client ID**	**15G00602**	**15G00602D**	
	Laboratory ID	**ME367004**	**ME367005**	
	Collection Date	**7/27/97**	**7/27/97**	
	Aluminum	16.6U ug/L	29.9 ug/L	Not calculable
	Barium	13.0 ug/L	13.0 ug/L	0
	Calcium	676 ug/L	675 ug/L	0.1
	Chromium	3.3 ug/L	4.2 ug/L	24
	Iron	33.8 ug/L	92.6 ug/L	93
	Magnesium	504 ug/L	490 ug/L	3
	Manganese	2.3 ug/L	2.7 ug/L	16
	Sodium	2870 ug/L	2740 ug/L	5
	Zinc	3.1 ug/L	3.4 ug/L	9
WF053	**Client ID**	**15G00703**	**15G00703D**	
	Laboratory ID	**ME404003**	**ME404004**	
	Collection Date	**7/30/97**	**7/30/97**	
	Aluminum	43.6 ug/L	108 ug/L	14
	Antimony	17.3U ug/L	21.2 ug/L	Not calculable
	Barium	6.6 ug/L	6.2 ug/L	6
	Calcium	587 ug/L	549 ug/L	7
	Chromium	10.6 ug/L	13.4 ug/L	23
	Copper	2.9 ug/L	4.5 ug/L	43
	Iron	107 ug/L	115 ug/L	7
	Lead	0.93U ug/L	5.1 ug/L	Not calculable
	Magnesium	280 ug/L	266 ug/L	5
	Manganese	6.9 ug/L	6.5 ug/L	6
	Nickel	10.9 ug/L	20.3 ug/L	60
	Sodium	2040 ug/L	1820 ug/L	11
	Zinc	5.2 ug/L	6.1 ug/L	16
WF054	**Client ID**	**15G00801**	**15G00801D**	
	Laboratory ID	**ME441002**	**ME441003**	
	Collection Date	**8/4/97**	**8/4/97**	
	Aluminum	143 ug/L	116 ug/L	21
	Arsenic	2.0 ug/L	1.1U ug/L	Not calculable
	Barium	34.7 ug/L	37.3 ug/L	7
	Calcium	1870 ug/L	2010 ug/L	7
	Copper	5.2 ug/L	2.6 ug/L	67
	Iron	4760 ug/L	4940 ug/L	4
	Magnesium	1370 ug/L	1470 ug/L	7
	Manganese	84.6 ug/L	91.4 ug/L	8
	Mercury -	0.04U ug/L	0.07 ug/L	Not calculable
	Sodium	1830 ug/L	1960 ug/L	7
	Thallium	0.89U ug/L	0.90 ug/L	Not calculable
	Zinc	8.5 ug/L	6.6 ug/L	25

Table XII
Summary of Analytes Exceeding Instrument Calibration
Groundwater and Subsurface Soil Investigation, Phase IIB
NAS Whiting Field, Milton Florida

Inorganic Analytes

SDG	Date	Analyte	Initial Calibration r	Continuing Calibration %R	Qualifier
WF022	All	Metals Cyanide	- -	- -	None None
WF023	All	Metals Cyanide	- -	- -	None None
WF024	All	Metals Cyanide	- -	- -	None None
WF025	All	Metals Cyanide	- -	- -	None None
WF026	All	Metals Cyanide	- -	- -	None None
WF027	All	Metals Cyanide	- -	- -	None None
WF028	All	Metals Cyanide	- -	- -	None None
WF029	All	Metals Cyanide	- -	- -	None None
WF030	All	Metals Cyanide	- -	- -	None None
WF031	All	Metals Cyanide	- -	- -	None None
WF031B	All	Metals Cyanide	- -	- -	None None
WF032	All	Metals Cyanide	- -	- -	None None
WF033	All	Metals Cyanide	- -	- -	None None
WF034	All	Metals Cyanide	- -	- -	None None
WF035	All	Metals Cyanide	- -	- -	None None
WF036	All	Metals Cyanide	- -	- -	None None
WF037	All	Metals Cyanide	- -	- -	None None
WF041	All	Metals Cyanide	- -	- -	None None
WF045	All	Metals Cyanide	- -	- -	None None
WF046	All	Metals Cyanide	- -	- -	None None
WF047	All	Metals	-	-	None
WF051	All	Metals	-	-	None

Table XII
Summary of Analytes Exceeding Instrument Calibration
Groundwater and Subsurface Soil Investigation, Phase IIB
NAS Whiting Field, Milton Florida

Inorganic Analytes					
SDG	Date	Analyte	Initial Calibration r	Continuing Calibration %R	Qualifier
WF053	All	Metals	-	-	None
WF054	All	Metals	-	-	None

Notes: r = correlation coefficient for initial calibrations

%R = percent recovery for continuing calibrations

J = the analyte was positively identified: the associated numerical value is the approximate concentration of the analyte in the sample because QC criteria were not met (validation "J").

UJ = the analyte was not detected above the reported sample IDL. However, the reported sample is approximate: the analyte concentration may not reliably be presumed to be less than the IDL value.

R = the sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

Table XIII
Summary of Method Blank Contamination
Groundwater and Subsurface Soil Investigation, Phase IIB
NAS Whiting Field, Milton Florida

Inorganic Analytes			
SDG	**Analyte**	**Concentration**	**Associated Samples**
WF022	Aluminum	6.240 ug/L	All samples in SDG WF022
	Iron	12.320 ug/L	
	Lead	0.500 ug/L	
	Sodium	38.890 ug/L	
	Zinc	3.660 ug/L	
WF023	Arsenic	-0.500 ug/L	All samples in SDG WF023
	Iron	5.980 ug/L	
	Lead	1.200 ug/L	
	Sodium	34.400 ug/L	
	Zinc	1.200 ug/L	
WF024	Aluminum	10.600 ug/L	All samples in SDG WF024
	Iron	13.190 ug/L	
	Lead	0.500 ug/L	
	Sodium	37.550 ug/L	
WF025	Aluminum	13.650 ug/L	All samples in SDG WF025
	Beryllium	-0.320 ug/L	
	Iron	7.390 ug/L	
	Selenium	0.650 ug/L	
	Zinc	1.610 ug/L	
WF026	Aluminum	17.380 ug/L	All samples in SDG WF026
	Calcium	119.520 ug/L	
	Iron	10.050 ug/L	
	Magnesium	22.940 ug/L	
	Mercury	0.140 ug/L	
	Sodium	41.280 ug/L	
	Zinc	2.510 ug/L	
	Mercury	0.20 ug/L	All samples in SDG WF026
WF027	Aluminum	18.000 ug/L	All samples in SDG WF027
	Antimony	9.280 ug/L	
	Arsenic	0.500 ug/L	
	Calcium	94.550 ug/L	
	Sodium	28.990 ug/L	
	Vanadium	1.280 ug/L	
	Mercury	0.21 ug/L	All samples in SDG WF027
WF028	Aluminum	51.600 ug/L	All samples in SDG WF028
	Antimony	-10.930 ug/L	
	Calcium	113.470 ug/L	
	Magnesium	45.540 ug/L	
	Mercury	0.140 ug/L	
	Potassium	498.120 ug/L	
	Sodium	43.870 ug/L	
	Zinc	1.230 ug/L	

Table XIII
Summary of Method Blank Contamination
Groundwater and Subsurface Soil Investigation, Phase IIB
NAS Whiting Field, Milton Florida

Inorganic Analytes

SDG	Analyte	Concentration	Associated Samples
WF029	Aluminum	10.6 ug/L	All samples in SDG WF029
	Barium	3.0 ug/L	
	Cobalt	2.7 ug/L	
	Iron	21.4 ug/L	
	Vanadium	1.4 ug/L	
	Cobalt	2.7 ug/L	All samples in SDG WF029
	Vanadium	1.6 ug/L	
	Mercury	-0.1 ug/L	All samples in SDG WF029
	Iron	5.3 ug/L	All samples in SDG WF029
	Vanadium	1.6 ug/L	
	Calcium	153.810 ug/L	All samples in SDG WF029
	Cobalt	2.390 ug/L	
	Iron	11.590 ug/L	
	Sodium	37.260 ug/L	
	Zinc	1.630 ug/L	
WF030	Calcium	59.580 ug/L	All samples in SDG WF030
	Iron	6.080 ug/L	
	Sodium	54.620 ug/L	
WF031	Mercury	0.030 ug/L	All samples in SDG WF031
	Potassium	-617.8 ug/L	
	Silver	-1.2 ug/L	
	Thallium	3.3 ug/L	
	Mercury	0.047 ug/L	All samples in SDG WF031
	Potassium	34.4 ug/L	
	Silver	-1.6 ug/L	
	Thallium	3.7 ug/L	
	Mercury	0.055 ug/L	All samples in SDG WF031
	Potassium	542.9 ug/L	
	Silver	-1.4 ug/L	
	Mercury	0.070 ug/L	All samples in SDG WF031
	Potassium	-21.4 ug/L	
	Silver	-1.3 ug/L	
	Thallium	3.5 ug/L	
	Mercury	0.047 ug/L	All samples in SDG WF031
	Potassium	-411.210 ug/L	
	Mercury	0.085 ug/L	All samples in SDG WF031
	Potassium	955.8 ug/L	
	Silver	-2.5 ug/L	
	Thallium	3.2 ug/L	
	Mercury	0.127 ug/L	All samples in SDG WF031
	Mercury	0.130 ug/L	All samples in SDG WF031
	Mercury	-0.030 ug/L	All samples in SDG WF031
	Potassium	-335.53 ug/L	
	Silver	-1.420 ug/L	

Table XIII
Summary of Method Blank Contamination
Groundwater and Subsurface Soil Investigation, Phase IIB
NAS Whiting Field, Milton Florida

Inorganic Analytes

SDG	Analyte	Concentration	Associated Samples
WF031 cont.	Arsenic	-6.4 ug/L	All samples in SDG WF031
	Chromium	-0.4 ug/L	
	Mercury	0.034 ug/L	
	Potassium	171.0 ug/L	
	Thallium	5.1 ug/L	
	Vanadium	1.4 ug/L	
	Mercury	0.016 ug/L	All samples in SDG WF031
	Potassium	342.4 ug/L	
	Silver	-1.2 ug/L	
	Thallium	5.2 ug/L	
	Vanadium	0.8 ug/L	
	Chromium	-0.7 ug/L	All samples in SDG WF031
	Mercury	0.011 ug/L	
	Potassium	308.7 ug/L	
	Thallium	6.2 ug/L	
	Vanadium	0.7 ug/L	
	Barium	-0.2 ug/L	All samples in SDG WF031
	Chromium	-0.6 ug/L	
	Mercury	-0.021 ug/L	
	Potassium	377.6 ug/L	
	Thallium	7.2 ug/L	
	Mercury	0.014 ug/L	All samples in SDG WF031
	Arsenic	-6.7 ug/L	All samples in SDG WF031
	Barium	-0.2 ug/L	
	Chromium	-0.8 ug/L	
	Mercury	-0.032 ug/L	
	Nickel	-1.4 ug/L	
	Potassium	441.5 ug/L	
	Thallium	5.7 ug/L	
	Vanadium	0.6 ug/L	
WF031B	Copper	604 ug/L	All samples in SDG WF031B
	Aluminum	-19.5 ug/L	All samples in SDG WF031B
	Barium	0.4 ug/L	
	Copper	4.4 ug/L	
	Manganese	0.4 ug/L	
	Barium	0.4 ug/L	All samples in SDG WF031B
	Copper	6.6 ug/L	
	Iron	3.5 ug/L	
	Mercury	0.0 ug/L	
	Nickel	9.5 ug/L	
	Sodium	10.6 ug/L	
	Barium	25.130 ug/L	All samples in SDG WF031B
	Beryllium	-0.830 ug/L	
	Calcium	129.890 ug/L	
	Copper	8.310 ug/L	
	Iron	8.680 ug/L	
	Magnesium	25.430 ug/L	
	Manganese	0.490 ug/L	
	Silver	2.970 ug/L	
	Sodium	84.450 ug/L	
	Vanadium	2.060 ug/L	
	Zinc	3.100 ug/L	
	Cyanide	-0.981 ug/L	

Table XIII
Summary of Method Blank Contamination
Groundwater and Subsurface Soil Investigation, Phase IIB
NAS Whiting Field, Milton Florida

Inorganic Analytes			
SDG	**Analyte**	**Concentration**	**Associated Samples**
WF032	Copper	4.5 ug/L	All samples in SDG WF032
	Manganese	0.5 ug/L	
	Mercury	0.0242 ug/L	
	Potassium	-1595.8 ug/L	
	Beryllium	0.2 ug/L	All samples in SDG WF032
	Cobalt	0.3 ug/L	
	Copper	5.5 ug/L	
	Manganese	0.7 ug/L	
	Mercury	0.0265 ug/L	
	Sodium	17.3 ug/L	
	Beryllium	0.2 ug/L	All samples in SDG WF032
	Copper	4.9 ug/L	
	Manganese	0.6 ug/L	
	Mercury	0.0255 ug/L	
	Potassium	1914.8 ug/L	
	Sodium	11.6 ug/L	
	Beryllium	0.2 ug/L	All samples in SDG WF032
	Copper	5.6 ug/L	
	Manganese	0.6 ug/L	
	Mercury	-0.0178 ug/L	
	Sodium	17.4 ug/L	
	Barium	1.210 ug/L	All samples in SDG WF032
	Chromium	2.750 ug/L	
	Copper	3.390 ug/L	
	Manganese	0.410 ug/L	
	Mercury	0.015 ug/L	
	Sodium	856.490 ug/L	
	Zinc	2.310 ug/L	
	Barium	0.3 ug/L	All samples in SDG WF032
	Beryllium	0.1 ug/L	
	Cobalt	0.4 ug/L	
	Copper	5.8 ug/L	
	Manganese	0.2 ug/L	
	Barium	0.3 ug/L	All samples in SDG WF032
	Beryllium	0.1 ug/L	
	Copper	5.8 ug/L	
	Manganese	0.4 ug/L	
	Mercury	-0.0874 ug/L	
	Nickel	2.0 ug/L	
	Sodium	11.5 ug/L	
	Barium	0.2 ug/L	All samples in SDG WF032
	Beryllium	0.1 ug/L	
	Copper	5.6 ug/L	
	Manganese	0.5 ug/L	
	Thallium	2.6 ug/L	
	Barium	0.3 ug/L	All samples in SDG WF032
	Beryllium	0.3 ug/L	
	Cobalt	0.6 ug/L	
	Copper	7.0 ug/L	
	Manganese	0.8 ug/L	
	Nickel	1.4 ug/L	
	Thallium	4.3 ug/L	

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Summary of Method Blank Contamination
Groundwater and Subsurface Soil Investigation, Phase IIB
NAS Whiting Field, Milton Florida

Inorganic Analytes

SDG	Analyte	Concentration	Associated Samples
WF032 cont.	Aluminum	107.660 ug/L	All samples in SDG WF032
	Antimony	4.320 ug/L	
	Barium	1.760 ug/L	
	Cadmium	1.660 ug/L	
	Calcium	105.840 ug/L	
	Cobalt	0.430 ug/L	
	Copper	12.450 ug/L	
	Iron	54.350 ug/L	
	Magnesium	103.090 ug/L	
	Manganese	0.280 ug/L	
	Sodium	154.770 ug/L	
	Zinc	9.120 ug/L	
	Antimony	4.3 ug/L	All samples in SDG WF032
	Barium	0.4 ug/L	
	Beryllium	0.3 ug/L	
	Copper	5.2 ug/L	
	Manganese	0.6 ug/L	
	Sodium	10.2 ug/L	All samples in SDG WF032
WF033	Barium	0.3 ug/L	All samples in SDG WF033
	Beryllium	0.1 ug/L	
	Cobalt	0.4 ug/L	
	Copper	5.8 ug/L	
	Manganese	0.2 ug/L	
	Mercury	0.07 ug/L	
	Potassium	-1595.8 ug/L	
	Barium	0.3 ug/L	All samples in SDG WF033
	Beryllium	0.1 ug/L	
	Copper	5.8 ug/L	
	Manganese	0.4 ug/L	
	Mercury	0.04 ug/L	
	Potassium	655.4 ug/L	
	Barium	0.2 ug/L	All samples in SDG WF033
	Beryllium	0.1 ug/L	
	Copper	5.6 ug/L	
	Manganese	0.5 ug/L	
	Mercury	0.05 ug/L	
	Potassium	1914.8 ug/L	
	Thallium	2.6 ug/L	
	Barium	0.3 ug/L	All samples in SDG WF033
	Beryllium	0.3 ug/L	
	Cobalt	0.6 ug/L	
	Copper	7.0 ug/L	
	Manganese	0.8 ug/L	
	Potassium	425.8 ug/L	
	Thallium	4.3 ug/L	
	Aluminum	164.460 ug/L	All samples in SDG WF033
	Barium	1.220 ug/L	
	Calcium	107.040 ug/L	
	Copper	2.900 ug/L	
	Iron	33.430 ug/L	
	Magnesium	82.790 ug/L	
	Manganese	0.330 ug/L	
	Potassium	1602.780 ug/L	
	Sodium	221.450 ug/L	
	Zinc	1.660 ug/L	

Table XIII
Summary of Method Blank Contamination
Groundwater and Subsurface Soil Investigation, Phase IIB
NAS Whiting Field, Milton Florida

Inorganic Analytes			
SDG	**Analyte**	**Concentration**	**Associated Samples**
WF033 cont.	Mercury	0.06 ug/L	All samples in SDG WF033
	Barium	0.4 ug/L	All samples in SDG WF033
	Beryllium	0.3 ug/L	
	Copper	5.2 ug/L	
	Manganese	0.6 ug/L	
	Mercury	0.05 ug/L	
	Potassium	163.8 ug/L	
	Antimony	4.810 ug/L	All samples in SDG WF033
	Barium	0.460 ug/L	
	Copper	2.870 ug/L	
	Manganese	0.330 ug/L	
	Potassium	509.990 ug/L	
	Sodium	137.200 ug/L	
	Zinc	3.200 ug/L	
	Barium	0.8 ug/L	All samples in SDG WF033
	Beryllium	0.6 ug/L	
	Cadmium	0.8 ug/L	
	Chromium	0.9 ug/L	
	Cobalt	1.1 ug/L	
	Manganese	1.0 ug/L	
	Potassium	1734.0 ug/L	
	Thallium	2.4 ug/L	
	Vanadium	1.1 ug/L	
	Barium	1.2 ug/L	All samples in SDG WF033
	Beryllium	0.8 ug/L	
	Cadmium	0.9 ug/L	
	Chromium	1.2 ug/L	
	Cobalt	1.1 ug/L	
	Manganese	1.3 ug/L	
	Potassium	1605.5 ug/L	
	Thallium	3.4 ug/L	
	Vanadium	1.8 ug/L	
	Barium	1.1 ug/L	All samples in SDG WF033
	Beryllium	0.8 ug/L	
	Cadmium	0.8 ug/L	
	Chromium	1.1 ug/L	
	Cobalt	1.1 ug/L	
	Manganese	1.2 ug/L	
	Potassium	768.8 ug/L	
	Thallium	3.2 ug/L	
	Vanadium	1.7 ug/L	
	Barium	0.7 ug/L	All samples in SDG WF033
	Beryllium	0.7 ug/L	
	Cadmium	0.6 ug/L	
	Chromium	0.9 ug/L	
	Cobalt	0.8 ug/L	
	Manganese	1.0 ug/L	
	Potassium	314.6 ug/L	
	Vanadium	1.2 ug/L	

Table XIII
Summary of Method Blank Contamination
Groundwater and Subsurface Soil Investigation, Phase IIB
NAS Whiting Field, Milton Florida

Inorganic Analytes

SDG	Analyte	Concentration	Associated Samples
WF033 cont.	Barium	1.0 ug/L	All samples in SDG WF033
	Beryllium	0.6 ug/L	
	Cadmium	0.6 ug/L	
	Chromium	0.9 ug/L	
	Cobalt	1.0 ug/L	
	Manganese	1.0 ug/L	
	Potassium	684.9 ug/L	
	Thallium	2.2 ug/L	
	Vanadium	1.2 ug/L	
	Barium	0.9 ug/L	All samples in SDG WF033
	Beryllium	0.7 ug/L	
	Cadmium	0.7 ug/L	
	Chromium	0.9 ug/L	
	Cobalt	1.0 ug/L	
	Manganese	1.0 ug/L	
	Potassium	722.1 ug/L	
	Thallium	3.4 ug/L	
	Vanadium	1.2 ug/L	
WF034	Copper	5.8 ug/L	All samples in SDG WF034
	Mercury	0.023 ug/L	
	Copper	5.8 ug/L	All samples in SDG WF034
	Manganese	0.4 ug/L	
	Mercury	0.017 ug/L	
	Beryllium	0.1 ug/L	All samples in SDG WF034
	Copper	5.6 ug/L	
	Manganese	0.5 ug/L	
	Mercury	0.030 ug/L	
	Beryllium	0.3 ug/L	All samples in SDG WF034
	Copper	7.0 ug/L	
	Manganese	0.8 ug/L	
	Mercury	0.042 ug/L	
	Sodium	10.2 ug/L	
	Barium	0.460 ug/L	66G02001
	Copper	2.870 ug/L	66G00302
	Sodium	137.200 ug/L	66G01801
	Zinc	3.200 ug/L	30G00301
	Cyanide	-1.327 ug/L	30G00401
			66R02201
			30G00301D
	Mercury	0.024 ug/L	All samples in SDG WF034
	Beryllium	0.3 ug/L	All samples in SDG WF034
	Copper	5.2 ug/L	
	Manganese	0.6 ug/L	
	Mercury	0.026 ug/L	
	Mercury	0.040 ug/L	All samples in SDG WF034
	Mercury	0.033 ug/L	All samples in SDG WF034

Table XIII
Summary of Method Blank Contamination
Groundwater and Subsurface Soil Investigation, Phase IIB
NAS Whiting Field, Milton Florida

Inorganic Analytes

SDG	Analyte	Concentration	Associated Samples
WF034 cont.	Arsenic	-13.610 ug/L	66G01101
	Barium	1.700 ug/L	66G01301
	Beryllium	-0.710 ug/L	66G00501
	Calcium	108.610 ug/L	66G00501F
	Copper	1.700 ug/L	
	Lead	-8.620 ug/L	
	Manganese	0.790 ug/L	
	Selenium	10.810 ug/L	
	Sodium	70.400 ug/L	
	Zinc	3.200 ug/L	
	Beryllium	0.2 ug/L	All samples in SDG WF034
	Silver	3.3 ug/L	
	Sodium	11.9 ug/L	
	Beryllium	0.2 ug/L	All samples in SDG WF034
	Manganese	0.4 ug/L	
	Silver	2.2 ug/L	
	Sodium	12.2 ug/L	
	Beryllium	0.5 ug/L	All samples in SDG WF034
	Copper	1.9 ug/L	
	Manganese	0.6 ug/L	
	Sodium	20.0 ug/L	
	Beryllium	0.1 ug/L	All samples in SDG WF034
	Silver	2.6 ug/L	
	Sodium	17.3 ug/L	
	Beryllium	0.2 ug/L	All samples in SDG WF034
	Manganese	0.4 ug/L	
	Sodium	9.7 ug/L	
WF035	Barium	0.8 ug/L	All samples in SDG WF035
	Beryllium	0.6 ug/L	
	Manganese	1.0 ug/L	
	Mercury	0.0239 ug/L	
	Thallium	2.4 ug/L	
	Barium	1.2 ug/L	All samples in SDG WF035
	Beryllium	0.8 ug/L	
	Manganese	1.3 ug/L	
	Mercury	0.0256 ug/L	
	Thallium	3.4 ug/L	
	Barium	1.1 ug/L	All samples in SDG WF035
	Beryllium	0.8 ug/L	
	Manganese	1.2 ug/L	
	Mercury	0.0401 ug/L	
	Thallium	3.2 ug/L	
	Barium	0.7 ug/L	All samples in SDG WF035
	Beryllium	0.7 ug/L	
	Manganese	1.0 ug/L	
	Mercury	0.334 ug/L	
	Aluminum	101.120 ug/L	All samples in SDG WF035
	Barium	0.410 ug/L	
	Iron	56.400 ug/L	
	Manganese	0.430 ug/L	
	Sodium	152.450 ug/L	
	Zinc	2.190 ug/L	

Table XIII
Summary of Method Blank Contamination
Groundwater and Subsurface Soil Investigation, Phase IIB
NAS Whiting Field, Milton Florida

Inorganic Analytes

SDG	Analyte	Concentration	Associated Samples
WF035 cont.	Barium	1.0 ug/L	All samples in SDG WF035
	Beryllium	0.6 ug/L	
	Manganese	1.0 ug/L	
	Mercury	0.0250 ug/L	
	Thallium	2.2 ug/L	
	Barium	0.9 ug/L	All samples in SDG WF035
	Beryllium	0.7 ug/L	
	Manganese	1.0 ug/L	
	Thallium	3.4 ug/L	
	Barium	0.570 ug/L	All samples in SDG WF035
	Beryllium	-0.910 ug/L	
	Calcium	109.820 ug/L	
	Copper	5.470 ug/L	
	Manganese	0.720 ug/L	
	Zinc	4.400 ug/L	
	Manganese	0.6 ug/L	All samples in SDG WF035
	Manganese	0.4 ug/L	All samples in SDG WF035
	Barium	0.4 ug/L	All samples in SDG WF035
	Beryllium	-0.2 ug/L	
	Manganese	0.6 ug/L	
	Beryllium	-0.2 ug/L	All samples in SDG WF035
	Manganese	0.6 ug/L	
	Beryllium	-0.2 ug/L	All samples in SDG WF035
	Manganese	0.4 ug/L	
WF036	Aluminum	17.7 ug/L	All samples in SDG WF036
	Barium	0.8 ug/L	
	Beryllium	0.6 ug/L	
	Cadmium	0.8 ug/L	
	Chromium	0.9 ug/L	
	Cobalt	1.1 ug/L	
	Manganese	1.0 ug/L	
	Mercury	0.0265 ug/L	
	Thallium	2.4 ug/L	
	Vanadium	1.1 ug/L	
	Aluminum	18.4 ug/L	All samples in SDG WF036
	Barium	1.2 ug/L	
	Beryllium	0.8 ug/L	
	Cadmium	0.9 ug/L	
	Chromium	1.2 ug/L	
	Cobalt	1.1 ug/L	
	Manganese	1.3 ug/L	
	Mercury	0.0251 ug/L	
	Thallium	3.4 ug/L	
	Vanadium	1.8 ug/L	

Table XIII
Summary of Method Blank Contamination
Groundwater and Subsurface Soil Investigation, Phase IIB
NAS Whiting Field, Milton Florida

Inorganic Analytes

SDG	Analyte	Concentration	Associated Samples
WF036 cont.	Aluminum	14.7 ug/L	All samples in SDG WF036
	Barium	1.1 ug/L	
	Beryllium	0.8 ug/L	
	Cadmium	0.8 ug/L	
	Chromium	1.1 ug/L	
	Cobalt	1.1 ug/L	
	Manganese	1.2 ug/L	
	Mercury	0.0165 ug/L	
	Thallium	3.2 ug/L	
	Vanadium	1.7 ug/L	
	Barium	0.7 ug/L	All samples in SDG WF036
	Beryllium	0.7 ug/L	
	Cadmium	0.6 ug/L	
	Chromium	0.9 ug/L	
	Cobalt	0.8 ug/L	
	Manganese	1.0 ug/L	
	Mercury	0.0157 ug/L	
	Vanadium	1.2 ug/L	
	Aluminum	63.950 ug/L	All samples in SDG WF036
	Barium	0.730 ug/L	
	Chromium	0.490 ug/L	
	Manganese	0.430 ug/L	
	Mercury	0.014 ug/L	
	Potassium	1817.440 ug/L	
	Cyanide	-1.333 ug/L	
	Barium	1.0 ug/L	All samples in SDG WF036
	Beryllium	0.6 ug/L	
	Cadmium	0.6 ug/L	
	Chromium	0.9 ug/L	
	Cobalt	1.0 ug/L	
	Manganese	1.0 ug/L	
	Thallium	2.2 ug/L	
	Vanadium	1.2 ug/L	
	Aluminum	91.5 ug/L	All samples in SDG WF036
	Barium	0.9 ug/L	
	Beryllium	0.7 ug/L	
	Cadmium	0.7 ug/L	
	Chromium	0.9 ug/L	
	Cobalt-	1.0 ug/L	
	Manganese	1.0 ug/L	
	Thallium	3.4 ug/L	
	Vanadium	1.2 ug/L	
WF037	Copper	6.4 ug/L	All samples in SDG WF037
	Aluminum	-19.5 ug/L	All samples in SDG WF037
	Barium	0.4 ug/L	
	Copper	4.4 ug/L	
	Barium	0.4 ug/L	All samples in SDG WF037
	Copper	6.6 ug/L	

Table XIII
Summary of Method Blank Contamination
Groundwater and Subsurface Soil Investigation, Phase IIB
NAS Whiting Field, Milton Florida

Inorganic Analytes			
SDG	**Analyte**	**Concentration**	**Associated Samples**
WF037 cont.	Barium	25.130 ug/L	All samples in SDG WF037
	Beryllium	-0.830 ug/L	
	Calcium	129.890 ug/L	
	Copper	8.310 ug/L	
	Iron	8.680 ug/L	
	Magnesium	25.430 ug/L	
	Manganese	0.490 ug/L	
	Silver	2.970 ug/L	
	Sodium	84.450 ug/L	
	Vanadium	2.060 ug/L	
	Zinc	3.100 ug/L	
	Cyanide	-0.981 ug/L	
WF041	Cyanide	-0.6 ug/L	All samples in SDG WF041
	Barium	0.5 ug/L	All samples in SDG WF041
	Sodium	12.2 ug/L	All samples in SDG WF041
	Cyanide	-0.4 ug/L	
	Barium	0.7 ug/L	All samples in SDG WF041
	Sodium	16.3 ug/L	
	Beryllium	-1.010 ug/L	All samples in SDG WF041
	Calcium	133.200 ug/L	
	Copper	3.740 ug/L	
	Iron	9.490 ug/L	
	Lead	1.260 ug/L	
	Sodium	93.470 ug/L	
	Thallium	1.310 ug/L	
	Zinc	19.070 ug/L	
	Cyanide	-1.002 ug/L	
	Barium	-0.6 ug/L	All samples in SDG WF041
	Chromium	-2.9 ug/L	
	Copper	-1.7 ug/L	
	Magnesium	-22.9 ug/L	
	Silver	-2.8 ug/L	
	Vanadium	-3.0 ug/L	
	Copper	6.4 ug/L	All samples in SDG WF041
	Thallium	1.4 ug/L	
	Vanadium	-1.9 ug/L	
	Cobalt	8.9 ug/L	All samples in SDG WF041
	Thallium	1.6 ug/L	
	Cyanide	-0.4 ug/L	
	Beryllium	-0.830 ug/L	All samples in SDG WF041
	Calcium	105.800 ug/L	
	Iron	3.860 ug/L	
	Selenium	-3.230 ug/L	
	Sodium	15.150 ug/L	
	Vanadium	-2.240 ug/L	
	Zinc	0.940 ug/L	
	Selenium	-3.4 ug/L	All samples in SDG WF041
	Thallium	-1.3 ug/L	
	Lead	1.2 ug/L	All samples in SDG WF041
	Selenium	-2.6 ug/L	
	Cyanide	-0.4 ug/L	

Table XIII
Summary of Method Blank Contamination
Groundwater and Subsurface Soil Investigation, Phase IIB
NAS Whiting Field, Milton Florida

Inorganic Analytes

SDG	Analyte	Concentration	Associated Samples
WF041 cont.	Selenium	-3.1 ug/L	All samples in SDG WF041
	Thallium	1.3 ug/L	
	Selenium	-2.8 ug/L	All samples in SDG WF041
	Cyanide	-0.5 ug/L	
	Thallium	-1.0 ug/L	All samples in SDG WF041
	Cyanide	-0.4 ug/L	
	Cyanide	0.4 ug/L	All samples in SDG WF041
	Cyanide	0.4 ug/L	All samples in SDG WF041
	Cyanide	0.4 ug/L	All samples in SDG WF041
WF045	Cyanide	-0.6 ug/L	All samples in SDG WF045
	Cyanide	-0.6 ug/L	All samples in SDG WF045
	Manganese	0.4 ug/L	All samples in SDG WF045
	Vanadium	1.8 ug/L	All samples in SDG WF045
	Beryllium	-0.860 ug/L	All samples in SDG WF045
	Calcium	136.80 ug/L	
	Iron	5.390 ug/L	
	Sodium	32.780 ug/L	
	Vanadium	-1.730 ug/L	
	Zinc	3.340 ug/L	
	Cyanide	-1.013 ug/L	
	Mercury	0.1 ug/L	All samples in SDG WF045
	Cyanide	-0.6 ug/L	All samples in SDG WF045
	Thallium	1.1 ug/L	All samples in SDG WF045
	Cyanide	-0.6 ug/L	
	Cyanide	-0.6 ug/L	All samples in SDG WF045
	Aluminum	17.320 ug/L	All samples in SDG WF045
	Barium	0.450 ug/L	
	Beryllium	-0.550 ug/L	
	Calcium	121.820 ug/L	
	Iron	6.770 ug/L	
	Sodium	45.700 ug/L	
	Thallium	-1.390 ug/L	
	Zinc	2.510 ug/L	
	Cyanide	-0.899 ug/L	
	Beryllium	0.2 ug/L	OWG00401
	Manganese	0.5 ug/L	OWG00201
	Sodium	17.2 ug/L	
	Beryllium	0.2 ug/L	OWG00401
	Manganese	0.7 ug/L	OWG00201
	Sodium	12.2 ug/L	
	Zinc	1.0 ug/L	

Table XIII
Summary of Method Blank Contamination
Groundwater and Subsurface Soil Investigation, Phase IIB
NAS Whiting Field, Milton Florida

Inorganic Analytes

SDG	Analyte	Concentration	Associated Samples
WF045 cont.	Barium	0.9 ug/L	OWG00401
	Beryllium	0.5 ug/L	OWG00201
	Chromium	3.0 ug/L	
	Manganese	1.0 ug/L	
	Sodium	19.9 ug/L	
	Thallium	1.2 ug/L	
	Vanadium	2.0 ug/L	
	Zinc	1.6 ug/L	
	Cyanide	-0.377 ug/L	OWG00401
			OWG00201
	Beryllium	0.2 ug/L	OWG00401
	Sodium	11.0 ug/L	OWG00201
	Selenium	-2.2 ug/L	OWG00401
			OWG00201
	Thallium	-1.0 ug/L	OWG00401
			OWG00201
WF046	Beryllium	0.2 ug/L	All samples in SDG WF046
	Sodium	17.2 ug/L	
	Beryllium	0.2 ug/L	All samples in SDG WF046
	Mercury	0.040 ug/L	
	Sodium	12.2 ug/L	
	Beryllium	0.5 ug/L	All samples in SDG WF046
	Mercury	0.043 ug/L	
	Sodium	19.9 ug/L	
	Aluminum	17.320 ug/L	All samples in SDG WF046
	Barium	0.450 ug/L	
	Beryllium	-0.550 ug/L	
	Calcium	121.820 ug/L	
	Iron	6.770 ug/L	
	Sodium	45.700 ug/L	
	Thallium	-1.390 ug/L	
	Zinc	2.510 ug/L	
	Boron	-0.377 ug/L	
	Beryllium	0.2 ug/L	All samples in SDG WF046
	Sodium	11.0 ug/L	
WF047	Beryllium	0.2 ug/L	All samples in SDG WF047
	Manganese	0.5 ug/L	
	Mercury	0.1 ug/L	
	Sodium	17.2 ug/L	
	Beryllium	0.2 ug/L	All samples in SDG WF047
	Manganese	0.7 ug/L	
	Sodium	12.2 ug/L	
	Zinc	1.0 ug/L	
	Barium	0.9 ug/L	All samples in SDG WF047
	Beryllium	0.5 ug/L	
	Chromium	3.0 ug/L	
	Manganese	1.0 ug/L	
	Sodium	19.9 ug/L	
	Thallium	1.1 ug/L	
	Vanadium	2.0 ug/L	
	Zinc	1.6 ug/L	

Table XIII
Summary of Method Blank Contamination
Groundwater and Subsurface Soil Investigation, Phase IIB
NAS Whiting Field, Milton Florida

Inorganic Analytes

SDG	Analyte	Concentration	Associated Samples
WF047 cont.	Aluminum	17.320 ug/L	All samples in SDG WF047
	Barium	0.450 ug/L	
	Beryllium	-0.550 ug/L	
	Calcium	121.820 ug/L	
	Iron	6.770 ug/L	
	Sodium	45.700 ug/L	
	Thallium	-1.390 ug/L	
	Zinc	2.510 ug/L	
	Beryllium	0.2 ug/L	All samples in SDG WF047
	Sodium	11.0 ug/L	
	Selenium	-2.2 ug/L	All samples in SDG WF047
WF051	Barium	1.0 ug/L	All samples in SDG WF051
	Beryllium	0.2 ug/L	
	Chromium	3.4 ug/L	
	Copper	1.5 ug/L	
	Manganese	0.5 ug/L	
	Silver	2.8 ug/L	
	Vanadium	2.4 ug/L	
	Manganese	-0.5 ug/L	All samples in SDG WF051
	Mercury	0.04 ug/L	
	Vanadium	1.8 ug/L	
	Arsenic	1.1 ug/L	All samples in SDG WF051
	Mercury	0.04 ug/L	
	Selenium	-1.9 ug/L	
	Manganese	-0.5 ug/L	All samples in SDG WF051
	Mercury	0.07 ug/L	
	Beryllium	-0.800 ug/L	All samples in SDG WF051
	Calcium	140.860 ug/L	
	Iron	5.470 ug/L	
	Sodium	36.740 ug/L	
	Zinc	1.980 ug/L	
	Mercury	0.08 ug/L	All samples in SDG WF051
	Silver	-2.4 ug/L	
	Aluminum	16.800 ug/L	All samples in SDG WF051
	Barium	0.600 ug/L	
	Beryllium	-0.680 ug/L	
	Calcium	127.440 ug/L	
	Chromium	3.050 ug/L	
	Cobalt	2.850 ug/L	
	Copper	2.120 ug/L	
	Iron	10.740 ug/L	
	Manganese	0.690 ug/L	
	Silver	3.040 ug/L	
	Sodium	54.160 ug/L	
	Vanadium	2.700 ug/L	
	Zinc	2.710 ug/L	
	Calcium	42.0 ug/L	All samples in SDG WF051

Table XIII
Summary of Method Blank Contamination
Groundwater and Subsurface Soil Investigation, Phase IIB
NAS Whiting Field, Milton Florida

Inorganic Analytes

SDG	Analyte	Concentration	Associated Samples
WF051 cont.	Barium	0.6 ug/L	All samples in SDG WF051
	Beryllium	0.4 ug/L	
	Cobalt	2.6 ug/L	
	Copper	1.7 ug/L	
	Manganese	0.9 ug/L	
	Zinc	1.2 ug/L	
	Manganese	0.7 ug/L	All samples in SDG WF051
	Arsenic	-1.130 ug/L	All samples in SDG WF051
	Beryllium	-0.720 ug/L	
	Calcium	131.080 ug/L	
	Iron	12.060 ug/L	
	Zinc	4.540 ug/L	
	Lead	-1.3 ug/L	All samples in SDG WF051
	Lead	-1.4 ug/L	All samples in SDG WF051
	Magnesium	0.5 ug/L	
	Lead	-1.6 ug/L	All samples in SDG WF051
	Aluminum	18.640 ug/L	All samples in SDG WF051
	Barium	0.490 ug/L	
	Beryllium	-0.760 ug/L	
	Calcium	134.210 ug/L	
	Chromium	3.850 ug/L	
	Iron	35.410 ug/L	
	Manganese	0.500 ug/L	
	Sodium	35.200 ug/L	
	Zinc	2.300 ug/L	
	Lead	-2.0 ug/L	All samples in SDG WF051
	Vanadium	2.0 ug/L	
	Barium	0.9 ug/L	All samples in SDG WF051
	Beryllium	0.3 ug/L	
	Lead	-2.0 ug/L	
	Manganese	0.7 ug/L	
	Sodium	9.2 ug/L	
	Sodium	15.0 ug/L	All samples in SDG WF051
	Arsenic	-1.6 ug/L	All samples in SDG WF051
WF053	Aluminum	18.640 ug/L	All samples in SDG WF053
	Barium	0.490 ug/L	
	Beryllium	-0.760 ug/L	
	Calcium	134.210 ug/L	
	Chromium	3.850 ug/L	
	Iron	35.410 ug/L	
	Manganese	0.500 ug/L	
	Sodium	35.200 ug/L	
	Zinc	2.330 ug/L	

Table XIII
Summary of Method Blank Contamination
Groundwater and Subsurface Soil Investigation, Phase IIB
NAS Whiting Field, Milton Florida

Inorganic Analytes			
SDG	**Analyte**	**Concentration**	**Associated Samples**
WF053 cont.	Barium	-0.760 ug/L	All samples in SDG WF053
	Calcium	138.650 ug/L	
	Chromium	3.750 ug/L	
	Copper	3.390 ug/L	
	Iron	14.500 ug/L	
	Manganese	0.490 ug/L	
	Nickel	8.370 ug/L	
	Sodium	42.790 ug/L	
	Zinc	2.940 ug/L	
	Aluminum	26.970 ug/L	All samples in SDG WF053
	Beryllium	-0.710 ug/L	
	Calcium	151.990 ug/L	
	Iron	16.430 ug/L	
	Manganese	0.580 ug/L	
	Silver	4.360 ug/L	
	Sodium	52.750 ug/L	
	Zinc	3.720 ug/L	
	Beryllium	-0.970 ug/L	All samples in SDG WF053
	Calcium	130.780 ug/L	
	Copper	1.460 ug/L	
	Iron	19.510 ug/L	
	Lead	-1.380 ug/L	
	Manganese	0.780 ug/L	
	Sodium	13.170 ug/L	
	Zinc	6.090 ug/L	
	Aluminum	52.990 ug/L	All samples in SDG WF053
	Arsenic	1.300 ug/L	
	Beryllium	-0.940 ug/L	
	Calcium	198.990 ug/L	
	Chromium	6.790 ug/L	
	Copper	2.230 ug/L	
	Iron	38.980 ug/L	
	Lead	-1.460 ug/L	
	Manganese	1.000 ug/L	
	Sodium	60.080 ug/L	
	Zinc	2.040 ug/L	
WF054	Mercury	0.1 ug/L	All samples in SDG WF054
	Mercury	0.1 ug/L	All samples in SDG WF054
	Mercury	0.1 ug/L	All samples in SDG WF054
	Beryllium	-0.980 ug/L	All samples in SDG WF054
	Calcium	110.890 ug/L	
	Iron	9.300 ug/L	
	Mercury	0.052 ug/L	
	Vanadium	-2.660 ug/L	
	Zinc	2.260 ug/L	

Table XIV
Summary of Field Blank Contamination
Groundwater and Subsurface Soil Investigation, Phase IIB
NAS Whiting Field, Milton Florida

Inorganic Analytes

SDG	Parameter		Concentration	Qualifier
WF022	**Client ID:**	BKR01001		
	Laboratory ID:	RB858002		
	Collection Date:	7/16/96		
	Type:	**Equipment rinsate**		
	Sodium		43.4 ug/L	None
	Aluminum		55.9 ug/L	23.9U ug/L[1]
	Calcium		69.0 ug/L	None
	Iron		23.9 ug/L	43.4U ug/L[1]
	Magnesium		39.7 ug/L	None
	Mercury		0.10 ug/L	None
	Zinc		1.2 ug/L	1.2U ug/L[1]
WF022	**Client ID:**	BKF01001		
	Laboratory ID:	RB858010		
	Collection Date:	7/17/96		
	Type:	**Source blank**		
	Sodium		61.3 ug/L	61.3U ug/L[1]
WF023	**Client ID:**	01R01101		
	Laboratory ID:	RB887005		
	Collection Date:	7/23/96		
	Type:	**Equipment rinsate**		
	Aluminum		13.3 ug/L	None
	Iron		10.8 ug/L	10.8U ug/L[1]
	Zinc		1.2 ug/L	1.2U ug/L[1]
	Cyanide		2.6 ug/L	None
WF024	**Client ID:**	15R01201		
	Laboratory ID:	RB920005		
	Collection Date:	7/31/96		
	Type:	**Equipment rinsate**		
	Aluminum		13.8 ug/L	13.8U ug/L[1]
	Iron		10.5 ug/L	10.5U ug/L[1]
	Sodium		55.4 ug/L	55.4U ug/L[1]
	Cyanide		2.6 ug/L	None
WF025	**Client ID:**	15R01301		
	Laboratory ID:	RB956011		
	Collection Date:	8/7/96		
	Type:	**Equipment rinsate**		
	Iron		5.3 ug/L	5.3U ug/L[1]
	Sodium		26.6 ug/L	None
	Zinc		1.8 ug/L	1.8U ug/L[1]
WF026	**Client ID:**	15R01401		
	Laboratory ID:	RB980012		
	Collection Date:	8/14/96		
	Type:	**Equipment rinsate**		
	Iron		14.8 ug/L	14.8U ug/L[1]
	Zinc		1.1 ug/L	1.1U ug/L[1]
	Cyanide		1.8 ug/L	None

Table XIV
Summary of Field Blank Contamination
Groundwater and Subsurface Soil Investigation, Phase IIB
NAS Whiting Field, Milton Florida

Inorganic Analytes

SDG	Parameter		Concentration	Qualifier
WF027	**Client ID:**	16R01501		
	Laboratory ID:	RC016012		
	Collection Date:	8/21/96		
	Type:	**Equipment rinsate**		
	Arsenic		0.50 ug/L	0.50U ug/L[1]
	Calcium		64.0 ug/L	64.0U ug/L[1]
	Lead		0.80 ug/L	None
	Sodium		26.9 ug/L	26.9U ug/L[1]
	Zinc		1.8 ug/L	None
WF028	**Client ID:**	11R01601		
	Laboratory ID:	RC044016		
	Collection Date:	8/28/96		
	Type:	**Equipment rinsate**		
	Calcium		67.2 ug/L	67.2U ug/L[1]
	Sodium		30.8 ug/L	30.8U ug/L[1]
	Cyanide		1.5 ug/L	None
WF029	**Client ID:**	13R01701		
	Laboratory ID:	RC092008		
	Collection Date:	9/11/96		
	Type:	**Equipment rinsate**		
	Calcium		66.4 ug/L	66.4U ug/L[1]
	Sodium		25.4 ug/L	25.4U ug/L[1]
	Zinc		1.8 ug/L	1.8U ug/L[1]
WF030	**Client ID:**	66R01801		
	Laboratory ID:	RC121010		
	Collection Date:	9/18/96		
	Type:	**Equipment rinsate**		
	Calcium		55.7 ug/L	55.7U ug/L[1]
	Iron		9.2 ug/L	9.2U ug/L[1]
	Selenium		0.68 ug/L	None
	Sodium		24.9 ug/L	24.9U ug/L[1]
	Zinc		2.0 ug/L	None
WF031	**Client ID:**	05R01901		
	Laboratory ID:	MB928011		
	Collection Date:	9/25/96		
	Type:	**Equipment rinsate**		
	Barium		0.34 ug/L	None
	Manganese		0.38 ug/L	None
	Mercury		0.06 ug/L	0.06U ug/L[1]
	Zinc		2.0 ug/L	None
WF032	**Client ID:**	06R02001		
	Laboratory ID:	MC011006		
	Collection Date:	10/2/96		
	Type:	**Equipment rinsate**		
	Barium		2.8 ug/L	2.8U ug/L[1]
	Chromium		2.5 ug/L	2.5U ug/L[1]
	Copper		2.9 ug/L	2.9U ug/L[1]
	Manganese		0.48 ug/L	0.48U ug/L[1]
	Mercury		0.01 ug/L	0.01U ug/L[1]
	Sodium		365 ug/L	None
	Zinc		3.0 ug/L	3.0U ug/L[1]
	Cyanide		1.4 ug/L	None

Table XIV
Summary of Field Blank Contamination
Groundwater and Subsurface Soil Investigation, Phase IIB
NAS Whiting Field, Milton Florida

Inorganic Analytes

SDG	Parameter	Concentration	Qualifier
WF033	**Client ID:** 66R02101		
	Laboratory ID: MC085007		
	Collection Date: 10/9/96		
	Type: Equipment rinsate		
	Barium	1.6 ug/L	1.6U ug/L[1]
	Beryllium	0.32 ug/L	0.32U ug/L[1]
	Chromium	0.55 ug/L	0.55U ug/L[1]
	Cobalt	0.84 ug/L	0.84U ug/L[1]
	Manganese	2.4 ug/L	2.4U ug/L[1]
	Potassium	777 ug/L	777U ug/L[1]
	Sodium	334 ug/L	334U ug/L[1]
	Vanadium	0.63 ug/L	0.63U ug/L[1]
	Zinc	1.4 ug/L	1.4U ug/L[1]
WF034	**Client ID:** 66R0201		
	Laboratory ID: MC153007		
	Collection Date: 10/16/96		
	Type: Equipment rinsate		
	Barium	0.56 ug/L	0.56 ug/L[1]
	Manganese	0.44 ug/L	0.44 ug/L[1]
	Mercury	0.02 ug/L	0.02 ug/L[1]
	Sodium	119 ug/L	119 ug/L[1]
	Zinc	2.2 ug/L	2.2 ug/L[1]
WF035	**Client ID:** 66R02301		
	Laboratory ID: MC214006		
	Collection Date: 10/23/96		
	Type: Equipment rinsate		
	Aluminum	30.7 ug/L	30.7 ug/L[1]
	Barium	1.3 ug/L	1.3 ug/L[1]
	Calcium	101 ug/L	101 ug/L[1]
	Manganese	0.94 ug/L	0.94 ug/L[1]
	Mercury	0.03 ug/L	0.03 ug/L[1]
	Sodium	100 ug/L	100 ug/L[1]
	Zinc	2.4 ug/L	2.4 ug/L[1]
WF036	**Client ID:** 54R02401		
	Laboratory ID: MC262007		
	Collection Date: 10/30/96		
	Type: Equipment rinsate		
	Aluminum	14.8 ug/L	14.8 ug/L[1]
	Barium	0.59 ug/L	0.59 ug/L[1]
	Chromium	0.48 ug/L	0.48 ug/L[1]
	Manganese	0.32 ug/L	0.32 ug/L[1]
	Potassium	756 ug/L	756 ug/L[1]
	Sodium	265 ug/L	None
	Zinc	1.4 ug/L	None
WF037	**Client ID:** 15F00201		
	Laboratory ID: MC424010		
	Collection Date: 12/2/96		
	Type: Source blank		
	Barium	1.2 ug/L	None
	Calcium	111 ug/L	None
	Copper	6.8 ug/L	None
	Manganese	0.43 ug/L	None
	Sodium	95.7 ug/L	None
	Zinc	2.6 ug/L	None

Table XIV
Summary of Field Blank Contamination
Groundwater and Subsurface Soil Investigation, Phase IIB
NAS Whiting Field, Milton Florida

Inorganic Analytes

SDG	Parameter	Concentration	Qualifier
WF041	**Client ID:** 35F00301		
	Laboratory ID: MD908002		
	Collection Date: 6/11/97		
	Type: Source blank		
	Barium	0.78 ug/L	None
	Calcium	164 ug/L	164U ug/L[1]
	Copper	10.3 ug/L	10.3U ug/L[1]
	Iron	35.6 ug/L	35.6U ug/L[1]
	Lead	1.0 ug/L	1.0U ug/L[1]
	Manganese	0.88 ug/L	None
	Sodium	129 ug/L	129U ug/L[1]
	Zinc	13.3 ug/L	13.3U ug/L[1]
WF041	**Client ID:** 35R03001		
	Laboratory ID: MD908003		
	Collection Date: 6/11/97		
	Type: Equipment rinsate		
	Barium	1.0 ug/L	None
	Calcium	165 ug/L	165U ug/L[1]
	Copper	4.9 ug/L	4.9U ug/L[1]
	Iron	10.7 ug/L	10.7U ug/L[1]
	Manganese	1.2 ug/L	None
	Sodium	148 ug/L	148U ug/L[1]
	Thallium	1.7 ug/L	1.7U ug/L[1]
	Zinc	15.8 ug/L	15.8U ug/L[1]
WF045	**Client ID:** OWR03401		
	Laboratory ID: ME149002		
	Collection Date: 7/7/97		
	Type: Equipment rinsate		
	Barium	0.44 ug/L	0.44U ug/L[1]
	Calcium	133 ug/L	133U ug/L[1]
	Copper	1.8 ug/L	None
	Iron	7.1 ug/L	7.1U ug/L[1]
	Sodium	60.4 ug/L	60.4U ug/L[1]
	Zinc	1.7 ug/L	1.7U ug/L[1]
WF046	**Client ID:** 31R03301		
	Laboratory ID: MW241002		
	Collection Date: 7/15/97		
	Type: Equipment rinsate		
	Barium	1.1 ug/L	1.1U ug/L[1]
	Calcium	126 ug/L	126U ug/L[1]
	Iron	4.4 ug/L	4.4U ug/L[1]
	Manganese	0.40 ug/L	None
	Sodium	65.6 ug/L	65.6U ug/L[1]
	Zinc	5.4 ug/L	5.4U ug/L[1]

Table XIV
Summary of Field Blank Contamination
Groundwater and Subsurface Soil Investigation, Phase IIB
NAS Whiting Field, Milton Florida

Inorganic Analytes

SDG	Parameter	Concentration	Qualifier
WF051	**Client ID:** 16R03601		
	Laboratory ID: ME340005		
	Collection Date: 7/23/97		
	Type: Equipment rinsate		
	Calcium	166 ug/L	166U ug/L[1]
	Copper	1.7 ug/L	1.7U ug/L[1]
	Iron	12.7 ug/L	12.7U ug/L[1]
	Lead	1.2 ug/L	None
	Manganese	0.68 ug/L	0.68U ug/L[1]
	Sodium	48.9 ug/L	48.9U ug/L[1]
	Zinc	2.6 ug/L	2.6U ug/L[1]
WF053	**Client ID:** 15R03701		
	Laboratory ID: ME367002		
	Collection Date: 7/27/97		
	Type: Equipment rinsate		
	Barium	1.6 ug/L	None
	Calcium	134 ug/L	134U ug/L[1]
	Chromium	4.2 ug/L	4.2U ug/L[1]
	Copper	2.1 ug/L	2.1U ug/L[1]
	Iron	18.4 ug/L	None
	Manganese	0.69 ug/L	0.69U ug/L[1]
	Sodium	83.0 ug/L	83.0U ug/L[1]
	Zinc	5.0 ug/L	5.0U ug/L[1]
WF054	**Client ID:** 15R03801		
	Laboratory ID: ME441005		
	Collection Date: 8/5/97		
	Type: Equipment rinsate		
	Cadmium	4.7 ug/L	
	Calcium	159 ug/L	159U ug/L[1]
	Copper	1.3 ug/L	None
	Iron	13.3 ug/L	13.3U ug/L[1]
	Manganese	0.48 ug/L	None
	Mercury	0.05 ug/L	0.05U ug/L[1]
	Sodium	20.0 ug/L	None
	Zinc	1.8 ug/L	None
WF054	**Client ID:** 30R03901		
	Laboratory ID: ME450002		
	Collection Date: 8/6/97		
	Type: Equipment rinsate		
	Aluminum	16.7 ug/L	None
	Barium	0.78 ug/L	None
	Calcium	150 ug/L	150U ug/L
	Copper	3.7 ug/L	None
	Iron	14.0 ug/L	14.0U ug/L
	Manganese	0.58 ug/L	None
	Sodium	67.0 ug/L	None
	Zinc	4.4 ug/L	None

[1] = sample result was modified based on an associated method blank concentration.

Note: see detailed data validation report for the discrete qualifiers.

Table XV
Sample Event PARCC Summary
Groundwater and Subsurface Soil Investigation, Phase IIB
NAS Whiting Field, Milton, Florida

SDG	Fraction	Precision[1]	Accuracy[2]	Representativeness	Completeness (%)	Comparability
WF022	Volatiles	Acceptable	Acceptable	Acceptable	100	Acceptable
	Semivolatiles	Acceptable	Acceptable	Acceptable	100	Acceptable
	Pesticides/PCBs	Acceptable	Acceptable	Acceptable	100	Acceptable
	Metals	Acceptable	Acceptable	Acceptable	100	Acceptable
	Cyanide	Acceptable	Acceptable	Acceptable	100	Acceptable
WF023	Volatiles	Acceptable	Acceptable	Acceptable	100	Acceptable
	Semivolatiles	Acceptable	Acceptable	Acceptable	100	Acceptable
	Pesticides/PCBs	Acceptable	Acceptable	Acceptable	100	Acceptable
	Metals	Acceptable	Acceptable	Acceptable	100	Acceptable
	Cyanide	Acceptable	Acceptable	Acceptable	100	Acceptable
WF024	Volatiles	Acceptable	Acceptable	Acceptable	100	Acceptable
	Semivolatiles	Acceptable	Acceptable	Acceptable	100	Acceptable
	Pesticides/PCBs	Acceptable	Acceptable	Acceptable	100	Acceptable
	Metals	Acceptable	Acceptable	Acceptable	100	Acceptable
	Cyanide	Acceptable	Acceptable	Acceptable	100	Acceptable
WF025	Volatiles	Acceptable	Acceptable	Acceptable	100	Acceptable
	Semivolatiles	Acceptable	Acceptable	Acceptable	100	Acceptable
	Pesticides/PCBs	Acceptable	Acceptable	Acceptable	100	Acceptable
	Metals	Acceptable	Acceptable	Acceptable	100	Acceptable
	Cyanide	Acceptable	Acceptable	Acceptable	100	Acceptable
WF026	Volatiles	Acceptable	Acceptable	Acceptable	100	Acceptable
	Semivolatiles	Acceptable	Acceptable	Acceptable	100	Acceptable
	Pesticides/PCBs	Acceptable	Acceptable	Acceptable	100	Acceptable
	Metals	Acceptable	Acceptable	Acceptable	100	Acceptable
	Cyanide	Acceptable	Acceptable	Acceptable	100	Acceptable
WF027	Volatiles	Acceptable	Acceptable	Acceptable	99.0	Acceptable
	Semivolatiles	Acceptable	Acceptable	Acceptable	100	Acceptable
	Pesticides/PCBs	Acceptable	Acceptable	Acceptable	100	Acceptable
	Metals	Acceptable	Acceptable	Acceptable	100	Acceptable
	Cyanide	Acceptable	Acceptable	Acceptable	100	Acceptable
WF028	Volatiles	Acceptable	Acceptable	Acceptable	100	Acceptable
	Semivolatiles	Acceptable	Acceptable	Acceptable	100	Acceptable
	Pesticides/PCBs	Acceptable	Acceptable	Acceptable	100	Acceptable
	Metals	Acceptable	Acceptable	Acceptable	100	Acceptable
	Cyanide	Acceptable	Acceptable	Acceptable	100	Acceptable
WF029	Volatiles	Acceptable	Acceptable	Acceptable	100	Acceptable
	Semivolatiles	Acceptable	Acceptable	Acceptable	100	Acceptable
	Pesticides/PCBs	Acceptable	Acceptable	Acceptable	100	Acceptable
	Metals	Acceptable	Acceptable	Acceptable	100	Acceptable
	Cyanide	Acceptable	Acceptable	Acceptable	100	Acceptable
WF030	Volatiles	Acceptable	Acceptable	Acceptable	100	Acceptable
	Semivolatiles	Acceptable	Acceptable	Acceptable	100	Acceptable
	Pesticides/PCBs	Acceptable	Acceptable	Acceptable	100	Acceptable
	Metals	Acceptable	Acceptable	Acceptable	100	Acceptable
	Cyanide	Acceptable	Acceptable	Acceptable	100	Acceptable
WF031	Volatiles	Acceptable	Acceptable	Acceptable	100	Acceptable
	Semivolatiles	Acceptable	Acceptable	Acceptable	100	Acceptable
	Pesticides/PCBs	Acceptable	Acceptable	Acceptable	100	Acceptable
	Metals	Acceptable	Acceptable	Acceptable	100	Acceptable
	Cyanide	Acceptable	**Unacceptable**	Acceptable	**0**	Acceptable
WF031B	Volatiles	Acceptable	Acceptable	Acceptable	100	Acceptable
	Semivolatiles	Acceptable	Acceptable	Acceptable	100	Acceptable
	Pesticides/PCBs	Acceptable	Acceptable	Acceptable	100	Acceptable
	Metals	Acceptable	Acceptable	Acceptable	100	Acceptable
	Cyanide	Acceptable	Acceptable	Acceptable	100	Acceptable
WF032	Volatiles	Acceptable	Acceptable	Acceptable	100	Acceptable
	Semivolatiles	Acceptable	Acceptable	Acceptable	100	Acceptable
	Pesticides/PCBs	Acceptable	Acceptable	Acceptable	99.3	Acceptable
	Metals	Acceptable	Acceptable	Acceptable	100	Acceptable
	Cyanide	Acceptable	Acceptable	Acceptable	100	Acceptable

Table XV
Sample Event PARCC Summary
Groundwater and Subsurface Soil Investigation, Phase IIB
NAS Whiting Field, Milton, Florida

SDG	Fraction	Precision[1]	Accuracy[2]	Representativeness	Completeness (%)	Comparability
WF033	Volatiles	Acceptable	Acceptable	Acceptable	100	Acceptable
	Semivolatiles	Acceptable	Acceptable	Acceptable	100	Acceptable
	Pesticides/PCBs	Acceptable	Acceptable	Acceptable	100	Acceptable
	Metals	Acceptable	Acceptable	Acceptable	100	Acceptable
	Cyanide	Acceptable	Acceptable	Acceptable	100	Acceptable
WF034	Volatiles	Acceptable	Acceptable	Acceptable	100	Acceptable
	Semivolatiles	Acceptable	Acceptable	Acceptable	100	Acceptable
	Pesticides/PCBs	Acceptable	Acceptable	Acceptable	100	Acceptable
	Metals	Acceptable	Acceptable	Acceptable	100	Acceptable
	Cyanide	Acceptable	Acceptable	Acceptable	100	Acceptable
WF035	Volatiles	Acceptable	Acceptable	Acceptable	100	Acceptable
	Semivolatiles	Acceptable	Acceptable	Acceptable	100	Acceptable
	Pesticides/PCBs	Acceptable	Acceptable	Acceptable	100	Acceptable
	Metals	Acceptable	Acceptable	Acceptable	100	Acceptable
	Cyanide	Acceptable	Acceptable	Acceptable	100	Acceptable
WF036	Volatiles	Acceptable	Acceptable	Acceptable	100	Acceptable
	Semivolatiles	Acceptable	Acceptable	Acceptable	100	Acceptable
	Pesticides/PCBs	Acceptable	Acceptable	Acceptable	100	Acceptable
	Metals	Acceptable	Acceptable	Acceptable	100	Acceptable
	Cyanide	Acceptable	Acceptable	Acceptable	100	Acceptable
WF037	Volatiles	Acceptable	Acceptable	Acceptable	100	Acceptable
	Semivolatiles	Acceptable	Acceptable	Acceptable	100	Acceptable
	Pesticides/PCBs	Acceptable	Acceptable	Acceptable	100	Acceptable
	Metals	Acceptable	Acceptable	Acceptable	100	Acceptable
	Cyanide	Acceptable	**Unacceptable**	Acceptable	**0**	Acceptable
WF038	Volatiles	Acceptable	Acceptable	Acceptable	100	Acceptable
WF039	Volatiles	Acceptable	Acceptable	Acceptable	100	Acceptable
WF040	Volatiles	Acceptable	Acceptable	Acceptable	100	Acceptable
WF041	Volatiles	Acceptable	Acceptable	Acceptable	100	Acceptable
	Semivolatiles	Acceptable	Acceptable	Acceptable	100	Acceptable
	Pesticides & PCBs	Acceptable	Acceptable	Acceptable	100	Acceptable
	Metals	Acceptable	Acceptable	Acceptable	100	Acceptable
	Cyanide	Acceptable	Acceptable	Acceptable	100	Acceptable
WF042	Volatiles	Acceptable	Acceptable	Acceptable	100	Acceptable
WF043	Volatiles	Acceptable	Acceptable	Acceptable	100	Acceptable
WF044	Volatiles	Acceptable	Acceptable	Acceptable	100	Acceptable
WF045	Volatiles	Acceptable	Acceptable	Acceptable	100	Acceptable
	Semivolatiles	Acceptable	Acceptable	Acceptable	100	Acceptable
	Pesticides & PCBs	**Unacceptable**	**Unacceptable**	Acceptable	100	Acceptable
	Metals	Acceptable	Acceptable	Acceptable	100	Acceptable
	Cyanide	Acceptable	Acceptable	Acceptable	100	Acceptable
WF046	Volatiles	Acceptable	Acceptable	Acceptable	100	Acceptable
	Semivolatiles	Acceptable	Acceptable	Acceptable	100	Acceptable
	Pesticides & PCBs	Acceptable	Acceptable	Acceptable	100	Acceptable
	Metals	Acceptable	Acceptable	Acceptable	100	Acceptable
	Cyanide	Acceptable	Acceptable	Acceptable	100	Acceptable
WF047	Volatiles	Acceptable	Acceptable	Acceptable	97.0	Acceptable
	Metals	Acceptable	Acceptable	Acceptable	100	Acceptable
WF048	Volatiles	Acceptable	Acceptable	Acceptable	100	Acceptable
WF049	Volatiles	Acceptable	Acceptable	Acceptable	95.2	Acceptable
	Semivolatiles	Acceptable	Acceptable	Acceptable	100	Acceptable
WF051	Volatiles	Acceptable	Acceptable	Acceptable	100	Acceptable
	Metals	Acceptable	Acceptable	Acceptable	100	Acceptable
WF052	Volatiles	Acceptable	Acceptable	Acceptable	94.3	Acceptable

Table XV
Sample Event PARCC Summary
Groundwater and Subsurface Soil Investigation, Phase IIB
NAS Whiting Field, Milton, Florida

SDG	Fraction	Precision[1]	Accuracy[2]	Representativeness	Completeness (%)	Comparability
WF053	Volatiles	Acceptable	Acceptable	Acceptable	100	Acceptable
	Metals	Acceptable	Acceptable	Acceptable	100	Acceptable
WF054	Volatiles	Acceptable	Acceptable	Acceptable	100	Acceptable
	Metals	Acceptable	Acceptable	Acceptable	100	Acceptable
WF055	Volatiles	Acceptable	Acceptable	Acceptable	100	Acceptable

[1]Cumulative of sampling and analytical components
[2]Analytical component.
[3]Samples results rejected for database purposes were not used in the completeness calculation.

Notes: All completeness is expressed as the ratio of number of sample results considered usable (i.e., not qualified as rejected) to the total number of sample results.

% = percent

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: NAS Whiting Field, CTO 116

MSA/RO Number: 95-102/Release 001

Collection Date: December 9 through December 11, 1995

LDC Report Date: March 5, 1996

Parameters: Volatiles

Laboratory: Quality Analytical Laboratories, Inc.

Sample Delivery Group (SDG): WF008**

Sample Identification	Laboratory ID	Matrix
15T00101	G8913001	Water
15S02001	G8913002	Soil
15S02001D	G8913003	Soil
15S02101	G8913004	Soil
15S02201	G8913005	Soil
15S02301	G8913006	Soil
15S02401	G8913007	Soil
15S02501	G8913008	Soil
15S01501	G8913009	Soil
15S01401	G8913010	Soil
15S01301	G8913011	Soil
15S01601	G8913012	Soil
15S01701	G8913013	Soil
15S01701D	G8913014	Soil
15S01801	G8913015	Soil
15S01901	G8913016	Soil
15S00901	G8913017	Soil
15R00101	G8913020	Water
15S02001MS	G8913002MS	Soil
15S02001MSD	G8913002MSD	Soil

** Indicates SDG underwent NEESA Level D review.

Introduction

This data review covers 18 soil samples and 2 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Contract Laboratory Program Statement of Work OLM01.9 for Volatiles. The data validation review was based on EPA Contract Laboratory Program Statement of Work OLM01.8 for Volatiles.

This review follows USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (February 1994); the following subsections correlate to the above guidelines.

A table summarizing all data qualification is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XVI.

The following are definitions of the data qualifiers:

U Indicates the compound or element was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or element was analyzed for but not detected. The sample detection limit is an estimated value.

I. Technical Holding Times

All technical holding time requirements were met.

II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals. All ion abundance requirements were met.

III. Initial Calibration

Initial calibration was performed as required with the following exceptions:

Sample	Compound	Finding	Criteria	Flag	A or P
All water samples in SDG WF008	All TCL compounds	Samples were analyzed under heated purge.	Water samples should be analyzed under unheated purge.	None	P

Initial calibration was performed using required standard concentrations.

Percent relative standard deviations (%RSD) were less than or equal to 30.0% for all compounds.

Average relative response factors (RRF) for all volatile target compounds and system monitoring compounds were within validation criteria.

IV. Continuing Calibration

Continuing calibration was performed as required with the following exceptions:

Sample	Compound	Finding	Criteria	Flag	A or P
All water samples in SDG WF008	All TCL compounds	Samples were analyzed under heated purge.	Water samples should be analyzed under unheated purge.	None	P

Continuing calibration was performed at the required frequencies.

All of the continuing calibration percent differences (%D) between the initial calibration RRF and the continuing calibration RRF were less than or equal to 25.0% .

All of the continuing calibration RRF values were within validation criteria.

V. Blanks

Method blanks were reviewed for each matrix as applicable with the following exceptions:

Sample	Compound	Finding	Criteria	Flag	A or P
All water samples in SDG WF008	All TCL compounds	Water samples associated with soil method blanks.	Water samples to be associated with water method blanks.	None	P

No volatile contaminants were found in the method blanks.

Samples 15T00101 and 15T00201 (from SDG WF009) were identified as trip blanks. No volatile contaminants were found in these blanks with the following exceptions:

Trip Blank ID	Date	Compound TIC (RT in minutes)	Concentration	Associated Samples
15T00101	12/9/95	Acetone	8 ug/L	15S02001 15S02001D 15S02101 15S02201 15S02301 15S02401 15S02501 15S01501 15S01401 15S01301 15S01601 15S01701 15S01701D 15S01801 15S01901
15T00201	12/11/95	Acetone	19 ug/L	15S00901 15R00101

Sample 15R00101 was identified as an equipment rinsate. No volatile contaminants were found in this blank.

Sample 0F100101 (from SDG WF006) was identified as a source blank. No volatile contaminants were found in this blank with the following exceptions:

Source Blank ID	Date	Compound TIC (RT in minutes)	Concentration	Associated Samples
0F100101	12/6/95	Acetone 2-Butanone	12 ug/L 2 ug/L	15S02001 15S02001D 15S02101 15S02201 15S02301 15S02401 15S02501 15S01501 15S01401 15S01301 15S01601 15S01701 15S01701D 15S01801 15S01901 15S00901 15R00101

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Compound TIC (RT in minutes)	Reported Concentration	Modified Final Concentration
15S02001	Acetone	6 ug/Kg	11U ug/Kg
15S01501	Acetone	13 ug/Kg	13U ug/Kg
15S01701	Acetone	6 ug/Kg	11U ug/Kg
15S01701D	Acetone	4 ug/Kg	11U ug/Kg
15S01801	Acetone	6 ug/Kg	11U ug/Kg
15S01901	Acetone	8 ug/Kg	11U ug/Kg
15S00901	Acetone	5 ug/Kg	11U ug/Kg

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the SOW. All surrogate recoveries were within validation criteria.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each

matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Not applicable to multi-media samples.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

All internal standard areas and retention times were within QC limits.

XI. Target Compound Identifications

All target compound identifications were within validation criteria.

XII. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria.

XIII. Tentatively Identified Compounds (TICs)

Tentatively identified compounds were not reported by the laboratory.

XIV. System Performance

The system performance was acceptable.

XV. Overall Assessment of Data

Data flags have been summarized at the end of the report.

XVI. Field Duplicates

Samples 15S02001 and 15S02001D and samples 15S01701 and 15S01701D were identified as field duplicates. No volatiles were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/Kg)		RPD
	15S02001	15S02001D	
Acetone	5	ND	Not calculable

Compound	Concentration (ug/Kg)		RPD
	15S02001	15S02001D	
Methylene chloride	ND	5	Not calculable

Compound	Concentration (ug/Kg)		RPD
	15S01701	15S01701D	
Acetone	6	4	40

NAS Whiting Field, CTO 116
Volatiles - Data Qualification Summary - SDG WF008**

SDG	Sample	Compound	Flag	A or P	Reason
WF008	15T00101 15R00101	All TCL compounds	None	P	Initial calibration
WF008	15T00101 15R00101	All TCL compounds	None	P	Continuing calibration
WF008	15T00101 15R00101	All TCL compounds	None	P	Method blanks

NAS Whiting Field, CTO 116
Volatiles - Laboratory Blank Data Qualification Summary - SDG WF008**

No Sample Data Qualified in this SDG

NAS Whiting Field, CTO 116
Volatiles - Field Blank Data Qualification Summary - SDG WF008**

SDG	Sample	Compound TIC (RT in minutes)	Modified Final Concentration	A or P
WF008	15S02001	Acetone	11U ug/Kg	A
WF008	15S01501	Acetone	13U ug/Kg	A
WF008	15S01701	Acetone	11U ug/Kg	A
WF008	15S01701D	Acetone	11U ug/Kg	A
WF008	15S01801	Acetone	11U ug/Kg	A
WF008	15S01901	Acetone	11U ug/Kg	A
WF008	15S00901	Acetone	11U ug/Kg	A

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: NAS Whiting Field, CTO 116

MSA/RO Number: 95-102/Release 001

Collection Date: December 9 through December 11, 1995

LDC Report Date: April 12, 1996

Parameters: Semivolatiles

Laboratory: Quality Analytical Laboratories, Inc.

Sample Delivery Group (SDG): WF008**

Sample Identification	Laboratory ID	Matrix
15S02001	G8913002	Soil
15S02001D	G8913003	Soil
15S02101	G8913004	Soil
15S02201	G8913005	Soil
15S02301	G8913006	Soil
15S02401	G8913007	Soil
15S02501	G8913008	Soil
15S01501	G8913009	Soil
15S01401	G8913010	Soil
15S01301	G8913011	Soil
15S01601	G8913012	Soil
15S01701	G8913013	Soil
15S01701D	G8913014	Soil
15S01801	G8913015	Soil
15S01901	G8913016	Soil
15S00901	G8913017	Soil
15S00901RE	G8913017RE	Soil
15R00101	G8913020	Water
15S02001MS	G8913002MS	Soil
15S02001MSD	G8913002MSD	Soil

** Indicates SDG underwent NEESA Level D review.

An asterisk (*) will be placed in the margin to the left of any revised item in the text.

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: NAS Whiting Field, CTO 116

MSA/RO Number: 95-102/Release 001

Collection Date: December 9 through December 11, 1995

LDC Report Date: March 6, 1996

Parameters: Semivolatiles

Laboratory: Quality Analytical Laboratories, Inc.

Sample Delivery Group (SDG): WF008**

Sample Identification	Laboratory ID	Matrix
15S02001	G8913002	Soil
15S02001D	G8913003	Soil
15S02101	G8913004	Soil
15S02201	G8913005	Soil
15S02301	G8913006	Soil
15S02401	G8913007	Soil
15S02501	G8913008	Soil
15S01501	G8913009	Soil
15S01401	G8913010	Soil
15S01301	G8913011	Soil
15S01601	G8913012	Soil
15S01701	G8913013	Soil
15S01701D	G8913014	Soil
15S01801	G8913015	Soil
15S01901	G8913016	Soil
15S00901	G8913017	Soil
15S00901RE	G8913017RE	Soil
15R00101	G8913020	Water
15S02001MS	G8913002MS	Soil
15S02001MSD	G8913002MSD	Soil

** Indicates SDG underwent NEESA Level D review.

Introduction

This data review covers 19 soil samples and one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Contract Laboratory Program Statement of Work OLM01.9 for Semivolatiles. Data validation review was based on EPA Contract Laboratory Program Statement of Work, OLM01.8 for Semivolatiles.

This review follows USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (February 1994); the following subsections correlate to the above guidelines.

A table summarizing all data qualification is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XVI.

The following are definitions of the data qualifiers:

U Indicates the compound or element was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or element was analyzed for but not detected. The sample detection limit is an estimated value.

I. Technical Holding Times

All technical holding time requirements were met with the following exceptions:

Sample	Total Days From Sample Collection Until Extraction	Required Holding Time (In Days) From Sample Collection Until Extraction	Flag	A or P
15S00901RE	16	14	J	A

II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals. All ion abundance requirements were met.

III. Initial Calibration

Initial calibration was performed using required standard concentrations.

Percent relative standard deviations (%RSD) were less than or equal to 30.0% .

Average relative response factors (RRF) for all semivolatile target compounds and system monitoring compounds were greater than or equal to 0.05 .

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

All of the continuing calibration percent differences (%D) between the initial calibration RRF and the continuing calibration RRF were less than or equal to 25.0% with the following exceptions:

Date	Compound	%D	Associated Samples	Flag	A or P
12/15/95	Nitrobenzene Pentachlorophenol	25.6 29.6	15R00101 SBLK4N	J J	A
12/31/95	2,4-Dinitrophenol 4-Nitrophenol Pentachlorophenol 3,3'-Dichlorobenzidine Benzo(b)fluoranthene	42.0 27.3 34.8 25.9 27.7	15S00901RE SBLK5C	J J J J J	A

All of the continuing calibration RRF values were greater than or equal to 0.05 .

V. Blanks

Method blanks were reviewed for each matrix as applicable. No semivolatile contaminants were found in the method blanks with the following exceptions:

Method Blank ID	Extraction Date	Compound TIC (RT in minutes)	Concentration	Associated Samples
SBLK53	12/22/95	Di-n-butylphthalate	280 ug/Kg	15S02001D 15S02101 15S02201 15S01701 15S01701D

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated method blanks.

Sample 15R00101 was identified as a rinsate. No semivolatile contaminants were found in this blank with the following exceptions:

Rinsate ID	Date	Compound TIC (RT in minutes)	Concentration	Associated Samples
15R00101	12/11/95	Di-n-butylphthalate	3 ug/L	15S02001 15S02001D 15S02101 15S02201 15S02301 15S02401 15S02501 15S01501 15S01401 15S01301 15S01601 15S01701 15S01701D 15S01801 15S01901 15S00901 15S00901RE

Sample 01F00101 (from SDG WF006) was identified as a source blank. No semivolatile contaminants were found in this blank with the following exceptions:

Source Blank ID	Date	Compound TIC (RT in minutes)	Concentration	Associated Samples
01F00101	12/6/95	Di-n-butylphthalate	15 ug/L	15S02001 15S02001D 15S02101 15S02201 15S02301 15S02401 15S02501 15S01501 15S01401 15S01301 15S01601 15S01701 15S01701D 15S01801 15S01901 15S00901 15S00901RE 15R00101

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Compound TIC (RT in minutes)	Reported Concentration	Modified Final Concentration
15S00901RE	Di-n-butylphthalate	260 ug/Kg	370U ug/Kg
15R00101	Di-n-butylphthalate	3 ug/L	10U ug/L

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the SOW. All surrogate recoveries were within validation criteria with the following exceptions:

Sample	Surrogate	%R (Limits)	Compound	Flag	A or P
15S00901	1,2-Dichlorobenzene-d4	7 (20-130)	All base neutral compounds	J (all detects) R (all non-detects)	A

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

*Indicates change as the result of report review.

Source Blank ID	Date	Compound TIC (RT in minutes)	Concentration	Associated Samples
01F00101	12/6/95	Di-n-butylphthalate	15 ug/L	15S02001 15S02001D 15S02101 15S02201 15S02301 15S02401 15S02501 15S01501 15S01401 15S01301 15S01601 15S01701 15S01701D 15S01801 15S01901 15S00901 15S00901RE 15R00101

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Compound TIC (RT in minutes)	Reported Concentration	Modified Final Concentration
15S00901RE	Di-n-butylphthalate	260 ug/Kg	370U ug/Kg
15R00101	Di-n-butylphthalate	3 ug/L	10U ug/L

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the SOW. All surrogate recoveries were within validation criteria.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

Sample (Associated Samples)	Compound	MS (%R) (Limits)	MSD (%R) (Limits)	RPD (Limits)	Flag	A or P
15S02001MS/MSD (All samples in SDG WF008)	1,4-Dichlorobenzene	-	14 (28-104)	142 (≤27)	None	A
	1,2,4-Trichlorobenzene	-	12 (38-107)	149 (≤23)	None	
	Acenaphthene	-	-	96 (≤19)	None	
	2,4-Dinitrotoluene	100 (28-89)	94 (28-89)	-	None	
	Pyrene	-	6 (35-142)	67 (≤36)	None	

VIII. Laboratory Control Samples (LCS)

Not applicable to multi-media samples.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

All internal standard areas and retention times were within QC limits.

XI. Target Compound Identifications

All target compound identifications were within validation criteria.

XII. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria.

XIII. Tentatively Identified Compounds (TICs)

Tentatively identified compounds were not reported by the laboratory.

XIV. System Performance

The system performance was acceptable.

XV. Overall Assessment of Data

Data flags have been summarized at the end of the report.

XVI. Field Duplicates

Samples 15S02001 and 15S02001D and samples 15S01701 and 15S01701D were identified as field duplicates. No semivolatiles were detected in any of the samples.

NAS Whiting Field, CTO 116
Semivolatiles - Data Qualification Summary - SDG WF008**

SDG	Sample	Compound	Flag	A or P	Reason
WF008	15S00901RE	All TCL compounds	J	A	Technical holding times
WF008	15R00101	Nitrobenzene Pentachlorophenol	J J	A	Continuing calibration (%D)
WF008	15S00901RE	2,4-Dinitrophenol 4-Nitrophenol Pentachlorophenol 3,3'-Dichlorobenzidine Benzo(b)fluoranthene	J J J J J	A	Continuing calibration (%D)

*Indicates change as the result of report review.

NAS Whiting Field, CTO 116
Semivolatiles - Data Qualification Summary - SDG WF008**

SDG	Sample	Compound	Flag	A or P	Reason
WF008	15S00901RE	All TCL compounds	J	A	Technical holding times
WF008	15R00101	Nitrobenzene Pentachlorophenol	J J	A	Continuing calibration (%D)
WF008	15S00901RE	2,4-Dinitrophenol 4-Nitrophenol Pentachlorophenol 3,3'-Dichlorobenzidine Benzo(b)fluoranthene	J J J J J	A	Continuing calibration (%D)

NAS Whiting Field, CTO 116
Semivolatiles - Laboratory Blank Data Qualification Summary - SDG WF008**

No Sample Data Qualified in this SDG

NAS Whiting Field, CTO 116
Semivolatiles - Field Blank Data Qualification Summary - SDG WF008**

SDG	Sample	Compound TIC (RT in minutes)	Modified Final Concentration	A or P
WF008	15S00901RE	Di-n-butylphthalate	370U ug/Kg	A
WF008	15R00101	Di-n-butylphthalate	10U ug/L	A

SDG	Sample	Compound	Flag	A or P	Reason
*WF008	15S00901	Bis(2-chloroethyl) ether 1,3-Dichlorobenzene 1,4-Dichlorobenzene 1,2-Dichlorobenzene 2,2'-Oxybis(1-chloropropane) N-Nitroso-di-n-propylamine Hexachloroethane Nitrobenzene Isophorone Bis(2-chloroethoxy)methane 1,2,4-Trichlorobenzene Naphthalene 4-Chloroaniline Hexachlorobutadiene 2-Methylnaphthalene Hexachlorocyclopentadiene 2-Chloronaphthalene 2-Nitroaniline Dimethylphthalate Acenaphthylene 2,6-Dinitrotoluene 3-Nitroaniline Acenaphthene Dibenzofuran 2,4-Dinitrotoluene Diethylphthalate 4-Chlorophenylphenyl ether Fluorene 4-Nitroaniline N-Nitrosodiphenylamine 4-Bromophenylphenyl ether Hexachlorobenzene Phenanthrene Anthracene Carbazole Di-n-butylphthalate Fluoranthene Pyrene Butylbenzylphthalate 3,3'-Dichlorobenzidine Benzo(a)anthracene Chrysene Bis(2-ethylhexyl)phthalate Di-n-octylphthalate Benzo(b)fluoranthene Benzo(k)fluoranthene Benzo(a)pyrene Indeno(1,2,3-cd)pyrene Dibenz(a,h)anthracene Benzo(g,h,i)perylene	J (all detects) R (all non-detects)	A	Surrogate spikes (%R)

NAS Whiting Field, CTO 116
Semivolatiles - Laboratory Blank Data Qualification Summary - SDG WF008**

No Sample Data Qualified in this SDG

*Indicates change as the result of report review.

NAS Whiting Field, CTO 116
Semivolatiles - Field Blank Data Qualification Summary - SDG WF008**

SDG	Sample	Compound TIC (RT in minutes)	Modified Final Concentration	A or P
WF008	15S00901RE	Di-n-butylphthalate	370U ug/Kg	A
WF008	15R00101	Di-n-butylphthalate	10U ug/L	A

*Indicates change as the result of report review.

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: NAS Whiting Field, CTO 116

MSA/RO Number: 95-102/Release 001

Collection Date: December 9 through December 11, 1995

LDC Report Date: March 6, 1996

Parameters: Chlorinated Pesticides & PCBs

Laboratory: Quality Analytical Laboratories, Inc.

Sample Delivery Group (SDG): WF008**

Sample Identification	Laboratory ID	Matrix
15S02001	G8913002	Soil
15S02001D	G8913003	Soil
15S02101	G8913004	Soil
15S02201	G8913005	Soil
15S02301	G8913006	Soil
15S02401	G8913007	Soil
15S02501	G8913008	Soil
15S01501	G8913009	Soil
15S01401	G8913010	Soil
15S01301	G8913011	Soil
15S01601	G8913012	Soil
15S01701	G8913013	Soil
15S01701D	G8913014	Soil
15S01801	G8913015	Soil
15S01901	G8913016	Soil
15S00901	G8913017	Soil
15R00101	G8913020	Water
15S02001MS	G8913002MS	Soil
15S02001MSD	G8913002MSD	Soil

** Indicates SDG underwent NEESA Level D review.

Introduction

This data review covers 18 soil samples and one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Contract Laboratory Program Statement of Work OLM01.9 for Chlorinated Pesticides and PCBs. Data validation review was based on EPA Contract Laboratory Program Statement of Work OLM01.8 for Chlorinated Pesticides and PCBs.

This review follows the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (February 1994); the following subsections correlate to the above guidelines.

A table summarizing all data qualification flags is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XIV.

The following are definitions of the data qualifiers:

U Indicates the compound or element was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or element was analyzed for but not detected. The sample detection limit is an estimated value.

I. Technical Holding Times

All technical holding time requirements were met.

II. GC/ECD Instrument Performance Check

A Resolution check mixture was analyzed at the beginning of the initial calibration sequence on each GC column. The analyte resolution between adjacent peaks of required compounds was greater than or equal to 60% .

Performance evaluation mixtures (PEM) were analyzed at the proper frequency. The resolution between adjacent peaks was 100% on both GC columns. The absolute retention times for the initial and continuing PEMs were within the calculated retention time windows based on the three-point initial calibration.

The individual 4,4'-DDT and Endrin breakdowns were less than 20.0% and the combined breakdowns were less than 30.0% .

The relative percent difference (RPD) of amount in PEMs were within 25.0% QC limits.

III. Initial Calibration

Initial calibration sequence was followed as required.

Initial calibration of single and multicomponent analytes were performed for both columns at proper frequencies.

The retention time windows were established according to the method.

The percent relative standard deviations (%RSD) of calibration factors for single component analytes were within the 20.0% QC limits with the following exceptions:

Date	Column	Compound	%RSD	Associated Samples	Flag	A or P
11/30/95	SPB-5	Alpha-BHC	21.7	All samples in SDG WF008	J	A
11/30/95	RTX-200	Alpha-BHC	20.3	All samples in SDG WF008	J	A

All required peaks for multicomponent analytes were present.

IV. Continuing Calibration

Continuing calibration sequence was followed as required. No more than 12 hours elapsed between continuing calibration analyses in an analytical sequence.

The retention times (RT) of all compounds in Individual Mix and multicomponent standards were within QC limits.

The relative percent differences (RPD) of amount in Individual Mix standards were within the 25.0% QC limits.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No chlorinated pesticide or PCB contaminants were found in the method blanks.

Instrument blank analyses were performed at the required frequencies. No chlorinated pesticide or PCB contaminants were found in the instrument blanks.

Sample 15R00101 was identified as a rinsate. No chlorinated pesticide or PCB contaminants were found in this blank.

Sample 01F00101 (from SDG WF006) was identified as a source blank. No chlorinated pesticide or PCB contaminants were found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples, standards and blanks as required by the SOW. The retention times for surrogates were within QC limits.

All surrogate recoveries were within QC limits of 60-150% with the following exceptions:

Sample	Column	Surrogate	%R	Compound	Flag	A or P
15S02501	SPB-5	Decachlorobiphenyl	54	All TCL compounds	J	A

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Not applicable to multi-media samples.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Pesticide Cleanup Checks

a. Florisil Cartridge Check

Florisil cartridge checks were performed at the required frequency and all compounds were within the 80-120% recovery QC criteria.

b. GPC Calibration

GPC calibration was performed at the required frequency and all compounds were within the 80-110% recovery QC criteria.

XI. Target Compound Identification

All target compound identifications were within validation criteria.

XII. Compound Quantitation and Reported CRQLs

All compound quantitation and reported CRQLs were within validation criteria with the following exceptions:

Sample	Compound	%D (Limits)	Flag	A or P
15S02101	4,4'-DDE	26.8 (≤25.0)	J	A

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report.

XIV. Field Duplicates

Samples 15S02001 and 15S02001D and samples 15S01701 and 15S01701D were identified as field duplicates. No chlorinated pesticides or PCBs were detected in any of the samples.

NAS Whiting Field, CTO 116
Chlorinated Pesticides & PCBs - Data Qualification Summary - SDG WF008**

SDG	Sample	Compound	Flag	A or P	Reason
WF008	15S02001 15S02001D 15S02101 15S02201 15S02301 15S02401 15S02501 15S01501 15S01401 15S01301 15S01601 15S01701 15S01701D 15S01801 15S01901 15S00901 15R00101	Alpha-BHC	J	A	Initial calibration (%RSD)
WF008	15S02501	All TCL compounds	J	A	Surrogate spikes (%R)
WF008	15S02101	4,4'-DDE	J	A	Compound quantitation and CRQLs (%D)

NAS Whiting Field, CTO 116
Chlorinated Pesticides & PCBs - Laboratory Blank Data Qualification Summary - SDG WF008**

No Sample Data Qualified in this SDG

NAS Whiting Field, CTO 116
Chlorinated Pesticides & PCBs - Field Blank Data Qualification Summary - SDG WF008**

No Sample Data Qualified in this SDG

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: NAS Whiting Field, CTO 116

MSA/RO Number: 95-102/Release 001

Collection Date: December 9 through December 11, 1995

LDC Report Date: March 4, 1996

Parameters: Trace Metals & Cyanide

Laboratory: Quality Analytical Laboratories, Inc.

Sample Delivery Group (SDG): WF008**

Sample Identification	Laboratory ID	Matrix
15S02001	G8913002	Soil
15S02001D	G8913003	Soil
15S02101	G8913004	Soil
15S02201	G8913005	Soil
15S02301	G8913006	Soil
15S02401	G8913007	Soil
15S02501	G8913008	Soil
15S01501	G8913009	Soil
15S01401	G8913010	Soil
15S01301	G8913011	Soil
15S01601	G8913012	Soil
15S01701	G8913013	Soil
15S01701D	G8913014	Soil
15S01801	G8913015	Soil
15S01901	G8913016	Soil
15S00901	G8913017	Soil
15R00101	G8913020	Water
15S02001MS	G8913002MS	Soil
15S02001MSD	G8913002MSD	Soil

** Indicates SDG underwent NEESA Level D review.

Introduction

This data review covers 18 soil samples and one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Contract Laboratory Program Statement of Work (SOW) for Inorganic Analysis, Multi-media, Multi-concentration, D.N. ILM02.1 for Trace Metals and Cyanide.

This review follows USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (February 1994) and incorporates updates per EPA SOW (D.N. ILM02.1); the following subsections correlate to the guidelines.

A table summarizing all data qualification flags is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from specified protocols or is of technical advisory nature.

Blanks are summarized in Section III.

Field duplicates are summarized in Section XII.

The following are definitions of the data qualifiers:

U Indicates the compound or element was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or element was analyzed for but not detected. The sample detection limit is an estimated value.

I. Technical Holding Times

All technical holding time requirements were met.

II. Calibration

All criteria for the initial calibration were met.

The frequency and analysis criteria of the initial calibration verification (ICV) and continuing calibration verification (CCV) were met.

CRDL standards for ICP and AA were analyzed and reported as required.

Instrument detection limits, interelement corrections and linear range analysis were performed at the required frequency with the following exceptions:

Analyte	Calibration	Date of Last Report	Report Frequency Requirement	Date of Analysis	Associated Samples	Flag	A or P
All ICP metals	ICP linear range analysis	8/29/95	Quarterly	12/19/95	All samples in SDG WF008	None	P
Mercury	Instrument detection limits	9/21/95	Quarterly	12/24/95	15S02001 15S02001D 15S02101 15S02201 15S02301 15S02401 15S02501 15S01501 15S01401 15S01301 15S01601 15S01701 15S01701D 15S01801 15S01901 15S00901	None	P
Cyanide	Instrument detection limits	7/10/95	Quarterly	12/20/95	All samples in SDG WF008	None	P

The time elapsed since the last quarterly report was not significant, thus the data are not flagged. However, this is still considered a protocol violation.

III. Blanks

Method blanks were reviewed for each matrix as applicable.

Data qualification by the preparation blanks (PBs) was based on the maximum contaminant concentration in the PBs in the analysis of each element. No contaminant concentrations were found above the IDL in the preparation blanks with the following

exceptions:

Method Blank ID	Analyte	Concentration	Associated Samples
PB (prep blank)	Aluminum Beryllium Copper Iron Sodium	10.014 mg/Kg 0.068 mg/Kg 0.454 mg/Kg 3.440 mg/Kg -72.604 mg/Kg	All soil samples in SDG WF008
PB (prep blank)	Aluminum Beryllium Cobalt Copper Iron Nickel Sodium Thallium	5.768 mg/Kg 0.060 mg/Kg -0.428 mg/Kg 0.728 mg/Kg 1.184 mg/Kg 2.284 mg/Kg -74.238 mg/Kg -0.470 mg/Kg	All soil samples in SDG WF008
PB (prep blank)	Aluminum Beryllium Calcium Cobalt Copper Iron Nickel Sodium Zinc	47.800 ug/L 0.250 ug/L 38.580 ug/L -2.750 ug/L 6.560 ug/L 15.910 ug/L 12.410 ug/L -320.390 ug/L 2.210 ug/L	All water samples in SDG WF008

No metal contaminant concentrations were found above the CRDL in the preparation blanks. Initial and continuing calibration blanks (ICB/CCBs) were evaluated for significant contaminant trends. No technically significant findings were observed.

Sample concentrations were compared to concentrations detected in the PBs. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample ID	Analyte	Reported Concentration	Modified Final Concentration
15S02001	Beryllium Copper Nickel	0.13 mg/Kg 1.9 mg/Kg 2.4 mg/Kg	0.13U mg/Kg 1.9U mg/Kg 2.4U mg/Kg
15S02001D	Beryllium Copper Nickel	0.13 mg/Kg 2.4 mg/Kg 9.1 mg/Kg	0.13U mg/Kg 2.4U mg/Kg 9.1U mg/Kg
15S02101	Beryllium Copper Nickel	0.12 mg/Kg 2.5 mg/Kg 2.5 mg/Kg	0.12U mg/Kg 2.5U mg/Kg 2.5U mg/Kg

Sample ID	Analyte	Reported Concentration	Modified Final Concentration
15S02201	Beryllium Copper Nickel	0.12 mg/Kg 2.0 mg/Kg 3.3 mg/Kg	0.12U mg/Kg 2.0U mg/Kg 3.3U mg/Kg
15S02301	Beryllium Copper	0.11 mg/Kg 1.7 mg/Kg	0.11U mg/Kg 1.7U mg/Kg
15S02401	Beryllium Nickel	0.14 mg/Kg 3.1 mg/Kg	0.14U mg/Kg 3.1U mg/Kg
15S02501	Beryllium Copper	0.14 mg/Kg 1.9 mg/Kg	0.14U mg/Kg 1.9U mg/Kg
15S01501	Beryllium	0.14 mg/Kg	0.14U mg/Kg
15S01401	Beryllium Copper	0.11 mg/Kg 2.3 mg/Kg	0.11U mg/Kg 2.3U mg/Kg
15S01301	Beryllium Copper Nickel	0.12 mg/Kg 2.4 mg/Kg 3.5 mg/Kg	0.12U mg/Kg 2.4U mg/Kg 3.5U mg/Kg
15S01601	Beryllium Copper Nickel	0.10 mg/Kg 2.3 mg/Kg 3.2 mg/Kg	0.10U mg/Kg 2.3U mg/Kg 3.2U mg/Kg
15S01701	Beryllium Copper	0.11 mg/Kg 2.6 mg/Kg	0.11U mg/Kg 2.6U mg/Kg
15S01701D	Beryllium Copper Nickel	0.11 mg/Kg 2.5 mg/Kg 3.0 mg/Kg	0.11U mg/Kg 2.5U mg/Kg 3.0U mg/Kg
15S01801	Beryllium Nickel	0.13 mg/Kg 2.8 mg/Kg	0.13U mg/Kg 2.8U mg/Kg
15S01901	Beryllium Copper Nickel	0.12 mg/Kg 2.4 mg/Kg 3.9 mg/Kg	0.12U mg/Kg 2.4U mg/Kg 3.9U mg/Kg
15S00901	Beryllium Nickel	0.14 mg/Kg 3.1 mg/Kg	0.14U mg/Kg 3.1U mg/Kg

Sample ID	Analyte	Reported Concentration	Modified Final Concentration
15R00101	Aluminum Beryllium Calcium Copper Iron Zinc	54.6 ug/L 0.21 ug/L 22.6 ug/L 5.0 ug/L 45.4 ug/L 1.5 ug/L	54.6U ug/L 0.21U ug/L 22.6U ug/L 5.0U ug/L 45.4U ug/L 1.5U ug/L

Sample 15R00101 was identified as a rinsate. No contaminant concentrations were found above the IDL in this blank with the following exceptions:

Rinsate ID	Date	Analyte	Concentration	Associated Samples
15R00101	12/11/95	Aluminum Barium Beryllium Calcium Copper Iron Zinc	54.6 ug/L 1.0 ug/L 0.21 ug/L 22.6 ug/L 5.0 ug/L 45.4 ug/L 1.5 ug/L	15S02001 15S02001D 15S02101 15S02201 15S02301 15S02401 15S02501 15S01501 15S01401 15S01301 15S01601 15S01701 15S01701D 15S01801 15S01901 15S00901

Sample 01F00101 (from SDG WF006) was identified as a source blank. No contaminant concentrations were found above the IDL in this blank with the following exceptions:

Source Blank ID	Date	Analyte	Concentration	Associated Samples
15R00101	12/6/95	Copper Zinc	3.3 ug/L 113 ug/L	All samples in SDG WF008

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
15S02001	Beryllium Calcium Copper	0.13 mg/Kg 22.2 mg/Kg 1.9 mg/Kg	0.13U mg/Kg 22.2U mg/Kg 1.9U mg/Kg

Sample	Analyte	Reported Concentration	Modified Final Concentration
15S02001D	Beryllium Copper	0.13 mg/Kg 2.4 mg/Kg	0.13U mg/Kg 2.4U mg/Kg
15S02101	Beryllium Calcium Copper	0.12 mg/Kg 15.8 mg/Kg 2.5 mg/Kg	0.12U mg/Kg 15.8U mg/Kg 2.5U mg/Kg
15S02201	Beryllium Copper	0.12 mg/Kg 2.0 mg/Kg	0.12U mg/Kg 2.0U mg/Kg
15S02301	Beryllium Copper	0.11 mg/Kg 1.7 mg/Kg	0.11U mg/Kg 1.7U mg/Kg
15S02401	Beryllium	0.14 mg/Kg	0.14U mg/Kg
15S02501	Beryllium Copper	0.14 mg/Kg 1.9 mg/Kg	0.14U mg/Kg 1.9U mg/Kg
15S01501	Beryllium	0.14 mg/Kg	0.14U mg/Kg
15S01401	Beryllium Copper	0.11 mg/Kg 2.3 mg/Kg	0.11U mg/Kg 2.3U mg/Kg
15S01301	Beryllium Copper	0.12 mg/Kg 2.4 mg/Kg	0.12U mg/Kg 2.4U mg/Kg
15S01601	Beryllium Copper	0.10 mg/Kg 2.3 mg/Kg	0.10U mg/Kg 2.3U mg/Kg
15S01701	Beryllium Copper Zinc	0.11 mg/Kg 2.6 mg/Kg 1.5 mg/Kg	0.11U mg/Kg 2.6U mg/Kg 1.5U mg/Kg
15S01701D	Beryllium Calcium Copper Zinc	0.11 mg/Kg 20.4 mg/Kg 2.5 mg/Kg 1.1 mg/Kg	0.11U mg/Kg 20.4U mg/Kg 2.5U mg/Kg 1.1U mg/Kg
15S01801	Beryllium Calcium Copper	0.13 mg/Kg 21.3 mg/Kg 3.2 mg/Kg	0.13U mg/Kg 21.3U mg/Kg 3.2U mg/Kg
15S01901	Beryllium Copper	0.12 mg/Kg 2.4 mg/Kg	0.12U mg/Kg 2.4U mg/Kg

Sample	Analyte	Reported Concentration	Modified Final Concentration
15S00901	Beryllium Calcium Copper	0.14 mg/Kg 22.5 mg/Kg 3.8 mg/Kg	0.14U mg/Kg 22.5U mg/Kg 3.8U mg/Kg
15R00101	Copper	5.0 ug/L	5.0U ug/L

IV. ICP Interference Check Sample (ICS) Analysis

The frequency of analysis was met with the following exceptions:

Sample	Analyte	Finding	Criteria	Flag	A or P
All soil samples in SDG WF008	Antimony	Antimony was not spiked in ICSAB. The concentration of the common interferents in these samples approximated the spike value.	Antimony is potentially affected by common interferents and should be spiked in ICSAB.	J	A

The criteria for analysis were met.

V. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Recoveries were within QC limits with the following exceptions:

LCS ID	Analyte	%R (Limits)	Associated Samples	Flag	A or P
LCSW	Sodium	67.3% (80-120)	15R00101	J	P

LCS ID	Analyte	Concentration (Limits)	Associated Samples	Flag	A or P
LCSS	Sodium	116.8 mg/Kg (160-240)	15S02001 15S02001D 15S02101 15S02201 15S02301 15S02401 15S02501 15S01501 15S01401 15S01301 15S01601 15S01701 15S01701D 15S01801 15S01901	J	P

LCS ID	Analyte	Concentration (Limits)	Associated Samples	Flag	A or P
LCSS	Sodium	119.5 mg/Kg (160-240)	15S00901	J	P

VI. Duplicate Sample Analysis

Duplicate sample analyses were reviewed for each matrix as applicable. Relative percent differences (RPD) were within QC limits.

VII. Matrix Spike Analysis

Matrix spike analyses were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits of 75-125% with the following exceptions:

Sample (Associated Samples)	Analyte	%R	Flag	A or P
15S02001MS (All soil samples in SDG WF008)	Antimony Mercury	68.2 125.3	J J (all detects)	A

VIII. Furnace Atomic Absorption QC

All graphite furnace atomic absorption QC were within validation criteria with the following exceptions:

Analytical Spike	Analyte	%R (Limits)	Associated Sample	Flag	A or P
15S02001A	Selenium Thallium	129.0 (85-115) 41.4 (85-115)	15S02001	J J	A
15S02001DA	Thallium	56.9 (85-115)	15S02001D	J	A
15S02101A	Selenium Thallium	122.0 (85-115) 61.6 (85-115)	15S02101	J J	A
15S02201A	Selenium Thallium	122.0 (85-115) 41.8 (85-115)	15S02201	J J	A
15S02301A	Thallium	41.6 (85-115)	15S02301	J	A
15S02401A	Selenium Thallium	122.0 (85-115) 51.5 (85-115)	15S02401	J J	A

Analytical Spike	Analyte	%R (Limits)	Associated Sample	Flag	A or P
15S02501A	Selenium Thallium	117.0 (85-115) 77.9 (85-115)	15S02501	J J	A
15S01501A	Thallium	63.5 (85-115)	15S01501	J	A
15S01401A	Thallium	84.0 (85-115)	15S01401	J	A
15S01301A	Thallium	57.7 (85-115)	15S01301	J	A
15S01601A	Thallium	58.2 (85-115)	15S01601	J	A
15S01701A	Selenium Thallium	119.0 (85-115) 50.3 (85-115)	15S01701	J J	A
15S01801A	Thallium	52.5 (85-115)	15S01801	J	A
15S01901A	Arsenic Thallium	80.8 (85-115) 76.8 (85-115)	15S01901	J J	A
15S00901A	Selenium Thallium	127.0 (85-115) 79.0 (85-115)	15S00901	J J	A

IX. ICP Serial Dilution

The frequency of analysis was met.

The criteria for analysis were met with the following exceptions:

Diluted Sample	Analyte	%D (Limits)	Associated Samples	Flag	A or P
15S02001L	Iron	17.0 (≤10)	All soil samples in SDG WF008	J (all detects)	A

X. Sample Result Verification

All sample result verifications met validation criteria with the following exceptions:

Sample	Analyte	Flag	A or P
All samples in SDG WF008	All analytes reported below the CRDL and above the IDL	J	A

XI. Overall Assessment of Data

Data flags have been summarized at the end of this report.

XII. Field Duplicates

Samples 15S02001 and 15S02001D and samples 15S01701 and 15S01701D were identified as field duplicates. No trace metals or cyanide were detected in any of the samples with the following exceptions:

Analyte	Concentration (mg/Kg)		RPD
	15S02001	15S02001D	
Aluminum	4630	5470	17
Arsenic	1.2	1.1	9
Barium	5.6	6.6	16
Beryllium	0.13	0.13	0
Calcium	22.2	25.2	13
Chromium	3.0	3.7	21
Copper	1.9	2.4	23
Iron	2500	2950	17
Lead	5.9	5.9	0
Magnesium	85.0	107	23
Manganese	75.2	87.1	15
Mercury	0.02	0.02	0
Nickel	2.4	9.1	117
Selenium	0.26	ND	Not calculable
Vanadium	5.7	7.1	22
Zinc	3.0	4.1	31

Analyte	Concentration (mg/Kg)		RPD
	15S01701	15S01701D	
Aluminum	13700	9290	38
Arsenic	3.7	4.3	15
Barium	4.4	3.8	15
Beryllium	0.11	0.11	0
Calcium	23.7	20.4	15
Chromium	14.8	14.0	6
Copper	2.6	2.5	4
Iron	11900	10400	13
Lead	4.7	4.1	14
Magnesium	51.2	41.8	20
Manganese	10.8	6.8	45
Nickel	ND	3.0	Not calculable
Selenium	ND	0.25	Not calculable
Vanadium	35.9	31.8	12
Zinc	1.5	1.1	31

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Trace Metals & Cyanide - Data Qualification Summary - SDG WF008**

SDG	Sample ID	Analyte	Flag	A or P	Reason
WF008	15S02001	Aluminum	None	P	Linear range analysis
	15S02001D	Antimony	None		
	15S02101	Barium	None		
	15S02201	Beryllium	None		
	15S02301	Cadmium	None		
	15S02401	Calcium	None		
	15S02501	Chromium	None		
	15S01501	Cobalt	None		
	15S01401	Copper	None		
	15S01301	Iron	None		
	15S01601	Magnesium	None		
	15S01701	Manganese	None		
	15S01701D	Nickel	None		
	15S01801	Potassium	None		
	15S01901	Silver	None		
	15S00901	Sodium	None		
	15R00101	Vanadium	None		
		Zinc	None		
WF008	15S02001	Mercury	None	P	Instrument detection limit
	15S02001D				
	15S02101				
	15S02201				
	15S02301				
	15S02401				
	15S02501				
	15S01501				
	15S01401				
	15S01301				
	15S01601				
	15S01701				
	15S01701D				
	15S01801				
	15S01901				
	15S00901				
WF008	15S02001	Cyanide	None	P	Instrument detection limit
	15S02001D				
	15S02101				
	15S02201				
	15S02301				
	15S02401				
	15S02501				
	15S01501				
	15S01401				
	15S01301				
	15S01601				
	15S01701				
	15S01701D				
	15S01801				
	15S01901				
	15S00901				
	15R00101				

SDG	Sample ID	Analyte	Flag	A or P	Reason
WF008	15S02001 15S02001D 15S02101 15S02201 15S02301 15S02401 15S02501 15S01501 15S01401 15S01301 15S01601 15S01701 15S01701D 15S01801 15S01901 15S00901	Antimony	J	A	ICP interference check sample analysis
WF008	15S02001 15S02001D 15S02101 15S02201 15S02301 15S02401 15S02501 15S01501 15S01401 15S01301 15S01601 15S01701 15S01701D 15S01801 15S01901 15S00901 15R00101	Sodium	J	P	Laboratory control samples
WF008	15S02001 15S02001D 15S02101 15S02201 15S02301 15S02401 15S02501 15S01501 15S01401 15S01301 15S01601 15S01701 15S01701D 15S01801 15S01901 15S00901	Antimony Mercury	J J (all detects)	A	Matrix spike analysis (%R)
WF008	15S02001 15S02101 15S02201 15S02401 15S02501 15S01701 15S00901	Selenium Thallium	J J	A	Furnace atomic absorption QC (%R)

SDG	Sample ID	Analyte	Flag	A or P	Reason
WF008	15S02001D 15S02301 15S01501 15S01401 15S01301 15S01601 15S01801	Thallium	J	A	Furnace atomic absorption QC (%R)
WF008	15S01901	Arsenic Thallium	J J	A	Furnace atomic absorption QC (%R)
WF008	15S02001 15S02001D 15S02101 15S02201 15S02301 15S02401 15S02501 15S01501 15S01401 15S01301 15S01601 15S01701 15S01701D 15S01801 15S01901 15S00901	Iron	J (all detects)	A	ICP serial dilution (%D)
WF008	15S02001 15S02001D 15S02101 15S02201 15S02301 15S02401 15S02501 15S01501 15S01401 15S01301 15S01601 15S01701 15S01701D 15S01801 15S01901 15S00901 15R00101	All analytes reported below the CRDL and above the IDL	J	A	Sample result verification

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Trace Metals & Cyanide - Laboratory Blank Data Qualification Summary - SDG WF008**

SDG	Sample ID	Analyte	Modified Final Concentration	A or P
WF008	15S02001	Beryllium Copper Nickel	0.13U mg/Kg 1.9U mg/Kg 2.4U mg/Kg	A
WF008	15S02001D	Beryllium Copper Nickel	0.13U mg/Kg 2.4U mg/Kg 9.1U mg/Kg	A
WF008	15S02101	Beryllium Copper Nickel	0.12U mg/Kg 2.5U mg/Kg 2.5U mg/Kg	A
WF008	15S02201	Beryllium Copper Nickel	0.12U mg/Kg 2.0U mg/Kg 3.3U mg/Kg	A
WF008	15S02301	Beryllium Copper	0.11U mg/Kg 1.7U mg/Kg	A
WF008	15S02401	Beryllium Nickel	0.14U mg/Kg 3.1U mg/Kg	A
WF008	15S02501	Beryllium Copper	0.14U mg/Kg 1.9U mg/Kg	A
WF008	15S01501	Beryllium	0.14U mg/Kg	A
WF008	15S01401	Beryllium Copper	0.11U mg/Kg 2.3U mg/Kg	A
WF008	15S01301	Beryllium Copper Nickel	0.12U mg/Kg 2.4U mg/Kg 3.5U mg/Kg	A
WF008	15S01601	Beryllium Copper Nickel	0.10U mg/Kg 2.3U mg/Kg 3.2U mg/Kg	A
WF008	15S01701	Beryllium Copper	0.11U mg/Kg 2.6U mg/Kg	A
WF008	15S01701D	Beryllium Copper Nickel	0.11U mg/Kg 2.5U mg/Kg 3.0U mg/Kg	A

SDG	Sample ID	Analyte	Modified Final Concentration	A or P
WF008	15S01801	Beryllium Nickel	0.13U mg/Kg 2.8U mg/Kg	A
WF008	15S01901	Beryllium Copper Nickel	0.12U mg/Kg 2.4U mg/Kg 3.9U mg/Kg	A
WF008	15S00901	Beryllium Nickel	0.14U mg/Kg 3.1U mg/Kg	A
WF008	15R00101	Aluminum Beryllium Calcium Copper Iron Zinc	54.6U ug/L 0.21U ug/L 22.6U ug/L 5.0U ug/L 45.4U ug/L 1.5U ug/L	A

NAS Whiting Field, CTO 116
Trace Metals & Cyanide - Field Blank Data Qualification Summary - SDG WF008**

SDG	Sample	Analyte	Modified Final Concentration	A or P
WF008	15S02001	Beryllium Calcium Copper	0.13U mg/Kg 22.2U mg/Kg 1.9U mg/Kg	A
WF008	15S02001D	Beryllium Copper	0.13U mg/Kg 2.4U mg/Kg	A
WF008	15S02101	Beryllium Calcium Copper	0.12U mg/Kg 15.8U mg/Kg 2.5U mg/Kg	A
WF008	15S02201	Beryllium Copper	0.12U mg/Kg 2.0U mg/Kg	A
WF008	15S02301	Beryllium Copper	0.11U mg/Kg 1.7U mg/Kg	A
WF008	15S02401	Beryllium	0.14U mg/Kg	A
WF008	15S02501	Beryllium Copper	0.14U mg/Kg 1.9U mg/Kg	A
WF008	15S01501	Beryllium	0.14U mg/Kg	A

SDG	Sample	Analyte	Modified Final Concentration	A or P
WF008	15S01401	Beryllium Copper	0.11U mg/Kg 2.3U mg/Kg	A
WF008	15S01301	Beryllium Copper	0.12U mg/Kg 2.4U mg/Kg	A
WF008	15S01601	Beryllium Copper	0.10U mg/Kg 2.3U mg/Kg	A
WF008	15S01701	Beryllium Copper Zinc	0.11U mg/Kg 2.6U mg/Kg 1.5U mg/Kg	A
WF008	15S01701D	Beryllium Calcium Copper Zinc	0.11U mg/Kg 20.4U mg/Kg 2.5U mg/Kg 1.1U mg/Kg	A
WF008	15S01801	Beryllium Calcium Copper	0.13U mg/Kg 21.3U mg/Kg 3.2U mg/Kg	A
WF008	15S01901	Beryllium Copper	0.12U mg/Kg 2.4U mg/Kg	A
WF008	15S00901	Beryllium Calcium Copper	0.14U mg/Kg 22.5U mg/Kg 3.8U mg/Kg	A
WF008	15R00101	Copper	5.0U ug/L	A

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: NAS Whiting Field, CTO 116

MSA/RO Number: 95-102/Release 001

Collection Date: December 10 through December 11, 1995

LDC Report Date: March 5, 1996

Parameters: Volatiles

Laboratory: Quality Analytical Laboratories, Inc.

Sample Delivery Group (SDG): WF009**

Sample Identification	Laboratory ID	Matrix
15T00201	G8914001	Water
15S00101	G8914002	Soil
15S00101D	G8914003	Soil
15S00201	G8914004	Soil
15S00301	G8914005	Soil
15S00501	G8914006	Soil
15S00401	G8914007	Soil
15S00601	G8914008	Soil
15S00701	G8914009	Soil
15S00801	G8914010	Soil
15S01201	G8914011	Soil
15R00201	G8914012	Water
15S01101	G8914013	Soil
15S01001	G8914014	Soil
15S00101MS	G8914002MS	Soil
15S00101MSD	G8914002MSD	Soil

** Indicates SDG underwent NEESA Level D review.

Introduction

This data review covers 14 soil samples and 2 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Contract Laboratory Program Statement of Work OLM01.9 for Volatiles. The data validation review was based on EPA Contract Laboratory Program Statement of Work OLM01.8 for Volatiles.

This review follows USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (February 1994); the following subsections correlate to the above guidelines.

A table summarizing all data qualification is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XVI.

The following are definitions of the data qualifiers:

U Indicates the compound or element was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or element was analyzed for but not detected. The sample detection limit is an estimated value.

I. Technical Holding Times

All technical holding time requirements were met.

II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals. All ion abundance requirements were met.

III. Initial Calibration

Initial calibration was performed as required with the following exceptions:

Sample	Compound	Finding	Criteria	Flag	A or P
All water samples in SDG WF009	All TCL compounds	Samples were analyzed under heated purge.	Water samples should be analyzed under unheated purge.	None	P

Initial calibration was performed using required standard concentrations.

Percent relative standard deviations (%RSD) were less than or equal to 30.0% for all compounds.

Average relative response factors (RRF) for all volatile target compounds and system monitoring compounds were within validation criteria.

IV. Continuing Calibration

Continuing calibration was performed as required with the following exceptions:

Sample	Compound	Finding	Criteria	Flag	A or P
All water samples in SDG WF009	All TCL compounds	Samples were analyzed under heated purge.	Water samples should be analyzed under unheated purge.	None	P

Continuing calibration was performed at the required frequencies.

All of the continuing calibration percent differences (%D) between the initial calibration RRF and the continuing calibration RRF were less than or equal to 25.0% .

All of the continuing calibration RRF values were within validation criteria.

V. Blanks

Method blanks were reviewed for each matrix as applicable with the following exceptions:

Sample	Compound	Finding	Criteria	Flag	A or P
All water samples in SDG WF009	All TCL compounds	Water samples associated with soil method blanks.	Water samples to be associated with water method blanks.	None	P

No volatile contaminants were found in the method blanks.

Samples 15T00201 and 15T00101 (from SDG WF008) were identified as trip blanks. No volatile contaminants were found in these blanks with the following exceptions:

Trip Blank ID	Date	Compound TIC (RT in minutes)	Concentration	Associated Samples
15T00201	12/11/95	Acetone	19 ug/L	15S00101 15S00101D 15S00201 15S00301 15S00501 15S00401 15S00601 15S00701 15S00801 15R00201
15T00101	12/9/95	Acetone	8 ug/L	15S01201 15S01101 15S01001

Sample 15R00201 was identified as an equipment rinsate. No volatile contaminants were found in this blank with the following exceptions:

Equipment Rinsate ID	Date	Compound TIC (RT in minutes)	Concentration	Associated Samples
15R00201	12/11/95	Acetone	12 ug/L	15S00101 15S00101D 15S00201 15S00301 15S00501 15S00401 15S00601 15S00701 15S00801 15S01201 15S01101 15S01001

Sample 01F00101 (from SDG WF006) was identified as a source blank. No volatile contaminants were found in this blank with the following exceptions:

Source Blank ID	Date	Compound TIC (RT in minutes)	Concentration	Associated Samples
01F00101	12/6/95	Acetone 2-Butanone	12 ug/L 2 ug/L	15S00101 15S00101D 15S00201 15S00301 15S00501 15S00401 15S00601 15S00701 15S00801 15S01201 15R00201 15S01101 15S01001

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Compound TIC (RT in minutes)	Reported Concentration	Modified Final Concentration
15S00101	Acetone	6 ug/Kg	11U ug/Kg
15S00101D	Acetone	7 ug/Kg	11U ug/Kg
15S00201	Acetone	13 ug/Kg	13U ug/Kg
15S00301	Acetone	5 ug/Kg	11U ug/Kg
15S00501	Acetone	9 ug/Kg	10U ug/Kg
15S00401	Acetone	7 ug/Kg	11U ug/Kg
15S00701	Acetone	4 ug/Kg	11U ug/Kg
15S00801	Acetone	7 ug/Kg	11U ug/Kg
15R00201	Acetone	12 ug/L	12U ug/L
15S01201	Acetone	6 ug/Kg	11U ug/Kg
15S01101	Acetone	7 ug/Kg	11U ug/Kg

Sample	Compound TIC (RT in minutes)	Reported Concentration	Modified Final Concentration
15S01001	Acetone	22 ug/Kg	22U ug/Kg

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the SOW. All surrogate recoveries were within validation criteria.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Not applicable to multi-media samples.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

All internal standard areas and retention times were within QC limits.

XI. Target Compound Identifications

All target compound identifications were within validation criteria.

XII. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria.

XIII. Tentatively Identified Compounds (TICs)

Tentatively identified compounds were not reported by the laboratory.

XIV. System Performance

The system performance was acceptable.

XV. Overall Assessment of Data

Data flags have been summarized at the end of the report.

XVI. Field Duplicates

Samples 15S00101 and 15S00101D were identified as field duplicates. No volatiles were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/Kg)		RPD
	15S00101	15S00101D	
Acetone	6	7	15

NAS Whiting Field, CTO 116
Volatiles - Data Qualification Summary - SDG WF009**

SDG	Sample	Compound	Flag	A or P	Reason
WF009	15T00201 15R00201	All TCL compounds	None	P	Initial calibration
WF009	15T00201 15R00201	All TCL compounds	None	P	Continuing calibration
WF009	15T00201 15R00201	All TCL compounds	None	P	Method blanks

NAS Whiting Field, CTO 116
Volatiles - Laboratory Blank Data Qualification Summary - SDG WF009**

No Sample Data Qualified in this SDG

NAS Whiting Field, CTO 116
Volatiles - Field Blank Data Qualification Summary - SDG WF009**

SDG	Sample	Compound TIC (RT in minutes)	Modified Final Concentration	A or P
WF009	15S00101	Acetone	11U ug/Kg	A
WF009	15S00101D	Acetone	11U ug/Kg	A
WF009	15S00201	Acetone	13U ug/Kg	A
WF009	15S00301	Acetone	11U ug/Kg	A
WF009	15S00501	Acetone	10U ug/Kg	A
WF009	15S00401	Acetone	11U ug/Kg	A
WF009	15S00701	Acetone	11U ug/Kg	A
WF009	15S00801	Acetone	11U ug/Kg	A
WF009	15R00201	Acetone	12U ug/L	A
WF009	15S01201	Acetone	11U ug/Kg	A

SDG	Sample	Compound TIC (RT in minutes)	Modified Final Concentration	A or P
WF009	15S01101	Acetone	11U ug/Kg	A
WF009	15S01001	Acetone	22U ug/Kg	A

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: NAS Whiting Field, CTO 116

MSA/RO Number: 95-102/Release 001

Collection Date: December 10 through December 11, 1995

LDC Report Date: March 6, 1996

Parameters: Semivolatiles

Laboratory: Quality Analytical Laboratories, Inc.

Sample Delivery Group (SDG): WF009**

Sample Identification	Laboratory ID	Matrix
15S00101	G8914002	Soil
15S00101R	G8914002R	Soil
15S00101D	G8914003	Soil
15S00201	G8914004	Soil
15S00301	G8914005	Soil
15S00501	G8914006	Soil
15S00401	G8914007	Soil
15S00601	G8914008	Soil
15S00701	G8914009	Soil
15S00801	G8914010	Soil
15S01201	G8914011	Soil
15R00201	G8914012	Water
15S01101	G8914013	Soil
15S01001	G8914014	Soil
15S00101MS	G8914002MS	Soil
15S00101MSD	G8914002MSD	Soil
15S00101RMS	G8914002RMS	Soil
15S00101RMSD	G8914002RMSD	Soil

** Indicates SDG underwent NEESA Level D review.

Introduction

This data review covers 17 soil samples and one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Contract Laboratory Program Statement of Work OLM01.9 for Semivolatiles. Data validation review was based on EPA Contract Laboratory Program Statement of Work, OLM01.8 for Semivolatiles.

This review follows USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (February 1994); the following subsections correlate to the above guidelines.

A table summarizing all data qualification is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XVI.

The following are definitions of the data qualifiers:

U Indicates the compound or element was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or element was analyzed for but not detected. The sample detection limit is an estimated value.

I. Technical Holding Times

All technical holding time requirements were met with the following exceptions:

Sample	Total Days From Sample Collection Until Extraction	Required Holding Time (in Days) From Sample Collection Until Extraction	Flag	A or P
15S00101R	16	14	J	A
15S00101RMS	16	14	J	A
15S00101RMSD	16	14	J	A

II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals. All ion abundance requirements were met.

III. Initial Calibration

Initial calibration was performed using required standard concentrations.

Percent relative standard deviations (%RSD) were less than or equal to 30.0% .

Average relative response factors (RRF) for all semivolatile target compounds and system monitoring compounds were greater than or equal to 0.05 .

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

All of the continuing calibration percent differences (%D) between the initial calibration RRF and the continuing calibration RRF were less than or equal to 25.0% with the following exceptions:

Date	Compound	%D	Associated Samples	Flag	A or P
12/15/95	Nitrobenzene Pentachlorophenol	25.6 29.6	15R00201 SBLK4N	J J	A
12/31/95	2,4-Dinitrophenol 4-Nitrophenol Pentachlorophenol 3,3'-Dichlorobenzidine Benzo(b)fluoranthene	42.0 27.3 34.8 25.9 27.7	15S00101R 15S00101RMS 15S00101RMSD SBLK5C	J J J J J	A

All of the continuing calibration RRF values were greater than or equal to 0.05 .

V. Blanks

Method blanks were reviewed for each matrix as applicable. No semivolatile contaminants were found in the method blanks.

Sample 15R00201 was identified as a rinsate. No semivolatile contaminants were found in this blank with the following exceptions:

Rinsate ID	Date	Compound TIC (RT in minutes)	Concentration	Associated Samples
15R00201	12/11/95	Di-n-butylphthalate	4 ug/L	15S00101 15S00101R 15S00101D 15S00201 15S00301 15S00501 15S00401 15S00601 15S00701 15S00801 15S01201 15S01101 15S01001

Sample 01F00101 (from SDG WF006) was identified as a source blank. No semivolatile contaminants were found in this blank with the following exceptions:

Source Blank ID	Date	Compound TIC (RT in minutes)	Concentration	Associated Samples
01F00101	12/6/95	Di-n-butylphthalate	15 ug/L	15S00101 15S00101R 15S00101D 15S00201 15S00301 15S00501 15S00401 15S00601 15S00701 15S00801 15S01201 15R00201 15S01101 15S01001

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Compound TIC (RT in minutes)	Reported Concentration	Modified Final Concentration
15S00801	Di-n-butylphthalate	370 ug/Kg	370U ug/Kg
15R00201	Di-n-butylphthalate	4 ug/L	10U ug/L

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the SOW. All surrogate recoveries were within validation criteria.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

Sample (Associated Samples)	Compound	MS (%R) (Limits)	MSD (%R) (Limits)	RPD (Limits)	Flag	A or P
15S00101MS/MSD (15S00101D 15S00301 15S00501 15S00401 15S00601 15S00701 15S00801 15S01201 15S01101 15S01001 15S00101)	2-Chlorophenol 1,4-Dichlorobenzene 1,2,4-Trichlorobenzene Acenaphthene Pentachlorophenol Pyrene	16 (25-102) 0 (28-104) 0 (38-107) 0 (31-137) 10 (17-109) 0 (35-142)	- 0 (28-104) 3 (38-107) 9 (31-137) - 0 (35-142)	110 (≤50) - 200 (≤23) 200 (≤19) 127 (≤47) -	None None None None None None	A
15S00101RMS/MSD (15S00101R)	2,4-Dinitrotoluene	-	95 (28-89)	-	J (all detects)	A
15S00101MS/MSD (15S00201)	1,4-Dichlorobenzene 1,2,4-Trichlorobenzene Acenaphthene Pyrene	0 (28-104) 0 (38-107) 0 (31-137) 0 (35-142)	0 (28-104) 3 (38-107) 9 (31-137) 0 (35-142)	- 200 (≤23) 200 (≤19) -	J (all detects) R (all non-detects)	A

VIII. Laboratory Control Samples (LCS)

Not applicable to multi-media samples.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

All internal standard areas and retention times were within QC limits.

XI. Target Compound Identifications

All target compound identifications were within validation criteria.

XII. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria.

XIII. Tentatively Identified Compounds (TICs)

Tentatively identified compounds were not reported by the laboratory.

XIV. System Performance

The system performance was acceptable.

XV. Overall Assessment of Data

Data flags have been summarized at the end of the report.

XVI. Field Duplicates

Samples 15S00101 and 15S00101D were identified as field duplicates. No semivolatiles were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/Kg)		RPD
	15S00101	15S00101D	
Bis(2-ethylhexyl)phthalate	ND	1700	Not calculable

NAS Whiting Field, CTO 116
Semivolatiles - Data Qualification Summary - SDG WF009**

SDG	Sample	Compound	Flag	A or P	Reason
WF009	15S00101R	All TCL compounds	J	A	Technical holding times
WF009	15R00201	Nitrobenzene Pentachlorophenol	J J	A	Continuing calibration (%D)
WF009	15S00101R	2,4-Dinitrophenol 4-Nitrophenol Pentachlorophenol 3,3'-Dichlorobenzidine Benzo(b)fluoranthene	J J J J J	A	Continuing calibration (%D)
WF009	15S00101R	2,4-Dinitrotoluene	J (all detects)	A	Matrix spike/Matrix spike duplicates (%R)
WF009	15S00201	1,4-Dichlorobenzene 1,2,4-Trichlorobenzene Acenaphthene Pyrene	J (all detects) R (all non-detects)	A	Matrix spike/Matrix spike duplicates (%R)(RPD)

NAS Whiting Field, CTO 116
Semivolatiles - Laboratory Blank Data Qualification Summary - SDG WF009**

No Sample Data Qualified in this SDG

NAS Whiting Field, CTO 116
Semivolatiles - Field Blank Data Qualification Summary - SDG WF009**

SDG	Sample	Compound TIC (RT in minutes)	Modified Final Concentration	A or P
WF009	15S00801	Di-n-butylphthalate	370U ug/Kg	A
WF009	15R00201	Di-n-butylphthalate	10U ug/L	A

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: NAS Whiting Field, CTO 116

MSA/RO Number: 95-102/Release 001

Collection Date: December 10 through December 11, 1995

LDC Report Date: March 6, 1996

Parameters: Chlorinated Pesticides & PCBs

Laboratory: Quality Analytical Laboratories, Inc.

Sample Delivery Group (SDG): WF009**

Sample Identification	Laboratory ID	Matrix
15S00101	G8914002	Soil
15S00101D	G8914003	Soil
15S00201	G8914004	Soil
15S00301	G8914005	Soil
15S00501	G8914006	Soil
15S00401	G8914007	Soil
15S00601	G8914008	Soil
15S00701	G8914009	Soil
15S00801	G8914010	Soil
15S01201	G8914011	Soil
15R00201	G8914012	Water
15S01101	G8914013	Soil
15S01001	G8914014	Soil
15S00101MS	G8914002MS	Soil
15S00101MSD	G8914002MSD	Soil

** Indicates SDG underwent NEESA Level D review.

Introduction

This data review covers 14 soil samples and one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Contract Laboratory Program Statement of Work OLM01.9 for Chlorinated Pesticides and PCBs. Data validation review was based on EPA Contract Laboratory Program Statement of Work OLM01.8 for Chlorinated Pesticides and PCBs.

This review follows the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (February 1994); the following subsections correlate to the above guidelines.

A table summarizing all data qualification flags is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XIV.

The following are definitions of the data qualifiers:

U Indicates the compound or element was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or element was analyzed for but not detected. The sample detection limit is an estimated value.

I. Technical Holding Times

All technical holding time requirements were met.

II. GC/ECD Instrument Performance Check

A Resolution check mixture was analyzed at the beginning of the initial calibration sequence on each GC column. The analyte resolution between adjacent peaks of required compounds was greater than or equal to 60% .

Performance evaluation mixtures (PEM) were analyzed at the proper frequency. The resolution between adjacent peaks was 100% on both GC columns. The absolute retention times for the initial and continuing PEMs were within the calculated retention time windows based on the three-point initial calibration.

The individual 4,4'-DDT and Endrin breakdowns were less than 20.0% and the combined breakdowns were less than 30.0% .

The relative percent difference (RPD) of amount in PEMs were within 25.0% QC limits.

III. Initial Calibration

Initial calibration sequence was followed as required.

Initial calibration of single and multicomponent analytes were performed for both columns at proper frequencies.

The retention time windows were established according to the method.

The percent relative standard deviations (%RSD) of calibration factors for single component analytes were within the 20.0% QC limits with the following exceptions:

Date	Column	Compound	%RSD	Associated Samples	Flag	A or P
11/30/95	SPB-5	Alpha-BHC	21.7	All samples in SDG WF009	J	A
11/30/95	RTX-200	Alpha-BHC	20.3	All samples in SDG WF009	J	A

All required peaks for multicomponent analytes were present.

IV. Continuing Calibration

Continuing calibration sequence was followed as required. No more than 12 hours elapsed between continuing calibration analyses in an analytical sequence.

The retention times (RT) of all compounds in Individual Mix and multicomponent standards were within QC limits.

The relative percent differences (RPD) of amount in Individual Mix standards were within the 25.0% QC limits.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No chlorinated pesticide or PCB contaminants were found in the method blanks.

Instrument blank analyses were performed at the required frequencies. No chlorinated pesticide or PCB contaminants were found in the instrument blanks.

Sample 15R00201 was identified as a rinsate. No chlorinated pesticide or PCB contaminants were found in this blank.

Sample 01F00101 (from SDG WF006) was identified as a source blank. No chlorinated pesticide or PCB contaminants were found in this blank.

VI. Surrogate Spikes

Surrogates were added to all samples, standards and blanks as required by the SOW. The retention times for surrogates were within QC limits.

All surrogate recoveries were within QC limits of 60-150% .

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Not applicable to multi-media samples.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Pesticide Cleanup Checks

a. Florisil Cartridge Check

Florisil cartridge checks were performed at the required frequency and all compounds were within the 80-120% recovery QC criteria.

b. GPC Calibration

GPC calibration was performed at the required frequency and all compounds were within the 80-110% recovery QC criteria.

XI. Target Compound Identification

All target compound identifications were within validation criteria.

XII. Compound Quantitation and Reported CRQLs

All compound quantitation and reported CRQLs were within validation criteria with the following exceptions:

Sample	Compound	%D (Limit)	Flag	A or P
15S01001	4,4'-DDE	36.4 (≤25)	J	A

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report.

XIV. Field Duplicates

Samples 15S00101 and 15S00101D were identified as field duplicates. No chlorinated pesticides or PCBs were detected in any of the samples.

NAS Whiting Field, CTO 116
Chlorinated Pesticides & PCBs - Data Qualification Summary - SDG WF009**

SDG	Sample	Compound	Flag	A or P	Reason
WF009	15S00101 15S00101D 15S00201 15S00301 15S00501 15S00401 15S00601 15S00701 15S00801 15S01201 15R00201 15S01101 15S01001	Alpha-BHC	J	A	Initial calibration (%RSD)
WF009	15S01001	4,4'-DDE	J	A	Compound quantitation and CRQLs (%D)

NAS Whiting Field, CTO 116
Chlorinated Pesticides & PCBs - Laboratory Blank Data Qualification Summary - SDG WF009**

No Sample Data Qualified in this SDG

NAS Whiting Field, CTO 116
Chlorinated Pesticides & PCBs - Field Blank Data Qualification Summary - SDG WF009**

No Sample Data Qualified in this SDG

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: NAS Whiting Field, CTO 116

MSA/RO Number: 95-102/Release 001

Collection Date: December 10 through December 11, 1995

LDC Report Date: March 5, 1996

Parameters: TCL Metals & Cyanide

Laboratory: Quality Analytical Laboratories, Inc.

Sample Delivery Group (SDG): WF009**

Sample Identification	Laboratory ID	Matrix
15S00101	G8914002	Soil
15S00101D	G8914003	Soil
15S00201	G8914004	Soil
15S00301	G8914005	Soil
15S00501	G8914006	Soil
15S00401	G8914007	Soil
15S00601	G8914008	Soil
15S00701	G8914009	Soil
15S00801	G8914010	Soil
15S01201	G8914011	Soil
15R00201	G8914012	Water
15S01101	G8914013	Soil
15S01001	G8914014	Soil
15S00101MS	G8914002MS	Soil
15S00101MSD	G8914002MSD	Soil

** Indicates SDG underwent NEESA Level D review.

Introduction

This data review covers 14 soil samples and one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Contract Laboratory Program Statement of Work (SOW) for Inorganic Analysis, Multi-media, Multi-concentration, D.N. ILM02.1 for TCL Metals and Cyanide.

This review follows USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (February 1994) and incorporates updates per EPA SOW (D.N. ILM02.1); the following subsections correlate to the guidelines.

A table summarizing all data qualification flags is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from specified protocols or is of technical advisory nature.

Blanks are summarized in Section III.

Field duplicates are summarized in Section XII.

The following are definitions of the data qualifiers:

U Indicates the compound or element was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or element was analyzed for but not detected. The sample detection limit is an estimated value.

I. Technical Holding Times

All technical holding time requirements were met.

II. Calibration

All criteria for the initial calibration were met.

The frequency and analysis criteria of the initial calibration verification (ICV) and continuing calibration verification (CCV) were met.

CRDL standards for ICP and AA were analyzed and reported as required.

Instrument detection limits, interelement corrections and linear range analysis were performed at the required frequency with the following exceptions:

Analyte	Calibration	Date of Last Report	Report Frequency Requirement	Date of Analysis	Associated Samples	Flag	A or P
All ICP metals	ICP Linear Range Analysis	8-29-95	Quarterly	12/19/95	All samples in SDG WF009	None	P
Cyanide	Instrument detection limits	7/10/95	Quarterly	12/20-21/95	All samples in SDG WF009	None	P

III. Blanks

Method blanks were reviewed for each matrix as applicable.

Data qualification by the preparation blanks (PBs) was based on the maximum contaminant concentration in the PBs in the analysis of each element. No contaminant concentrations were found above the IDL in the preparation blanks with the following exceptions:

Method Blank ID	Analyte	Concentration	Associated Samples
PB (prep blank)	Aluminum Beryllium Copper Iron Sodium	10.014 mg/Kg 0.068 mg/Kg 0.454 mg/Kg 3.440 mg/Kg -72.604 mg/Kg	All soil samples in SDG WF009

Method Blank ID	Analyte	Concentration	Associated Samples
PB (prep blank)	Aluminum Beryllium Cobalt Copper Iron Nickel Sodium Thallium	5.768 mg/Kg 0.068 mg/Kg -0.428 mg/Kg 0.728 mg/Kg 1.184 mg/Kg 2.284 mg/Kg -74.238 mg/Kg -0.470 mg/Kg	All soil samples in SDG WF009
PB (prep blank)	Aluminum Beryllium Calcium Cobalt Copper Iron Nickel Sodium Zinc	47.800 ug/L 0.250 ug/L 38.580 ug/L -2.750 ug/L 6.560 ug/L 15.910 ug/L 12.410 ug/L -320.390 ug/L 2.210 ug/L	All water samples in SDG WF009

No metal contaminant concentrations were found above the CRDL in the preparation blanks. Initial and continuing calibration blanks (ICB/CCBs) were evaluated for significant contaminant trends. No technically significant findings were observed.

Sample concentrations were compared to concentrations detected in the PBs. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample ID	Analyte	Reported Concentration	Modified Final Concentration
15S00101	Beryllium Copper Nickel	0.12 mg/Kg 3.4 mg/Kg 5.0 mg/Kg	0.12U mg/Kg 3.4U mg/Kg 5.0U mg/Kg
15S00101D	Beryllium Nickel	0.13 mg/Kg 2.4 mg/Kg	0.13U mg/Kg 2.4U mg/Kg
15S00201	Beryllium Copper Nickel	0.12 mg/Kg 2.1 mg/Kg 3.6 mg/Kg	0.12U mg/Kg 2.1U mg/Kg 3.6U mg/Kg
15S00301	Beryllium Copper Nickel	0.13 mg/Kg 3.4 mg/Kg 3.3 mg/Kg	0.13U mg/Kg 3.4U mg/Kg 3.3U mg/Kg
15S00501	Beryllium Copper Nickel	0.11 mg/Kg 3.6 mg/Kg 3.1 mg/Kg	0.11U mg/Kg 3.6U mg/Kg 3.1U mg/Kg

Sample ID	Analyte	Reported Concentration	Modified Final Concentration
15S00401	Beryllium Nickel	0.14 mg/Kg 4.2 mg/Kg	0.14U mg/Kg 4.2U mg/Kg
15S00601	Beryllium Nickel	0.14 mg/Kg 3.3 mg/Kg	0.14U mg/Kg 3.3U mg/Kg
15S00701	Beryllium Copper Nickel	0.11 mg/Kg 2.5 mg/Kg 3.1 mg/Kg	0.11U mg/Kg 2.5U mg/Kg 3.1U mg/Kg
15S00801	Beryllium Copper Nickel	0.20 mg/Kg 3.5 mg/Kg 4.1 mg/Kg	0.20U mg/Kg 3.5U mg/Kg 4.1U mg/Kg
15S01201	Beryllium	0.13 mg/Kg	0.13U mg/Kg
15R00201	Aluminum Beryllium Calcium Copper Iron Nickel	69.8 ug/L 0.29 ug/L 58.5 ug/L 6.5 ug/L 29.2 ug/L 48.7 ug/L	69.8U ug/L 0.29U ug/L 58.5U ug/L 6.5U ug/L 29.2U ug/L 48.7U ug/L
15S01101	Beryllium Copper Nickel	0.10 mg/Kg 2.0 mg/Kg 2.5 mg/Kg	0.10U mg/Kg 2.0U mg/Kg 2.5U mg/Kg
15S01001	Beryllium Copper	0.14 mg/Kg 2.4 mg/Kg	0.14U mg/Kg 2.4U mg/Kg

Sample 15R00201 was identified as a rinsate. No contaminant concentrations were found above the IDL in this blank with the following exceptions:

Rinsate ID	Date	Analyte	Concentration	Associated Samples
15R00201	12/11/95	Aluminum Barium Beryllium Calcium Copper Iron Nickel Zinc	69.8 ug/L 1.0 ug/L 0.29 ug/L 58.5 ug/L 6.5 ug/L 29.2 ug/L 48.7 ug/L 2.7 ug/L	15S00101 15S00101D 15S00201 15S00301 15S00501 15S00401 15S00601 15S00701 15S00801 15S01201 15S01101 15S01001

Sample 01F00101 (from SDG WF006) was identified as a source blank. No contaminant concentrations were found above the IDL in this blank with the following exceptions:

Source Blank ID	Date	Analyte	Concentration	Associated Samples
01F00101	12/6/95	Copper Sodium	3.3 ug/L 113 ug/L	15S00201 15S00701 15R00201 15S01101 15S01001

Sample concentrations were compared to concentrations detected in the field blanks. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated field blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
15S00101	Beryllium Calcium Copper Nickel	0.12 mg/Kg 21.6 mg/Kg 3.4 mg/Kg 5.0 mg/Kg	0.12U mg/Kg 21.6U mg/Kg 3.4U mg/Kg 5.0U mg/Kg
15S00101D	Beryllium Calcium Copper Nickel	0.13 mg/Kg 23.9 mg/Kg 3.9 mg/Kg 2.4 mg/Kg	0.13U mg/Kg 23.9U mg/Kg 3.9U mg/Kg 2.4U mg/Kg
15S00201	Beryllium Calcium Copper Nickel	0.12 mg/Kg 18.7 mg/Kg 2.1 mg/Kg 3.6 mg/Kg	0.12U mg/Kg 18.7U mg/Kg 2.1U mg/Kg 3.6U mg/Kg
15S00301	Beryllium Calcium Copper Nickel	0.13 mg/Kg 20.1 mg/Kg 3.4 mg/Kg 3.3 mg/Kg	0.13U mg/Kg 20.1U mg/Kg 3.4U mg/Kg 3.3U mg/Kg
15S00501	Beryllium Calcium Copper Nickel	0.11 mg/Kg 22.7 mg/Kg 3.6 mg/Kg 3.1 mg/Kg	0.11U mg/Kg 22.7U mg/Kg 3.6U mg/Kg 3.1U mg/Kg
15S00401	Beryllium Calcium Copper Nickel	0.14 mg/Kg 22.0 mg/Kg 4.6 mg/Kg 4.2 mg/Kg	0.14U mg/Kg 22.0U mg/Kg 4.6U mg/Kg 4.2U mg/Kg

Sample	Analyte	Reported Concentration	Modified Final Concentration
15S00601	Beryllium Calcium Copper Nickel	0.14 mg/Kg 31.1 mg/Kg 5.5 mg/Kg 3.3 mg/Kg	0.14U mg/Kg 31.1U mg/Kg 5.5U mg/Kg 3.3U mg/Kg
15S00701	Beryllium Calcium Copper Nickel	0.11 mg/Kg 28.3 mg/Kg 2.5 mg/Kg 3.1 mg/Kg	0.11U mg/Kg 28.3U mg/Kg 2.5U mg/Kg 3.1U mg/Kg
15S00801	Beryllium Copper Nickel	0.20 mg/Kg 3.5 mg/Kg 4.1 mg/Kg	0.20U mg/Kg 3.5U mg/Kg 4.1U mg/Kg
15S01201	Beryllium	0.13 mg/Kg	0.13U mg/Kg
15S01101	Beryllium Calcium Copper Nickel	0.10 mg/Kg 26.4 mg/Kg 2.0 mg/Kg 2.5 mg/Kg	0.10U mg/Kg 26.4U mg/Kg 2.0U mg/Kg 2.5U mg/Kg
15S01001	Beryllium Calcium Copper	0.14 mg/Kg 23.5 mg/Kg 2.4 mg/Kg	0.14U mg/Kg 23.5U mg/Kg 2.4U mg/Kg
15R00201	Copper	6.5 ug/L	6.5U ug/L

IV. ICP Interference Check Sample (ICS) Analysis

The frequency of analysis was met with the following exceptions:

Sample	Analyte	Finding	Criteria	Flag	A or P
All soil samples in SDG WF009	Antimony	Antimony was not spiked in ICSAB. The concentration of the common interferents in these samples approximated the spike values.	Antimony is potentially affected by common interferents and should be spiked in ICSAB.	J	A

The criteria for analysis were met.

V. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries were within QC limits with the following exceptions:

LCS ID	Analyte	%R (Limits)	Associated Samples	Flag	A or P
LCSW	Sodium	67.3 (80-120)	All water samples in SDG WF009	J	P

LCS ID	Analyte	Concentration (Limits)	Associated Samples	Flag	A or P
LCSS	Sodium	116.8 mg/Kg (160.0-240.0)	15S01201 15S01101 15S01001 PB (soil)	J	P
LCSS	Sodium	119.5 mg/Kg (160.0-240.0)	15S00101 15S00101D 15S00201 15S00301 15S00501 15S00401 15S00601 15S00701 15S00801 PB (soil)	J	P

VI. Duplicate Sample Analysis

Duplicate sample analyses were reviewed for each matrix as applicable. Relative percent differences (RPD) were within QC limits.

VII. Matrix Spike Analysis

Matrix spike analyses were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits of 75-125% with the following exceptions:

Sample (Associated Samples)	Analyte	%R	Flag	A or P
15S00101MS (All soil samples in SDG WF009)	Antimony	53.5 (75-125)	J	A

VIII. Furnace Atomic Absorption QC

All graphite furnace atomic absorption QC were within validation criteria with the following exceptions:

Analytical Spike	Analyte	%R (Limits)	Associated Sample	Flag	A or P
15R00201A	Selenium Thallium	83.0 (85-115) 81.0 (85-115)	15R00201	J J	A
15S01201A	Selenium Thallium	118.0 (85-115) 81.4 (85-115)	15S01201	J J	A
15S01101A	Selenium Thallium	119.0 (85-115) 65.1 (85-115)	15S01101	J J	A
15S01001A	Selenium Thallium	119.0 (85-115) 58.2 (85-115)	15S01001	J J	A
15S00101A	Selenium Thallium	118.0 (85-115) 70.2 (85-115)	15S00101	J J	A
15S00101DA	Selenium Thallium	118.0 (85-115) 60.9 (85-115)	15S00101D	J J	A
15S00601A	Selenium Thallium	122.0 (85-115) 67.9 (85-115)	15S00601	J J	A
15S00801A	Thallium	74.9 (85-115)	15S00801	J	A
15S00201A	Selenium Thallium	116.0 (85-115) 76.5 (85-115)	15S00201	J J	A
15S00301A	Selenium Thallium	119.0 (85-115) 83.1 (85-115)	15S00301	J J	A
15S00501A	Selenium Thallium	118.0 (85-115) 71.4 (85-115)	15S00501	J J	A
15S00401A	Selenium Thallium	122.0 (85-115) 78.6 (85-115)	15S00401	J J	A
15S00701A	Selenium	129.0 (85-115)	15S00701	J	A

IX. ICP Serial Dilution

The frequency of analysis was met.

The criteria for analysis were met.

X. Sample Result Verification

All sample result verifications met validation criteria with the following exceptions:

Sample	Analyte	Flag	A or P
All samples in SDG WF009	All analytes reported below the CRDL and above the IDL	J	A

XI. Overall Assessment of Data

Data flags have been summarized at the end of this report.

XII. Field Duplicates

Samples 15S00101 and 15S00101D were identified as field duplicates. No TCL metals or cyanide were detected in any of the samples with the following exceptions:

Analyte	Concentration (mg/Kg)		RPD
	15S00101	15S00101D	
Aluminum	9280	10800	15
Arsenic	2.0	1.9	5
Barium	6.6	7.8	17
Beryllium	0.12	0.13	8
Calcium	21.6	23.9	10
Chromium	8.4	8.0	5
Copper	3.4	3.9	14
Iron	5120	5700	11
Lead	4.7	3.6	26
Magnesium	109	132	19
Manganese	36.4	39.9	9
Mercury	0.02	0.02	0
Nickel	5.0	2.4	70

Analyte	Concentration (mg/Kg)		RPD
	15S00101	15S00101D	
Potassium	169	ND	Not calculable
Vanadium	13.3	15.1	13
Zinc	4.1	5.0	22

NAS Whiting Field, CTO 116
TCL Metals & Cyanide - Data Qualification Summary - SDG WF009**

SDG	Sample ID	Analyte	Flag	A or P	Reason
WF009	15S00101 15S00101D 15S00201 15S00301 15S00501 15S00401 15S00601 15S00701 15S00801 15S01201 15R00201 15S01101 15S01001	Aluminum Antimony Barium Beryllium Cadmium Calcium Chromium Cobalt Copper Iron Magnesium Manganese Nickel Potassium Silver Sodium Vanadium Zinc	None None None None None None None None None None None None None None None None None None	P	Linear range analysis
WF009	15S00101 15S00101D 15S00201 15S00301 15S00501 15S00401 15S00601 15S00701 15S00801 15S01201 15R00201 15S01101 15S01001	Cyanide	None	P	Instrument detection limits
WF009	15S00101 15S00101D 15S00201 15S00301 15S00501 15S00401 15S00601 15S00701 15S00801 15S01201 15S01101 15S01001	Antimony	J	A	ICP interference check sample analysis
WF009	15R00201	Sodium	J	P	Laboratory control samples (%R)

SDG	Sample ID	Analyte	Flag	A or P	Reason
WF009	15S01201 15S01101 15S01001 15S00101 15S00101D 15S00201 15S00301 15S00501 15S00401 15S00601 15S00701 15S00801	Sodium	J	P	Laboratory control samples (Concentration)
WF009	15S00101 15S00101D 15S00201 15S00301 15S00501 15S00401 15S00601 15S00701 15S00801 15S01201 15S01101 15S01001	Antimony	J	A	Matrix spike analysis (%R)
WF009	15R00201 15S01201 15S01101 15S01001 15S00101 15S00101D 15S00601 15S00201 15S00301 15S00501 15S00401	Selenium Thallium	J J	A	Furnace atomic absorption QC (%R)
WF009	15S00801	Thallium	J	A	Furnace atomic absorption QC (%R)
WF009	15S00701	Selenium	J	A	Furnace atomic absorption QC (%R)
WF009	15S00101 15S00101D 15S00201 15S00301 15S00501 15S00401 15S00601 15S00701 15S00801 15S01201 15R00201 15S01101 15S01001	All analytes reported below the CRDL and above the IDL	J	A	Sample result verification

NAS Whiting Field, CTO 116
TCL Metals & Cyanide - Laboratory Blank Data Qualification Summary - SDG WF009**

SDG	Sample ID	Analyte	Modified Final Concentration	A or P
WF009	15S00101	Beryllium Copper Nickel	0.12U mg/Kg 3.4U mg/Kg 5.0U mg/Kg	A
WF009	15S00101D	Beryllium Nickel	0.13U mg/Kg 2.4U mg/Kg	A
WF009	15S00201	Beryllium Copper Nickel	0.12U mg/Kg 2.1U mg/Kg 3.6U mg/Kg	A
WF009	15S00301	Beryllium Copper Nickel	0.13U mg/Kg 3.4U mg/Kg 3.3U mg/Kg	A
WF009	15S00501	Beryllium Copper Nickel	0.11U mg/Kg 3.6U mg/Kg 3.1U mg/Kg	A
WF009	15S00401	Beryllium Nickel	0.14U mg/Kg 4.2U mg/Kg	A
WF009	15S00601	Beryllium Nickel	0.14U mg/Kg 3.3U mg/Kg	A
WF009	15S00701	Beryllium Copper Nickel	0.11U mg/Kg 2.5U mg/Kg 3.1U mg/Kg	A
WF009	15S00801	Beryllium Copper Nickel	0.20U mg/Kg 3.5U mg/Kg 4.1U mg/Kg	A
WF009	15S01201	Beryllium	0.13U mg/Kg	A
WF009	15R00201	Aluminum Beryllium Calcium Copper Iron Nickel	69.8U ug/L 0.29U ug/L 58.5U ug/L 6.5U ug/L 29.2U ug/L 48.7U ug/L	A
WF009	15S01101	Beryllium Copper Nickel	0.10U mg/Kg 2.0U mg/Kg 2.5U mg/Kg	A

SDG	Sample ID	Analyte	Modified Final Concentration	A or P
WF009	15S01001	Beryllium Copper	0.14U mg/Kg 2.4U mg/Kg	A

NAS Whiting Field, CTO 116
TCL Metals & Cyanide - Field Blank Data Qualification Summary - SDG WF009**

SDG	Sample	Analyte	Modified Final Concentration	A or P
WF009	15S00101	Beryllium Calcium Copper Nickel	0.12U mg/Kg 21.6U mg/Kg 3.4U mg/Kg 5.0U mg/Kg	A
WF009	15S00101D	Beryllium Calcium Copper Nickel	0.13U mg/Kg 23.9U mg/Kg 3.9U mg/Kg 2.4U mg/Kg	A
WF009	15S00201	Beryllium Calcium Copper Nickel	0.12U mg/Kg 18.7U mg/Kg 2.1U mg/Kg 3.6U mg/Kg	A
WF009	15S00301	Beryllium Calcium Copper Nickel	0.13U mg/Kg 20.1U mg/Kg 3.4U mg/Kg 3.3U mg/Kg	A
WF009	15S00501	Beryllium Calcium Copper Nickel	0.11U mg/Kg 22.7U mg/Kg 3.6U mg/Kg 3.1U mg/Kg	A
WF009	15S00401	Beryllium Calcium Copper Nickel	0.14U mg/Kg 22.0U mg/Kg 4.6U mg/Kg 4.2U mg/Kg	A
WF009	15S00601	Beryllium Calcium Copper Nickel	0.14U mg/Kg 31.1U mg/Kg 5.5U mg/Kg 3.3U mg/Kg	A
WF009	15S00701	Beryllium Calcium Copper Nickel	0.11U mg/Kg 28.3U mg/Kg 2.5U mg/Kg 3.1U mg/Kg	A

SDG	Sample	Analyte	Modified Final Concentration	A or P
WF009	15S00801	Beryllium Copper Nickel	0.20U mg/Kg 3.5U mg/Kg 4.1U mg/Kg	A
WF009	15S01201	Beryllium	0.13U mg/Kg	A
WF009	15S01101	Beryllium Calcium Copper Nickel	0.10U mg/Kg 26.4U mg/Kg 2.0U mg/Kg 2.5U mg/Kg	A
WF009	15S01001	Beryllium Calcium Copper	0.14U mg/Kg 23.5U mg/Kg 2.4U mg/Kg	A
WF009	15R00201	Copper	6.5U ug/L	A

APPENDIX C

APPENDIX C

TEST PITS AND CPT LOGS

TITLE: Naval Air Station Whiting Field	**LOG of WELL:**	**BORING NO.** TEST PIT 15-1A (840N, 240W)
CLIENT: SOUTHNAVFACENGCOM		**PROJECT NO:** RI PHASE IIA
CONTRACTOR: UXB Inc.	**DATE STARTED:**	**COMPLTD:**
METHOD: BACK HOE	**CASE SIZE:** / **SCREEN INT.:**	**PROTECTION LEVEL:** D
TOC ELEV.: FT.	**MONITOR INST.:** FID,LEL,RM / **TOT DPTH:** 12FT.	**DPTH TO ∇** FT.
LOGGED BY: G. Kanchibhatla	**WELL DEVELOPMENT DATE:** N/A	**SITE:**

DEPTH FT.	INTERVAL SAMPLED	TOTAL HEADSPACE (ppm)	METHANE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
				SAND - reddish orange, fine to medium.		SP		
			0	SAND - light tan, fine to medium.				
			0	SAND - black solid coloring, very fine to fine.				
5			0	SAND - reddish orange, very fine to fine.				
10			0					
15								

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Naval Air Station Whiting Field		**LOG of WELL:**	**BORING NO.** TEST PIT 15-1B
CLIENT: SOUTHNAVFACENGCOM			**PROJECT NO:** RI PHASE IIA
CONTRACTOR: UXB Inc.		**DATE STARTED:**	**COMPLTD:**
METHOD: BACK HOE	**CASE SIZE:**	**SCREEN INT.:**	**PROTECTION LEVEL:** D
TOC ELEV.: FT.	**MONITOR INST.:** FID,LEL,RM	**TOT DPTH:** 12FT.	**DPTH TO ∇** FT.
LOGGED BY: G. Kanchibhatla	**WELL DEVELOPMENT DATE:** N/A		**SITE:**

DEPTH FT.	INTERVAL SAMPLED	TOTAL HEADSPACE (ppm)	METHANE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
			0	SAND - reddish orange, fine to medium. SAND - light tan to reddish orange.		SP		
			0			SP/TRASH		
			5-20	SAND - reddish orange, metal debris, aircraft communication cables, steel cables, rusted buckets, domestic trash, aircraft debris.				
5			~50	FILL - metal debris, black stained soil, innertube of tire, rubber gloves.				
			100	SAND - light brown, trash layer at 7'.				
		100						
10								
15								

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Naval Air Station Whiting Field	**LOG of WELL:**		**BORING NO.** TEST PIT 15-02
CLIENT: SOUTHNAVFACENGCOM			**PROJECT NO:** RI PHASE IIA
CONTRACTOR: UXB Inc.		**DATE STARTED:** 10/2/92	**COMPLTD:** 10/2/92
METHOD: BACK HOE	**CASE SIZE:**	**SCREEN INT.:**	**PROTECTION LEVEL:** D
TOC ELEV.: FT.	**MONITOR INST.:** FID,LEL,RM	**TOT DPTH:** 12FT.	**DPTH TO ∇** FT.
LOGGED BY: G. Kanchibhatla	**WELL DEVELOPMENT DATE:** N/A		**SITE:**

DEPTH FT.	INTERVAL SAMPLED	TOTAL HEADSPACE (ppm)	METHANE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
		20	5	SAND - reddish orange, very fine to fine, oil filter, airlogs, aluminum, soda bottles.		SP		
				SAND - black stained, municipal garbage, rubber, bottles, metal debris				
		1000	1000	SAND - SAA, liquid wax, plastic, burned and decayed material, nozzles of fire extinguishers, trashbags.		SP/TRASH		
		100	100					
5				SAND - SAA, beer cans, spray cans, oil filters, rubber, wood, wind socks.				
		5						
				SAND - SAA, car parts, baseball bats.				
		0-50						
10		500	500	SAND - SAA, liquid wax.				
15								

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Naval Air Station Whiting Field	**LOG of WELL:**	**BORING NO.** TEST PIT 15-03A
CLIENT: SOUTHNAVFACENGCOM		**PROJECT NO:** RI PHASE IIA
CONTRACTOR: UXB Inc.	**DATE STARTED:** 10/2/92	**COMPLTD:** 10/2/92
METHOD: BACK HOE	**CASE SIZE:** / **SCREEN INT.:**	**PROTECTION LEVEL:** D
TOC ELEV.: FT.	**MONITOR INST.:** FID,LEL,RM / **TOT DPTH:** 12FT.	**DPTH TO ∇** FT.
LOGGED BY: G. Kanchibhatla	**WELL DEVELOPMENT DATE:** N/A	**SITE:**

DEPTH FT.	INTERVAL SAMPLED	TOTAL HEADSPACE (ppm)	METHANE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
		0				SP		
		0		FILL - reddish orange, very fine to fine, oil filter, airlogs, aluminum, soda bottles.		SP/TRASH		
		0		SAND - reddish orange, garbage, plastic, bottles.				
				SAND - tan to reddish orange, very fine to fine, natural soil.				
		N/A		SAND - tan, very fine to fine, municipal garbage, nylon fibers, carpet fibers, banger cord (shock absorbers).				
				CLAYEY SAND - bright sand, very fine to fine, natural soil.		SC		
5		0						
			50	CLAYEY SAND - SAA.				
		50						
10								
15								

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Naval Air Station Whiting Field	**LOG of WELL:**	**BORING NO.** TEST PIT 15-03B
CLIENT: SOUTHNAVFACENGCOM		**PROJECT NO:** RI PHASE IIA
CONTRACTOR: UXB Inc.	**DATE STARTED:** 10/2/92	**COMPLTD:** 10/2/92
METHOD: BACK HOE	**CASE SIZE:** / **SCREEN INT.:**	**PROTECTION LEVEL:** D
TOC ELEV.: FT.	**MONITOR INST.:** FID,LEL,RM / **TOT DPTH:** 12FT.	**DPTH TO ∇** FT.
LOGGED BY: G. Kanchibhatla	**WELL DEVELOPMENT DATE:** N/A	**SITE:**

DEPTH FT.	INTERVAL SAMPLED	TOTAL HEADSPACE (ppm)	METHANE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
		0				SP		
		0-10		TOP SOIL - natural top soil. ORGANICS - decayed organic matter, municipal garbage, bottle caps.		OL		
		N/A		SAND - yellowish orange, very fine to fine, cans and bottles.		SP/TRASH		
5		N/A		SAND - gray stained, plastic, aluminum foil, metal debris.				
		FLUC		ASH - gray, rubber, flashlight, umbrella, aluminum debris.		ASH/TRASH		
10		N/A		FILL - gray soil, garbage layer continous beyond this point, lubrilatar supply head of aircraft, aircraft communication cables.				
15								

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Naval Air Station Whiting Field		**LOG of WELL:**	**BORING NO.** TEST PIT 15-08
CLIENT: SOUTHNAVFACENGCOM			**PROJECT NO:** RI PHASE IIA
CONTRACTOR: UXB Inc.		**DATE STARTED:** 10/3/92	**COMPLTD:** 10/3/92
METHOD: BACK HOE	**CASE SIZE:**	**SCREEN INT.:**	**PROTECTION LEVEL:** D
TOC ELEV.: FT.	**MONITOR INST.:** FID,LEL,RM	**TOT DPTH:** 12FT.	**DPTH TO ∇** FT.
LOGGED BY: G. Kanchibhatla	**WELL DEVELOPMENT DATE:** N/A		**SITE:**

DEPTH FT.	INTERVAL SAMPLED	TOTAL HEADSPACE (ppm)	METHANE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
		0				SP		
		0		FILL - yellowish orange sand, very fine to fine.		SP/TRASH		
				SAND - gray, very fine to fine, municipal garbage, plastic, boots, bottles, cans, industrial garbage, dry cleaning material.				
				SILT - gray ash, garbage.		SM/TRASH		
5		0						
				Garbage Layer - aircraft parts, motorcycle muffler, aircraft communication cables, fuel tank neck.				
10				MUNICIPAL GARBAGE - spray can, aircraft cleaner, melted plastic.				
		N/A		INDUSTRIAL GARBAGE - aircraft parts, solvent cans with solvent, dry cleaning fluid container empty.				
15								

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Naval Air Station Whiting Field	**LOG of WELL:**		**BORING NO.** TEST PIT 15-07
CLIENT: SOUTHNAVFACENGCOM			**PROJECT NO:** RI PHASE IIA
CONTRACTOR: UXB Inc.		**DATE STARTED:** 10/4/92	**COMPLTD:** 10/4/92
METHOD: BACK HOE	**CASE SIZE:**	**SCREEN INT.:**	**PROTECTION LEVEL:** D
TOC ELEV.: FT.	**MONITOR INST.:** FID,LEL,RM	**TOT DPTH:** 12FT.	**DPTH TO ∇** FT.
LOGGED BY: G. Kanchibhatla	**WELL DEVELOPMENT DATE:** N/A		**SITE:**

DEPTH FT.	INTERVAL SAMPLED	TOTAL HEADSPACE (ppm)	METHANE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
		0		SAND - reddish orange, very fine to fine, fill material.		SP		
		100	100	SAND - tan, very fine to fine, cans, plastic bags.		SP/TRASH		
5		1000	1000	SAND - tan, very fine to fine, garbage, layer, steel cables.				
10		0		SAND - bright red, very fine to fine, garbage layer, rubber tire, plastic bags, cans, bottles, paper material dating 1972.				
15								

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Naval Air Station Whiting Field	**LOG of WELL:**		**BORING NO.** TEST PIT 15-08A
CLIENT: SOUTHNAVFACENGCOM			**PROJECT NO:** RI PHASE IIA
CONTRACTOR: UXB Inc.		**DATE STARTED:** 10/4/92	**COMPLTD:** 10/4/92
METHOD: BACK HOE	**CASE SIZE:**	**SCREEN INT.:**	**PROTECTION LEVEL:** D
TOC ELEV.: FT.	**MONITOR INST.:** FID,LEL,RM	**TOT DPTH:** 12FT.	**DPTH TO ∇** FT.
LOGGED BY: G. Kanchibhatla	**WELL DEVELOPMENT DATE:** N/A		**SITE:**

DEPTH FT.	INTERVAL SAMPLED	TOTAL HEADSPACE (ppm)	METHANE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
		0		SAND - reddish orange, very fine to fine, fill material.		SP		
		0		SAND - municipal garbage layer, coffee cups, oil filter.		SP/TRASH		
		0		SAND - tan, very fine to fine, oil can empty.				
		50	50	SAND - dark olive green, very fine to fine, garbage layer.				
5		N/A		FILL - yellowish orange, very fine to fine.				
10								
15								

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Naval Air Station Whiting Field	**LOG of WELL:**		**BORING NO.** TEST PIT 15-08B
CLIENT: SOUTHNAVFACENGCOM			**PROJECT NO:** RI PHASE IIA
CONTRACTOR: UXB Inc.		**DATE STARTED:** 10/4/92	**COMPLTD:** 10/4/92
METHOD: BACK HOE	**CASE SIZE:**	**SCREEN INT.:**	**PROTECTION LEVEL:** D
TOC ELEV.: FT.	**MONITOR INST.:** FID,LEL,RM	**TOT DPTH:** 12FT.	**DPTH TO ∇** FT.
LOGGED BY: G. Kanchibhatla	**WELL DEVELOPMENT DATE:** N/A		**SITE:**

DEPTH FT.	INTERVAL SAMPLED	TOTAL HEADSPACE (ppm)	METHANE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
		0		SAND - fill material.		SP		
		0		SAND - fine, garbage layer, base newspaper August 15, '89, cans, bottles, plastic bags.		SP/TRASH		
		0		FILL - garbage, shoes, tubes, etc.				
5		0		FILL - yellowish orange, very fine to fine.				
10								
15								

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Naval Air Station Whiting Field	**LOG of WELL:**	**BORING NO.** TEST PIT 15-09
CLIENT: SOUTHNAVFACENGCOM		**PROJECT NO:** RI PHASE IIA
CONTRACTOR: UXB Inc.	**DATE STARTED:** 10/4/92	**COMPLTD:** 10/4/92
METHOD: BACK HOE	**CASE SIZE:** / **SCREEN INT.:**	**PROTECTION LEVEL:** D
TOC ELEV.: FT.	**MONITOR INST.:** FID,LEL,RM / **TOT DPTH:** 12FT.	**DPTH TO ∇** FT.
LOGGED BY: G. Kanchibhatla	**WELL DEVELOPMENT DATE:** N/A	**SITE:**

DEPTH FT.	INTERVAL SAMPLED	TOTAL HEADSPACE (ppm)	METHANE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
		0		SAND - fill material, reddish orange, very fine to fine.		SP		
		0		SAND - SAA.				
		0		FILL - thin layer of plastic debris.		SP/TRASH		
5		0		SAND - tan, very fine to fine, trash debris.				
		0		SAND - bright red to dark tan, grass pieces.				
		0						
10				FILL - concrete slab, solid across pit.				
15								

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Naval Air Station Whiting Field		LOG of WELL:	BORING NO. TEST PIT 15-10
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: RI PHASE IIA
CONTRACTOR: UXB Inc.		DATE STARTED: 10/4/92	CONPLTD: 10/4/92
METHOD: BACK HOE	CASE SIZE:	SCREEN INT.:	PROTECTION LEVEL: D
TOC ELEV.: FT.	MONITOR INST.: FID,LEL,RM	TOT DPTH: 12FT.	DPTH TO ∇ FT.
LOGGED BY: G. Kanchibhatla	WELL DEVELOPMENT DATE: N/A		SITE:

DEPTH FT.	INTERVAL SAMPLED	TOTAL HEADSPACE (ppm)	METHANE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
		0		SAND - yellowish orange, very fine to fine, fill material		SP		
		0		SAND - reddish orange, very fine to fine, asphalt & conconcrete pieces				
						SP/TRASH		
		0		SAND - SAA, steel cables.				
				SAND - SAA.		SP		
5		0						
				SAND - SAA.				
		0						
10								
15								

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: NAS WHITING FIELD RI		**LOG of WELL:** WHF-15-CPT-1	**BORING NO.**
CLIENT: SDIV NAVY			**PROJECT NO:** 6500-01
CONTRACTOR: WILLIAMS & ASSOC.		**DATE STARTED:**	**COMPLTD:** 12-11-90
METHOD: PCPT	**CASE SIZE:** NA	**SCREEN INT.:** NA	**PROTECTION LEVEL:** D
TOC ELEV.: NA FT.	**MONITOR INST.:** NA	**TOT DPTH:** 98FT.	**DPTH TO ∇** NA FT.
LOGGED BY: COMPUTER	**WELL DEVELOPMENT DATE:** NA		**SITE:** WHITING FIELD

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					SAND-moderately dense sand		SP		
5					CLAY-clay w/ some sand		CL		
10									
15									
20					SAND-dense sand		SP		
25									
30									
35									
40									
45									
50									
55									
60									
65									
70									
75									
80									
85									
90									
95									
100									

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: NAS WHITING FIELD RI		**LOG of WELL:** WHF-15-CPT-2	**BORING NO.**
CLIENT: SDIV NAVY			**PROJECT NO:** 8500-01
CONTRACTOR: WILLIAMS & ASSOC.		**DATE STARTED:**	**COMPLTD:** 12-11-90
METHOD: PCPT	**CASE SIZE:** NA	**SCREEN INT.:** NA	**PROTECTION LEVEL:** D
TOC ELEV.: 80.18 FT.	**MONITOR INST.:** NA	**TOT DPTH:** 100FT.	**DPTH TO ∇** NA FT.
LOGGED BY: COMPUTER	**WELL DEVELOPMENT DATE:** NA		**SITE:** WHITING FIELD

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					SAND-moderately dense sand		SP		
5									
10									
15					CLAY-stiff clay		CH		
					SAND-dense sand		SP		
20					CLAY-stiff clay		CH		
					SAND-dense sand w/ clay lenses		SC		
25									
30									
35									
40									
					SAND-moderately dense sand		SP		
45									
50									
55									
60									
65									
70									
75									
80									
85									
					CLAY-stiff clay		CH		
90					SAND-dense sand		SP		
95									
100									

 ABB ENVIRONMENTAL SERVICES, INC.

APPENDIX D

APPENDIX D

MONITORING WELL LOGS

LITHOLOGIC LOG FOR WELL NUMBER (SITE 15)

Description	Depth (ft)	Thickness (ft)
Clay, red, gray, tan; sand, fine to medium grained.....	0 - 42.0	42.0
Sand, fine to coarse grained, buff; clay, light gray.....	42.0 - 65.0	23.0
Sand, fine to coarse grained, buff; gravel, mafics.....	65.0 - 72.0	7.0

Geraghty & Miller, Verification Study, 1986

TITLE: NAVAL AIR STATION WHITING FIELD	**LOG of WELL:** WHF-15-2D	**BORING NO.**
CLIENT: SOUTHNAVFACENGCOM		**PROJECT NO:** RI PHASE IIA
CONTRACTOR: Groundwater Protection Inc.	**DATE STARTED:** 07/17/93	**COMPLTD:** 07/18/93
METHOD: MUD ROTARY	**CASE SIZE:** 2 in. / **SCREEN INT.:** 104.6-109.6 F	**PROTECTION LEVEL:** D
TOC ELEV.: 80.07 FT.	**MONITOR INST.:** OVA / **TOT DPTH:** 110FT.	**DPTH TO ∇** 19.33 FT.
LOGGED BY: N. Roka	**WELL DEVELOPMENT DATE:**	**SITE:** 15 - S.W. Landfill

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5			24/24	BKG	SAND - rust brown, fine to medium, poorly graded, loose, slightly moist, subrounded.		SP	2,3,4,5	
10			22/24	2	Same as above. CLAY - brown, soft, plastic, moist. SILT SAND - black, fine, loose, slightly moist.		SM	1,1,2,1	
15			24/24	BKG	CLAYEY SAND - gray, fine, poorly graded, loose, slightly moist.		SC	2,2,2,2	
20			24/24	0.4	SAND - white, fine, silt, poorly graded, medium dense, moist.		SP/SM	11,13,17,13	∇
25			24/12	BKG	SANDY SILT - brown, saturated. SAND - yellowish tan, fine to medium, poorly graded, saturated.		SM/SP	WOR,6,4	
30					FROM WHF-15-MW-2I SAND - orange to red to white, coarse, well graded. SAND - orangish brown, fine, poorly graded.		SW		
35					SAND - light tan, fine to medium, poorly graded, saturated.		SP		
40							SP		

ABB ENVIRONMENTAL SERVICES, INC.

TITLE: NAVAL AIR STATION WHITING FIELD	**LOG of WELL:** WHF-15-2D	**BORING NO.**
CLIENT: SOUTHNAVFACENGCOM		**PROJECT NO:** RI PHASE IIA
CONTRACTOR: Groundwater Protection Inc.	**DATE STARTED:** 07/17/93	**COMPLTD:** 07/18/93
METHOD: MUD ROTARY	**CASE SIZE:** 2 in. / **SCREEN INT.:** 104.6-109.6 F	**PROTECTION LEVEL:** D
TOC ELEV.: 80.07 FT.	**MONITOR INST.:** OVA / **TOT DPTH:** 110FT.	**DPTH TO ∇** 19.33 FT.
LOGGED BY: N. Roka	**WELL DEVELOPMENT DATE:**	**SITE:** 15 - S.W. Landfill

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					Continued from PAGE 1				
					SAND - gray, fine, silty, well graded, saturated.		SP		
45					SAND - gray, fine to medium, trace coarse, poorly graded, saturated.		SP		
50					SAND - light brown, medium, well graded, saturated.		SP		
55					SAND - light tan, fine, poorly graded, saturated.		SP		
					RESUME WHF-15-MW-2D				
60			24/24	1.6	SAND - light tan, fine to medium, poorly graded, medium dense, saturated, subangular.		SP	13,11,10,12	
65			24/24	BKG	Same as above, loose.		SP	4,5,5,9	
70			12/24	1.2	Same as above, medium dense.		SP	4,8,9,11	
75			24/24	8	Same as above, dense.		SP	10,18,28,42	
80				2.6			SP	4,4,8,11	

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: WHF-15-2D	BORING NO.
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: RI PHASE IIA
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 07/17/93	COMPLTD: 07/18/93
METHOD: MUD ROTARY	CASE SIZE: 2 in.	SCREEN INT.: 104.6-109.6 F	PROTECTION LEVEL: D
TOC ELEV.: 60.07 FT.	MONITOR INST.: OVA	TOT DPTH: 110FT.	DPTH TO ▽ 19.33 FT.
LOGGED BY: N. Roka	WELL DEVELOPMENT DATE:		SITE: 15 - S.W. Landfill

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					Continued from PAGE 2				
			10/24		Same as above, medium dense.		SP		
85			24/24	10	same as above, dense.		SP	48,22,23,20	
90			0/24	BKG	NO RECOVERY			6,8,15,22	
95			24/24	3	Same as above, medium dense.		SP	4,6,8,12	
100			12/24	21	Same as above, dense.		SP	10,15,22,29	
105			24/24	5	Same as above, loose.		SP	3,4,5,8	
110									
115									
120									

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: NAVAL AIR STATION WHITING FIELD		**LOG of WELL:** WHF-15-2I	**BORING NO.**
CLIENT: SOUTHNAVFACENGCOM			**PROJECT NO:** RI PHASE IIA
CONTRACTOR: Groundwater Protection Inc.		**DATE STARTED:** 02/3/93	**COMPLTD:** 02/4/93
METHOD: MUD ROTARY	**CASE SIZE:** 2 in.	**SCREEN INT.:** 50-60 FT	**PROTECTION LEVEL:** D
TOC ELEV.: 60.18 FT.	**MONITOR INST.:** OVA	**TOT DPTH:** 62FT.	**DPTH TO ∇** 20.7 FT.
LOGGED BY: R. NELSON	**WELL DEVELOPMENT DATE:**		**SITE:** 15 - S.W. Landfill

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN
5			6/24	0	SAND - light brown, fine to medium, poorly graded, dry.		SP	3,2,4,4
10			24/24	0	CLAYEY SILT - gray, medium plasticity, saturated, firm, some sand.		CL	2,2,2,2
			24/24		CLAY - gray, plastic, saturated, soft, trace sand.		CH	1,1,3,5
15			24/24	0	CLAYEY SILT - gray, medium plasticity, firm, some sand.		CL	10,10,12,11
			24/24					7,7,8,10
20			14/24	1	CLAYEY SAND - gray, medium to low plasticity, moist, firm.		SP	6,2,3,3
					CLAYEY SAND - gray, moist, firm.			
25					SAND - gray, fine, poorly graded, saturated.			
			12/12	2.5	SAND - reddish brown, fine, poorly graded, loose, saturated.		SP	10,12,13,17
30			18/24	15	SAND - orange to red to white, coarse, well graded.		SW	22,22,33,40
					SAND - orangish brown, fine, poorly graded.			
35			14/24	9	SAND - light tan, fine to medium, poorly graded, saturated.		SP	14,19,23,27
40			14/24	3	SAND - gray, fine, silty, well graded, saturated.		SW	6,5,4,5
45			12/24	7	SAND - gray, fine to medium, trace coarse, poorly graded, saturated.		SP	7,8,12,12
50			12/24	5	SAND - light brown, medium, well graded, saturated.		SP	7,7,7,8
55			12/24	2	SAND - light tan, fine, poorly graded, saturated.		SP	6,9,8,11
60								
65								

WELL DATA

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: NAVAL AIR STATION WHITING FIELD		**LOG of WELL:** WHF-15-2S	**BORING NO.**
CLIENT: SOUTHNAVFACENGCOM			**PROJECT NO:** RI PHASE IIA
CONTRACTOR: Groundwater Protection Inc.		**DATE STARTED:** 02/4/93	**COMPLTD:** 02/4/93
METHOD: HSA	**CASE SIZE:** 2	**SCREEN INT.:** 15-30 FT	**PROTECTION LEVEL:** D
TOC ELEV.: 60.18 FT.	**MONITOR INST.:** OVA	**TOT DPTH:** 37FT.	**DPTH TO ∇** 19.34 FT.
LOGGED BY: R.Nelson	**WELL DEVELOPMENT DATE:**		**SITE:** 15 - S.W. Landfill

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN
5					SEE WHF-15-2D FOR ADDITIONAL LITHOLOGICAL DESCRIPTIONS.			
10								
15			18/24	1	CLAY - gray, firm, moist, some sand.		SC	2,2,2,4
20			12/24	1	CLAYEY SAND - gray, firm, moist.		SC	2,7,10,10
25			20/24		SAND - gray, fine, poorly graded, saturated.		SP	3,4,4,4
30								
35								
40								

WELL DATA

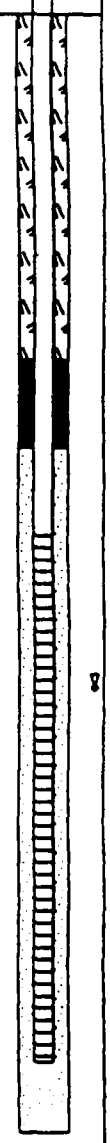


 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: WHF-15-3D	BORING NO.
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: RI PHASE IIA
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 01/23/93	COMPLTD: 01/25/93
METHOD: MUD ROTARY	CASE SIZE: 2	SCREEN INT.: 108-118 FT	PROTECTION LEVEL: D
TOC ELEV.: 69.61 FT.	MONITOR INST.: OVA	TOT DPTH: 119FT.	DPTH TO ∇ 26.2 FT.
LOGGED BY: R. Nelson	WELL DEVELOPMENT DATE:		SITE: 15 - S.W. Landfill

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5			14/24	0	SANDEY CLAY - red, moist.		SC/CL	2,3,3,4	
10			08/24	0	SAND - red, fine, poorly graded, trace clay, slightly moist.		SP	5,5,8,10	
15			09/24	3	SAND - SAA.		SP	6,8,8,12	
20			07/24	1	SAND/GRAVEL - red, well graded, slightly moist.		GW	10,8,10,11	
25			12/24	1000	SAND (3") - reddish brown, fine, poorly graded CLAY (3") - purple, very fine, poorly graded. SAND (9") - yellow to tan, coarse, poorly graded, strong odor.		SP	2,3,3,4	∇
30			24/24	4	SAND (1.5') - reddish brown, very fine, poorly graded, saturated. SAND (6") - white to purple, medium to coarse, well graded, saturated.		SP	3,3,3,3	
35			12/24	2	SAND - light purple, fine to medium, poorly graded, saturated, sub-rounded.		SP	6,7,8,8	
40									

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: WHF-15-3D	BORING NO.
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: RI PHASE IIA
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 01/23/93	COMPLTD: 01/25/93
METHOD: MUD ROTARY	CASE SIZE: 2	SCREEN INT.: 108-118 FT	PROTECTION LEVEL: D
TOC ELEV.: 69.61 FT.	MONITOR INST.: OVA	TOT DPTH: 119FT.	DPTH TO ▼ 26.2 FT
LOGGED BY: R. Nelson	WELL DEVELOPMENT DATE:		SITE: 15 - S.W. Landfill

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					Continued from PAGE 1				
			16/24	6	SAND - SAA, 1" bands of red fine sand at top and bottom of spoon.		SP	6,6,7,9	
45			12/24	5	SAND (8") - orange to brown, medium, well graded, trace coarse, saturated. SAND (4") - yellowish, medium, well graded.		SW	7,8,5,6	
50			14/24	4	SAND (10") - white, medium, well graded, trace coarse, saturated. SAND (4") - purple, SAA.		SW	6,5,5,4	
55			18/24	1	SAND - white to tan, very fine, poorly graded, saturated.		SP	3,2,5,6	
60			12/24	1	SAND - yellow to brown, fine, poorly graded, trace coarse, saturated.		SP	8,11,?,11	
65			18/24	N/A	SAND - fine, poorly graded, saturated.		SP	12,16,16,16	
70			12/24	20	SAND - yellow to brown, medium, poorly graded, saturated, sub-rounded.		SP	3,4,3,6	
75			16/24	10	SAND - yellow to brown, medium, well graded, saturated, sub-rounded.		SP	11,12,16,23	
80									

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: NAVAL AIR STATION WHITING FIELD	LOG of WELL: WHF-15-3D		BORING NO.
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: RI PHASE IIA
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 01/23/93	COMPLTD: 01/25/93
METHOD: MUD ROTARY	CASE SIZE: 2	SCREEN INT.: 108-118 FT	PROTECTION LEVEL: D
TOC ELEV.: 69.61 FT.	MONITOR INST.: OVA	TOT DPTH: 119FT.	DPTH TO ▽ 26.2 FT
LOGGED BY: R. Nelson	WELL DEVELOPMENT DATE:		SITE: 15 - S.W. Landfill

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN
					Continued from PAGE 2			
			12/24	40	SAND - yellow to brown, medium, poorly graded, saturated, 2" lamina of purple sand, fine at 83'.		SP	17,21,23,21
85			14/24	2	SAND - yellow brown, fine, well graded, saturated, 4" lamina of purple, medium sand at 86'.		SP	N/A
90			20/24	0	CLAY (16") - purple to yellow, firm, plastic, saturated. SAND (4") - yellow brown, fine, poorly graded, trace clay, saturated.		CH	N/A
95			18/24	0	SAND - yellow brown, very fine, poorly graded, trace silt, moist.		SM	N/A
100			18/24	1	SAND - SAA.		SM	N/A
105			14/24	0	SAND (4") - yellow to brown, fine, saturated. CLAY (4") - purple to yellow, plastic, saturated. SAND (6") - purple to yellow-brown, fine.		SP	N/A
110			14/24	5	SAND - yellow to brown, fine to coarse, saturated.		SP	N/A
115			20/24	5	SAND - purple, medium, poorly graded, saturated, sub-rounded.		SP	N/A
120			20/24	N/A	SAND (10") - SAA. CLAY (10") - purple, stiff, fine yellow sand interbedded.		SP	N/A

WELL DATA

TITLE: NAVAL AIR STATION WHITING FIELD	LOG of WELL: WHF-15-3I		BORING NO.
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: RI PHASE IIA
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 02/2/93	COMPLTD: 02/2/93
METHOD: MUD ROTARY	CASE SIZE: 2	SCREEN INT.: 75-85 FT	PROTECTION LEVEL: D
TOC ELEV.: 69.72 FT.	MONITOR INST.: OVA	TOT DPTH: 87FT.	DPTH TO ▽ 26.86 FT.
LOGGED BY: G. Kanchibhatla	WELL DEVELOPMENT DATE:		SITE: 15 - S.W. Landfill

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5					SEE WHF-15-3D FOR LITHOLOGICAL DESCRIPTIONS				
10									
15									
20									
25									▽
30									
35									
40									
45									

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: WHF-15-3I	BORING NO.
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: RI PHASE IIA
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 02/2/93	COMPLTD: 02/2/93
METHOD: MUD ROTARY	CASE SIZE: 2	SCREEN INT.: 75-85 FT	PROTECTION LEVEL: D
TOC ELEV.: 69.72 FT	MONITOR INST.: OVA	TOT DPTH: 87FT	DPTH TO ∇ 26.86 FT
LOGGED BY: G. Kanchibhatla	WELL DEVELOPMENT DATE:		SITE: 15 - S.W. Landfill

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					Continued from PAGE 1				
50									
55									
60									
65									
70									
75		◢			SAND - purple, fine, poorly graded, saturated.		SP	2,3,2,2	
					SAND - purple, medium, well graded, saturated.				
80		◢			SAND - light purple, fine, silty, poorly graded, saturated.		SP	5,8,9,12	
85									
90									

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: NAVAL AIR STATION WHITING FIELD	**LOG of WELL:** WHF-15-3S		**BORING NO.**
CLIENT: SOUTHNAVFACENGCOM			**PROJECT NO:** RI PHASE IIA
CONTRACTOR: Groundwater Protection Inc.		**DATE STARTED:** 02/1/93	**COMPLTD:** 02/1/93
METHOD: HSA	**CASE SIZE:** 2"	**SCREEN INT.:** 20-35 FT	**PROTECTION LEVEL:** D
TOC ELEV.: 69.87 FT.	**MONITOR INST.:** OVA	**TOT DPTH:** 37FT.	**DPTH TO ∇** 26.24 FT.
LOGGED BY: G. Kanchibhatla	**WELL DEVELOPMENT DATE:**		**SITE:** 15 - S.W. Landfill

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5									
10									
15					SAND - reddish brown, fine to medium, poorly graded, dry.		SP	5,6,6,6	
20					Same as above, alternating bands of pink and white.		SP	3,4,4,5	
25					SAND - gray to white, medium, poorly graded, saturated.		SP	3,2,2,3	∇
					SAND - fine, silty, saturated.				
30									
35									
40									

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: NAVAL AIR STATION WHITING FIELD		**LOG of WELL:** WHF-15-4	**BORING NO.**
CLIENT: SOUTHNAVFACENGCOM			**PROJECT NO:** RI PHASE IIA
CONTRACTOR: Groundwater Proteetion Inc.		**DATE STARTED:** 02/18/93	**COMPLTD:** 04/29/93
METHOD: HSA	**CASE SIZE:** 2"	**SCREEN INT.:** 92-107 FT.	**PROTECTION LEVEL:** D
TOC ELEV.: 143.54 FT.	**MONITOR INST.:** OVA	**TOT DPTH:** 112FT.	**DPTH TO ∇** 98.8 FT.
LOGGED BY: G. Kanchibhatla	**WELL DEVELOPMENT DATE:**		**SITE:** 15 - S.W. Landfill

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5			20/24	< 1	SAND - dark brown, fine, poorly graded, dry, loose, some organic content.		SP	1,1,1,1	
10			8/24	0	SAND - reddish brown, fine, poorly graded, dry, loose.		SP	2,2,3,2	
15			1/24	0	SAND - dark tan and yellowish orange bands, fine, poorly graded, dry.		SP	6,8,9,10	
			6/24						
20			24/24	0	Same as above, trace amounts of silt at 21 ft. bls.		SP	4,6,10,12	
25			20/24	0	SAND - white, very fine, poorly graded, moderately dense, dry.		SP	8,7,11,14	
30			20/24	0	SAND - very fine to fine, poorly graded, moderately dense, trace amounts of coarse to very coarse sand.		SP	8,7,11,14	
35			12/24	0	SAND - white with bands of reddish brown fine to medium, poorly graded, loose, dry.		SP	5,6,10,13	
40							SP		

ABB ENVIRONMENTAL SERVICES, INC.

TITLE: NAVAL AIR STATION WHITING FIELD	**LOG of WELL:** WHF-15-4		**BORING NO.**
CLIENT: SOUTHNAVFACENGCOM			**PROJECT NO:** RI PHASE IIA
CONTRACTOR: Groundwater Protection Inc.		**DATE STARTED:** 02/18/93	**COMPLTD:** 04/29/93
METHOD: HSA	**CASE SIZE:** 2"	**SCREEN INT.:** 92-107 FT.	**PROTECTION LEVEL:** D
TOC ELEV.: 143.54 FT.	**MONITOR INST.:** OVA	**TOT DPTH:** 112FT.	**DPTH TO ∇** 98.8 FT.
LOGGED BY: G. Kanchibhatla	**WELL DEVELOPMENT DATE:**		**SITE:** 15 - S.W. Landfill

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					Continued from PAGE 1				
			20/24	0	Same as above, trace coarse.		SP	5,8,11,14	
45			24/24	0	Same as above.		SP	8,13,23,27	
50			20/24	0	SAND - white, fine, trace silt, moderately dense, slightly moist, poorly graded.		SP	6,11,15,17	
55			20/24	0	Same as above.		SP	14,10,14,21	
60			20/24	0	Same as above, white to tan.		SP	10,15,21,29	
65			18/24	0	SAND - white to tan, fine to medium, fairly graded, moderately dense, slightly moist.		SP	22,28,29,28	
70			18/24	0	SAND - white, very fine to fine, poorly graded, moderately dense, dry.		SP	17,11,25,52	
75			18/24	1	SAND - white, very fine to fine, purple bands, poorly graded, loose, dry.		SP	18,27,31,28	
80							SP		

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: NAVAL AIR STATION WHITING FIELD		**LOG of WELL:** WHF-15-4	**BORING NO.**
CLIENT: SOUTHNAVFACENGCOM			**PROJECT NO:** RI PHASE IIA
CONTRACTOR: Groundwater Protection Inc.		**DATE STARTED:** 02/18/93	**COMPLTD:** 04/29/93
METHOD: HSA	**CASE SIZE:** 2"	**SCREEN INT.:** 92-107 FT.	**PROTECTION LEVEL:** D
TOC ELEV.: 143.54 FT.	**MONITOR INST.:** OVA	**TOT DPTH:** 112FT.	**DPTH TO ∇** 98.8 FT.
LOGGED BY: G. Kanchibhatla	**WELL DEVELOPMENT DATE:**		**SITE:** 15 - S.W. Landfill

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					Continued from PAGE 2				
			20/24	0	SAND - white to purple, medium to fine, some coarse, poorly graded, moderately dense, slightly moist, trace silt.		SP	22,12,12,14	
85			16/24	0	SAND - white to tan and purple, very fine to fine, poorly graded, dry, moderately dense.		SP	16,31,39,29	
90			18/24	0	SAND - white to tan, fine, poorly graded with some silt, loose to moderate density, slightly moist.		SP	22,22,42,27	
95			20/24	0	SAND - white to tan, very fine to fine, some silt, poorly graded top 8", over SANDY CLAY, yellow orange to purple, moist 8", over SAND, very fine to fine, purple, slightly moist, dense.		SP	7,15,31,33	
100			16/24	-	SAND - white to tan, fine, poorly graded, saturated, trace sandy clay.		SP	DROP,16,15	
105			24/24	-	Same as above, trace silt, saturated to wet.		SP		
110			24/24	-	Same as above, fine, light brown.		SP		
115					WHF-15-4 WAS REDRILLED ON 4/29/93.				
120									

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: WHF-15-5	BORING NO.
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: RI PHASE IIA
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 02/05/93	COMPLTD: 02/08/93
METHOD: Mud Rot	CASE SIZE: 6 in.	SCREEN INT.: 56-66 FT	PROTECTION LEVEL: D
TOC ELEV.: 104.32 FT.	MONITOR INST.: OVA	TOT DPTH: 68FT.	DPTH TO ∇ 64.63 FT
LOGGED BY: N. Haglin	WELL DEVELOPMENT DATE:		SITE: 15 - S.W. Landfill

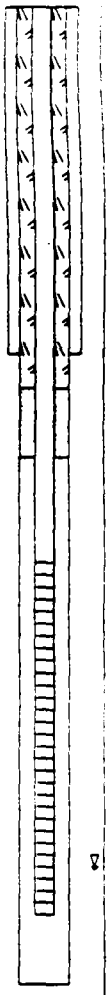
DEPTH FT	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5			15/24	0	SILTY SAND - dark red, fine, medium dense, damp.		SM	3,5,5,7	
10			24/24	0	Same as above.		SM	-,-,-,-	
15			12/24	0	SAND - reddish tan to white, fine, loose, dry.		SP	2,5,8,11	
20			24/24	0	Same as above, more white sand.		SP	4,5,7,10	
25			24/24	0	SAND - white, very fine to fine, loose, dry.		SP	5,5,6,7	
30			20/24	0	Same As Above, banded dark red and white		SP	5,11,12,15	
35			15/24	0	SAND - fine, banded rust and white, damp.		SP	6,9,12,12	
40							SP		

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: NAVAL AIR STATION WHITING FIELD	LOG of WELL: WHF-15-5		BORING NO.
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: RI PHASE IIA
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 02/05/93	COMPLTD: 02/08/93
METHOD: Mud Rot	CASE SIZE: 6 in.	SCREEN INT.: 56-66 FT.	PROTECTION LEVEL: D
TOC ELEV.: 104.32 FT.	MONITOR INST.: OVA	TOT DPTH: 68FT.	DPTH TO ▽ 64.63 FT
LOGGED BY: N. Haglin	WELL DEVELOPMENT DATE:		SITE: 15 - S.W. Landfill

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN
					Continued from PAGE 1			
			14/24	0	SAND - white, some pink, fine, trace coarse sand, loose, damp.		SP	3,7,8,7
45			24/24	0	SAND - purple, fine to medium, some coarse sand, loose, wet.		SW	4,3,3,5
			24/24	0	CLAY - purple, grey, tan, and yellow, fine sand lenses, firm, plastic, moist.		CL	2,3,2,4
50			24/24	0	CLAY - Grey, highly plastic, firm, traces of purple very fine sand and yellow silt.		CL	1,2,3,6
			24/24	0	CLAY - Grey mottled red, some sandy lenses, plastic, firm.			1,1,4,5
55			24/24	0	Same As Above top 18" over SAND, white, very fine, some silt, dry.			10,12,14,18
			24/24	0	SILTY SAND - brown, medium, wet, over very fine sand, white, damp (bottom 6").		SP SM	18,30,36,46
60			24/24	0	SAND - Top 8" brown, medium, wet, over 8" of sandy clay, brown, wet, over 8" of sand, white, very fine, damp.		SP	12,14,10,12
65			14/24	< 1	SAND - brown to white, fine to medium, some clayey sand, loose, wet.		SP	14,14,11,10
70								
75								
80								

WELL DATA



TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: WHF-15-6D	BORING NO.
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: RI PHASE IIA
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 02/5/93	COMPLTD: 02/8/93
METHOD: MUD ROTARY	CASE SIZE: 2"	SCREEN INT.: 110-120 FT	PROTECTION LEVEL: D
TOC ELEV.: 75.14 FT.	MONITOR INST.: OVA	TOT DPTH: 122FT.	DPTH TO ▽ 35.33 FT
LOGGED BY: R.Nelson	WELL DEVELOPMENT DATE:		SITE: 15 - S.W. Landfill

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5			16/24	0	SANDY SILT - reddish brown, medium, poorly graded, slightly moist.		SM	3,3,3,3	
10			20/24	1	Same as above.		SM	3,3,3,5	
15			18/24	1	SAND - reddish brown, fine, trace silt, poorly graded, saturated.		SP	7,11,12,15	
					SAND - white to gray, fine, poorly graded.				
20			14/24	1	SAND - reddish brown, fine, poorly graded, trace silt, wet.		SP	5,9,10,12	
25			18/24	120	SAND - light purple, fine, poorly graded, silt, wet.		SP	5,8,8,7	
30			14/24	160	SAND - orangish brown to gray, fine, trace silt, poorly graded.		SP	4,5,5,6	
35			8/24	3	SAND - tan, fine, poorly graded, silty.		SP	PUSHED	▽
40			10/24	160	SAND - gray, fine, poorly graded, wet.		SP	PUSHED	
45									

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: WHF-15-6D	BORING NO.
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: RI PHASE IIA
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 02/5/93	COMPLTD: 02/8/93
METHOD: MUD ROTARY	CASE SIZE: 2"	SCREEN INT.: 110-120 FT	PROTECTION LEVEL: D
TOC ELEV.: 75.14 FT.	MONITOR INST.: OVA	TOT DPTH: 122FT.	DPTH TO ▽ 35.33 FT.
LOGGED BY: R.Nelson	WELL DEVELOPMENT DATE:		SITE: 15 - S.W. Landfill

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					Continued from PAGE 1				
			6/24	22	Same as above.		SP	PUSHED	
50			4/24	2	Same as above, medium.		SP	PUSHED	
55			20/24	12	SAND - light tan, fine to medium, poorly graded, wet, trace coarse		SP	7,14,21,18	
60			12/24	5	SAND - purple, fine, poorly graded, wet.		SP	7,9,9,10	
65			20/24	1	SAND - light brown to light purple, medium to coarse, poorly graded, wet.		SP	11,13,8,10	
70			12/24	1	SAND - light brown, medium to coarse, wet. SAND - gray to white, fine, poorly graded.		SP	8,7,4,6	
75			18/24	0	SAND - light brown, medium to coarse, well graded, wet.		SP	10,7,6,7	
80			14/24	1.5	SAND - light brown, medium grained, well graded, wet.		SW	7,7,8,5	
85			14/24	18	Same as above, 3 in. clay layer, medium sand, light purple, poorly graded.		SW	5,6,11,11	
90									

TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: WHF-15-6D	BORING NO.
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: RI PHASE IIA
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 02/5/93	COMPLTD: 02/8/93
METHOD: MUD ROTARY	CASE SIZE: 2"	SCREEN INT.: 110-120 FT.	PROTECTION LEVEL: C
TOC ELEV.: 75.14 FT.	MONITOR INST.: OVA	TOT DPTH: 122FT.	DPTH TO ∇ 35.33 FT
LOGGED BY: R.Nelson	WELL DEVELOPMENT DATE:		SITE: 15 - S.W. Landfill

DEPTH FT	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					Continued from PAGE 2				
			14/24	1.5	SAND - light brown to purple, medium, well graded.		SW	2,7,8,9	
95			24/24	2.5	SAND - light brown, medium, well graded, wet.		SW	3,4,8,11	
					Same as above, fine.				
100			14/24	4	SAND - light brown, fine, poorly graded, wet.		SP	25,15,15,14	
105			12/24	7	SAND - light brown to light purple, medium, poorly graded.		SP	21,16,18,19	
110			12/24	0	SAND - light brown, fine, poorly graded, wet.		SP	30,37,34,38	
115			12/24	1	SAND - light brown, fine to medium, poorly graded.		SP	21,20,18,19	
					Same as above, medium.				
					Same as above, purple.				
120									
125									
130									
135									

TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: WHF-15-6S	BORING NO.
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: RI PHASE III
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 02/8/93	COMPLTD: 02/8/93
METHOD: HSA	CASE SIZE: 2"	SCREEN INT.: 25-40 FT	PROTECTION LEVEL: D
TOC ELEV.: 74.35 FT.	MONITOR INST.: OVA	TOT DPTH: 41FT.	DPTH TO ∇ 34.32 FT
LOGGED BY: R. Nelson	WELL DEVELOPMENT DATE:		SITE: 15 - S.W. Landfill

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5					SEE WHF-15-6D FOR LITHOLOGIC DESCRIPTIONS.				
10									
15									
20									
25									
30									
35									
40									

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: NAS Whiting Field	**LOG of WELL:** WHF-15-7S		**BORING NO.**
CLIENT: SOUTHNAVFACENGCOM			**PROJECT NO:** 02534.09
CONTRACTOR: ABB Environmental Services, Inc.		**DATE STARTED:** 04/10/96	**COMPLTD:** 04/11/96
METHOD: Hollow Stem Auger	**CASE SIZE:** 2 inches	**SCREEN INT.:** 15 feet	**PROTECTION LEVEL:** D
TOC ELEV.: 120.18 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 86FT.	**DPTH TO ▽** 67.5 FT.
LOGGED BY: F. Risk	**WELL DEVELOPMENT DATE:** 04/10/96		**SITE:** 15

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
1					FINE SANDY SILT: Yellowish orange, moist, with some plant matter organics.		ML		
2									
3					CLAY: Dark brown, some silt, low plasticity, moist.		CL		
4					CLAY: Moderate reddish brown, some silt, little sand, nonplastic, moist.				
5				0					
6									
7									
8									
9									
10					SILTY CLAY: With minor percentage of sand, soft, non-plastic, moist, increasing sand with depth reddish brown.				
11									
12				0					
13									
14									
15					SANDY SILT: Light yellow, fine sand, moist.		SM		
16									
17									
18									
19									
20					SANDY SILT: Light yellow, increasing fine sand with depth moist.				
21									
22									
23									
24									
25									
26			22/24						
27									
28									
29									
30					SILTY FINE SAND: Light yellow, increasing fine sand with depth moist.				
31									
32									
33									
34									
35									
36									
37									
38									
39									
40					SANDY SILT: Pale yellowish orange, moist.		ML		
41									
42				1					
43									
44									
45									
46									
47									
48									
49									
50					SILTY FINE SAND: Pale yellowish orange, some silt, moist.		SM		
51									
52									
53									
54									
55					Fine to medium SAND: Pale yellowish orange, some coarse sand, moist.		SW		
56									
57									
58				3					
59									
60									

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: NAS Whiting Field		**LOG of WELL:** WHF-15-7S	**BORING NO.**
CLIENT: SOUTHNAVFACENGCOM			**PROJECT NO:** 02534.09
CONTRACTOR: ABB Environmental Services, Inc.		**DATE STARTED:** 04/10/96	**COMPLTD:** 04/11/96
METHOD: Hollow Stem Auger	**CASE SIZE:** 2 inches	**SCREEN INT.:** 15 feet	**PROTECTION LEVEL:** D
TOC ELEV.: 120.18 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 86FT.	**DPTH TO ▽** 67.5 FT.
LOGGED BY: F. Risk	**WELL DEVELOPMENT DATE:** 04/10/96		**SITE:** 15

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					Continued from PAGE 1				
61					MEDIUM SAND: Pale yellowish orange, some fine sand, moist.		SW		
62									
63									
64									
65				0	FINE SAND: Pale yellowish orange, some medium sand, moist.				
66									
67							SP		▽
68									
69									
70					FINE SAND: Light brown, some medium and coarse sand, moist.				
71									
72									
73									
74									
75					Same as above.				
76									
77				1					
78									
79									
80					MEDIUM SAND: Some fine sand, moist, light brown.				
81									
82									
83									
84					SILTY CLAY: 1 to 13 inches, stiff, moist, moderate reddish brown.		CL		
85					SANDY SILT: 13 to 15 inches, some sand, moist, gray to purple.		SW	9,18,20,19	
86					15 to 24 inches, medium to coarse SAND, pale yellowish orange.				
87					END OF BORING AT 88 FEET BELOW LAND SURFACE.				
88									
89									
90									
91									
92									
93									
94									
95									
96									
97									
98									
99									
100									
101									
102									
103									
104									
105									
106									
107									
108									
109									
110									
111									
112									
113									
114									
115									
116									
117									
118									
119									
120									

TITLE: NAS Whiting Field		**LOG of WELL:** WHF-15-7I	**BORING NO.**
CLIENT: SOUTHNAVFACENGCOM			**PROJECT NO:** 02534.09
CONTRACTOR: ABB Environmental Services, Inc.		**DATE STARTED:** 04/11/96	**COMPLTD:** 04/13/96
METHOD: OVA	**CASE SIZE:** 2 inches	**SCREEN INT.:** 10 feet	**PROTECTION LEVEL:** D
TOC ELEV.: 119.85 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 117FT.	**DPTH TO ∇** FT.
LOGGED BY: F. Risk	**WELL DEVELOPMENT DATE:** 04/13/96		**SITE:** 15

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
1					FINE SANDY SILT: Yellowish orange, moist, with some plant matter organics.		SW		
2									
3					CLAY: Dark brown, some silt, low plasticity, moist.				
4									
5					CLAY: Moderate reddish brown, some silt, little sand, nonplastic, moist.				
6									
7									
8									
9									
10									
11					SILTY CLAY: With minor percentage sand soft, nonplastic, moist, increasing sand with depth, reddish brown.				
12									
13									
14									
15					SANDY SILT: Light yellow, fine sand, moist.				
16									
17									
18									
19									
20					SANDY SILT: Light yellow, increasing fine sand with depth, moist.				
21									
22									
23									
24									
25									
26									
27									
28									
29									
30			0		SILTY FINE SAND: Light yellow, increasing fine sand with depth.				
31									
32									
33									
34									
35									
36									
37									
38									
39									
40					SANDY SILT: Pale yellowish orange, moist.				
41									
42									
43									
44									
45									
46									
47									
48									
49									
50					SILTY FINE SAND: Pale yellowish orange, some silt, moist.				
51									
52									
53									
54									
55					Fine to medium SAND: Pale yellowish orange, some coarse sand, moist.				
56									
57									
58									
59									
60									

TITLE: NAS Whiting Field		**LOG of WELL:** WHF-15-71	**BORING NO.**
CLIENT: SOUTHNAVFACENGCOM			**PROJECT NO:** 02534.09
CONTRACTOR: ABB Environmental Services, Inc.		**DATE STARTED:** 04/11/96	**COMPLTD:** 04/13/96
METHOD: OVA	**CASE SIZE:** 2 inches	**SCREEN INT.:** 10 feet	**PROTECTION LEVEL:** D
TOC ELEV.: 119.85 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 117FT.	**DPTH TO ▽** FT.
LOGGED BY: F. Risk	**WELL DEVELOPMENT DATE:** 04/13/96		**SITE:** 15

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					Continued from PAGE 1				
61					Medium SAND: Pale yellowish orange, some fine sand, moist.		SW		
62									
63									
64									
65									
66					FINE SAND: Pale yellowish orange, some medium sand, moist.				
67									
68									
69									
70					FINE SAND: Light brown, some medium and coarse sand moist.				
71									
72									
73									
74									
75					Same as above.				
76									
77									
78									
79									
80					MEDIUM SAND: Some fine sand, moist, light brown.				
81									
82									
83									
84			0		1-13 inches: SILTY CLAY, stiff, moist, moderate reddish brown.				
85									
86					13-15 inches: SANDY SILT, some sand, moist, gray to purple.				
87									
88					15-24 inches: Medium to coarse sand, pale yellowish orange.				
89									
90									
91									
92									
93									
94									
95									
96									
97									
98									
99									
100									
101									
102									
103									
104									
105									
106									
107									
108									
109				5	Fine to medium SILTY SAND: Pale yellowish orange, some silt minor percent gravel, wet.			17,17,34,30	
110			60/2						
111				1	GRAVELY SILT: Pale purple, minor percent clay, dense, wet.		ML		
112									
113									
114									
115									
116									
117									
118									
119									
120									

TITLE: NAS Whiting Field		**LOG of WELL:** WHF-15-7D	**BORING NO.**
CLIENT: SOUTHNAVFACENGCOM			**PROJECT NO:** 02534.09
CONTRACTOR: ABB Environmental Services, Inc.		**DATE STARTED:** 04/12/96	**COMPLTD:** 04/13/96
METHOD: Mud Rotary	**CASE SIZE:** 2 inches	**SCREEN INT.:** 10 feet	**PROTECTION LEVEL:** D
TOC ELEV.: 119.49 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 146FT.	**DPTH TO ∇** FT.
LOGGED BY: F. Risk	**WELL DEVELOPMENT DATE:** 4/13/96		**SITE:** 15

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
1					FINE SANDY SILT: Yellowish orange, moist, with some plant matter organics.		SW		
2									
3					CLAY: Dark brown, some silt, low plasticity, moist.				
4									
5					CLAY: Moderate reddish brown, some silt, little sand, nonplastic, moist.				
6									
7									
8									
9									
10					SILTY CLAY: With minor percentage sand, soft, non-plastic, increasing sand with depth.				
11									
12									
13									
14									
15					SANDY SILT: Light yellow fine sand, moist.				
16									
17									
18									
19									
20					SANDY SILT: Light yellow, increasing fine sand with depth, moist.				
21									
22									
23									
24									
25									
26									
27									
28									
29									
30			0						
31					SILTY FINE SAND: Light yellow, increasing fine SAND with depth.				
32									
33									
34									
35									
36									
37									
38									
39									
40					SANDY SILT: Pale yellowish orange, moist.				
41									
42									
43									
44									
45									
46									
47									
48									
49									
50					SILTY FINE SAND: Pale yellowish orange, some silt, moist.				
51									
52									
53									
54									
55					Fine to medium SAND: Pale yellowish orange, some coarse sand moist.				
56									
57									
58									
59									
60									

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: NAS Whiting Field		**LOG of WELL:** WHF-15-7D	**BORING NO.**
CLIENT: SOUTHNAVFACENGCOM			**PROJECT NO:** 02534.09
CONTRACTOR: ABB Environmental Services, Inc.		**DATE STARTED:** 04/12/96	**COMPLTD:** 04/13/96
METHOD: Mud Rotary	**CASE SIZE:** 2 inches	**SCREEN INT.:** 10 feet	**PROTECTION LEVEL:** D
TOC ELEV.: 119.49 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 146FT.	**DPTH TO ∇** FT.
LOGGED BY: F. Risk	**WELL DEVELOPMENT DATE:** 4/13/96		**SITE:** 15

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					Continued from PAGE 1				
61					MEDIUM SAND: Pale yellowish orange, some fine sand, moist.		SW		
62									
63									
64									
65					FINE SAND: Pale yellowish orange, some medium sand, moist.				
66									
67									
68									
69									
70					FINE SAND: Light brown, some medium coarse sand moist.				
71									
72									
73									
74									
75					Same as above.				
76									
77									
78									
79									
80					MEDIUM SAND: Some fine sand, moist, light brown.				
81									
82									
83									
84			0		1-13 inches: SILTY CLAY, stiff, moist, moderate reddish brown.				
85									
86					13-15 inches: SANDY SILT, some sand, moist, gray to purple.				
87									
88					15-24 inches: Medium to coarse SAND, pale yellowish orange.				
89									
90									
91									
92									
93									
94									
95									
96									
97									
98									
99									
100									
101									
102									
103									
104									
105									
106									
107									
108									
109									
110			60/2						
111									
112									
113									
114									
115									
116									
117									
118									
119									
120									

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: NAS Whiting Field		**LOG of WELL:** WHF-15-7D	**BORING NO.**
CLIENT: SOUTHNAVFACENGCOM			**PROJECT NO:** 02534.09
CONTRACTOR: ABB Environmental Services, Inc.		**DATE STARTED:** 04/12/96	**COMPLTD:** 04/13/96
METHOD: Mud Rotary	**CASE SIZE:** 2 inches	**SCREEN INT.:** 10 feet	**PROTECTION LEVEL:** D
TOC ELEV.: 119.49 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 146FT.	**DPTH TO ▽** FT.
LOGGED BY: F. Risk	**WELL DEVELOPMENT DATE:** 4/13/96		**SITE:** 15

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					Continued from PAGE 2				
121							SW		
122									
123									
124									
125									
126									
127									
128									
129									
130									
131									
132									
133									
134									
135									
136									
137									
138					Gravely MEDIUM SAND: Yellowish orange, some silt gravel, little silt, trace clay, very dense, wet.				
139									
140				1				1,26,31	
141					Gravely medium SAND: Light yellowish orange, some gravel, very dense, wet.			refusal	
142									
143					SILT: Pale yellow orange, some sand, little clay, hard, moist.		ML		
144							SW		
145					SAND: Light yellowish orange, some gravel, dense, wet.				
146									
147					END OF BORING AT 145.5 FEET BELOW LAND SURFACE.				
148									
149									
150									
151									
152									
153									
154									
155									
156									
157									
158									
159									
160									
161									
162									
163									
164									
165									
166									
167									
168									
169									
170									
171									
172									
173									
174									
175									
176									
177									
178									
179									
180									

TITLE: NAS Whiting Field		**LOG of WELL:** WHF-15-8S	**BORING NO.**
CLIENT: SOUTHNAVFACENGCOM			**PROJECT NO:** 02534.09
CONTRACTOR: ABB Environmental Services, Inc.		**DATE STARTED:** 05/23/96	**COMPLTD:** 05/23/96
METHOD: Mud Rotary	**CASE SIZE:** 2 inches	**SCREEN INT.:** 15 feet	**PROTECTION LEVEL:** D
TOC ELEV.: 80.0 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 55FT.	**DPTH TO ▽** 39.7 FT.
LOGGED BY: F. Risk	**WELL DEVELOPMENT DATE:** 05/23/96		**SITE:** 15

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
1–4					FINE SAND and SILT: Yellowish brown, loose, moist.		SM		
5–24					FINE SAND: Reddish brown, moist.		SP		
15–24					MEDIUM SAND: Reddish brown, poorly sorted, moist.				
25–28					FINE SAND: Light brown, well sorted, moist		SM		

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: NAS Whiting Field		**LOG of WELL:** WHF-15-8I	**BORING NO.**
CLIENT: SOUTHNAVFACENGCOM			**PROJECT NO:** 02534.09
CONTRACTOR: ABB Environmental Services, Inc.		**DATE STARTED:** 05/10/96	**COMPLTD:** 05/10/96
METHOD: Mud Rotary	**CASE SIZE:** 2 inches	**SCREEN INT.:** 10 feet	**PROTECTION LEVEL:** D
TOC ELEV.: 79.48 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 85FT.	**DPTH TO ▽** FT.
LOGGED BY: J. Beauchamp	**WELL DEVELOPMENT DATE:** 5/10/96		**SITE:** 15

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
1									
2									
3				0					
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									
21									
22									
23									
24									
25				0					
26									
27									
28									
29									
30									

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: NAS Whiting Field		**LOG of WELL:** WHF-15-8I	**BORING NO.**
CLIENT: SOUTHNAVFACENGCOM			**PROJECT NO:** 02534.09
CONTRACTOR: ABB Environmental Services, Inc.		**DATE STARTED:** 05/10/96	**COMPLTD:** 05/10/96
METHOD: Mud Rotary	**CASE SIZE:** 2 inches	**SCREEN INT.:** 10 feet	**PROTECTION LEVEL:** D
TOC ELEV.: 79.48 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 85FT.	**DPTH TO ▽** FT.
LOGGED BY: J. Beauchamp	**WELL DEVELOPMENT DATE:** 5/10/96		**SITE:** 15

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					Continued from PAGE 1				
31									
32									
33									
34									
35									
36									
37									
38									
39									
40				0					
41									
42									
43									
44									
45									
46									
47									
48									
49									
50									
51									
52									
53									
54									
55				0					
56									
57									
58									
59									
60									

TITLE: NAS Whiting Field		**LOG of WELL:** WHF-15-8I	**BORING NO.**
CLIENT: SOUTHNAVFACENGCOM			**PROJECT NO:** 02534.09
CONTRACTOR: ABB Environmental Services, Inc.		**DATE STARTED:** 05/10/96	**COMPLTD:** 05/10/96
METHOD: Mud Rotary	**CASE SIZE:** 2 inches	**SCREEN INT.:** 10 feet	**PROTECTION LEVEL:** D
TOC ELEV.: 79.48 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 85FT.	**DPTH TO ∇** FT.
LOGGED BY: J. Beauchamp	**WELL DEVELOPMENT DATE:** 5/10/96		**SITE:** 15

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					Continued from PAGE 2				
61									
62									
63									
64									
65									
66									
67									
68									
69									
70				0					
71									
72									
73									
74									
75									
76									
77				0	SAND: Medium grained, some silt, well-graded, light brown, saturated.				
78									
79				0				20,22,34,37	
80									
81									
82									
83									
84									
85				0					
86									
87									
88									
89									
90									

TITLE: NAS Whiting Field		**LOG of WELL:** WHF-15-8D	**BORING NO.**
CLIENT: SOUTHNAVFACENGCOM			**PROJECT NO:** 02534.09
CONTRACTOR: ABB Environmental Services, Inc.		**DATE STARTED:** 06/07/96	**COMPLTD:** 06/08/96
METHOD: Mud Rotary	**CASE SIZE:** 2 inches	**SCREEN INT.:** 10 Feet	**PROTECTION LEVEL:** D
TOC ELEV.: 79.08 FT.	**MONITOR INST.:** OVA	**TOT DPTH:** 115FT.	**DPTH TO ▽** FT.
LOGGED BY: F. Risk	**WELL DEVELOPMENT DATE:** 6/08/96		**SITE:** 15

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									
21									
22									
23									
24									
25									
26									
27									
28									
29									
30									
31									
32									
33									
34									
35									
36									
37									
38									
39									
40									
41									
42									
43									
44									
45									
46									
47									
48									
49									
50									
51									
52									
53									
54									
55									
56									
57									
58									
59									
60									

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: NAS Whiting Field		**LOG of WELL:** WHF-15-8D	**BORING NO.**
CLIENT: SOUTHNAVFACENGCOM			**PROJECT NO:** 02534.09
CONTRACTOR: ABB Environmental Services, Inc.		**DATE STARTED:** 06/07/96	**COMPLTD:** 06/08/96
METHOD: Mud Rotary	**CASE SIZE:** 2 inches	**SCREEN INT.:** 10 Feet	**PROTECTION LEVEL:** D
TOC ELEV.: 79.08 FT.	**MONITOR INST.:** OVA	**TOT DPTH:** 115FT.	**DPTH TO ▽** FT.
LOGGED BY: F. Risk	**WELL DEVELOPMENT DATE:** 6/08/96		**SITE:** 15

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					Continued from PAGE 1				
61									
62									
63									
64									
65									
66									
67									
68									
69									
70									
71									
72									
73									
74									
75									
76									
77									
78									
79									
80									
81									
82									
83									
84									
85									
86									
87									
88									
89									
90									
91									
92									
93									
94									
95									
96									
97									
98									
99									
100									
101									
102									
103									
104									
105									
106									
107									
108							SW		
109					Fine to very coarse SAND yellowish orange poorly sorted, subrounded, wet.				
110				1				8,11,10,18	
111									
112									
113									
114									
115					END OF BORING @ 115 FEET.				
116									
117									
118									
119									
120									

LITHOLOGIC LOG FOR WELL NUMBER (SITE 16)

Description	Depth (ft)	Thickness (ft)
Sand, fine to medium grained, yellow; clay, yellow.....	0 - 9.0	9.0
Clay, red, white.....	9.0 - 15.0	6.0
Sand, fine to coarse grianed, white; gravel.....	15.0 - 42.0	27.0

Geraghty & Miller, Verification Study, 1986

TITLE: NAVAL AIR STATION WHITING FIELD		**LOG of WELL:** WHF-16-2D	**BORING NO.** WHF-16-2D
CLIENT: SOUTHNAVFACENGCOM			**PROJECT NO:** RI PHASE IIA
CONTRACTOR: Groundwater Protection Inc.		**DATE STARTED:** 02/09/93	**COMPLTD:** 03/4/93
METHOD: MUD ROT.	**CASE SIZE:** N/A	**SCREEN INT.:** N/A	**PROTECTION LEVEL:** D
TOC ELEV.: N/A FT.	**MONITOR INST.:** OVA	**TOT DPTH:** 262FT.	**DPTH TO ▽** FT.
LOGGED BY: R. Nelson, G.K.	**WELL DEVELOPMENT DATE:** N/A		**SITE:** 16 - Wastewater Plnt.

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5			15/24	0	SAND - light brown, fine to medium, poorly graded, dry.		SP	4,4,7,5	
10			12/24	0	SILTY SAND - reddish brown, poorly graded, dry.		SP	4,3,5,4	
15			12/24	2	SILTY SAND - reddish brown, poorly graded, trace coarse, dry.		SP	6,8,12,14	
20			16/24	1	SILTY SAND - SAA.		SP	5,6,7,9	
25			14/24	0	SAND - white to tan, very fine, poorly graded, grade to SANDY CLAY - white, yellow mottling, firm, dry.		SP	6,9,8,5	
30			14/24	0	SAND - off-white, fine, poorly graded, dry.		SP	9,11,12,14	
35			16/24	0	SAND - SAA, saturated.		SP	6,6,7,9	
40				2			SP	4,5,9,16	

ABB ENVIRONMENTAL SERVICES, INC.

TITLE: NAVAL AIR STATION WHITING FIELD		**LOG of WELL:** WHF-16-2D	**BORING NO.** WHF-16-2D
CLIENT: SOUTHNAVFACENGCOM			**PROJECT NO:** RI PHASE IIA
CONTRACTOR: Groundwater Protection Inc.		**DATE STARTED:** 02/09/93	**COMPLTD:** 03/4/93
METHOD: MUD ROT.	**CASE SIZE:** N/A	**SCREEN INT.:** N/A	**PROTECTION LEVEL:** D
TOC ELEV.: N/A FT.	**MONITOR INST.:** OVA	**TOT DPTH:** 262FT.	**DPTH TO ∇** FT.
LOGGED BY: R. Nelson, G.K.	**WELL DEVELOPMENT DATE:** N/A		**SITE:** 16 - Wastewater Plnt.

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					Continued from PAGE 1				
			20/24		SAND - light brown, fine, poorly graded, saturated. SAND - white, fine, poorly graded, saturated.		SP		
45			22/24	9	SAND - ligh brown to tan, fine to medium, poorly graded, saturated.		SP	15,16,11,9	
50			20/24	6	SAND - off-white, fine to medium, poorly graded, trace silt, saturated.		SP	6,7,7,11	
55			16/24	10	SAND - off-white to light pink, fine to medium, poorly graded, saturated.		SP	7,8,9,11	
60			16/24	2	SAND - SAA.		SP	16,12,12,14	
65			18/24	7	SAND - purple, medium, poorly graded, trace silt, saturated.		SP	dropped	
70			18/24	11	SAND - off-white, fine, poorly graded, saturated.		SP	13,15,9,6	
75			12/24	26	SAND - light brown, fine, poorly graded, saturated.		SP	13,15,15,15	
80				0			SW	4,5,8,12	

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: NAVAL AIR STATION WHITING FIELD		**LOG of WELL:** WHF-16-2D	**BORING NO.** WHF-16-2D
CLIENT: SOUTHNAVFACENGCOM			**PROJECT NO:** RI PHASE IIA
CONTRACTOR: Groundwater Protection Inc.		**DATE STARTED:** 02/09/93	**COMPLTD:** 03/4/93
METHOD: MUD ROT.	**CASE SIZE:** N/A	**SCREEN INT.:** N/A	**PROTECTION LEVEL:** D
TOC ELEV.: N/A FT.	**MONITOR INST.:** OVA	**TOT DPTH:** 262FT.	**DPTH TO ∇** FT.
LOGGED BY: R. Nelson, G.K.	**WELL DEVELOPMENT DATE:** N/A		**SITE:** 16 - Wastewater Plnt.

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					Continued from PAGE 2				
			12/24		SAND - tan to brown, medium, well graded, saturated.		SW		
85			12/24	2.5	SAND - light brown, fine to coarse, poorly graded, saturated.		SP	14,12,16,15	
90			14/24	70	SAND - SAA, purple.		SP	10,14,21,26	
95			14/24	19	SAND - light brown to tan, fine to medium, trace coarse poorly graded.		SP	12,16	
100			16/24	5.5	SAND - SAA, purple.		SP	16,19,22,17	
105			16/24	4	SAND - light brown, fine to medium, poorly graded, saturated.		SP	dropped	
110			18/24	8.5			SP	19,21,26,28	
115			12/24	4	SAND - SAA.		SP	39,41,53,60	
120				N/A			SP	33,42,51,56	

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: NAVAL AIR STATION WHITING FIELD		**LOG of WELL:** WHF-16-2D	**BORING NO.** WHF-16-2D
CLIENT: SOUTHNAVFACENGCOM			**PROJECT NO:** RI PHASE IIA
CONTRACTOR: Groundwater Protection Inc.		**DATE STARTED:** 02/09/93	**COMPLTD:** 03/4/93
METHOD: MUD ROT.	**CASE SIZE:** N/A	**SCREEN INT.:** N/A	**PROTECTION LEVEL:** D
TOC ELEV.: N/A FT.	**MONITOR INST.:** OVA	**TOT DPTH:** 262FT.	**DPTH TO ∇** FT.
LOGGED BY: R. Nelson, G.K.	**WELL DEVELOPMENT DATE:** N/A		**SITE:** 16 - Wastewater Plnt.

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					Continued from PAGE 3				
			12/24		SAND - light brown with 1" purple lense, medium, poorly graded, saturated.		SP		
125			20/24	N/A	SILTY SAND - fine to medium, poorly graded, soft.		SM	11,11,15,12	
130			24/24	N/A	SILTY SAND - mustard yellow, fine, soft, saturated.		SM	1,2,1,1	
				N/A	SILTY SAND - SAA.		SM	dropped	
135			24/24	N/A	SILTY SAND -SAA, gray.		SM	dropped	
140			24/24	0	SAND - SAA.		CH	7,12,13,14	
					CLAY - gray, moderately stiff.				
			24/24	N/A	CLAY - gray, moderately stiff.			20,18,23,24	
			12/12	0	CLAY - gray, moderately stiff.			9,5,5,7	
145			22/24	0	CLAY (3") - SAA. SANDY SILT - yellowish orange.			9,10,9,8	
			23/24	0	SAND (6") - yellowish orange, fine to coarse, some silt. SANDY CLAY (6") - gray, moderately stiff.			13,12,11,12	
150			22/24	0	CLAY (11") - gray, moderately stiff. CLAY - SAA, high plasticity.			14,14,15,16	
155			24/24	0	CLAY - SAA.		CH	6,7,8,15	
160			24/24	0	CLAY - SAA.		CH	14,12,11,14	

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: NAVAL AIR STATION WHITING FIELD		**LOG of WELL:** WHF-16-2D	**BORING NO.** WHF-16-2D
CLIENT: SOUTHNAVFACENGCOM			**PROJECT NO:** RI PHASE IIA
CONTRACTOR: Groundwater Protection Inc.		**DATE STARTED:** 02/09/93	**COMPLTD:** 03/4/93
METHOD: MUD ROT.	**CASE SIZE:** N/A	**SCREEN INT.:** N/A	**PROTECTION LEVEL:** D
TOC ELEV.: N/A FT.	**MONITOR INST.:** OVA	**TOT DPTH:** 262FT.	**DPTH TO ∇** FT.
LOGGED BY: R. Nelson, G.K.	**WELL DEVELOPMENT DATE:** N/A		**SITE:** 16 - Wastewater Plnt.

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					Continued from PAGE 4				
			24/24				CH		
165			24/24	0	CLAY - SAA.		CH	12,12,12,16	
170			24/24	0	CLAY - SAA, some fine sand.		CH	11,10,18,24	
175			14/24	0	CLAY (3") - gray, moderately stiff, some sand. SAND (9") - gray, fine to coarse, poorly graded, very dense, saturated.		CH	60,85,refusl	
180			24/24	0	SANDY CLAY - gray, low plasticity.		CL	24,26,22,15	
185			12/24	0	SANDY SILT - olive gray, very fine, poorly graded, moderately dense, moist.		ML	29,41,46,52	
190			12/24	0	SILT (6") - olive green, dense, slightly moist. SAND (3") - light olive gray, very fine, poorly graded, very dense, moist. SANDY SILT (3") - olive gray, dense, moist.		ML	57,59,55,70	
195			08/24	0	SAND - olive gray, fine, poorly graded, very dense, some silt, saturated.		SP	61,refusal	
200			24/24	0	SANDY SILT - olive green to gray, very dense, shell fragments, moist.		ML	60,82,96,ref	

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: WHF-16-2D	BORING NO. WHF-16-2D
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: RI PHASE IIA
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 02/09/93	COMPLTD: 03/4/93
METHOD: MUD ROT.	CASE SIZE: N/A	SCREEN INT.: N/A	PROTECTION LEVEL: D
TOC ELEV.: N/A FT.	MONITOR INST.: OVA	TOT DPTH: 262FT.	DPTH TO ▽ FT.
LOGGED BY: R. Nelson, G.K.	WELL DEVELOPMENT DATE: N/A		SITE: 16 - Wastewater Plnt.

DEPTH FT	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					Continued from PAGE 5				
			24/24				ML		
205			12/24	0	SANDY SILT - SAA, saturated.		ML	86,75,ref	
210			24/24	0	CLAY - dark gray, stiff, high plasticity, dry.		CH	22,22,24,31	
215			24/24	0	CLAY - SAA.		CH	18,20,29,37	
220			24/24	0	CLAY - SAA.		CH	18,20,28,43	
225									
230			24/24	0	SAND (6") - gray, fine to medium, poorly graded, saturated. CLAY (1.5') - gray, firm, plastic.		CH	33,31,48,ref	
235			24/24	0	CLAY - gray, moderately stiff, plastic.		CH	12,17,22,35	
240									

TITLE: NAVAL AIR STATION WHITING FIELD		**LOG of WELL:** WHF-16-2D	**BORING NO.** WHF-16-2D
CLIENT: SOUTHNAVFACENGCOM			**PROJECT NO:** RI PHASE IIA
CONTRACTOR: Groundwater Protection Inc.		**DATE STARTED:** 02/09/93	**COMPLTD:** 03/4/93
METHOD: MUD ROT.	**CASE SIZE:** N/A	**SCREEN INT.:** N/A	**PROTECTION LEVEL:** D
TOC ELEV.: N/A FT.	**MONITOR INST.:** OVA	**TOT DPTH:** 262FT.	**DPTH TO ∇** FT.
LOGGED BY: R. Nelson, G.K.	**WELL DEVELOPMENT DATE:** N/A		**SITE:** 16 - Wastewater Plnt.

Continued from PAGE 6

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
245			24/24	0	CLAY - SAA.		CH	37,40,35,35	
250									
255			24/24	3	SILTY SAND - gray, dense, trace coarse, moist.		SM	52,50,refusl	
260			12/24	N/A	SANDY SILT - gray, fine, poorly graded, shell fragments, saturated.		ML	23,35,53,ref	
265									
270									
275									
280									

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: NAVAL AIR STATION WHITING FIELD	LOG of WELL: WHF-16-2I		BORING NO.
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: RI PHASE IIA
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 02/18/93	COMPLTD: 02/18/93
METHOD: MUD ROTARY	CASE SIZE: 2"	SCREEN INT.: 117-127 FT	PROTECTION LEVEL: D
TOC ELEV.: 80.71 FT.	MONITOR INST.: OVA	TOT DPTH: 127.5FT.	DPTH TO ▽ 36.52 FT.
LOGGED BY: R. Nelson	WELL DEVELOPMENT DATE:		SITE: 16 - Open Disposal/Burn Area

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5					SEE WHF-16-2D FOR FULL LITHOLOGIC DATA.				
10									
15									
20									
25									
30									
35									
40									
45									
50									
55									
60									
65									

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: NAVAL AIR STATION WHITING FIELD	LOG of WELL: WHF-16-2I	BORING NO.
CLIENT: SOUTHNAVFACENGCOM		PROJECT NO: RI PHASE IIA
CONTRACTOR: Groundwater Protection Inc.	DATE STARTED: 02/18/93	COMPLTD: 02/18/93
METHOD: MUD ROTARY	CASE SIZE: 2"	SCREEN INT.: 117-127 FT
TOC ELEV.: 80.71 FT.	MONITOR INST.: OVA	TOT DPTH: 127.5FT.
LOGGED BY: R. Nelson	WELL DEVELOPMENT DATE:	SITE: 16 - Open Disposal/Burn Area

DEPTH FT	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					Continued from PAGE 1				
70									
75									
80									
85									
90									
95									
100									
105									
110									
115			06/24	N/A	SAND - ligh brown, medium, poorly graded, saturated, purple lamina.		SP	12,18,18,37	
120			08/24	N/A	SAND - SAA.		SP	38,30,60,48	
125			16/24	N/A	SAND - tan, medium, poorly graded, trace gravel, saturated, rounded.		SP	20,20,20,24	
130									

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: WHF-16-2S	BORING NO.
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: RI PHASE IIA
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 02/21/93	COMPLTD: 02/21/93
METHOD: HSA	CASE SIZE: 2"	SCREEN INT.: 31-46 FT	PROTECTION LEVEL: D
TOC ELEV.: 83.75 FT.	MONITOR INST.: OVA	TOT DPTH: 46FT	DPTH TO ∇ 39.41 FT
LOGGED BY: R. Nelson	WELL DEVELOPMENT DATE:		SITE: 16 - Open Disposal/Burn Area

DEPTH FT	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5					SEE WHF-16-2D FOR FULL LITHOLOGIC DATA.				
10									
15									
20									
25									
30			20/24	0	SAND - white, very fine to fine, poorly graded, dry.		SP	3,3,5,8	
35			20/24	0	SAND - SAA, trace silt.		SP	7,4,6,11	
40			22/24	0	SAND - white, very fine to coarse, poorly graded, saturated.		SW	5,3,4,7	
45									

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: NAVAL AIR STATION WHITING FIELD	**LOG of WELL:** WHF-16-3D	**BORING NO.**
CLIENT: SOUTHNAVFACENGCOM		**PROJECT NO:** RI PHASE IIA
CONTRACTOR: Groundwater Protection Inc.	**DATE STARTED:** 01/22/93	**COMPLTD:** 01/26/93
METHOD: MUD ROTARY	**CASE SIZE:** 2"	**SCREEN INT.:** 105-115 FT	**PROTECTION LEVEL:** D
TOC ELEV.: 51.47 FT.	**MONITOR INST.:** OVA	**TOT DPTH:** 115FT.	**DPTH TO ∇** 10.32 FT.
LOGGED BY: W. Colby-George	**WELL DEVELOPMENT DATE:**	**SITE:** 16 - S.W. Landfill

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5					SAND - light brown, well sorted.		SP		
10					SAND - some fines, wet.		SP		
15					SAND - red brown.		SP		
20					SAND - SAA		SP		
25					SAND - yellow to tan.		SP		
30					SAND - yellow to purple, fine.		SP		
35					SAA		SP		
40							SP		

ABB ENVIRONMENTAL SERVICES, INC.

TITLE: NAVAL AIR STATION WHITING FIELD		**LOG of WELL:** WHF-16-3D	**BORING NO.**
CLIENT: SOUTHNAVFACENGCOM			**PROJECT NO:** RI PHASE IIA
CONTRACTOR: Groundwater Protection Inc.		**DATE STARTED:** 01/22/93	**COMPLTD:** 01/26/93
METHOD: MUD ROTARY	**CASE SIZE:** 2"	**SCREEN INT.:** 105-115 FT	**PROTECTION LEVEL:** D
TOC ELEV.: 51.47 FT.	**MONITOR INST.:** OVA	**TOT DPTH:** 115FT.	**DPTH TO ∇** 10.32 FT.
LOGGED BY: W. Colby-George	**WELL DEVELOPMENT DATE:**		**SITE:** 16 - S.W. Landfill

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					Continued from PAGE 1				
					SAA		SP		
45					SAND - white, medium.		SP		
50					SAND - yellow brown, some fine, trace gravel.		SP		
55					SAA		SP		
60					SAA		SP		
65					SAA		SP		
70					SAA		SP		
75					SAND - fine sand, purple gravel.		SP		
80							SP		

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: WHF-16-3D	BORING NO.
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: RI PHASE IIA
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 01/22/93	COMPLTD: 01/26/93
METHOD: MUD ROTARY	CASE SIZE: 2"	SCREEN INT.: 105-115 FT	PROTECTION LEVEL: D
TOC ELEV.: 51.47 FT.	MONITOR INST.: OVA	TOT DPTH: 115FT.	DPTH TO ∇ 10.32 FT
LOGGED BY: W. Colby-George	WELL DEVELOPMENT DATE:		SITE: 16 - S.W. Landfill

DEPTH FT	LABORATORY SAMPLE ID	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					Continued from PAGE 2				
					SAND - yellow, medium to coarse, trace clay.		SP		
85					SAA		SP		
90					SAA		SP		
95					SILTY SAND - gray, clay 6".		SM		
100					SAA, no clay.		SM		
105					SAA		SM		
110					SILTY SAND - gray, clay, very plastic.		SM		
115							SP		
120									

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: WHF-16-3I	BORING NO.
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: RI PHASE IIA
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 01/26/93	COMPLTD: 01/26/93
METHOD: MUD ROTARY	CASE SIZE: 2"	SCREEN INT.: 45-50 FT	PROTECTION LEVEL: D
TOC ELEV.: 51.54 FT.	MONITOR INST.: OVA	TOT DPTH: 22FT.	DPTH TO ∇ 13.04 FT.
LOGGED BY: W. Colby-George	WELL DEVELOPMENT DATE:		SITE: 16 - S.W. Landfill

DEPTH FT	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5					SEE WHF-16-3D FOR LITHOLOGICAL DESCRIPTION.				
10									
15									
20									
25									
30									
35									
40									
45									
50									
55									
60									

TITLE: NAVAL AIR STATION WHITING FIELD	LOG of WELL: WHF-16-3II	BORING NO.
CLIENT: SOUTHNAVFACENGCOM		PROJECT NO: RI PHASE IIA
CONTRACTOR: Groundwater Protection Inc.	DATE STARTED: 01/25/93	COMPLTD: 01/25/93
METHOD: MUD ROTARY	CASE SIZE: 2" / SCREEN INT.: 75-80 FT	PROTECTION LEVEL: D
TOC ELEV.: 51.31 FT.	MONITOR INST.: OVA / TOT DPTH: 22FT.	DPTH TO ∇ 13.38 FT
LOGGED BY: W. Colby-George	WELL DEVELOPMENT DATE:	SITE: 16 - S.W. Landfill

DEPTH FT	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5					SEE WHF-16-3D FOR LITHOLOGICAL DESCRIPTION.				
10									
15									
20									
25									
30									
35									
40									

 ABB ENVIRONMENTAL SERVICES, INC.

TLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: WHF-16-3S	BORING NO.
IENT: SOUTHNAVFACENGCOM			PROJECT NO: RI PHASE IIA
NTRACTOR: Groundwater Protection Inc.		DATE STARTED: 01/22/93	COMPLTD: 01/22/93
THOD: HSA	CASE SIZE: 2"	SCREEN INT.: 5-20 FT	PROTECTION LEVEL: D
C ELEV.: 51.75 FT.	MONITOR INST.: OVA	TOT DPTH: 22FT.	DPTH TO ▽ 13.65 FT.
GGED BY: W. Colby-George	WELL DEVELOPMENT DATE:		SITE: 16 - S.W. Landfill

FT	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					SEE WHF-16-3D FOR LITHOLOGICAL DESCRIPTION.		SP		
							SP		
							SP		
							SP		

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: NAVAL AIR STATION WHITING FIELD		**LOG of WELL:** WHF-16-4D	**BORING NO.** N/A
CLIENT: SOUTHNAVFACENGCOM			**PROJECT NO:** RI PHASE IIA
CONTRACTOR: Groundwater Protection Inc.		**DATE STARTED:** 02/02/93	**COMPLTD:** 02/18/93
METHOD: MUD ROT.	**CASE SIZE:** 6" & 2"	**SCREEN INT.:** 109-119 FT	**PROTECTION LEVEL:** D
TOC ELEV.: 52.95 FT.	**MONITOR INST.:** OVA	**TOT DPTH:** 121FT.	**DPTH TO ∇** 14.16 FT.
LOGGED BY: M. Alvarez	**WELL DEVELOPMENT DATE:**		**SITE:** 16 - Wastewater Pit.

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN
			18/24	0	SILTY SAND - Light brown, poorly graded, slightly plastic, loose, moist.		SM	3,5,7,18
5								
			22/24	0	Same As Above, yellowish brown, 1 in. clay lense.		SM	
10								
			22/24	0	SAND - tan to reddish brown, fine to medium, 2" layer of sandy silt, loose, and wet.		SP	
15								
			10/24	< 1	SAND - tan, fine, poorly graded, loose, wet.		SP	
20								
			20/24	5	SAND - tan, fine to coarse, little fine gravel, trace silt, well graded, loose, wet.		SW	
25								
			04/24	1	SAND - tan, coarse, loose, poorly graded, wet.		SP	
30								
			20/24	20	SAND - tan, coarse, some medium to fine sand, well graded, wet.		SW	
35								
			12/24	3	Same As Above.		SW	
40								

WELL DATA

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: NAVAL AIR STATION WHITING FIELD		**LOG of WELL:** WHF-16-4D	**BORING NO.** N/A
CLIENT: SOUTHNAVFACENGCOM			**PROJECT NO:** RI PHASE IIA
CONTRACTOR: Groundwater Protection Inc.		**DATE STARTED:** 02/02/93	**COMPLTD:** 02/18/93
METHOD: MUD ROT.	**CASE SIZE:** 8" & 2"	**SCREEN INT.:** 109-119 FT	**PROTECTION LEVEL:** D
TOC ELEV.: 52.95 FT.	**MONITOR INST.:** OVA	**TOT DPTH:** 121FT.	**DPTH TO ∇** 14.16 FT.
LOGGED BY: M. Alvarez	**WELL DEVELOPMENT DATE:**		**SITE:** 16 - Wastewater Pit.

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					Continued from PAGE 1				
			12/24	2	SAND - purple to yellow, fine, trace silt, poorly graded, wet.		SP		
46									
			08/24	2.5	SAND - pinkish tan, fine to medium, poorly graded, wet.		SP		
51									
			08/24	2.5	Same As Above.		SP		
56									
			08/24	5	SAND - tan to purple, fine to coarse, with shell fragments.		SP		
61									
			08/24	0	CLAY - grey and red mottled firm, plastic.		CL		
66			24/24	0	CLAY - grey, lenses of purple and orange very fine sand, firm, very plastic.				
			08/24	< 1	SAND - light tan, fine, poorly graded, trace silt, wet.		SP	3,5,4,3	
71									
			20/24	---	CLAY - light tan, low plasticity, sharp contact at 74 ft. to SAND, moderate reddish brown, fine to medium, poorly graded.		CL/SP	1,1,2,4	
76									
			18/24	---	SAND - yellowish orange, fine to some medium, poorly graded, wet.		SP	11,22,24,27	
81									

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: NAVAL AIR STATION WHITING FIELD		**LOG of WELL:** WHF-16-4D	**BORING NO.** N/A
CLIENT: SOUTHNAVFACENGCOM			**PROJECT NO:** RI PHASE IIA
CONTRACTOR: Groundwater Protection Inc.		**DATE STARTED:** 02/02/93	**COMPLTD:** 02/18/93
METHOD: MUD ROT.	**CASE SIZE:** 6" & 2"	**SCREEN INT.:** 109-119 FT	**PROTECTION LEVEL:** D
TOC ELEV.: 52.95 FT.	**MONITOR INST.:** OVA	**TOT DPTH:** 121FT.	**DPTH TO ∇** 14.16 FT.
LOGGED BY: M. Alvarez	**WELL DEVELOPMENT DATE:**		**SITE:** 16 - Wastewater Pit.

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					Continued from PAGE 2				
			12/24	---	SAND - purple to brown, fine to medium, poorly graded, wet.		SP	4,8,10,14	
87									
			24/24	0	SAND - tan to purple, fine, poorly graded.		SP	15,26,22,18	
92									
			22/24	0	SAND - tan to greyish brown, fine, poorly graded, wet, some coarse at 90 ft.		SP	14,18,18,15	
97									
			18/24	2	SAND - tan to purple, fine, poorly graded, wet.		SP	13,23,22,24	
102									
			23/24	2	SAND - tan to yellowish orange, fine, poorly graded, wet, some coarse.		SP	13,17,27,29	
107									
			06/24	0	Same As Above.		SP	5,4,3,3	
112									
			20/24	---	SAND - greyish purple, yellow bands, fine, poorly graded, wet.		SP		
117							SP		
			07/24	---	SAND - yellowish orange, fine to medium, poorly sorted to 119 ft., over 3 in. of purple angular gravel, over 9 in. of CLAY, grey, tight, highly plastic, stiff.		CL	DROP	
122									

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: WHF-16-4II	BORING NO.
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: RI PHASE IIA
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 02/04/93	COMPLTD: 02/05/93
METHOD: MUD ROTARY	CASE SIZE: 2"	SCREEN INT.: 50-60	PROTECTION LEVEL: D
TOC ELEV.: 53.06 FT.	MONITOR INST.: OVA	TOT DPTH: 60.5FT.	DPTH TO ▽ 14.19 FT.
LOGGED BY: G. Kanchibhatla	WELL DEVELOPMENT DATE:		SITE: 16 - S.W. Landfill

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5					PLEASE REFER TO 16-4D FOR LITHOLOGIC DATA.				
10									
15									
20									
25									
30									
35									
40									
45									
50									
55									
60		◥	24/24	N/A	CLAY - gray, red to yellow lenses, very fine sand, firm, moderately plastic.		CL	2,2,4,8	
65									

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: NAVAL AIR STATION WHITING FIELD		**LOG of WELL:** WHF-16-4S	**BORING NO.**
CLIENT: SOUTHNAVFACENGCOM			**PROJECT NO:** RI PHASE IIA
CONTRACTOR: Groundwater Protection Inc.		**DATE STARTED:** 02/03/93	**COMPLTD:** 02/04/93
METHOD: HSA	**CASE SIZE:** 2"	**SCREEN INT.:** 5-20 FT	**PROTECTION LEVEL:** D
TOC ELEV.: 54.92 FT.	**MONITOR INST.:** OVA	**TOT DPTH:** 21FT.	**DPTH TO ∇** 16.66 FT.
LOGGED BY: N. Haglin	**WELL DEVELOPMENT DATE:**		**SITE:** 16 - Open Disposal/Burn Area

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN
				0	SILTY SAND - fine, ash, glass, and metal.			6,9,12,14
5			18/24	0	SILTY SAND - reddish brown, fine, poorly graded with a 2" lens of light grey sandy clay at 5 ft. bls, moist.		SM	15,17,20,24
10			12/24	0	Same as above, grey silty lenses at depth.		SM	7,16,17,15
15			22/24	0	Same as above, tan to reddish brown, saturated.		SM	2,4,5,7
20								
25								
30								
35								
40								

WELL DATA

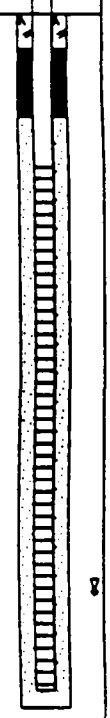


 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: NAVAL AIR STATION WHITING FIELD		**LOG of WELL:** WHF-16-5	**BORING NO.**
CLIENT: SOUTHNAVFACENGCOM			**PROJECT NO:** RI PHASE IIA
CONTRACTOR: Groundwater Protection Inc.		**DATE STARTED:** 7/27/93	**COMPLTD:** 7/27/93
METHOD: HSA	**CASE SIZE:** 2"	**SCREEN INT.:** 0-10 FT	**PROTECTION LEVEL:** D
TOC ELEV.: FT.	**MONITOR INST.:** OVA	**TOT DPTH:** 10FT.	**DPTH TO ∇** 1.2 FT.
LOGGED BY: S. Consalvi	**WELL DEVELOPMENT DATE:**		**SITE:** 16 Flood plain

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5					SAMPLES WERE NOT TAKEN DURING INSTALLATION OF THIS WELL. IT IS LOCATED IN THE FLOOD PLAIN AND WAS INSTALLED BY HAND.				∇
10									
15									
20									
25									
30									
35									

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: NAS Whiting Field	**LOG of WELL:** WHF-1466-6	**BORING NO.** SFF-SB-42
CLIENT: SOUTHNAVFACENGCOM		**PROJECT NO:** 7518-40
CONTRACTOR: Groundwater Protection Inc.	**DATE STARTED:** 3/25/92	**COMPLTD:** 3/25/92
METHOD: 4.25" HSA	**CASE SIZE:** 4 inches	**SCREEN INT.:** 115-130 FT	**PROTECTION LEVEL:** D
TOC ELEV.: 173.09 FT.	**MONITOR INST.:** OVA	**TOT DPTH:** 131FT.	**DPTH TO ∇** 112 FT.
LOGGED BY: N. Pagano	**WELL DEVELOPMENT DATE:**	**SITE:** 1466, South Fuel Farm

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
								POSTHOLE	
5			1.8/2	0.0	SAND: Red and dark brown, fine- to medium-grained, trace clay.		SC	5,5,5,5	
10			1.0/2	0.0	SAND: Red, fine- to medium-grained, trace clay.		SC	1,2,2,5	
15			1.8/2	0.0				3,3,3,3	
20			1.5/2	0.0	SAND: Red, very fine- to fine-grained.		SP	6,6,7,8	
25			2.0/2	0.0	SAND: Red to white, fine- to medium-grained.		SP	8,9,14,14	
30			2.0/2	0.0	SAND: Red and white striped, very fine-grained, silt.		SM	14,14,16,16	
35			2.0/2	0.0	SAND: Red and white striped, very fine-grained, silt.		SM	14,16,19,20	
40			1.8/2	0.0	SAND: White and pink, very fine-grained, well-sorted.		SP	16,18,22,23	
45			1.8/2	0.0	SAND: White and beige, very fine-grained, well-sorted.		SP	15,16,20,20	
50			1.7/2	2.0	SAND: White with red stripes, medium-grained, well-sorted.		SP	10,10,12,16	
55							SP		

ABB ENVIRONMENTAL SERVICES, INC.

TITLE: NAS Whiting Field		**LOG of WELL:** WHF-1466-6	**BORING NO.** SFF-SB-42
CLIENT: SOUTHNAVFACENGCOM			**PROJECT NO:** 7518-40
CONTRACTOR: Groundwater Protection Inc.		**DATE STARTED:** 3/25/92	**COMPLTD:** 3/25/92
METHOD: 4.25" HSA	**CASE SIZE:** 4 inches	**SCREEN INT.:** 115-130 FT	**PROTECTION LEVEL:** D
TOC ELEV.: 173.09 FT.	**MONITOR INST.:** OVA	**TOT DPTH:** 131FT.	**DPTH TO ∇** 112 FT.
LOGGED BY: N. Pagano	**WELL DEVELOPMENT DATE:**		**SITE:** 1466, South Fuel Farm

Continued from PAGE 1

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
			1.7/2	3.0	SAND: White with red stripes, medium-grained, some coarse grains.		SP	14,14,16,15	
60			1.7/2	2.0	SAND: White with thin stripes of red and black, fine- to medium- grained.		SP	10,12,12,14	
65			1.6/2	5.0	SAND: White and red, medium-grained with some small cobbles.		SP	12,15,15,19	
70			1.5/2	1.0	SAND: White with gold, medium- to coarse-grained.		SW	16,17,24,24	
75			2.0/2	0.0	SAND: Red, gold, beige, very fine-grained, silt and clay, mottled.		SM	Wt. of Rod	
80			2.0/2	0.0	SAND: Red, gold, grey, fine-grained, silt and clay, mottled.		SM	5,6,7,8	
85			2.0/2	0.0	SAND: White with gold stripes, very fine-grained grading to medium grained.		SP	29,32,36,36	
90			2.0/2	0.0	SAND: Beige with gold and red stripes, very fine-grained.		SP	20,22,22,24	
95			1.8/2	0.0	SAND: Beige, medium-grained, well-sorted.		SP	-,22,34,32	
100			1.8/2	0.0	SAND: Very fine- to coarse-grained, 2" clayey lens.		SW	-,22,38,50	
105			2.0/2	1.0	SAND: Beige, very fine- to medium-grained.		SW	50,R	
110							SW		

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: NAS Whiting Field		**LOG of WELL:** WHF-1466-6	**BORING NO.** SFF-SB-42
CLIENT: SOUTHNAVFACENGCOM			**PROJECT NO:** 7518-40
CONTRACTOR: Groundwater Protection Inc.		**DATE STARTED:** 3/25/92	**COMPLTD:** 3/25/92
METHOD: 4.25" HSA	**CASE SIZE:** 4 inches	**SCREEN INT.:** 115-130 FT	**PROTECTION LEVEL:** D
TOC ELEV.: 173.09 FT.	**MONITOR INST.:** OVA	**TOT DPTH:** 131FT.	**DPTH TO ▽** 112 FT.
LOGGED BY: N. Pagano	**WELL DEVELOPMENT DATE:**		**SITE:** 1466, South Fuel Farm

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					Continued from PAGE 2				
			2.0/2	0.0	SAND: Beige with red stripes, very fine- to medium-grained.		SW	36,48,46,50	
115			2.0/2	1.0	SAND: Beige, medium- to coarse-grained.		SW	-,27,29,25	
120			2.0/2	3.0	SAND: Beige, gold, medium- to very coarse-grained, many large cobbles , moist.		SW	-,20,25,33	
125			2.0/2	2.0	SAND: White with gold and red stripes, fine-grained, well-sorted, saturated.		SP	-,-,20,19	
130			2.0/2	8.0	SAND: White, medium- to coarse-grained, saturated.		SW	17,20,29,33	
135			2.0/2	1.0				9,10,12,12	
140									
145									
150									
155									
160									
165									

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: NAS Whiting Field		**LOG of WELL:** WHF-1466-7	**BORING NO.** SFF-SB-43
CLIENT: SOUTHNAVFACENGCOM			**PROJECT NO:** 7518-40
CONTRACTOR: Groundwater Proteetion Inc.		**DATE STARTED:** 3/26/92	**COMPLTD:** 3/26/92
METHOD: 4.25" HSA	**CASE SIZE:** 4 inches	**SCREEN INT.:** 115-130 FT	**PROTECTION LEVEL:** D
TOC ELEV.: 172.26 FT.	**MONITOR INST.:** OVA	**TOT DPTH:** 131FT.	**DPTH TO ∇** FT.
LOGGED BY: N. Pagano	**WELL DEVELOPMENT DATE:**		**SITE:** 1466, South Fuel Farm

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
								POSTHOLE	
5			1.7/2	0.0	CLAY: Orange-red to red, very sandy grading to sand.		SC		
10			1.7/2	0.0	SANDY CLAY: Red, very sandy grading to sand.		SC		
15			1.0/2	0.0					
20			1.0/2	0.0	SAND: Orange-red, medium- to coarse-grained, poorly sorted.		SW		
25			1.0/2	0.0	SAND: White, some orange, coarse-grained, moderately well sorted.		SW		
30			1.3/2	0.0	SAND: White, pink, orange, medium- to coarse-grained, poorly sorted, 6" of stiff clay at bottom of spoon.		SW		
35			1.0/2	0.0	CLAY: Gray to pinkish gray, stiff.				
40			1.0/2	0.0	SAND: White, medium-grained, moderately well sorted.		SP		
45			1.2/2	0.0					
50			1.4/2	0.0	SAND: Light yellow to white with pink streaks, medium- to coarse- grained, some gravel, poorly sorted.		SW		
55							SP		

ABB ENVIRONMENTAL SERVICES, INC.

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TITLE: NAS Whiting Field		**LOG of WELL:** WHF-16-6S	**BORING NO.**
CLIENT: SOUTHNAVFACENGCOM			**PROJECT NO:** 02534.09
CONTRACTOR: ABB Environmental Services		**DATE STARTED:** 04/26/96	**COMPLTD:** 04/26/96
METHOD: Hollow Stem Auger	**CASE SIZE:** 2 inches	**SCREEN INT.:** 15 feet	**PROTECTION LEVEL:** D
TOC ELEV.: 56.57 FT.	**MONITOR INST.:** OVA	**TOT DPTH:** 25FT.	**DPTH TO ∇** FT.
LOGGED BY: J. Beauchamp	**WELL DEVELOPMENT DATE:** 4/26/96		**SITE:** 16

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN
1					Fine SAND, some silt, moist, light orange.		SP	
2								
3					Silty fine SAND, light orange, damp.			
4								
5								
6								
7					CLAYEY SILT, wet, dark gray.		ML	
8								
9								
10								
11								
12					SILTY CLAY, some silt, wet, moderate gray.		CL	
13								
14								
15				0	As above, moist, light gray.		ML	7,21,15,12
16					SILT, some clay, loose, moist, light gray.		CL	
17					CLAY, some silt, dry, light gray.		SM	
18					Fine SAND, some silt, moist, light gray.			
19					Fine SAND, some silt, moist, greenish orange.			
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								

WELL DATA

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: NAS Whiting Field		**LOG of WELL:** WHF-16-61	**BORING NO.**
CLIENT: SOUTHNAVFACENGCOM			**PROJECT NO:** 02534.09
CONTRACTOR: ABB Environmental Services, Inc.		**DATE STARTED:** 04/01/96	**COMPLTD:** 04/01/96
METHOD: Mud Rotary	**CASE SIZE:** 2 inches	**SCREEN INT.:** 10 feet	**PROTECTION LEVEL:** D
TOC ELEV.: 56.77 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 60FT.	**DPTH TO ▽** FT.
LOGGED BY: F. Rizk	**WELL DEVELOPMENT DATE:**		**SITE:** 16

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
1					0-2.5 Feet: Fine SAND, light orange brown, wet, little or no fines, poorly graded.		SP		
2									
3					Not logged.				
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									
21									
22									
23									
24									
25									
26									
27									
28									
29									
30									

TITLE: NAS Whiting Field		**LOG of WELL:** WHF-16-6I	**BORING NO.**
CLIENT: SOUTHNAVFACENGCOM			**PROJECT NO:** 02534.09
CONTRACTOR: ABB Environmental Services, Inc.		**DATE STARTED:** 04/01/96	**COMPLTD:** 04/01/96
METHOD: Mud Rotary	**CASE SIZE:** 2 inches	**SCREEN INT.:** 10 feet	**PROTECTION LEVEL:** D
TOC ELEV.: 56.77 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 60FT.	**DPTH TO ▽** FT.
LOGGED BY: F. Rizk	**WELL DEVELOPMENT DATE:**		**SITE:** 16

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					Continued from PAGE 1				
31							SP		
32									
33									
34									
35									
36									
37									
38									
39									
40									
41									
42									
43									
44									
45									
46									
47									
48									
49									
50									
51									
52									
53									
54				0	Coarse to fine SAND, well graded, minor pebbles		SW	12,12,12,12	
55			0		Silty CLAY, gray, with pebbles, low plasticity.				
56					Gravelly SAND, coarse to fine, light orange to red brown.				
57									
58									
59									
60									

TITLE: NAS Whiting Field		**LOG of WELL:** WHF-16-7S	**BORING NO.**
CLIENT: SOUTHNAVFACENGCOM			**PROJECT NO:** 02534.09
CONTRACTOR: ABB Environmental Services, Inc.		**DATE STARTED:** 04/09/96	**COMPLTD:** 04/09/96
METHOD: Hollow Stem Auger	**CASE SIZE:** 2 inches	**SCREEN INT.:** 10 feet	**PROTECTION LEVEL:** D
TOC ELEV.: 38.27 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 15FT.	**DPTH TO ▽** FT.
LOGGED BY: F. Risk	**WELL DEVELOPMENT DATE:** 4/09/96		**SITE:** 16

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
1					Medium SAND, moderately sorted, some silt, wet, yellowish-orange.		SP		
2									
3									
4									
5					Medium SAND, poorly sorted, some silt, wet, light yellowish orange.			1,1,1,1	
6									
7					Fine SAND, poorly sorted, wet, light yellowish orange.		SM		
8									
9									
10					Fine SAND, well sorted, some silt, wet, dark gray.				
11									
12									
13					Note: Natural soil used as sand pack.				
14									
15									
16									
17									
18									
19									
20									
21									
22									
23									
24									
25									
26									
27									
28									
29									
30									

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: NAS Whiting Field		**LOG of WELL:** WHF-16-71	**BORING NO.**
CLIENT: SOUTHNAVFACENGCOM			**PROJECT NO:** 02534.09
CONTRACTOR: ABB Environmental Services, Inc.		**DATE STARTED:** 04/25/96	**COMPLTD:** 04/25/96
METHOD: Hollow Stem Auger	**CASE SIZE:** 2 inches	**SCREEN INT.:** 10 feet	**PROTECTION LEVEL:** D
TOC ELEV.: 38.17 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 45FT.	**DPTH TO ▽** FT.
LOGGED BY: F. Risk	**WELL DEVELOPMENT DATE:** 4/09/96		**SITE:** 16

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					Fine SAND, pale-yellowish brown, poorly graded, no organics.		SM		
1			0/0						
2									
3									
4									
5					Fine SAND, poorly graded, brownish/black, no organics.				
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									
21									
22									
23									
24									
25									
26									
27									
28									
29									
30									

TITLE: NAS Whiting Field		**LOG of WELL:** WHF-16-7I	**BORING NO.**
CLIENT: SOUTHNAVFACENGCOM			**PROJECT NO:** 02534.09
CONTRACTOR: ABB Environmental Services, Inc.		**DATE STARTED:** 04/25/96	**COMPLTD:** 04/25/96
METHOD: Hollow Stem Auger	**CASE SIZE:** 2 inches	**SCREEN INT.:** 10 feet	**PROTECTION LEVEL:** D
TOC ELEV.: 38.17 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 45FT.	**DPTH TO ▽** FT.
LOGGED BY: F. Risk	**WELL DEVELOPMENT DATE:** 4/09/96		**SITE:** 16

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					Continued from PAGE 1				
31							SM		
32									
33									
34									
35							SP	12,12,12,12	
36									
37					Medium SAND, grayish orange, saturated.				
38									
39									
40									
41									
42									
43									
44									
45					Boring terminated @ 45 feet below land surface.				
46									
47									
48									
49									
50									
51									
52									
53									
54									
55									
56									
57									
58									
59									
60									

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: NAS Whiting Field		**LOG of WELL:** WHF-16-7D	**BORING NO.**
CLIENT: SOUTHNAVFACENGCOM			**PROJECT NO:** 02534.09
CONTRACTOR: ABB Environmental Services		**DATE STARTED:** 04/26/96	**COMPLTD:** 04/26/96
METHOD: Mud Rotary	**CASE SIZE:** 2 inch	**SCREEN INT.:** 10 feet	**PROTECTION LEVEL:** D
TOC ELEV.: 38.05 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 75FT.	**DPTH TO ▽** FT.
LOGGED BY: J. Beauchamp	**WELL DEVELOPMENT DATE:** 4/26/96		**SITE:** 16

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
1							SP		
2									
3							SM		
4									
5									
6									
7									
8									
9									
10									
11									
12				0					
13									
14									
15									
16									
17				0					
18									
19									
20									
21									
22									
23									
24									
25									
26									
27				0					
28									
29									
30									

 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: NAS Whiting Field		**LOG of WELL:** WHF-16-7D	**BORING NO.**
CLIENT: SOUTHNAVFACENGCOM			**PROJECT NO:** 02534.09
CONTRACTOR: ABB Environmental Services		**DATE STARTED:** 04/26/96	**COMPLTD:** 04/26/96
METHOD: Mud Rotary	**CASE SIZE:** 2 inch	**SCREEN INT.:** 10 feet	**PROTECTION LEVEL:** D
TOC ELEV.: 38.05 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 75FT.	**DPTH TO ▽** FT.
LOGGED BY: J. Beauchamp	**WELL DEVELOPMENT DATE:** 4/26/96		**SITE:** 16

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					Continued from PAGE 1		SM		
31									
32				0					
33									
34									
35									
36									
37									
38									
39									
40									
41									
42				0					
43									
44									
45									
46									
47									
48									
49									
50									
51									
52									
53				0					
54									
55									
56									
57									
58									
59									
60									

TITLE: NAS Whiting Field		**LOG of WELL:** WHF-16-7D	**BORING NO.**
CLIENT: SOUTHNAVFACENGCOM			**PROJECT NO:** 02534.09
CONTRACTOR: ABB Environmental Services		**DATE STARTED:** 04/26/96	**COMPLTD:** 04/26/96
METHOD: Mud Rotary	**CASE SIZE:** 2 inch	**SCREEN INT.:** 10 feet	**PROTECTION LEVEL:** D
TOC ELEV.: 38.05 FT.	**MONITOR INST.:** FID	**TOT DPTH:** 75FT.	**DPTH TO ∇** FT.
LOGGED BY: J. Beauchamp	**WELL DEVELOPMENT DATE:** 4/26/96		**SITE:** 16

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					Continued from PAGE 2				
61							SM		
62									
63				0					
64									
65									
66									
67				0	SAND, orange-pink medium grained, poorly graded, no organics.		SP		
68			0/0						
69									
70									
71									
72									
73									
74									
75				0	Boring terminated @ 75 feet below land surface.				
76									
77									
78									
79									
80									
81									
82									
83									
84									
85									
86									
87									
88									
89									
90									

APPENDIX E

APPENDIX E

SURFACE AND SUBSURFACE SOIL SAMPLE ANALYTICAL DATA

Naval Air Station Whiting Field, Milton, Florida
Site 15 Surface Soil Data

Lab Sample Number:		S22454005				22454005				S22454006				22454006			
Site		WHITING				WHITING				WHITING				WHITING			
Locator		15-SL-01				15-SL-01				15-SL-02				15-SL-02			
Collect Date:		11-AUG-92				11-AUG-92				11-AUG-92				11-AUG-92			
		VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
CLP VOLATILES 90-SOW	ug/kg																
Chloromethane		-		ug/kg		11	U	ug/kg	11	-		ug/kg		11	U	ug/kg	11
Bromomethane		-		ug/kg		11	U	ug/kg	11	-		ug/kg		11	U	ug/kg	11
Vinyl chloride		-		ug/kg		11	U	ug/kg	11	-		ug/kg		11	U	ug/kg	11
Chloroethane		-		ug/kg		11	U	ug/kg	11	-		ug/kg		11	U	ug/kg	11
Methylene chloride		-		ug/kg		5	UJ	ug/kg	5	-		ug/kg		5	UJ	ug/kg	5
Acetone		-		ug/kg		11	UJ	ug/kg	11	-		ug/kg		11	U	ug/kg	11
Carbon disulfide		-		ug/kg		5	U	ug/kg	5	-		ug/kg		5	U	ug/kg	5
1,1-Dichloroethene		-		ug/kg		5	U	ug/kg	5	-		ug/kg		5	U	ug/kg	5
1,1-Dichloroethane		-		ug/kg		5	U	ug/kg	5	-		ug/kg		5	U	ug/kg	5
1,2-Dichloroethene (total)		-		ug/kg		5	U	ug/kg	5	-		ug/kg		5	U	ug/kg	5
Chloroform		-		ug/kg		5	U	ug/kg	5	-		ug/kg		5	U	ug/kg	5
1,2-Dichloroethane		-		ug/kg		5	U	ug/kg	5	-		ug/kg		5	U	ug/kg	5
2-Butanone		-		ug/kg		11	U	ug/kg	11	-		ug/kg		11	U	ug/kg	11
1,1,1-Trichloroethane		-		ug/kg		5	U	ug/kg	5	-		ug/kg		5	U	ug/kg	5
Carbon tetrachloride		-		ug/kg		5	U	ug/kg	5	-		ug/kg		5	U	ug/kg	5
Bromodichloromethane		-		ug/kg		5	U	ug/kg	5	-		ug/kg		5	U	ug/kg	5
1,2-Dichloropropane		-		ug/kg		5	U	ug/kg	5	-		ug/kg		5	U	ug/kg	5
cis-1,3-Dichloropropene		-		ug/kg		5	U	ug/kg	5	-		ug/kg		5	U	ug/kg	5
Trichloroethene		-		ug/kg		5	U	ug/kg	5	-		ug/kg		5	U	ug/kg	5
Dibromochloromethane		-		ug/kg		5	U	ug/kg	5	-		ug/kg		5	U	ug/kg	5
1,1,2-Trichloroethane		-		ug/kg		5	U	ug/kg	5	-		ug/kg		5	U	ug/kg	5
Benzene		-		ug/kg		5	U	ug/kg	5	-		ug/kg		5	U	ug/kg	5
trans-1,3-Dichloropropene		-		ug/kg		5	U	ug/kg	5	-		ug/kg		5	U	ug/kg	5
Bromoform		-		ug/kg		5	U	ug/kg	5	-		ug/kg		5	U	ug/kg	5
4-Methyl-2-pentanone		-		ug/kg		11	U	ug/kg	11	-		ug/kg		11	U	ug/kg	11
2-Hexanone		-		ug/kg		11	U	ug/kg	11	-		ug/kg		11	U	ug/kg	11
Tetrachloroethene		-		ug/kg		5	U	ug/kg	5	-		ug/kg		5	U	ug/kg	5
Toluene		-		ug/kg		5	U	ug/kg	5	-		ug/kg		5	U	ug/kg	5
1,1,2,2-Tetrachloroethane		-		ug/kg		5	U	ug/kg	5	-		ug/kg		5	U	ug/kg	5
Chlorobenzene		-		ug/kg		5	U	ug/kg	5	-		ug/kg		5	U	ug/kg	5
Ethylbenzene		-		ug/kg		5	U	ug/kg	5	-		ug/kg		5	U	ug/kg	5
Styrene		-		ug/kg		5	U	ug/kg	5	-		ug/kg		5	U	ug/kg	5
Xylenes (total)		-		ug/kg		5	U	ug/kg	5	-		ug/kg		1	J	ug/kg	5
CLP SEMIVOLATILES 90-SOW	ug/kg																
Phenol		-		ug/kg		360	U	ug/kg	360	-		ug/kg		350	U	ug/kg	350
bis(2-Chloroethyl) ether		-		ug/kg		360	U	ug/kg	360	-		ug/kg		350	U	ug/kg	350
2-Chlorophenol		-		ug/kg		360	U	ug/kg	360	-		ug/kg		350	U	ug/kg	350
1,3-Dichlorobenzene		-		ug/kg		360	U	ug/kg	360	-		ug/kg		350	U	ug/kg	350
1,4-Dichlorobenzene		-		ug/kg		360	U	ug/kg	360	-		ug/kg		350	U	ug/kg	350
1,2-Dichlorobenzene		-		ug/kg		360	U	ug/kg	360	-		ug/kg		350	U	ug/kg	350
2-Methylphenol		-		ug/kg		360	U	ug/kg	360	-		ug/kg		350	U	ug/kg	350
2,2-oxybis(1-Chloropropane)		-		ug/kg		360	U	ug/kg	360	-		ug/kg		350	U	ug/kg	350
4-Methylphenol		-		ug/kg		360	U	ug/kg	360	-		ug/kg		350	U	ug/kg	350
N-Nitroso-di-n-propylamine		-		ug/kg		360	U	ug/kg	360	-		ug/kg		350	U	ug/kg	350
Hexachloroethane		-		ug/kg		360	U	ug/kg	360	-		ug/kg		350	U	ug/kg	350
Nitrobenzene		-		ug/kg		360	U	ug/kg	360	-		ug/kg		350	U	ug/kg	350
Isophorone		-		ug/kg		360	U	ug/kg	360	-		ug/kg		350	U	ug/kg	350
2-Nitrophenol		-		ug/kg		360	U	ug/kg	360	-		ug/kg		350	U	ug/kg	350
2,4-Dimethylphenol		-		ug/kg		360	U	ug/kg	360	-		ug/kg		350	U	ug/kg	350

Naval Air Station Whiting Field, Milton, Florida
Site 15 Surface Soil Data

Lab Sample Number:		S22454005				22454005				S22454006				22454006			
Site		WHITING				WHITING				WHITING				WHITING			
Locator		15-SL-01				15-SL-01				15-SL-02				15-SL-02			
Collect Date:		11-AUG-92				11-AUG-92				11-AUG-92				11-AUG-92			
		VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
bis(2-Chloroethoxy) methane		-		ug/kg		360	U	ug/kg	360	-		ug/kg		350	U	ug/kg	350
2,4-Dichlorophenol		-		ug/kg		360	U	ug/kg	360	-		ug/kg		350	U	ug/kg	350
1,2,4-Trichlorobenzene		-		ug/kg		360	U	ug/kg	360	-		ug/kg		350	U	ug/kg	350
Naphthalene		-		ug/kg		360	U	ug/kg	360	-		ug/kg		350	U	ug/kg	350
4-Chloroaniline		-		ug/kg		360	U	ug/kg	360	-		ug/kg		350	U	ug/kg	350
Hexachlorobutadiene		-		ug/kg		360	U	ug/kg	360	-		ug/kg		350	U	ug/kg	350
4-Chloro-3-methylphenol		-		ug/kg		360	U	ug/kg	360	-		ug/kg		350	U	ug/kg	350
2-Methylnaphthalene		-		ug/kg		360	U	ug/kg	360	-		ug/kg		350	U	ug/kg	350
Hexachlorocyclopentadiene		-		ug/kg		360	U	ug/kg	360	-		ug/kg		350	U	ug/kg	350
2,4,6-Trichlorophenol		-		ug/kg		360	U	ug/kg	360	-		ug/kg		350	U	ug/kg	350
2,4,5-Trichlorophenol		-		ug/kg		1700	U	ug/kg	1700	-		ug/kg		1700	U	ug/kg	1700
2-Chloronaphthalene		-		ug/kg		360	U	ug/kg	360	-		ug/kg		350	U	ug/kg	350
2-Nitroaniline		-		ug/kg		1700	UJ	ug/kg	1700	-		ug/kg		1700	UJ	ug/kg	1700
Dimethylphthalate		-		ug/kg		360	U	ug/kg	360	-		ug/kg		350	U	ug/kg	350
Acenaphthylene		-		ug/kg		360	U	ug/kg	360	-		ug/kg		350	U	ug/kg	350
2,6-Dinitrotoluene		-		ug/kg		360	U	ug/kg	360	-		ug/kg		350	U	ug/kg	350
3-Nitroaniline		-		ug/kg		1700	UJ	ug/kg	1700	-		ug/kg		1700	UJ	ug/kg	1700
Acenaphthene		-		ug/kg		360	U	ug/kg	360	-		ug/kg		350	U	ug/kg	350
2,4-Dinitrophenol		-		ug/kg		1700	U	ug/kg	1700	-		ug/kg		1700	U	ug/kg	1700
4-Nitrophenol		-		ug/kg		1700	UJ	ug/kg	1700	-		ug/kg		1700	UJ	ug/kg	1700
Dibenzofuran		-		ug/kg		360	U	ug/kg	360	-		ug/kg		350	U	ug/kg	350
2,4-Dinitrotoluene		-		ug/kg		360	U	ug/kg	360	-		ug/kg		350	U	ug/kg	350
Diethylphthalate		-		ug/kg		360	U	ug/kg	360	-		ug/kg		350	U	ug/kg	350
4-Chlorophenyl-phenylether		-		ug/kg		360	U	ug/kg	360	-		ug/kg		350	U	ug/kg	350
Fluorene		-		ug/kg		360	U	ug/kg	360	-		ug/kg		350	U	ug/kg	350
4-Nitroaniline		-		ug/kg		1700	UJ	ug/kg	1700	-		ug/kg		1700	UJ	ug/kg	1700
4,6-Dinitro-2-methylphenol		-		ug/kg		1700	U	ug/kg	1700	-		ug/kg		1700	U	ug/kg	1700
N-Nitrosodiphenylamine		-		ug/kg		360	U	ug/kg	360	-		ug/kg		350	U	ug/kg	350
4-Bromophenyl-phenylether		-		ug/kg		360	U	ug/kg	360	-		ug/kg		350	U	ug/kg	350
Hexachlorobenzene		-		ug/kg		360	U	ug/kg	360	-		ug/kg		350	U	ug/kg	350
Pentachlorophenol		-		ug/kg		1700	U	ug/kg	1700	-		ug/kg		1700	U	ug/kg	1700
Phenanthrene		-		ug/kg		360	U	ug/kg	360	-		ug/kg		350	U	ug/kg	350
Anthracene		-		ug/kg		360	U	ug/kg	360	-		ug/kg		350	U	ug/kg	350
Carbazole		-		ug/kg		-		ug/kg		-		ug/kg		-		ug/kg	
Di-n-butylphthalate		-		ug/kg		360	UJ	ug/kg	360	-		ug/kg		350	UJ	ug/kg	350
Fluoranthene		-		ug/kg		360	U	ug/kg	360	-		ug/kg		350	U	ug/kg	350
Pyrene		-		ug/kg		360	UJ	ug/kg	360	-		ug/kg		350	UJ	ug/kg	350
Butylbenzylphthalate		-		ug/kg		360	UJ	ug/kg	360	-		ug/kg		350	UJ	ug/kg	350
3,3-Dichlorobenzidine		-		ug/kg		720	U	ug/kg	720	-		ug/kg		710	U	ug/kg	710
Benzo (a) anthracene		-		ug/kg		360	U	ug/kg	360	-		ug/kg		350	U	ug/kg	350
Chrysene		-		ug/kg		360	UJ	ug/kg	360	-		ug/kg		350	UJ	ug/kg	350
bis(2-Ethylhexyl) phthalate		-		ug/kg		39	J	ug/kg	360	-		ug/kg		350	U	ug/kg	350
Di-n-octylphthalate		-		ug/kg		360	U	ug/kg	360	-		ug/kg		350	U	ug/kg	350
Benzo (b) fluoranthene		-		ug/kg		360	U	ug/kg	360	-		ug/kg		350	U	ug/kg	350
Benzo (k) fluoranthene		-		ug/kg		360	U	ug/kg	360	-		ug/kg		350	U	ug/kg	350
Benzo (a) pyrene		-		ug/kg		360	U	ug/kg	360	-		ug/kg		350	U	ug/kg	350
Indeno (1,2,3-cd) pyrene		-		ug/kg		360	U	ug/kg	360	-		ug/kg		350	U	ug/kg	350
Dibenzo (a,h) anthracene		-		ug/kg		360	U	ug/kg	360	-		ug/kg		350	U	ug/kg	350
Benzo (g,h,i) perylene		-		ug/kg		360	U	ug/kg	360	-		ug/kg		350	U	ug/kg	350
CLP PESTICIDES/PCBS 90-SOW	ug/kg																
alpha-BHC		-		ug/kg		8.7	U	ug/kg	8.7	-		ug/kg		8.6	U	ug/kg	8.6

Naval Air Station Whiting Field, Milton, Florida
Site 15 Surface Soil Data

Lab Sample Number:	S22454005				22454005				S22454006				22454006			
Site	WHITING				WHITING				WHITING				WHITING			
Locator	15-SL-01				15-SL-01				15-SL-02				15-SL-02			
Collect Date:	11-AUG-92				11-AUG-92				11-AUG-92				11-AUG-92			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
beta-BHC	-		ug/kg		8.7	U	ug/kg	8.7	-		ug/kg		8.6	U	ug/kg	8.6
delta-BHC	-		ug/kg		8.7	U	ug/kg	8.7	-		ug/kg		8.6	U	ug/kg	8.6
gamma-BHC (Lindane)	-		ug/kg		8.7	U	ug/kg	8.7	-		ug/kg		8.6	U	ug/kg	8.6
Heptachlor	-		ug/kg		8.7	U	ug/kg	8.7	-		ug/kg		8.6	U	ug/kg	8.6
Aldrin	-		ug/kg		8.7	U	ug/kg	8.7	-		ug/kg		8.6	U	ug/kg	8.6
Heptachlor epoxide	-		ug/kg		8.7	U	ug/kg	8.7	-		ug/kg		8.6	U	ug/kg	8.6
Endosulfan I	-		ug/kg		8.7	U	ug/kg	8.7	-		ug/kg		8.6	U	ug/kg	8.6
Dieldrin	-		ug/kg		17	U	ug/kg	17	-		ug/kg		17	U	ug/kg	17
4,4-DDE	-		ug/kg		17	U	ug/kg	17	-		ug/kg		17	U	ug/kg	17
Endrin	-		ug/kg		17	U	ug/kg	17	-		ug/kg		17	U	ug/kg	17
Endosulfan II	-		ug/kg		17	U	ug/kg	17	-		ug/kg		17	U	ug/kg	17
4,4-DDD	-		ug/kg		17	U	ug/kg	17	-		ug/kg		17	U	ug/kg	17
Endosulfan sulfate	-		ug/kg		17	U	ug/kg	17	-		ug/kg		17	U	ug/kg	17
4,4-DDT	-		ug/kg		17	U	ug/kg	17	-		ug/kg		17	U	ug/kg	17
Methoxychlor	-		ug/kg		87	U	ug/kg	87	-		ug/kg		86	U	ug/kg	86
Endrin ketone	-		ug/kg		17	U	ug/kg	17	-		ug/kg		17	U	ug/kg	17
Endrin aldehyde	-		ug/kg		-		ug/kg		-		ug/kg		-		ug/kg	
alpha-Chlordane	-		ug/kg		87	U	ug/kg	87	-		ug/kg		86	U	ug/kg	86
gamma-Chlordane	-		ug/kg		87	U	ug/kg	87	-		ug/kg		86	U	ug/kg	86
Toxaphene	-		ug/kg		170	U	ug/kg	170	-		ug/kg		170	U	ug/kg	170
Aroclor-1016	-		ug/kg		87	U	ug/kg	87	-		ug/kg		86	U	ug/kg	86
Aroclor-1221	-		ug/kg		87	U	ug/kg	87	-		ug/kg		86	U	ug/kg	86
Aroclor-1232	-		ug/kg		87	U	ug/kg	87	-		ug/kg		86	U	ug/kg	86
Aroclor-1242	-		ug/kg		87	U	ug/kg	87	-		ug/kg		86	U	ug/kg	86
Aroclor-1248	-		ug/kg		87	U	ug/kg	87	-		ug/kg		86	U	ug/kg	86
Aroclor-1254	-		ug/kg		170	U	ug/kg	170	-		ug/kg		170	U	ug/kg	170
Aroclor-1260	-		ug/kg		170	U	ug/kg	170	-		ug/kg		170	U	ug/kg	170
CLP METALS AND CYANIDE mg/kg																
Aluminum	11800		mg/kg	40	-		mg/kg		5160		mg/kg	40	-		mg/kg	
Antimony	2.7	U	mg/kg	12	-		mg/kg		2.6	U	mg/kg	12	-		mg/kg	
Arsenic	1.6	J	mg/kg	2	-		mg/kg		.93	J	mg/kg	2	-		mg/kg	
Barium	5.3	J	mg/kg	40	-		mg/kg		7	J	mg/kg	40	-		mg/kg	
Beryllium	.07	J	mg/kg	1	-		mg/kg		.05	U	mg/kg	1	-		mg/kg	
Cadmium	.59	U	mg/kg	1	-		mg/kg		.59	U	mg/kg	1	-		mg/kg	
Calcium	75.6	J	mg/kg	1000	-		mg/kg		137	J	mg/kg	1000	-		mg/kg	
Chromium	10.8		mg/kg	2	-		mg/kg		3.3		mg/kg	2	-		mg/kg	
Cobalt	1.2	J	mg/kg	10	-		mg/kg		.73	J	mg/kg	10	-		mg/kg	
Copper	4.1	J	mg/kg	5	-		mg/kg		4.2	J	mg/kg	5	-		mg/kg	
Iron	7760		mg/kg	20	-		mg/kg		3040		mg/kg	20	-		mg/kg	
Lead	2.8	J	mg/kg	1	-		mg/kg		4.4	J	mg/kg	1	-		mg/kg	
Magnesium	54.3	J	mg/kg	1000	-		mg/kg		74.3	J	mg/kg	1000	-		mg/kg	
Manganese	23.1		mg/kg	3	-		mg/kg		25.7		mg/kg	3	-		mg/kg	
Mercury	.06	U	mg/kg	.1	-		mg/kg		.07	U	mg/kg	.1	-		mg/kg	
Nickel	2.3	U	mg/kg	8	-		mg/kg		2.3	U	mg/kg	8	-		mg/kg	
Potassium	130	U	mg/kg	1000	-		mg/kg		129	U	mg/kg	1000	-		mg/kg	
Selenium	.4	U	mg/kg	1	-		mg/kg		.4	U	mg/kg	1	-		mg/kg	
Silver	.32	U	mg/kg	2	-		mg/kg		.32	U	mg/kg	2	-		mg/kg	
Sodium	170	J	mg/kg	1000	-		mg/kg		174	J	mg/kg	1000	-		mg/kg	
Thallium	.44	U	mg/kg	2	-		mg/kg		.44	U	mg/kg	2	-		mg/kg	
Vanadium	20.6		mg/kg	10	-		mg/kg		6.8	J	mg/kg	10	-		mg/kg	
Zinc	11.3		mg/kg	4	-		mg/kg		6.8	J	mg/kg	4	-		mg/kg	

Naval Air Station Whiting Field, Milton, Florida
Site 15 Surface Soil Data

Lab Sample Number:	S22454005				22454005				S22454006				22454006			
Site	WHITING				WHITING				WHITING				WHITING			
Locator	15-SL-01				15-SL-01				15-SL-02				15-SL-02			
Collect Date:	11-AUG-92				11-AUG-92				11-AUG-92				11-AUG-92			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
Cyanide	.24	U	mg/kg	1	-		mg/kg		.24	U	mg/kg	1	-		mg/kg	
Total organic carbon	-		mg/kg		-		mg/kg		-		mg/kg		-		mg/kg	
Total petroleum hydrocarbons	-		mg/kg		-		mg/kg		-		mg/kg		-		mg/kg	

Naval Air Station Whiting Field, Milton, Florida
Site 15 Surface Soil Data

Lab Sample Number:		S22454007			22454007			S22454008			22454008		
Site		WHITING			WHITING			WHITING			WHITING		
Locator		15-SL-03			15-SL-03			15-SL-04			15-SL-04		
Collect Date:		11-AUG-92			11-AUG-92			11-AUG-92			11-AUG-92		
		VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
CLP VOLATILES 90-SOW	ug/kg																
Chloromethane		-		ug/kg		11	U	ug/kg	11	-		ug/kg		11	U	ug/kg	11
Bromomethane		-		ug/kg		11	U	ug/kg	11	-		ug/kg		11	U	ug/kg	11
Vinyl chloride		-		ug/kg		11	U	ug/kg	11	-		ug/kg		11	U	ug/kg	11
Chloroethane		-		ug/kg		11	U	ug/kg	11	-		ug/kg		11	U	ug/kg	11
Methylene chloride		-		ug/kg		7	UJ	ug/kg	6	-		ug/kg		6	UJ	ug/kg	5
Acetone		-		ug/kg		11	U	ug/kg	11	-		ug/kg		11	U	ug/kg	11
Carbon disulfide		-		ug/kg		6	U	ug/kg	6	-		ug/kg		5	U	ug/kg	5
1,1-Dichloroethene		-		ug/kg		6	U	ug/kg	6	-		ug/kg		5	U	ug/kg	5
1,1-Dichloroethane		-		ug/kg		6	U	ug/kg	6	-		ug/kg		5	U	ug/kg	5
1,2-Dichloroethene (total)		-		ug/kg		6	U	ug/kg	6	-		ug/kg		5	U	ug/kg	5
Chloroform		-		ug/kg		6	U	ug/kg	6	-		ug/kg		5	U	ug/kg	5
1,2-Dichloroethane		-		ug/kg		6	U	ug/kg	6	-		ug/kg		5	U	ug/kg	5
2-Butanone		-		ug/kg		11	U	ug/kg	11	-		ug/kg		11	U	ug/kg	11
1,1,1-Trichloroethane		-		ug/kg		6	U	ug/kg	6	-		ug/kg		5	U	ug/kg	5
Carbon tetrachloride		-		ug/kg		6	U	ug/kg	6	-		ug/kg		5	U	ug/kg	5
Bromodichloromethane		-		ug/kg		6	U	ug/kg	6	-		ug/kg		5	U	ug/kg	5
1,2-Dichloropropane		-		ug/kg		6	U	ug/kg	6	-		ug/kg		5	U	ug/kg	5
cis-1,3-Dichloropropene		-		ug/kg		6	U	ug/kg	6	-		ug/kg		5	U	ug/kg	5
Trichloroethene		-		ug/kg		6	U	ug/kg	6	-		ug/kg		5	U	ug/kg	5
Dibromochloromethane		-		ug/kg		6	U	ug/kg	6	-		ug/kg		5	U	ug/kg	5
1,1,2-Trichloroethane		-		ug/kg		6	U	ug/kg	6	-		ug/kg		5	U	ug/kg	5
Benzene		-		ug/kg		6	U	ug/kg	6	-		ug/kg		5	U	ug/kg	5
trans-1,3-Dichloropropene		-		ug/kg		6	U	ug/kg	6	-		ug/kg		5	U	ug/kg	5
Bromoform		-		ug/kg		6	U	ug/kg	6	-		ug/kg		5	U	ug/kg	5
4-Methyl-2-pentanone		-		ug/kg		11	U	ug/kg	11	-		ug/kg		11	U	ug/kg	11
2-Hexanone		-		ug/kg		11	U	ug/kg	11	-		ug/kg		11	U	ug/kg	11
Tetrachloroethene		-		ug/kg		6	U	ug/kg	6	-		ug/kg		5	U	ug/kg	5
Toluene		-		ug/kg		6	U	ug/kg	6	-		ug/kg		5	U	ug/kg	5
1,1,2,2-Tetrachloroethane		-		ug/kg		6	U	ug/kg	6	-		ug/kg		5	U	ug/kg	5
Chlorobenzene		-		ug/kg		6	U	ug/kg	6	-		ug/kg		5	U	ug/kg	5
Ethylbenzene		-		ug/kg		6	U	ug/kg	6	-		ug/kg		5	U	ug/kg	5
Styrene		-		ug/kg		6	U	ug/kg	6	-		ug/kg		5	U	ug/kg	5
Xylenes (total)		-		ug/kg		2	J	ug/kg	6	-		ug/kg		4	J	ug/kg	5
CLP SEMIVOLATILES 90-SOW	ug/kg																
Phenol		-		ug/kg		370	U	ug/kg	370	-		ug/kg		350	U	ug/kg	350
bis(2-Chloroethyl) ether		-		ug/kg		370	U	ug/kg	370	-		ug/kg		350	U	ug/kg	350
2-Chlorophenol		-		ug/kg		370	U	ug/kg	370	-		ug/kg		350	U	ug/kg	350
1,3-Dichlorobenzene		-		ug/kg		370	U	ug/kg	370	-		ug/kg		350	U	ug/kg	350
1,4-Dichlorobenzene		-		ug/kg		370	U	ug/kg	370	-		ug/kg		350	U	ug/kg	350

Naval Air Station Whiting Field, Milton, Florida
Site 15 Surface Soil Data

Lab Sample Number:	S22454007				22454007				S22454008				22454008			
Site	WHITING				WHITING				WHITING				WHITING			
Locator	15-SL-03				15-SL-03				15-SL-04				15-SL-04			
Collect Date:	11-AUG-92				11-AUG-92				11-AUG-92				11-AUG-92			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
1,2-Dichlorobenzene	-		ug/kg		370	U	ug/kg	370	-		ug/kg		350	U	ug/kg	350
2-Methylphenol	-		ug/kg		370	U	ug/kg	370	-		ug/kg		350	U	ug/kg	350
2,2-oxybis(1-Chloropropane)	-		ug/kg		370	U	ug/kg	370	-		ug/kg		350	U	ug/kg	350
4-Methylphenol	-		ug/kg		370	U	ug/kg	370	-		ug/kg		350	U	ug/kg	350
N-Nitroso-di-n-propylamine	-		ug/kg		370	U	ug/kg	370	-		ug/kg		350	U	ug/kg	350
Hexachloroethane	-		ug/kg		370	U	ug/kg	370	-		ug/kg		350	U	ug/kg	350
Nitrobenzene	-		ug/kg		370	U	ug/kg	370	-		ug/kg		350	U	ug/kg	350
Isophorone	-		ug/kg		370	U	ug/kg	370	-		ug/kg		350	U	ug/kg	350
2-Nitrophenol	-		ug/kg		370	U	ug/kg	370	-		ug/kg		350	U	ug/kg	350
2,4-Dimethylphenol	-		ug/kg		370	U	ug/kg	370	-		ug/kg		350	U	ug/kg	350
bis(2-Chloroethoxy) methane	-		ug/kg		370	U	ug/kg	370	-		ug/kg		350	U	ug/kg	350
2,4-Dichlorophenol	-		ug/kg		370	U	ug/kg	370	-		ug/kg		350	U	ug/kg	350
1,2,4-Trichlorobenzene	-		ug/kg		370	U	ug/kg	370	-		ug/kg		350	U	ug/kg	350
Naphthalene	-		ug/kg		370	U	ug/kg	370	-		ug/kg		350	U	ug/kg	350
4-Chloroaniline	-		ug/kg		370	U	ug/kg	370	-		ug/kg		350	U	ug/kg	350
Hexachlorobutadiene	-		ug/kg		370	U	ug/kg	370	-		ug/kg		350	U	ug/kg	350
4-Chloro-3-methylphenol	-		ug/kg		370	U	ug/kg	370	-		ug/kg		350	U	ug/kg	350
2-Methylnaphthalene	-		ug/kg		370	U	ug/kg	370	-		ug/kg		350	U	ug/kg	350
Hexachlorocyclopentadiene	-		ug/kg		370	U	ug/kg	370	-		ug/kg		350	U	ug/kg	350
2,4,6-Trichlorophenol	-		ug/kg		370	U	ug/kg	370	-		ug/kg		350	U	ug/kg	350
2,4,5-Trichlorophenol	-		ug/kg		1800	U	ug/kg	1800	-		ug/kg		1700	U	ug/kg	1700
2-Chloronaphthalene	-		ug/kg		370	U	ug/kg	370	-		ug/kg		350	U	ug/kg	350
2-Nitroaniline	-		ug/kg		1800	UJ	ug/kg	1800	-		ug/kg		1700	UJ	ug/kg	1700
Dimethylphthalate	-		ug/kg		370	U	ug/kg	370	-		ug/kg		350	U	ug/kg	350
Acenaphthylene	-		ug/kg		370	U	ug/kg	370	-		ug/kg		350	U	ug/kg	350
2,6-Dinitrotoluene	-		ug/kg		370	U	ug/kg	370	-		ug/kg		350	U	ug/kg	350
3-Nitroaniline	-		ug/kg		1800	UJ	ug/kg	1800	-		ug/kg		1700	UJ	ug/kg	1700
Acenaphthene	-		ug/kg		370	U	ug/kg	370	-		ug/kg		350	U	ug/kg	350
2,4-Dinitrophenol	-		ug/kg		1800	U	ug/kg	1800	-		ug/kg		1700	U	ug/kg	1700
4-Nitrophenol	-		ug/kg		1800	UJ	ug/kg	1800	-		ug/kg		1700	UJ	ug/kg	1700
Dibenzofuran	-		ug/kg		370	U	ug/kg	370	-		ug/kg		350	U	ug/kg	350
2,4-Dinitrotoluene	-		ug/kg		370	U	ug/kg	370	-		ug/kg		350	U	ug/kg	350
Diethylphthalate	-		ug/kg		370	U	ug/kg	370	-		ug/kg		350	U	ug/kg	350
4-Chlorophenyl-phenylether	-		ug/kg		370	U	ug/kg	370	-		ug/kg		350	U	ug/kg	350
Fluorene	-		ug/kg		370	U	ug/kg	370	-		ug/kg		350	U	ug/kg	350
4-Nitroaniline	-		ug/kg		1800	UJ	ug/kg	1800	-		ug/kg		1700	UJ	ug/kg	1700
4,6-Dinitro-2-methylphenol	-		ug/kg		1800	U	ug/kg	1800	-		ug/kg		1700	U	ug/kg	1700
N-Nitrosodiphenylamine	-		ug/kg		370	U	ug/kg	370	-		ug/kg		350	U	ug/kg	350
4-Bromophenyl-phenylether	-		ug/kg		370	U	ug/kg	370	-		ug/kg		350	U	ug/kg	350
Hexachlorobenzene	-		ug/kg		370	U	ug/kg	370	-		ug/kg		350	U	ug/kg	350
Pentachlorophenol	-		ug/kg		1800	U	ug/kg	1800	-		ug/kg		1700	U	ug/kg	1700
Phenanthrene	-		ug/kg		370	U	ug/kg	370	-		ug/kg		350	U	ug/kg	350
Anthracene	-		ug/kg		370	U	ug/kg	370	-		ug/kg		350	U	ug/kg	350
Carbazole	-		ug/kg		-		ug/kg		-		ug/kg		-		ug/kg	
Di-n-butylphthalate	-		ug/kg		370	UJ	ug/kg	370	-		ug/kg		350	UJ	ug/kg	350
Fluoranthene	-		ug/kg		370	U	ug/kg	370	-		ug/kg		350	U	ug/kg	350
Pyrene	-		ug/kg		370	UJ	ug/kg	370	-		ug/kg		350	UJ	ug/kg	350
Butylbenzylphthalate	-		ug/kg		370	UJ	ug/kg	370	-		ug/kg		350	UJ	ug/kg	350
3,3-Dichlorobenzidine	-		ug/kg		730	U	ug/kg	730	-		ug/kg		710	U	ug/kg	710
Benzo (a) anthracene	-		ug/kg		370	U	ug/kg	370	-		ug/kg		350	U	ug/kg	350
Chrysene	-		ug/kg		370	UJ	ug/kg	370	-		ug/kg		350	UJ	ug/kg	350
bis(2-Ethylhexyl) phthalate	-		ug/kg		41	J	ug/kg	370	-		ug/kg		350	U	ug/kg	350

Naval Air Station Whiting Field, Milton, Florida
Site 15 Surface Soil Data

Lab Sample Number:		S22454007				22454007				S22454008				22454008			
Site		WHITING				WHITING				WHITING				WHITING			
Locator		15-SL-03				15-SL-03				15-SL-04				15-SL-04			
Collect Date:		11-AUG-92				11-AUG-92				11-AUG-92				11-AUG-92			
		VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
Di-n-octylphthalate		-		ug/kg		370	U	ug/kg	370	-		ug/kg		350	U	ug/kg	350
Benzo (b) fluoranthene		-		ug/kg		370	U	ug/kg	370	-		ug/kg		350	U	ug/kg	350
Benzo (k) fluoranthene		-		ug/kg		370	U	ug/kg	370	-		ug/kg		350	U	ug/kg	350
Benzo (a) pyrene		-		ug/kg		370	U	ug/kg	370	-		ug/kg		350	U	ug/kg	350
Indeno (1,2,3-cd) pyrene		-		ug/kg		370	U	ug/kg	370	-		ug/kg		350	U	ug/kg	350
Dibenzo (a,h) anthracene		-		ug/kg		370	U	ug/kg	370	-		ug/kg		350	U	ug/kg	350
Benzo (g,h,i) perylene		-		ug/kg		370	U	ug/kg	370	-		ug/kg		350	U	ug/kg	350
CLP PESTICIDES/PCBS 90-SOW	ug/kg																
alpha-BHC		-		ug/kg		8.9	U	ug/kg	8.9	-		ug/kg		8.6	U	ug/kg	8.6
beta-BHC		-		ug/kg		8.9	U	ug/kg	8.9	-		ug/kg		8.6	U	ug/kg	8.6
delta-BHC		-		ug/kg		8.9	U	ug/kg	8.9	-		ug/kg		8.6	U	ug/kg	8.6
gamma-BHC (Lindane)		-		ug/kg		8.9	U	ug/kg	8.9	-		ug/kg		8.6	U	ug/kg	8.6
Heptachlor		-		ug/kg		8.9	U	ug/kg	8.9	-		ug/kg		8.6	U	ug/kg	8.6
Aldrin		-		ug/kg		8.9	U	ug/kg	8.9	-		ug/kg		8.6	U	ug/kg	8.6
Heptachlor epoxide		-		ug/kg		8.9	U	ug/kg	8.9	-		ug/kg		8.6	U	ug/kg	8.6
Endosulfan I		-		ug/kg		8.9	U	ug/kg	8.9	-		ug/kg		8.6	U	ug/kg	8.6
Dieldrin		-		ug/kg		18	U	ug/kg	18	-		ug/kg		17	U	ug/kg	17
4,4-DDE		-		ug/kg		18	U	ug/kg	18	-		ug/kg		17	U	ug/kg	17
Endrin		-		ug/kg		18	U	ug/kg	18	-		ug/kg		17	U	ug/kg	17
Endosulfan II		-		ug/kg		18	U	ug/kg	18	-		ug/kg		17	U	ug/kg	17
4,4-DDD		-		ug/kg		18	U	ug/kg	18	-		ug/kg		17	U	ug/kg	17
Endosulfan sulfate		-		ug/kg		18	U	ug/kg	18	-		ug/kg		17	U	ug/kg	17
4,4-DDT		-		ug/kg		18	U	ug/kg	18	-		ug/kg		17	U	ug/kg	17
Methoxychlor		-		ug/kg		89	U	ug/kg	89	-		ug/kg		86	U	ug/kg	86
Endrin ketone		-		ug/kg		18	U	ug/kg	18	-		ug/kg		17	U	ug/kg	17
Endrin aldehyde		-		ug/kg		-		ug/kg		-		ug/kg		-		ug/kg	
alpha-Chlordane		-		ug/kg		89	U	ug/kg	89	-		ug/kg		86	U	ug/kg	86
gamma-Chlordane		-		ug/kg		89	U	ug/kg	89	-		ug/kg		86	U	ug/kg	86
Toxaphene		-		ug/kg		180	U	ug/kg	180	-		ug/kg		170	U	ug/kg	170
Aroclor-1016		-		ug/kg		89	U	ug/kg	89	-		ug/kg		86	U	ug/kg	86
Aroclor-1221		-		ug/kg		89	U	ug/kg	89	-		ug/kg		86	U	ug/kg	86
Aroclor-1232		-		ug/kg		89	U	ug/kg	89	-		ug/kg		86	U	ug/kg	86
Aroclor-1242		-		ug/kg		89	U	ug/kg	89	-		ug/kg		86	U	ug/kg	86
Aroclor-1248		-		ug/kg		89	U	ug/kg	89	-		ug/kg		86	U	ug/kg	86
Aroclor-1254		-		ug/kg		180	U	ug/kg	180	-		ug/kg		170	U	ug/kg	170
Aroclor-1260		-		ug/kg		180	U	ug/kg	180	-		ug/kg		170	U	ug/kg	170
CLP METALS AND CYANIDE	mg/kg																
Aluminum		7450		mg/kg	40	-		mg/kg		6790		mg/kg	40	-		mg/kg	
Antimony		2.7	U	mg/kg	12	-		mg/kg		2.7	U	mg/kg	12	-		mg/kg	
Arsenic		2.2	J	mg/kg	2	-		mg/kg		1	J	mg/kg	2	-		mg/kg	
Barium		4.3	J	mg/kg	40	-		mg/kg		9	J	mg/kg	40	-		mg/kg	
Beryllium		.08	J	mg/kg	1	-		mg/kg		.09	J	mg/kg	1	-		mg/kg	
Cadmium		.61	U	mg/kg	1	-		mg/kg		.59	U	mg/kg	1	-		mg/kg	
Calcium		79.6	J	mg/kg	1000	-		mg/kg		78.9	J	mg/kg	1000	-		mg/kg	
Chromium		6.3		mg/kg	2	-		mg/kg		3.9		mg/kg	2	-		mg/kg	
Cobalt		.85	J	mg/kg	10	-		mg/kg		1	J	mg/kg	10	-		mg/kg	
Copper		1.6	J	mg/kg	5	-		mg/kg		5.1	J	mg/kg	5	-		mg/kg	
Iron		4980		mg/kg	20	-		mg/kg		3460		mg/kg	20	-		mg/kg	
Lead		4.4	J	mg/kg	1	-		mg/kg		10.7	J	mg/kg	1	-		mg/kg	
Magnesium		43	J	mg/kg	1000	-		mg/kg		93.9	J	mg/kg	1000	-		mg/kg	

Naval Air Station Whiting Field, Milton, Florida
Site 15 Surface Soil Data

Lab Sample Number:	S22454007				22454007				S22454008				22454008			
Site	WHITING				WHITING				WHITING				WHITING			
Locator	15-SL-03				15-SL-03				15-SL-04				15-SL-04			
Collect Date:	11-AUG-92				11-AUG-92				11-AUG-92				11-AUG-92			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
Manganese	9.3		mg/kg	3	-		mg/kg		143		mg/kg	3	-		mg/kg	
Mercury	.08	U	mg/kg	.1	-		mg/kg		.08	U	mg/kg	.1	-		mg/kg	
Nickel	2.4	U	mg/kg	8	-		mg/kg		2.3	U	mg/kg	8	-		mg/kg	
Potassium	133	U	mg/kg	1000	-		mg/kg		130	U	mg/kg	1000	-		mg/kg	
Selenium	.41	U	mg/kg	1	-		mg/kg		.4	U	mg/kg	1	-		mg/kg	
Silver	.33	U	mg/kg	2	-		mg/kg		.32	U	mg/kg	2	-		mg/kg	
Sodium	172	J	mg/kg	1000	-		mg/kg		174	J	mg/kg	1000	-		mg/kg	
Thallium	.45	U	mg/kg	2	-		mg/kg		.44	U	mg/kg	2	-		mg/kg	
Vanadium	12.6		mg/kg	10	-		mg/kg		8.3	J	mg/kg	10	-		mg/kg	
Zinc	5.4	J	mg/kg	4	-		mg/kg		7.4	J	mg/kg	4	-		mg/kg	
Cyanide	.24	U	mg/kg	1	-		mg/kg		.24	U	mg/kg	1	-		mg/kg	
Total organic carbon	-		mg/kg		-		mg/kg		-		mg/kg		-		mg/kg	
Total petroleum hydrocarbons	-		mg/kg		-		mg/kg		-		mg/kg		-		mg/kg	

Naval Air Station Whiting Field, Milton, Florida
Site 15 Surface Soil Data

Lab Sample Number:		S22454009			22454009			G8914002			G8914003		
Site		WHITING			WHITING			WHITING			WHITING		
Locator		15-SL-05			15-SL-05			15S00101			15S00101D		
Collect Date:		11-AUG-92			11-AUG-92			11-DEC-95			11-DEC-95		
		VALUE QUAL	UNITS	DL	VALUE QUAL	UNITS	DL	VALUE QUAL	UNITS	DL	VALUE QUAL	UNITS	DL
CLP VOLATILES 90-SOW	ug/kg												
Chloromethane		-	ug/kg		13 U	ug/kg	13	11 U	ug/kg	11	11 U	ug/kg	11
Bromomethane		-	ug/kg		13 U	ug/kg	13	11 U	ug/kg	11	11 U	ug/kg	11
Vinyl chloride		-	ug/kg		13 U	ug/kg	13	11 U	ug/kg	11	11 U	ug/kg	11
Chloroethane		-	ug/kg		13 U	ug/kg	13	11 U	ug/kg	11	11 U	ug/kg	11
Methylene chloride		-	ug/kg		7 UJ	ug/kg	7	11 U	ug/kg	11	11 U	ug/kg	11
Acetone		-	ug/kg		13 U	ug/kg	13	11 U	ug/kg	11	11 U	ug/kg	11
Carbon disulfide		-	ug/kg		7 U	ug/kg	7	11 U	ug/kg	11	11 U	ug/kg	11
1,1-Dichloroethene		-	ug/kg		7 U	ug/kg	7	11 U	ug/kg	11	11 U	ug/kg	11
1,1-Dichloroethane		-	ug/kg		7 U	ug/kg	7	11 U	ug/kg	11	11 U	ug/kg	11
1,2-Dichloroethene (total)		-	ug/kg		7 U	ug/kg	7	11 U	ug/kg	11	11 U	ug/kg	11
Chloroform		-	ug/kg		7 U	ug/kg	7	11 U	ug/kg	11	11 U	ug/kg	11
1,2-Dichloroethane		-	ug/kg		7 U	ug/kg	7	11 U	ug/kg	11	11 U	ug/kg	11
2-Butanone		-	ug/kg		13 U	ug/kg	13	11 U	ug/kg	11	11 U	ug/kg	11
1,1,1-Trichloroethane		-	ug/kg		7 U	ug/kg	7	11 U	ug/kg	11	11 U	ug/kg	11
Carbon tetrachloride		-	ug/kg		7 U	ug/kg	7	11 U	ug/kg	11	11 U	ug/kg	11
Bromodichloromethane		-	ug/kg		7 U	ug/kg	7	11 U	ug/kg	11	11 U	ug/kg	11
1,2-Dichloropropane		-	ug/kg		7 U	ug/kg	7	11 U	ug/kg	11	11 U	ug/kg	11
cis-1,3-Dichloropropene		-	ug/kg		7 U	ug/kg	7	11 U	ug/kg	11	11 U	ug/kg	11
Trichloroethene		-	ug/kg		7 U	ug/kg	7	11 U	ug/kg	11	11 U	ug/kg	11
Dibromochloromethane		-	ug/kg		7 U	ug/kg	7	11 U	ug/kg	11	11 U	ug/kg	11
1,1,2-Trichloroethane		-	ug/kg		7 U	ug/kg	7	11 U	ug/kg	11	11 U	ug/kg	11
Benzene		-	ug/kg		7 U	ug/kg	7	11 U	ug/kg	11	11 U	ug/kg	11
trans-1,3-Dichloropropene		-	ug/kg		7 U	ug/kg	7	11 U	ug/kg	11	11 U	ug/kg	11
Bromoform		-	ug/kg		7 U	ug/kg	7	11 U	ug/kg	11	11 U	ug/kg	11
4-Methyl-2-pentanone		-	ug/kg		13 U	ug/kg	13	11 U	ug/kg	11	11 U	ug/kg	11
2-Hexanone		-	ug/kg		13 U	ug/kg	13	11 U	ug/kg	11	11 U	ug/kg	11
Tetrachloroethene		-	ug/kg		7 U	ug/kg	7	11 U	ug/kg	11	11 U	ug/kg	11
Toluene		-	ug/kg		7 U	ug/kg	7	11 U	ug/kg	11	11 U	ug/kg	11
1,1,2,2-Tetrachloroethane		-	ug/kg		7 U	ug/kg	7	11 U	ug/kg	11	11 U	ug/kg	11
Chlorobenzene		-	ug/kg		7 U	ug/kg	7	11 U	ug/kg	11	11 U	ug/kg	11
Ethylbenzene		-	ug/kg		7 U	ug/kg	7	11 U	ug/kg	11	11 U	ug/kg	11
Styrene		-	ug/kg		7 U	ug/kg	7	11 U	ug/kg	11	11 U	ug/kg	11
Xylenes (total)		-	ug/kg		7 U	ug/kg	7	11 U	ug/kg	11	11 U	ug/kg	11
CLP SEMIVOLATILES 90-SOW	ug/kg												
Phenol		-	ug/kg		350 U	ug/kg	350	390 U	ug/kg	390	360 U	ug/kg	360
bis(2-Chloroethyl) ether		-	ug/kg		350 U	ug/kg	350	390 U	ug/kg	390	360 U	ug/kg	360
2-Chlorophenol		-	ug/kg		350 U	ug/kg	350	390 U	ug/kg	390	360 U	ug/kg	360
1,3-Dichlorobenzene		-	ug/kg		350 U	ug/kg	350	390 U	ug/kg	390	360 U	ug/kg	360
1,4-Dichlorobenzene		-	ug/kg		350 U	ug/kg	350	390 U	ug/kg	390	360 U	ug/kg	360

Naval Air Station Whiting Field, Milton, Florida
Site 15 Surface Soil Data

Lab Sample Number:	S22454009				22454009				G8914002				G8914003			
Site	WHITING				WHITING				WHITING				WHITING			
Locator	15-SL-05				15-SL-05				15S00101				15S00101D			
Collect Date:	11-AUG-92				11-AUG-92				11-DEC-95				11-DEC-95			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
1,2-Dichlorobenzene	-		ug/kg		350	U	ug/kg	350	390	U	ug/kg	390	360	U	ug/kg	360
2-Methylphenol	-		ug/kg		350	U	ug/kg	350	390	U	ug/kg	390	360	U	ug/kg	360
2,2-oxybis(1-Chloropropane)	-		ug/kg		350	U	ug/kg	350	390	U	ug/kg	390	360	U	ug/kg	360
4-Methylphenol	-		ug/kg		350	U	ug/kg	350	390	U	ug/kg	390	360	U	ug/kg	360
N-Nitroso-di-n-propylamine	-		ug/kg		350	U	ug/kg	350	390	U	ug/kg	390	360	U	ug/kg	360
Hexachloroethane	-		ug/kg		350	U	ug/kg	350	390	U	ug/kg	390	360	U	ug/kg	360
Nitrobenzene	-		ug/kg		350	U	ug/kg	350	390	U	ug/kg	390	360	U	ug/kg	360
Isophorone	-		ug/kg		350	U	ug/kg	350	390	U	ug/kg	390	360	U	ug/kg	360
2-Nitrophenol	-		ug/kg		350	U	ug/kg	350	390	U	ug/kg	390	360	U	ug/kg	360
2,4-Dimethylphenol	-		ug/kg		350	U	ug/kg	350	390	U	ug/kg	390	360	U	ug/kg	360
bis(2-Chloroethoxy) methane	-		ug/kg		350	U	ug/kg	350	390	U	ug/kg	390	360	U	ug/kg	360
2,4-Dichlorophenol	-		ug/kg		350	U	ug/kg	350	390	U	ug/kg	390	360	U	ug/kg	360
1,2,4-Trichlorobenzene	-		ug/kg		350	U	ug/kg	350	390	U	ug/kg	390	360	U	ug/kg	360
Naphthalene	-		ug/kg		350	U	ug/kg	350	390	U	ug/kg	390	360	U	ug/kg	360
4-Chloroaniline	-		ug/kg		350	U	ug/kg	350	390	U	ug/kg	390	360	U	ug/kg	360
Hexachlorobutadiene	-		ug/kg		350	U	ug/kg	350	390	U	ug/kg	390	360	U	ug/kg	360
4-Chloro-3-methylphenol	-		ug/kg		350	U	ug/kg	350	390	U	ug/kg	390	360	U	ug/kg	360
2-Methylnaphthalene	-		ug/kg		350	U	ug/kg	350	390	U	ug/kg	390	360	U	ug/kg	360
Hexachlorocyclopentadiene	-		ug/kg		350	U	ug/kg	350	390	U	ug/kg	390	360	U	ug/kg	360
2,4,6-Trichlorophenol	-		ug/kg		350	U	ug/kg	350	390	U	ug/kg	390	360	U	ug/kg	360
2,4,5-Trichlorophenol	-		ug/kg		1700	U	ug/kg	1700	970	U	ug/kg	970	900	U	ug/kg	900
2-Chloronaphthalene	-		ug/kg		350	U	ug/kg	350	390	U	ug/kg	390	360	U	ug/kg	360
2-Nitroaniline	-		ug/kg		1700	UJ	ug/kg	1700	970	U	ug/kg	970	900	U	ug/kg	900
Dimethylphthalate	-		ug/kg		350	U	ug/kg	350	390	U	ug/kg	390	360	U	ug/kg	360
Acenaphthylene	-		ug/kg		350	U	ug/kg	350	390	U	ug/kg	390	360	U	ug/kg	360
2,6-Dinitrotoluene	-		ug/kg		350	U	ug/kg	350	390	U	ug/kg	390	360	U	ug/kg	360
3-Nitroaniline	-		ug/kg		1700	UJ	ug/kg	1700	970	U	ug/kg	970	900	U	ug/kg	900
Acenaphthene	-		ug/kg		350	U	ug/kg	350	390	U	ug/kg	390	360	U	ug/kg	360
2,4-Dinitrophenol	-		ug/kg		1700	U	ug/kg	1700	970	U	ug/kg	970	900	U	ug/kg	900
4-Nitrophenol	-		ug/kg		1700	UJ	ug/kg	1700	970	U	ug/kg	970	900	U	ug/kg	900
Dibenzofuran	-		ug/kg		350	U	ug/kg	350	390	U	ug/kg	390	360	U	ug/kg	360
2,4-Dinitrotoluene	-		ug/kg		350	U	ug/kg	350	390	U	ug/kg	390	360	U	ug/kg	360
Diethylphthalate	-		ug/kg		350	U	ug/kg	350	390	U	ug/kg	390	360	U	ug/kg	360
4-Chlorophenyl-phenylether	-		ug/kg		350	U	ug/kg	350	390	U	ug/kg	390	360	U	ug/kg	360
Fluorene	-		ug/kg		350	U	ug/kg	350	390	U	ug/kg	390	360	U	ug/kg	360
4-Nitroaniline	-		ug/kg		1700	UJ	ug/kg	1700	970	U	ug/kg	970	900	U	ug/kg	900
4,6-Dinitro-2-methylphenol	-		ug/kg		1700	U	ug/kg	1700	970	U	ug/kg	970	900	U	ug/kg	900
N-Nitrosodiphenylamine	-		ug/kg		350	U	ug/kg	350	390	U	ug/kg	390	360	U	ug/kg	360
4-Bromophenyl-phenylether	-		ug/kg		350	U	ug/kg	350	390	U	ug/kg	390	360	U	ug/kg	360
Hexachlorobenzene	-		ug/kg		350	U	ug/kg	350	390	U	ug/kg	390	360	U	ug/kg	360
Pentachlorophenol	-		ug/kg		1700	U	ug/kg	1700	970	U	ug/kg	970	900	U	ug/kg	900
Phenanthrene	-		ug/kg		350	U	ug/kg	350	390	U	ug/kg	390	360	U	ug/kg	360
Anthracene	-		ug/kg		350	U	ug/kg	350	390	U	ug/kg	390	360	U	ug/kg	360
Carbazole	-		ug/kg		-		ug/kg		390	U	ug/kg	390	360	U	ug/kg	360
Di-n-butylphthalate	-		ug/kg		350	U	ug/kg	350	390	U	ug/kg	390	360	U	ug/kg	360
Fluoranthene	-		ug/kg		350	U	ug/kg	350	390	U	ug/kg	390	360	U	ug/kg	360
Pyrene	-		ug/kg		350	UJ	ug/kg	350	390	U	ug/kg	390	360	U	ug/kg	360
Butylbenzylphthalate	-		ug/kg		350	UJ	ug/kg	350	390	U	ug/kg	390	360	U	ug/kg	360
3,3-Dichlorobenzidine	-		ug/kg		700	U	ug/kg	700	390	U	ug/kg	390	360	U	ug/kg	360
Benzo (a) anthracene	-		ug/kg		350	U	ug/kg	350	390	U	ug/kg	390	360	U	ug/kg	360
Chrysene	-		ug/kg		350	U	ug/kg	350	390	U	ug/kg	390	360	U	ug/kg	360
bis(2-Ethylhexyl) phthalate	-		ug/kg		350	U	ug/kg	350	390	U	ug/kg	390	1700		ug/kg	360

Naval Air Station Whiting Field, Milton, Florida
Site 15 Surface Soil Data

Lab Sample Number:		S22454009				22454009				G8914002				G8914003			
Site		WHITING				WHITING				WHITING				WHITING			
Locator		15-SL-05				15-SL-05				15S00101				15S00101D			
Collect Date:		11-AUG-92				11-AUG-92				11-DEC-95				11-DEC-95			
		VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
Di-n-octylphthalate		-		ug/kg		350	U	ug/kg	350	390	U	ug/kg	390	360	U	ug/kg	360
Benzo (b) fluoranthene		-		ug/kg		350	U	ug/kg	350	390	U	ug/kg	390	360	U	ug/kg	360
Benzo (k) fluoranthene		-		ug/kg		350	U	ug/kg	350	390	U	ug/kg	390	360	U	ug/kg	360
Benzo (a) pyrene		-		ug/kg		350	U	ug/kg	350	390	U	ug/kg	390	360	U	ug/kg	360
Indeno (1,2,3-cd) pyrene		-		ug/kg		350	U	ug/kg	350	390	U	ug/kg	390	360	U	ug/kg	360
Dibenzo (a,h) anthracene		-		ug/kg		350	U	ug/kg	350	390	U	ug/kg	390	360	U	ug/kg	360
Benzo (g,h,i) perylene		-		ug/kg		350	U	ug/kg	350	390	U	ug/kg	390	360	U	ug/kg	360
CLP PESTICIDES/PCBS 90-SOW	ug/kg																
alpha-BHC		-		ug/kg		8.5	U	ug/kg	8.5	1.8	UJ	ug/kg	1.8	1.8	UJ	ug/kg	1.8
beta-BHC		-		ug/kg		8.5	U	ug/kg	8.5	1.8	U	ug/kg	1.8	1.8	U	ug/kg	1.8
delta-BHC		-		ug/kg		8.5	U	ug/kg	8.5	1.8	U	ug/kg	1.8	1.8	U	ug/kg	1.8
gamma-BHC (Lindane)		-		ug/kg		8.5	U	ug/kg	8.5	1.8	U	ug/kg	1.8	1.8	U	ug/kg	1.8
Heptachlor		-		ug/kg		8.5	U	ug/kg	8.5	1.8	U	ug/kg	1.8	1.8	U	ug/kg	1.8
Aldrin		-		ug/kg		8.5	U	ug/kg	8.5	1.8	U	ug/kg	1.8	1.8	U	ug/kg	1.8
Heptachlor epoxide		-		ug/kg		8.5	U	ug/kg	8.5	1.8	U	ug/kg	1.8	1.8	U	ug/kg	1.8
Endosulfan I		-		ug/kg		8.5	U	ug/kg	8.5	1.8	U	ug/kg	1.8	1.8	U	ug/kg	1.8
Dieldrin		-		ug/kg		17	U	ug/kg	17	3.6	U	ug/kg	3.6	3.6	U	ug/kg	3.6
4,4-DDE		-		ug/kg		17	U	ug/kg	17	3.6	U	ug/kg	3.6	3.6	U	ug/kg	3.6
Endrin		-		ug/kg		17	U	ug/kg	17	3.6	U	ug/kg	3.6	3.6	U	ug/kg	3.6
Endosulfan II		-		ug/kg		17	U	ug/kg	17	3.6	U	ug/kg	3.6	3.6	U	ug/kg	3.6
4,4-DDD		-		ug/kg		17	U	ug/kg	17	3.6	U	ug/kg	3.6	3.6	U	ug/kg	3.6
Endosulfan sulfate		-		ug/kg		17	U	ug/kg	17	3.6	U	ug/kg	3.6	3.6	U	ug/kg	3.6
4,4-DDT		-		ug/kg		17	U	ug/kg	17	3.6	U	ug/kg	3.6	3.6	U	ug/kg	3.6
Methoxychlor		-		ug/kg		85	U	ug/kg	85	18	U	ug/kg	18	18	U	ug/kg	18
Endrin ketone		-		ug/kg		17	U	ug/kg	17	3.6	U	ug/kg	3.6	3.6	U	ug/kg	3.6
Endrin aldehyde		-		ug/kg		-		ug/kg		3.6	U	ug/kg	3.6	3.6	U	ug/kg	3.6
alpha-Chlordane		-		ug/kg		85	U	ug/kg	85	1.8	U	ug/kg	1.8	1.8	U	ug/kg	1.8
gamma-Chlordane		-		ug/kg		85	U	ug/kg	85	1.8	U	ug/kg	1.8	1.8	U	ug/kg	1.8
Toxaphene		-		ug/kg		170	U	ug/kg	170	180	U	ug/kg	180	180	U	ug/kg	180
Aroclor-1016		-		ug/kg		85	U	ug/kg	85	36	U	ug/kg	36	36	U	ug/kg	36
Aroclor-1221		-		ug/kg		85	U	ug/kg	85	73	U	ug/kg	73	73	U	ug/kg	73
Aroclor-1232		-		ug/kg		85	U	ug/kg	85	36	U	ug/kg	36	36	U	ug/kg	36
Aroclor-1242		-		ug/kg		85	U	ug/kg	85	36	U	ug/kg	36	36	U	ug/kg	36
Aroclor-1248		-		ug/kg		85	U	ug/kg	85	36	U	ug/kg	36	36	U	ug/kg	36
Aroclor-1254		-		ug/kg		170	U	ug/kg	170	36	U	ug/kg	36	36	U	ug/kg	36
Aroclor-1260		-		ug/kg		170	U	ug/kg	170	36	U	ug/kg	36	36	U	ug/kg	36
CLP METALS AND CYANIDE	mg/kg																
Aluminum		4940		mg/kg	40	-		mg/kg		9280		mg/kg	40	10800		mg/kg	40
Antimony		2.6	U	mg/kg	12	-		mg/kg		12	UJ	mg/kg	12	12	UJ	mg/kg	12
Arsenic		.98	J	mg/kg	2	-		mg/kg		2	J	mg/kg	2	1.9	J	mg/kg	2
Barium		3.2	J	mg/kg	40	-		mg/kg		6.6	J	mg/kg	40	7.8	J	mg/kg	40
Beryllium		.05	UJ	mg/kg	1	-		mg/kg		1	UJ	mg/kg	1	1	UJ	mg/kg	1
Cadmium		.58	U	mg/kg	1	-		mg/kg		1	U	mg/kg	1	1	U	mg/kg	1
Calcium		136	J	mg/kg	1000	-		mg/kg		1000	UJ	mg/kg	1000	1000	UJ	mg/kg	1000
Chromium		3.8		mg/kg	2	-		mg/kg		8.4		mg/kg	2	8		mg/kg	2
Cobalt		.33	U	mg/kg	10	-		mg/kg		10	U	mg/kg	10	10	U	mg/kg	10
Copper		12.5		mg/kg	5	-		mg/kg		5	UJ	mg/kg	5	5	UJ	mg/kg	5
Iron		2810		mg/kg	20	-		mg/kg		5120		mg/kg	20	5700		mg/kg	20
Lead		59.9		mg/kg	1	-		mg/kg		4.7		mg/kg	.6	3.6		mg/kg	.6
Magnesium		57.8	J	mg/kg	1000	-		mg/kg		109	J	mg/kg	1000	132	J	mg/kg	1000

Naval Air Station Whiting Field, Milton, Florida
Site 15 Surface Soil Data

Lab Sample Number:	S22454009				22454009				G8914002				G8914003			
Site	WHITING				WHITING				WHITING				WHITING			
Locator	15-SL-05				15-SL-05				15S00101				15S00101D			
Collect Date:	11-AUG-92				11-AUG-92				11-DEC-95				11-DEC-95			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
Manganese	13.7		mg/kg	3	-		mg/kg		36.4		mg/kg	3	39.9		mg/kg	3
Mercury	.07	U	mg/kg	.1	-		mg/kg		.02	J	mg/kg	.1	.02	J	mg/kg	.1
Nickel	2.3	U	mg/kg	8	-		mg/kg		8	UJ	mg/kg	8	8	UJ	mg/kg	8
Potassium	128	U	mg/kg	1000	-		mg/kg		169	J	mg/kg	1000	1000	U	mg/kg	1000
Selenium	.39	U	mg/kg	1	-		mg/kg		1	UJ	mg/kg	1	1	UJ	mg/kg	1
Silver	.32	U	mg/kg	2	-		mg/kg		2	U	mg/kg	2	2	U	mg/kg	2
Sodium	179	J	mg/kg	1000	-		mg/kg		1000	UJ	mg/kg	1000	1000	UJ	mg/kg	1000
Thallium	.44	U	mg/kg	2	-		mg/kg		2	UJ	mg/kg	2	2	UJ	mg/kg	2
Vanadium	7.2	J	mg/kg	10	-		mg/kg		13.3		mg/kg	10	15.1		mg/kg	10
Zinc	8.8		mg/kg	4	-		mg/kg		4.1	J	mg/kg	4	5		mg/kg	4
Cyanide	.24	U	mg/kg	1	-		mg/kg		.5	U	mg/kg	.5	.5	U	mg/kg	.5
Total organic carbon	-		mg/kg		-		mg/kg		-		mg/kg		-		mg/kg	
Total petroleum hydrocarbons	-		mg/kg		-		mg/kg		-		mg/kg		-		mg/kg	

Naval Air Station Whiting Field, Milton, Florida
Site 15 Surface Soil Data

Lab Sample Number:		G8914004				G8914005				G8914007				G8914006			
Site		WHITING				WHITING				WHITING				WHITING			
Locator		15S00201				15S00301				15S00401				15S00501			
Collect Date:		11-DEC-95				11-DEC-95				11-DEC-95				11-DEC-95			
		VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
CLP VOLATILES 90-SOW	ug/kg																
Chloromethane		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	10	U	ug/kg	10
Bromomethane		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	10	U	ug/kg	10
Vinyl chloride		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	10	U	ug/kg	10
Chloroethane		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	10	U	ug/kg	10
Methylene chloride		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	10	U	ug/kg	10
Acetone		13	U	ug/kg	13	11	U	ug/kg	11	11	U	ug/kg	11	10	U	ug/kg	10
Carbon disulfide		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	10	U	ug/kg	10
1,1-Dichloroethene		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	10	U	ug/kg	10
1,1-Dichloroethane		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	10	U	ug/kg	10
1,2-Dichloroethene (total)		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	10	U	ug/kg	10
Chloroform		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	10	U	ug/kg	10
1,2-Dichloroethane		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	10	U	ug/kg	10
2-Butanone		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	10	U	ug/kg	10
1,1,1-Trichloroethane		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	10	U	ug/kg	10
Carbon tetrachloride		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	10	U	ug/kg	10
Bromodichloromethane		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	10	U	ug/kg	10
1,2-Dichloropropane		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	10	U	ug/kg	10
cis-1,3-Dichloropropene		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	10	U	ug/kg	10
Trichloroethene		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	10	U	ug/kg	10
Dibromochloromethane		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	10	U	ug/kg	10
1,1,2-Trichloroethane		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	10	U	ug/kg	10
Benzene		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	10	U	ug/kg	10
trans-1,3-Dichloropropene		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	10	U	ug/kg	10
Bromoform		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	10	U	ug/kg	10
4-Methyl-2-pentanone		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	10	U	ug/kg	10
2-Hexanone		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	10	U	ug/kg	10
Tetrachloroethene		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	10	U	ug/kg	10
Toluene		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	10	U	ug/kg	10
1,1,2,2-Tetrachloroethane		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	10	U	ug/kg	10
Chlorobenzene		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	10	U	ug/kg	10
Ethylbenzene		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	10	U	ug/kg	10
Styrene		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	10	U	ug/kg	10
Xylenes (total)		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	10	U	ug/kg	10
CLP SEMIVOLATILES 90-SOW	ug/kg																
Phenol		370	U	ug/kg	370	360	U	ug/kg	360	430	U	ug/kg	430	370	U	ug/kg	370
bis(2-Chloroethyl) ether		370	U	ug/kg	370	360	U	ug/kg	360	430	U	ug/kg	430	370	U	ug/kg	370
2-Chlorophenol		370	U	ug/kg	370	360	U	ug/kg	360	430	U	ug/kg	430	370	U	ug/kg	370
1,3-Dichlorobenzene		370	U	ug/kg	370	360	U	ug/kg	360	430	U	ug/kg	430	370	U	ug/kg	370
1,4-Dichlorobenzene		370	R	ug/kg	370	360	U	ug/kg	360	430	U	ug/kg	430	370	U	ug/kg	370

Naval Air Station Whiting Field, Milton, Florida
Site 15 Surface Soil Data

Lab Sample Number:	G8914004				G8914005				G8914007				G8914006			
Site	WHITING				WHITING				WHITING				WHITING			
Locator	15S00201				15S00301				15S00401				15S00501			
Collect Date:	11-DEC-95				11-DEC-95				11-DEC-95				11-DEC-95			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
1,2-Dichlorobenzene	370	U	ug/kg	370	360	U	ug/kg	360	430	U	ug/kg	430	370	U	ug/kg	370
2-Methylphenol	370	U	ug/kg	370	360	U	ug/kg	360	430	U	ug/kg	430	370	U	ug/kg	370
2,2-oxybis(1-Chloropropane)	370	U	ug/kg	370	360	U	ug/kg	360	430	U	ug/kg	430	370	U	ug/kg	370
4-Methylphenol	370	U	ug/kg	370	360	U	ug/kg	360	430	U	ug/kg	430	370	U	ug/kg	370
N-Nitroso-di-n-propylamine	370	U	ug/kg	370	360	U	ug/kg	360	430	U	ug/kg	430	370	U	ug/kg	370
Hexachloroethane	370	U	ug/kg	370	360	U	ug/kg	360	430	U	ug/kg	430	370	U	ug/kg	370
Nitrobenzene	370	U	ug/kg	370	360	U	ug/kg	360	430	U	ug/kg	430	370	U	ug/kg	370
Isophorone	370	U	ug/kg	370	360	U	ug/kg	360	430	U	ug/kg	430	370	U	ug/kg	370
2-Nitrophenol	370	U	ug/kg	370	360	U	ug/kg	360	430	U	ug/kg	430	370	U	ug/kg	370
2,4-Dimethylphenol	370	U	ug/kg	370	360	U	ug/kg	360	430	U	ug/kg	430	370	U	ug/kg	370
bis(2-Chloroethoxy) methane	370	U	ug/kg	370	360	U	ug/kg	360	430	U	ug/kg	430	370	U	ug/kg	370
2,4-Dichlorophenol	370	U	ug/kg	370	360	U	ug/kg	360	430	U	ug/kg	430	370	U	ug/kg	370
1,2,4-Trichlorobenzene	370	R	ug/kg	370	360	U	ug/kg	360	430	U	ug/kg	430	370	U	ug/kg	370
Naphthalene	370	U	ug/kg	370	360	U	ug/kg	360	430	U	ug/kg	430	370	U	ug/kg	370
4-Chloroaniline	370	U	ug/kg	370	360	U	ug/kg	360	430	U	ug/kg	430	370	U	ug/kg	370
Hexachlorobutadiene	370	U	ug/kg	370	360	U	ug/kg	360	430	U	ug/kg	430	370	U	ug/kg	370
4-Chloro-3-methylphenol	370	U	ug/kg	370	360	U	ug/kg	360	430	U	ug/kg	430	370	U	ug/kg	370
2-Methylnaphthalene	370	U	ug/kg	370	360	U	ug/kg	360	430	U	ug/kg	430	370	U	ug/kg	370
Hexachlorocyclopentadiene	370	U	ug/kg	370	360	U	ug/kg	360	430	U	ug/kg	430	370	U	ug/kg	370
2,4,6-Trichlorophenol	370	U	ug/kg	370	360	U	ug/kg	360	430	U	ug/kg	430	370	U	ug/kg	370
2,4,5-Trichlorophenol	920	U	ug/kg	920	900	U	ug/kg	900	1100	U	ug/kg	1100	920	U	ug/kg	920
2-Chloronaphthalene	370	U	ug/kg	370	360	U	ug/kg	360	430	U	ug/kg	430	370	U	ug/kg	370
2-Nitroaniline	920	U	ug/kg	920	900	U	ug/kg	900	1100	U	ug/kg	1100	920	U	ug/kg	920
Dimethylphthalate	370	U	ug/kg	370	360	U	ug/kg	360	430	U	ug/kg	430	370	U	ug/kg	370
Acenaphthylene	370	U	ug/kg	370	360	U	ug/kg	360	430	U	ug/kg	430	370	U	ug/kg	370
2,6-Dinitrotoluene	370	U	ug/kg	370	360	U	ug/kg	360	430	U	ug/kg	430	370	U	ug/kg	370
3-Nitroaniline	920	U	ug/kg	920	900	U	ug/kg	900	1100	U	ug/kg	1100	920	U	ug/kg	920
Acenaphthene	370	R	ug/kg	370	360	U	ug/kg	360	430	U	ug/kg	430	370	U	ug/kg	370
2,4-Dinitrophenol	920	U	ug/kg	920	900	U	ug/kg	900	1100	U	ug/kg	1100	920	U	ug/kg	920
4-Nitrophenol	920	U	ug/kg	920	900	U	ug/kg	900	1100	U	ug/kg	1100	920	U	ug/kg	920
Dibenzofuran	370	U	ug/kg	370	360	U	ug/kg	360	430	U	ug/kg	430	370	U	ug/kg	370
2,4-Dinitrotoluene	370	U	ug/kg	370	360	U	ug/kg	360	430	U	ug/kg	430	370	U	ug/kg	370
Diethylphthalate	370	U	ug/kg	370	360	U	ug/kg	360	430	U	ug/kg	430	370	U	ug/kg	370
4-Chlorophenyl-phenylether	370	U	ug/kg	370	360	U	ug/kg	360	430	U	ug/kg	430	370	U	ug/kg	370
Fluorene	370	U	ug/kg	370	360	U	ug/kg	360	430	U	ug/kg	430	370	U	ug/kg	370
4-Nitroaniline	920	U	ug/kg	920	900	U	ug/kg	900	1100	U	ug/kg	1100	920	U	ug/kg	920
4,6-Dinitro-2-methylphenol	920	U	ug/kg	920	900	U	ug/kg	900	1100	U	ug/kg	1100	920	U	ug/kg	920
N-Nitrosodiphenylamine	370	U	ug/kg	370	360	U	ug/kg	360	430	U	ug/kg	430	370	U	ug/kg	370
4-Bromophenyl-phenylether	370	U	ug/kg	370	360	U	ug/kg	360	430	U	ug/kg	430	370	U	ug/kg	370
Hexachlorobenzene	370	U	ug/kg	370	360	U	ug/kg	360	430	U	ug/kg	430	370	U	ug/kg	370
Pentachlorophenol	920	U	ug/kg	920	900	U	ug/kg	900	1100	U	ug/kg	1100	920	U	ug/kg	920
Phenanthrene	370	U	ug/kg	370	360	U	ug/kg	360	430	U	ug/kg	430	370	U	ug/kg	370
Anthracene	370	U	ug/kg	370	360	U	ug/kg	360	430	U	ug/kg	430	370	U	ug/kg	370
Carbazole	370	U	ug/kg	370	360	U	ug/kg	360	430	U	ug/kg	430	370	U	ug/kg	370
Di-n-butylphthalate	1100		ug/kg	370	790		ug/kg	360	730		ug/kg	420	770		ug/kg	370
Fluoranthene	370	U	ug/kg	370	360	U	ug/kg	360	430	U	ug/kg	430	370	U	ug/kg	370
Pyrene	370	R	ug/kg	370	360	U	ug/kg	360	430	U	ug/kg	430	370	U	ug/kg	370
Butylbenzylphthalate	240	J	ug/kg	370	360	U	ug/kg	360	430	U	ug/kg	430	370	U	ug/kg	370
3,3-Dichlorobenzidine	370	U	ug/kg	370	360	U	ug/kg	360	430	U	ug/kg	430	370	U	ug/kg	370
Benzo (a) anthracene	370	U	ug/kg	370	360	U	ug/kg	360	430	U	ug/kg	430	370	U	ug/kg	370
Chrysene	370	U	ug/kg	370	360	U	ug/kg	360	430	U	ug/kg	430	370	U	ug/kg	370
bis(2-Ethylhexyl) phthalate	370	U	ug/kg	370	360	U	ug/kg	360	430	U	ug/kg	430	370	U	ug/kg	370

Naval Air Station Whiting Field, Milton, Florida
Site 15 Surface Soil Data

Lab Sample Number:		G8914004				G8914005				G8914007				G8914006			
Site		WHITING				WHITING				WHITING				WHITING			
Locator		15S00201				15S00301				15S00401				15S00501			
Collect Date:		11-DEC-95				11-DEC-95				11-DEC-95				11-DEC-95			
		VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
Di-n-octylphthalate		370	U	ug/kg	370	360	U	ug/kg	360	430	U	ug/kg	430	370	U	ug/kg	370
Benzo (b) fluoranthene		370	U	ug/kg	370	360	U	ug/kg	360	430	U	ug/kg	430	370	U	ug/kg	370
Benzo (k) fluoranthene		370	U	ug/kg	370	360	U	ug/kg	360	430	U	ug/kg	430	370	U	ug/kg	370
Benzo (a) pyrene		370	U	ug/kg	370	360	U	ug/kg	360	430	U	ug/kg	430	370	U	ug/kg	370
Indeno (1,2,3-cd) pyrene		370	U	ug/kg	370	360	U	ug/kg	360	430	U	ug/kg	430	370	U	ug/kg	370
Dibenzo (a,h) anthracene		370	U	ug/kg	370	360	U	ug/kg	360	430	U	ug/kg	430	370	U	ug/kg	370
Benzo (g,h,i) perylene		370	U	ug/kg	370	360	U	ug/kg	360	430	U	ug/kg	430	370	U	ug/kg	370
CLP PESTICIDES/PCBS 90-SOW	ug/kg																
alpha-BHC		1.9	UJ	ug/kg	1.9	1.9	UJ	ug/kg	1.9	1.9	UJ	ug/kg	1.9	1.8	UJ	ug/kg	1.8
beta-BHC		1.9	U	ug/kg	1.9	1.9	U	ug/kg	1.9	1.9	U	ug/kg	1.9	1.8	U	ug/kg	1.8
delta-BHC		1.9	U	ug/kg	1.9	1.9	U	ug/kg	1.9	1.9	U	ug/kg	1.9	1.8	U	ug/kg	1.8
gamma-BHC (Lindane)		1.9	U	ug/kg	1.9	1.9	U	ug/kg	1.9	1.9	U	ug/kg	1.9	1.8	U	ug/kg	1.8
Heptachlor		1.9	U	ug/kg	1.9	1.9	U	ug/kg	1.9	1.9	U	ug/kg	1.9	1.8	U	ug/kg	1.8
Aldrin		1.9	U	ug/kg	1.9	1.9	U	ug/kg	1.9	1.9	U	ug/kg	1.9	1.8	U	ug/kg	1.8
Heptachlor epoxide		1.9	U	ug/kg	1.9	1.9	U	ug/kg	1.9	1.9	U	ug/kg	1.9	1.8	U	ug/kg	1.8
Endosulfan I		1.9	U	ug/kg	1.9	1.9	U	ug/kg	1.9	1.9	U	ug/kg	1.9	1.8	U	ug/kg	1.8
Dieldrin		3.6	U	ug/kg	3.6	3.7	U	ug/kg	3.7	3.6	U	ug/kg	3.6	3.6	U	ug/kg	3.6
4,4-DDE		3.6	U	ug/kg	3.6	3.7	U	ug/kg	3.7	3.6	U	ug/kg	3.6	3.6	U	ug/kg	3.6
Endrin		3.6	U	ug/kg	3.6	3.7	U	ug/kg	3.7	3.6	U	ug/kg	3.6	3.6	U	ug/kg	3.6
Endosulfan II		3.6	U	ug/kg	3.6	3.7	U	ug/kg	3.7	3.6	U	ug/kg	3.6	3.6	U	ug/kg	3.6
4,4-DDD		3.6	U	ug/kg	3.6	3.7	U	ug/kg	3.7	3.6	U	ug/kg	3.6	3.6	U	ug/kg	3.6
Endosulfan sulfate		3.6	U	ug/kg	3.6	3.7	U	ug/kg	3.7	3.6	U	ug/kg	3.6	3.6	U	ug/kg	3.6
4,4-DDT		3.6	U	ug/kg	3.6	3.7	U	ug/kg	3.7	3.6	U	ug/kg	3.6	3.6	U	ug/kg	3.6
Methoxychlor		19	U	ug/kg	19	19	U	ug/kg	19	19	U	ug/kg	19	18	U	ug/kg	18
Endrin ketone		3.6	U	ug/kg	3.6	3.7	U	ug/kg	3.7	3.6	U	ug/kg	3.6	3.6	U	ug/kg	3.6
Endrin aldehyde		3.6	U	ug/kg	3.6	3.7	U	ug/kg	3.7	3.6	U	ug/kg	3.6	3.6	U	ug/kg	3.6
alpha-Chlordane		1.9	U	ug/kg	1.9	1.9	U	ug/kg	1.9	1.9	U	ug/kg	1.9	1.8	U	ug/kg	1.8
gamma-Chlordane		1.9	U	ug/kg	1.9	1.9	U	ug/kg	1.9	1.9	U	ug/kg	1.9	1.8	U	ug/kg	1.8
Toxaphene		190	U	ug/kg	190	190	U	ug/kg	190	190	U	ug/kg	190	180	U	ug/kg	180
Aroclor-1016		36	U	ug/kg	36	37	U	ug/kg	37	36	U	ug/kg	36	36	U	ug/kg	36
Aroclor-1221		74	U	ug/kg	74	74	U	ug/kg	74	74	U	ug/kg	74	73	U	ug/kg	73
Aroclor-1232		36	U	ug/kg	36	37	U	ug/kg	37	36	U	ug/kg	36	36	U	ug/kg	36
Aroclor-1242		36	U	ug/kg	36	37	U	ug/kg	37	36	U	ug/kg	36	36	U	ug/kg	36
Aroclor-1248		36	U	ug/kg	36	37	U	ug/kg	37	36	U	ug/kg	36	36	U	ug/kg	36
Aroclor-1254		36	U	ug/kg	36	37	U	ug/kg	37	36	U	ug/kg	36	36	U	ug/kg	36
Aroclor-1260		36	U	ug/kg	36	37	U	ug/kg	37	36	U	ug/kg	36	36	U	ug/kg	36
CLP METALS AND CYANIDE	mg/kg																
Aluminum		6210		mg/kg	40	10200		mg/kg	40	12400		mg/kg	40	5290		mg/kg	40
Antimony		12	UJ	mg/kg	12	12	UJ	mg/kg	12	12	UJ	mg/kg	12	12	UJ	mg/kg	12
Arsenic		1.3	J	mg/kg	2	2	J	mg/kg	2	2.7		mg/kg	2	1.2	J	mg/kg	2
Barium		4.7	J	mg/kg	40	6.9	J	mg/kg	40	7.4	J	mg/kg	40	5.5	J	mg/kg	40
Beryllium		1	UJ	mg/kg	1	1	UJ	mg/kg	1	1	UJ	mg/kg	1	1	UJ	mg/kg	1
Cadmium		1	U	mg/kg	1	1	U	mg/kg	1	1	U	mg/kg	1	1	U	mg/kg	1
Calcium		1000	UJ	mg/kg	1000	1000	UJ	mg/kg	1000	1000	UJ	mg/kg	1000	1000	UJ	mg/kg	1000
Chromium		8.1		mg/kg	2	6.9		mg/kg	2	9.1		mg/kg	2	4.6		mg/kg	2
Cobalt		10	U	mg/kg	10	10	U	mg/kg	10	10	U	mg/kg	10	.55	J	mg/kg	10
Copper		5	UJ	mg/kg	5	5	UJ	mg/kg	5	5	UJ	mg/kg	5	5	UJ	mg/kg	5
Iron		3760		mg/kg	20	5100		mg/kg	20	6570		mg/kg	20	3490		mg/kg	20
Lead		2.8		mg/kg	.6	6		mg/kg	.6	3.6		mg/kg	.6	3.2		mg/kg	.6
Magnesium		72.2	J	mg/kg	1000	133	J	mg/kg	1000	121	J	mg/kg	1000	84.9	J	mg/kg	1000

Naval Air Station Whiting Field, Milton, Florida
Site 15 Surface Soil Data

Lab Sample Number:	G8914004				G8914005				G8914007				G8914006			
Site	WHITING				WHITING				WHITING				WHITING			
Locator	15S00201				15S00301				15S00401				15S00501			
Collect Date:	11-DEC-95				11-DEC-95				11-DEC-95				11-DEC-95			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
Manganese	35.7		mg/kg	3	12.9		mg/kg	3	34.4		mg/kg	3	43.3		mg/kg	3
Mercury	.01	J	mg/kg	.1	.01	J	mg/kg	.1	.01	J	mg/kg	.1	.01	J	mg/kg	.1
Nickel	8	UJ	mg/kg	8	8	UJ	mg/kg	8	8	UJ	mg/kg	8	8	UJ	mg/kg	8
Potassium	1000	U	mg/kg	1000	131		mg/kg	1000	1000	U	mg/kg	1000	1000	U	mg/kg	1000
Selenium	1	UJ	mg/kg	1	1	UJ	mg/kg	1	1	UJ	mg/kg	1	1	UJ	mg/kg	1
Silver	.74	J	mg/kg	2	2	U	mg/kg	2	2	U	mg/kg	2	.66	J	mg/kg	2
Sodium	1000	UJ	mg/kg	1000	1000	UJ	mg/kg	1000	1000	UJ	mg/kg	1000	1000	UJ	mg/kg	1000
Thallium	2	UJ	mg/kg	2	2	UJ	mg/kg	2	2	UJ	mg/kg	2	2	UJ	mg/kg	2
Vanadium	9.6	J	mg/kg	10	14.5		mg/kg	10	17.8		mg/kg	10	7.5	J	mg/kg	10
Zinc	2.8	J	mg/kg	4	6.3		mg/kg	4	4.9		mg/kg	4	3.7	J	mg/kg	4
Cyanide	.16	J	mg/kg	.5	.5	U	mg/kg	.5	.5	U	mg/kg	.5	.5	U	mg/kg	.5
Total organic carbon	-		mg/kg		-		mg/kg		-		mg/kg		-		mg/kg	
Total petroleum hydrocarbons	-		mg/kg		-		mg/kg		-		mg/kg		-		mg/kg	

Naval Air Station Whiting Field, Milton, Florida
Site 15 Surface Soil Data

Lab Sample Number:		G8914008				G8914009				G8914010				G8913017			
Site		WHITING				WHITING				WHITING				WHITING			
Locator		15S00601				15S00701				15S00801				15S00901			
Collect Date:		11-DEC-95				11-DEC-95				11-DEC-95				11-DEC-95			
		VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
CLP VOLATILES 90-SOW	ug/kg																
Chloromethane		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
Bromomethane		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
Vinyl chloride		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
Chloroethane		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
Methylene chloride		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
Acetone		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
Carbon disulfide		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
1,1-Dichloroethene		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
1,1-Dichloroethane		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
1,2-Dichloroethene (total)		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
Chloroform		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
1,2-Dichloroethane		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
2-Butanone		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
1,1,1-Trichloroethane		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
Carbon tetrachloride		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
Bromodichloromethane		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
1,2-Dichloropropane		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
cis-1,3-Dichloropropene		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
Trichloroethene		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
Dibromochloromethane		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
1,1,2-Trichloroethane		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
Benzene		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
trans-1,3-Dichloropropene		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
Bromoform		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
4-Methyl-2-pentanone		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
2-Hexanone		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
Tetrachloroethene		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
Toluene		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
1,1,2,2-Tetrachloroethane		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
Chlorobenzene		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
Ethylbenzene		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
Styrene		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
Xylenes (total)		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
CLP SEMIVOLATILES 90-SOW	ug/kg																
Phenol		360	U	ug/kg	360	360	U	ug/kg	360	360	U	ug/kg	360	370	R	ug/kg	370
bis(2-Chloroethyl) ether		360	U	ug/kg	360	360	U	ug/kg	360	360	U	ug/kg	360	370	R	ug/kg	370
2-Chlorophenol		360	U	ug/kg	360	360	U	ug/kg	360	360	U	ug/kg	360	370	R	ug/kg	370
1,3-Dichlorobenzene		360	U	ug/kg	360	360	U	ug/kg	360	360	U	ug/kg	360	370	R	ug/kg	370
1,4-Dichlorobenzene		360	U	ug/kg	360	360	U	ug/kg	360	360	U	ug/kg	360	370	R	ug/kg	370

Naval Air Station Whiting Field, Milton, Florida
Site 15 Surface Soil Data

Lab Sample Number:	G8914008				G8914009				G8914010				G8913017			
Site	WHITING				WHITING				WHITING				WHITING			
Locator	15S00601				15S00701				15S00801				15S00901			
Collect Date:	11-DEC-95				11-DEC-95				11-DEC-95				11-DEC-95			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
1,2-Dichlorobenzene	360	U	ug/kg	360	360	U	ug/kg	360	360	U	ug/kg	360	370	R	ug/kg	370
2-Methylphenol	360	U	ug/kg	360	360	U	ug/kg	360	360	U	ug/kg	360	370	R	ug/kg	370
2,2-oxybis(1-Chloropropane)	360	U	ug/kg	360	360	U	ug/kg	360	360	U	ug/kg	360	370	R	ug/kg	370
4-Methylphenol	360	U	ug/kg	360	360	U	ug/kg	360	360	U	ug/kg	360	370	R	ug/kg	370
N-Nitroso-di-n-propylamine	360	U	ug/kg	360	360	U	ug/kg	360	360	U	ug/kg	360	370	R	ug/kg	370
Hexachloroethane	360	U	ug/kg	360	360	U	ug/kg	360	360	U	ug/kg	360	370	R	ug/kg	370
Nitrobenzene	360	U	ug/kg	360	360	U	ug/kg	360	360	U	ug/kg	360	370	R	ug/kg	370
Isophorone	360	U	ug/kg	360	360	U	ug/kg	360	360	U	ug/kg	360	370	R	ug/kg	370
2-Nitrophenol	360	U	ug/kg	360	360	U	ug/kg	360	360	U	ug/kg	360	370	R	ug/kg	370
2,4-Dimethylphenol	360	U	ug/kg	360	360	U	ug/kg	360	360	U	ug/kg	360	370	R	ug/kg	370
bis(2-Chloroethoxy) methane	360	U	ug/kg	360	360	U	ug/kg	360	360	U	ug/kg	360	370	R	ug/kg	370
2,4-Dichlorophenol	360	U	ug/kg	360	360	U	ug/kg	360	360	U	ug/kg	360	370	R	ug/kg	370
1,2,4-Trichlorobenzene	360	U	ug/kg	360	360	U	ug/kg	360	360	U	ug/kg	360	370	R	ug/kg	370
Naphthalene	360	U	ug/kg	360	360	U	ug/kg	360	360	U	ug/kg	360	370	R	ug/kg	370
4-Chloroaniline	360	U	ug/kg	360	360	U	ug/kg	360	360	U	ug/kg	360	370	R	ug/kg	370
Hexachlorobutadiene	360	U	ug/kg	360	360	U	ug/kg	360	360	U	ug/kg	360	370	R	ug/kg	370
4-Chloro-3-methylphenol	360	U	ug/kg	360	360	U	ug/kg	360	360	U	ug/kg	360	370	R	ug/kg	370
2-Methylnaphthalene	360	U	ug/kg	360	360	U	ug/kg	360	360	U	ug/kg	360	370	R	ug/kg	370
Hexachlorocyclopentadiene	360	U	ug/kg	360	360	U	ug/kg	360	360	U	ug/kg	360	370	R	ug/kg	370
2,4,6-Trichlorophenol	360	U	ug/kg	360	360	U	ug/kg	360	360	U	ug/kg	360	370	R	ug/kg	370
2,4,5-Trichlorophenol	900	U	ug/kg	900	900	U	ug/kg	900	900	U	ug/kg	900	920	R	ug/kg	920
2-Chloronaphthalene	360	U	ug/kg	360	360	U	ug/kg	360	360	U	ug/kg	360	370	R	ug/kg	370
2-Nitroaniline	900	U	ug/kg	900	900	U	ug/kg	900	900	U	ug/kg	900	920	R	ug/kg	920
Dimethylphthalate	360	U	ug/kg	360	360	U	ug/kg	360	360	U	ug/kg	360	370	R	ug/kg	370
Acenaphthylene	360	U	ug/kg	360	360	U	ug/kg	360	360	U	ug/kg	360	370	R	ug/kg	370
2,6-Dinitrotoluene	360	U	ug/kg	360	360	U	ug/kg	360	360	U	ug/kg	360	370	R	ug/kg	370
3-Nitroaniline	900	U	ug/kg	900	900	U	ug/kg	900	900	U	ug/kg	900	920	R	ug/kg	920
Acenaphthene	360	U	ug/kg	360	360	U	ug/kg	360	360	U	ug/kg	360	370	R	ug/kg	370
2,4-Dinitrophenol	900	U	ug/kg	900	900	U	ug/kg	900	900	U	ug/kg	900	920	R	ug/kg	920
4-Nitrophenol	900	U	ug/kg	900	900	U	ug/kg	900	900	U	ug/kg	900	920	R	ug/kg	920
Dibenzofuran	360	U	ug/kg	360	360	U	ug/kg	360	360	U	ug/kg	360	370	R	ug/kg	370
2,4-Dinitrotoluene	360	U	ug/kg	360	360	U	ug/kg	360	360	U	ug/kg	360	370	R	ug/kg	370
Diethylphthalate	360	U	ug/kg	360	360	U	ug/kg	360	360	U	ug/kg	360	370	R	ug/kg	370
4-Chlorophenyl-phenylether	360	U	ug/kg	360	360	U	ug/kg	360	360	U	ug/kg	360	370	R	ug/kg	370
Fluorene	360	U	ug/kg	360	360	U	ug/kg	360	360	U	ug/kg	360	370	R	ug/kg	370
4-Nitroaniline	900	U	ug/kg	900	900	U	ug/kg	900	900	U	ug/kg	900	920	R	ug/kg	920
4,6-Dinitro-2-methylphenol	900	U	ug/kg	900	900	U	ug/kg	900	900	U	ug/kg	900	920	R	ug/kg	920
N-Nitrosodiphenylamine	360	U	ug/kg	360	360	U	ug/kg	360	360	U	ug/kg	360	370	R	ug/kg	370
4-Bromophenyl-phenylether	360	U	ug/kg	360	360	U	ug/kg	360	360	U	ug/kg	360	370	R	ug/kg	370
Hexachlorobenzene	360	U	ug/kg	360	360	U	ug/kg	360	360	U	ug/kg	360	370	R	ug/kg	370
Pentachlorophenol	900	U	ug/kg	900	900	U	ug/kg	900	900	U	ug/kg	900	920	R	ug/kg	920
Phenanthrene	360	U	ug/kg	360	360	U	ug/kg	360	360	U	ug/kg	360	370	R	ug/kg	370
Anthracene	360	U	ug/kg	360	360	U	ug/kg	360	360	U	ug/kg	360	370	R	ug/kg	370
Carbazole	360	U	ug/kg	360	360	U	ug/kg	360	360	U	ug/kg	360	370	R	ug/kg	370
Di-n-butylphthalate	850		ug/kg	360	560		ug/kg	360	370	U	ug/kg	370	370	R	ug/kg	370
Fluoranthene	360	U	ug/kg	360	360	U	ug/kg	360	360	U	ug/kg	360	370	R	ug/kg	370
Pyrene	360	U	ug/kg	360	360	U	ug/kg	360	360	U	ug/kg	360	370	R	ug/kg	370
Butylbenzylphthalate	360	U	ug/kg	360	360	U	ug/kg	360	360	U	ug/kg	360	370	R	ug/kg	370
3,3-Dichlorobenzidine	360	U	ug/kg	360	360	U	ug/kg	360	360	U	ug/kg	360	370	R	ug/kg	370
Benzo (a) anthracene	360	U	ug/kg	360	360	U	ug/kg	360	360	U	ug/kg	360	370	R	ug/kg	370
Chrysene	360	U	ug/kg	360	360	U	ug/kg	360	360	U	ug/kg	360	370	R	ug/kg	370
bis(2-Ethylhexyl) phthalate	360	U	ug/kg	360	360	U	ug/kg	360	360	U	ug/kg	360	370	R	ug/kg	370

Naval Air Station Whiting Field, Milton, Florida
Site 15 Surface Soil Data

Lab Sample Number:		G8914008				G8914009				G8914010				G8913017			
Site		WHITING				WHITING				WHITING				WHITING			
Locator		15S00601				15S00701				15S00801				15S00901			
Collect Date:		11-DEC-95				11-DEC-95				11-DEC-95				11-DEC-95			
		VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
Di-n-octylphthalate		360	U	ug/kg	360	360	U	ug/kg	360	360	U	ug/kg	360	370	R	ug/kg	370
Benzo (b) fluoranthene		360	U	ug/kg	360	360	U	ug/kg	360	360	U	ug/kg	360	370	R	ug/kg	370
Benzo (k) fluoranthene		360	U	ug/kg	360	360	U	ug/kg	360	360	U	ug/kg	360	370	R	ug/kg	370
Benzo (a) pyrene		360	U	ug/kg	360	360	U	ug/kg	360	360	U	ug/kg	360	370	R	ug/kg	370
Indeno (1,2,3-cd) pyrene		360	U	ug/kg	360	360	U	ug/kg	360	360	U	ug/kg	360	370	R	ug/kg	370
Dibenzo (a,h) anthracene		360	U	ug/kg	360	360	U	ug/kg	360	360	U	ug/kg	360	370	R	ug/kg	370
Benzo (g,h,i) perylene		360	U	ug/kg	360	360	U	ug/kg	360	360	U	ug/kg	360	370	R	ug/kg	370
CLP PESTICIDES/PCBS 90-SOW	ug/kg																
alpha-BHC		1.8	UJ	ug/kg	1.8	1.8	UJ	ug/kg	1.8	1.8	UJ	ug/kg	1.8	2	UJ	ug/kg	2
beta-BHC		1.8	U	ug/kg	1.8	1.8	U	ug/kg	1.8	1.8	U	ug/kg	1.8	2	U	ug/kg	2
delta-BHC		1.8	U	ug/kg	1.8	1.8	U	ug/kg	1.8	1.8	U	ug/kg	1.8	2	U	ug/kg	2
gamma-BHC (Lindane)		1.8	U	ug/kg	1.8	1.8	U	ug/kg	1.8	1.8	U	ug/kg	1.8	2	U	ug/kg	2
Heptachlor		1.8	U	ug/kg	1.8	1.8	U	ug/kg	1.8	1.8	U	ug/kg	1.8	2	U	ug/kg	2
Aldrin		1.8	U	ug/kg	1.8	1.8	U	ug/kg	1.8	1.8	U	ug/kg	1.8	2	U	ug/kg	2
Heptachlor epoxide		1.8	U	ug/kg	1.8	1.8	U	ug/kg	1.8	1.8	U	ug/kg	1.8	2	U	ug/kg	2
Endosulfan I		1.8	U	ug/kg	1.8	1.8	U	ug/kg	1.8	1.8	U	ug/kg	1.8	2	U	ug/kg	2
Dieldrin		3.6	U	ug/kg	3.6	3.5	U	ug/kg	3.5	3.6	U	ug/kg	3.6	3.9	U	ug/kg	3.9
4,4-DDE		3.6	U	ug/kg	3.6	3.5	U	ug/kg	3.5	3.6	U	ug/kg	3.6	3.9	U	ug/kg	3.9
Endrin		3.6	U	ug/kg	3.6	3.5	U	ug/kg	3.5	3.6	U	ug/kg	3.6	3.9	U	ug/kg	3.9
Endosulfan II		3.6	U	ug/kg	3.6	3.5	U	ug/kg	3.5	3.6	U	ug/kg	3.6	3.9	U	ug/kg	3.9
4,4-DDD		3.6	U	ug/kg	3.6	3.5	U	ug/kg	3.5	3.6	U	ug/kg	3.6	3.9	U	ug/kg	3.9
Endosulfan sulfate		3.6	U	ug/kg	3.6	3.5	U	ug/kg	3.5	3.6	U	ug/kg	3.6	3.9	U	ug/kg	3.9
4,4-DDT		3.6	U	ug/kg	3.6	3.5	U	ug/kg	3.5	3.6	U	ug/kg	3.6	3.9	U	ug/kg	3.9
Methoxychlor		18	U	ug/kg	18	18	U	ug/kg	18	18	U	ug/kg	18	20	U	ug/kg	20
Endrin ketone		3.6	U	ug/kg	3.6	3.5	U	ug/kg	3.5	3.6	U	ug/kg	3.6	3.9	U	ug/kg	3.9
Endrin aldehyde		3.6	U	ug/kg	3.6	3.5	U	ug/kg	3.5	3.6	U	ug/kg	3.6	3.9	U	ug/kg	3.9
alpha-Chlordane		1.8	U	ug/kg	1.8	1.8	U	ug/kg	1.8	1.8	U	ug/kg	1.8	2	U	ug/kg	2
gamma-Chlordane		1.8	U	ug/kg	1.8	1.8	U	ug/kg	1.8	1.8	U	ug/kg	1.8	2	U	ug/kg	2
Toxaphene		180	U	ug/kg	180	180	U	ug/kg	180	180	U	ug/kg	180	200	U	ug/kg	200
Aroclor-1016		36	U	ug/kg	36	35	U	ug/kg	35	36	U	ug/kg	36	39	U	ug/kg	39
Aroclor-1221		73	U	ug/kg	73	72	U	ug/kg	72	73	U	ug/kg	73	80	U	ug/kg	80
Aroclor-1232		36	U	ug/kg	36	35	U	ug/kg	35	36	U	ug/kg	36	39	U	ug/kg	39
Aroclor-1242		36	U	ug/kg	36	35	U	ug/kg	35	36	U	ug/kg	36	39	U	ug/kg	39
Aroclor-1248		36	U	ug/kg	36	35	U	ug/kg	35	36	U	ug/kg	36	39	U	ug/kg	39
Aroclor-1254		36	U	ug/kg	36	35	U	ug/kg	35	36	U	ug/kg	36	39	U	ug/kg	39
Aroclor-1260		36	U	ug/kg	36	35	U	ug/kg	35	36	U	ug/kg	36	39	U	ug/kg	39
CLP METALS AND CYANIDE	mg/kg																
Aluminum		11900		mg/kg	40	5590		mg/kg	40	10200		mg/kg	40	8400		mg/kg	40
Antimony		12	UJ	mg/kg	12	12	UJ	mg/kg	12	12	UJ	mg/kg	12	12	UJ	mg/kg	12
Arsenic		2.1	J	mg/kg	2	1	J	mg/kg	2	1.8	J	mg/kg	2	1.7	J	mg/kg	2
Barium		7.3	J	mg/kg	40	8.1	J	mg/kg	40	9.2	J	mg/kg	40	9.4	J	mg/kg	40
Beryllium		1	UJ	mg/kg	1	1	UJ	mg/kg	1	1	UJ	mg/kg	1	1	UJ	mg/kg	1
Cadmium		1	U	mg/kg	1	1	U	mg/kg	1	1	U	mg/kg	1	1	U	mg/kg	1
Calcium		1000	UJ	mg/kg	1000	1000	UJ	mg/kg	1000	89	J	mg/kg	1000	1000	UJ	mg/kg	1000
Chromium		8.5		mg/kg	2	5.8		mg/kg	2	8.8		mg/kg	2	6.1		mg/kg	2
Cobalt		.49	J	mg/kg	10	.58	J	mg/kg	10	10	U	mg/kg	10	.56	J	mg/kg	10
Copper		5	U	mg/kg	5	5	UJ	mg/kg	5	5	UJ	mg/kg	5	5	UJ	mg/kg	5
Iron		6400		mg/kg	20	2900		mg/kg	20	6700		mg/kg	20	4510	J	mg/kg	20
Lead		5.5		mg/kg	.6	3.3		mg/kg	.6	4.9		mg/kg	.6	4.4		mg/kg	.6
Magnesium		135	J	mg/kg	1000	121	J	mg/kg	1000	124	J	mg/kg	1000	156	J	mg/kg	1000

Naval Air Station Whiting Field, Milton, Florida
Site 15 Surface Soil Data

Lab Sample Number:	G8914008				G8914009				G8914010				G8913017			
Site	WHITING				WHITING				WHITING				WHITING			
Locator	15S00601				15S00701				15S00801				15S00901			
Collect Date:	11-DEC-95				11-DEC-95				11-DEC-95				11-DEC-95			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
Manganese	30.8		mg/kg	3	112		mg/kg	3	53.2		mg/kg	3	35.3		mg/kg	3
Mercury	.01	J	mg/kg	.1	.02	J	mg/kg	.1	.01	J	mg/kg	.1	.1	U	mg/kg	.1
Nickel	8	UJ	mg/kg	8	8	UJ	mg/kg	8	8	UJ	mg/kg	8	8	UJ	mg/kg	8
Potassium	1000	U	mg/kg	1000	1000	U	mg/kg	1000	1000	U	mg/kg	1000	137	J	mg/kg	1000
Selenium	1	UJ	mg/kg	1	1	UJ	mg/kg	1	.27	J	mg/kg	1	1	UJ	mg/kg	1
Silver	2	U	mg/kg	2	2	U	mg/kg	2	2	U	mg/kg	2	2	U	mg/kg	2
Sodium	1000	UJ	mg/kg	1000	1000	UJ	mg/kg	1000	1000	UJ	mg/kg	1000	1000	UJ	mg/kg	1000
Thallium	2	UJ	mg/kg	2	2	U	mg/kg	2	2	UJ	mg/kg	2	2	UJ	mg/kg	2
Vanadium	17		mg/kg	10	7.2	J	mg/kg	10	17.5		mg/kg	10	11.5		mg/kg	10
Zinc	7.1		mg/kg	4	3.9	J	mg/kg	4	5.5		mg/kg	4	5.4		mg/kg	4
Cyanide	.5	U	mg/kg	.5	.31	J	mg/kg	.5	.5	U	mg/kg	.5	.5	U	mg/kg	.5
Total organic carbon	-		mg/kg		-		mg/kg		-		mg/kg		-		mg/kg	
Total petroleum hydrocarbons	-		mg/kg		-		mg/kg		-		mg/kg		-		mg/kg	

Naval Air Station Whiting Field, Milton, Florida
Site 15 Surface Soil Data

Lab Sample Number:		G8913017RE			G8914014			G8914013			G8914011		
Site		WHITING			WHITING			WHITING			WHITING		
Locator		15S00901RE			15S01001			15S01101			15S01201		
Collect Date:		11-DEC-95			10-DEC-95			10-DEC-95			10-DEC-95		
		VALUE QUAL	UNITS	DL	VALUE QUAL	UNITS	DL	VALUE QUAL	UNITS	DL	VALUE QUAL	UNITS	DL
CLP VOLATILES 90-SOW	ug/kg												
Chloromethane		-	ug/kg		12 U	ug/kg	12	11 U	ug/kg	11	11 U	ug/kg	11
Bromomethane		-	ug/kg		12 U	ug/kg	12	11 U	ug/kg	11	11 U	ug/kg	11
Vinyl chloride		-	ug/kg		12 U	ug/kg	12	11 U	ug/kg	11	11 U	ug/kg	11
Chloroethane		-	ug/kg		12 U	ug/kg	12	11 U	ug/kg	11	11 U	ug/kg	11
Methylene chloride		-	ug/kg		12 U	ug/kg	12	3 J	ug/kg	11	4 J	ug/kg	11
Acetone		-	ug/kg		22 U	ug/kg	22	11 U	ug/kg	11	11 U	ug/kg	11
Carbon disulfide		-	ug/kg		12 U	ug/kg	12	11 U	ug/kg	11	11 U	ug/kg	11
1,1-Dichloroethene		-	ug/kg		12 U	ug/kg	12	11 U	ug/kg	11	11 U	ug/kg	11
1,1-Dichloroethane		-	ug/kg		12 U	ug/kg	12	11 U	ug/kg	11	11 U	ug/kg	11
1,2-Dichloroethene (total)		-	ug/kg		12 U	ug/kg	12	11 U	ug/kg	11	11 U	ug/kg	11
Chloroform		-	ug/kg		12 U	ug/kg	12	11 U	ug/kg	11	11 U	ug/kg	11
1,2-Dichloroethane		-	ug/kg		12 U	ug/kg	12	11 U	ug/kg	11	11 U	ug/kg	11
2-Butanone		-	ug/kg		12 U	ug/kg	12	11 U	ug/kg	11	11 U	ug/kg	11
1,1,1-Trichloroethane		-	ug/kg		12 U	ug/kg	12	11 U	ug/kg	11	11 U	ug/kg	11
Carbon tetrachloride		-	ug/kg		12 U	ug/kg	12	11 U	ug/kg	11	11 U	ug/kg	11
Bromodichloromethane		-	ug/kg		12 U	ug/kg	12	11 U	ug/kg	11	11 U	ug/kg	11
1,2-Dichloropropane		-	ug/kg		12 U	ug/kg	12	11 U	ug/kg	11	11 U	ug/kg	11
cis-1,3-Dichloropropene		-	ug/kg		12 U	ug/kg	12	11 U	ug/kg	11	11 U	ug/kg	11
Trichloroethene		-	ug/kg		12 U	ug/kg	12	11 U	ug/kg	11	11 U	ug/kg	11
Dibromochloromethane		-	ug/kg		12 U	ug/kg	12	11 U	ug/kg	11	11 U	ug/kg	11
1,1,2-Trichloroethane		-	ug/kg		12 U	ug/kg	12	11 U	ug/kg	11	11 U	ug/kg	11
Benzene		-	ug/kg		12 U	ug/kg	12	11 U	ug/kg	11	11 U	ug/kg	11
trans-1,3-Dichloropropene		-	ug/kg		12 U	ug/kg	12	11 U	ug/kg	11	11 U	ug/kg	11
Bromoform		-	ug/kg		12 U	ug/kg	12	11 U	ug/kg	11	11 U	ug/kg	11
4-Methyl-2-pentanone		-	ug/kg		12 U	ug/kg	12	11 U	ug/kg	11	11 U	ug/kg	11
2-Hexanone		-	ug/kg		12 U	ug/kg	12	11 U	ug/kg	11	11 U	ug/kg	11
Tetrachloroethene		-	ug/kg		12 U	ug/kg	12	11 U	ug/kg	11	11 U	ug/kg	11
Toluene		-	ug/kg		12 U	ug/kg	12	11 U	ug/kg	11	11 U	ug/kg	11
1,1,2,2-Tetrachloroethane		-	ug/kg		12 U	ug/kg	12	11 U	ug/kg	11	11 U	ug/kg	11
Chlorobenzene		-	ug/kg		12 U	ug/kg	12	11 U	ug/kg	11	11 U	ug/kg	11
Ethylbenzene		-	ug/kg		12 U	ug/kg	12	11 U	ug/kg	11	11 U	ug/kg	11
Styrene		-	ug/kg		12 U	ug/kg	12	11 U	ug/kg	11	11 U	ug/kg	11
Xylenes (total)		-	ug/kg		12 U	ug/kg	12	11 U	ug/kg	11	11 U	ug/kg	11
CLP SEMIVOLATILES 90-SOW	ug/kg												
Phenol		370 UJ	ug/kg	370	410 U	ug/kg	410	360 U	ug/kg	360	360 U	ug/kg	360
bis(2-Chloroethyl) ether		370 UJ	ug/kg	370	410 U	ug/kg	410	360 U	ug/kg	360	360 U	ug/kg	360
2-Chlorophenol		370 UJ	ug/kg	370	410 U	ug/kg	410	360 U	ug/kg	360	360 U	ug/kg	360
1,3-Dichlorobenzene		370 UJ	ug/kg	370	410 U	ug/kg	410	360 U	ug/kg	360	360 U	ug/kg	360
1,4-Dichlorobenzene		370 UJ	ug/kg	370	410 U	ug/kg	410	360 U	ug/kg	360	360 U	ug/kg	360

Naval Air Station Whiting Field, Milton, Florida
Site 15 Surface Soil Data

Lab Sample Number:	G8913017RE				G8914014				G8914013				G8914011			
Site	WHITING				WHITING				WHITING				WHITING			
Locator	15S00901RE				15S01001				15S01101				15S01201			
Collect Date:	11-DEC-95				10-DEC-95				10-DEC-95				10-DEC-95			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
1,2-Dichlorobenzene	370	UJ	ug/kg	370	410	U	ug/kg	410	360	U	ug/kg	360	360	U	ug/kg	360
2-Methylphenol	370	UJ	ug/kg	370	410	U	ug/kg	410	360	U	ug/kg	360	360	U	ug/kg	360
2,2-oxybis(1-Chloropropane)	370	UJ	ug/kg	370	410	U	ug/kg	410	360	U	ug/kg	360	360	U	ug/kg	360
4-Methylphenol	370	UJ	ug/kg	370	410	U	ug/kg	410	360	U	ug/kg	360	360	U	ug/kg	360
N-Nitroso-di-n-propylamine	370	UJ	ug/kg	370	410	U	ug/kg	410	360	U	ug/kg	360	360	U	ug/kg	360
Hexachloroethane	370	UJ	ug/kg	370	410	U	ug/kg	410	360	U	ug/kg	360	360	U	ug/kg	360
Nitrobenzene	370	UJ	ug/kg	370	410	U	ug/kg	410	360	U	ug/kg	360	360	U	ug/kg	360
Isophorone	370	UJ	ug/kg	370	410	U	ug/kg	410	360	U	ug/kg	360	360	U	ug/kg	360
2-Nitrophenol	370	UJ	ug/kg	370	410	U	ug/kg	410	360	U	ug/kg	360	360	U	ug/kg	360
2,4-Dimethylphenol	370	UJ	ug/kg	370	410	U	ug/kg	410	360	U	ug/kg	360	360	U	ug/kg	360
bis(2-Chloroethoxy) methane	370	UJ	ug/kg	370	410	U	ug/kg	410	360	U	ug/kg	360	360	U	ug/kg	360
2,4-Dichlorophenol	370	UJ	ug/kg	370	410	U	ug/kg	410	360	U	ug/kg	360	360	U	ug/kg	360
1,2,4-Trichlorobenzene	370	UJ	ug/kg	370	410	U	ug/kg	410	360	U	ug/kg	360	360	U	ug/kg	360
Naphthalene	370	UJ	ug/kg	370	410	U	ug/kg	410	360	U	ug/kg	360	360	U	ug/kg	360
4-Chloroaniline	370	UJ	ug/kg	370	410	U	ug/kg	410	360	U	ug/kg	360	360	U	ug/kg	360
Hexachlorobutadiene	370	UJ	ug/kg	370	410	U	ug/kg	410	360	U	ug/kg	360	360	U	ug/kg	360
4-Chloro-3-methylphenol	370	UJ	ug/kg	370	410	U	ug/kg	410	360	U	ug/kg	360	360	U	ug/kg	360
2-Methylnaphthalene	370	UJ	ug/kg	370	410	U	ug/kg	410	360	U	ug/kg	360	360	U	ug/kg	360
Hexachlorocyclopentadiene	370	UJ	ug/kg	370	410	U	ug/kg	410	360	U	ug/kg	360	360	U	ug/kg	360
2,4,6-Trichlorophenol	370	UJ	ug/kg	370	410	U	ug/kg	410	360	U	ug/kg	360	360	U	ug/kg	360
2,4,5-Trichlorophenol	920	UJ	ug/kg	920	1000	U	ug/kg	1000	900	U	ug/kg	900	900	U	ug/kg	900
2-Chloronaphthalene	370	UJ	ug/kg	370	410	U	ug/kg	410	360	U	ug/kg	360	360	U	ug/kg	360
2-Nitroaniline	920	UJ	ug/kg	920	1000	U	ug/kg	1000	900	U	ug/kg	900	900	U	ug/kg	900
Dimethylphthalate	370	UJ	ug/kg	370	410	U	ug/kg	410	360	U	ug/kg	360	360	U	ug/kg	360
Acenaphthylene	370	UJ	ug/kg	370	410	U	ug/kg	410	360	U	ug/kg	360	360	U	ug/kg	360
2,6-Dinitrotoluene	370	UJ	ug/kg	370	410	U	ug/kg	410	360	U	ug/kg	360	360	U	ug/kg	360
3-Nitroaniline	920	UJ	ug/kg	920	1000	U	ug/kg	1000	900	U	ug/kg	900	900	U	ug/kg	900
Acenaphthene	370	UJ	ug/kg	370	410	U	ug/kg	410	360	U	ug/kg	360	360	U	ug/kg	360
2,4-Dinitrophenol	920	UJ	ug/kg	920	1000	U	ug/kg	1000	900	U	ug/kg	900	900	U	ug/kg	900
4-Nitrophenol	920	UJ	ug/kg	920	1000	U	ug/kg	1000	900	U	ug/kg	900	900	U	ug/kg	900
Dibenzofuran	370	UJ	ug/kg	370	410	U	ug/kg	410	360	U	ug/kg	360	360	U	ug/kg	360
2,4-Dinitrotoluene	370	UJ	ug/kg	370	410	U	ug/kg	410	360	U	ug/kg	360	360	U	ug/kg	360
Diethylphthalate	370	UJ	ug/kg	370	410	U	ug/kg	410	360	U	ug/kg	360	360	U	ug/kg	360
4-Chlorophenyl-phenylether	370	UJ	ug/kg	370	410	U	ug/kg	410	360	U	ug/kg	360	360	U	ug/kg	360
Fluorene	370	UJ	ug/kg	370	410	U	ug/kg	410	360	U	ug/kg	360	360	U	ug/kg	360
4-Nitroaniline	920	UJ	ug/kg	920	1000	U	ug/kg	1000	900	U	ug/kg	900	900	U	ug/kg	900
4,6-Dinitro-2-methylphenol	920	UJ	ug/kg	920	1000	U	ug/kg	1000	900	U	ug/kg	900	900	U	ug/kg	900
N-Nitrosodiphenylamine	370	UJ	ug/kg	370	410	U	ug/kg	410	360	U	ug/kg	360	360	U	ug/kg	360
4-Bromophenyl-phenylether	370	UJ	ug/kg	370	410	U	ug/kg	410	360	U	ug/kg	360	360	U	ug/kg	360
Hexachlorobenzene	370	UJ	ug/kg	370	410	U	ug/kg	410	360	U	ug/kg	360	360	U	ug/kg	360
Pentachlorophenol	920	UJ	ug/kg	920	1000	U	ug/kg	1000	900	U	ug/kg	900	900	U	ug/kg	900
Phenanthrene	370	UJ	ug/kg	370	410	U	ug/kg	410	360	U	ug/kg	360	360	U	ug/kg	360
Anthracene	370	UJ	ug/kg	370	410	U	ug/kg	410	360	U	ug/kg	360	360	U	ug/kg	360
Carbazole	370	UJ	ug/kg	370	410	U	ug/kg	410	360	U	ug/kg	360	360	U	ug/kg	360
Di-n-butylphthalate	370	UJ	ug/kg	370	410	U	ug/kg	410	360	U	ug/kg	360	360	U	ug/kg	360
Fluoranthene	370	UJ	ug/kg	370	410	U	ug/kg	410	360	U	ug/kg	360	360	U	ug/kg	360
Pyrene	370	UJ	ug/kg	370	410	U	ug/kg	410	360	U	ug/kg	360	360	U	ug/kg	360
Butylbenzylphthalate	370	UJ	ug/kg	370	410	U	ug/kg	410	360	U	ug/kg	360	360	U	ug/kg	360
3,3-Dichlorobenzidine	370	UJ	ug/kg	370	410	U	ug/kg	410	360	U	ug/kg	360	360	U	ug/kg	360
Benzo (a) anthracene	370	UJ	ug/kg	370	410	U	ug/kg	410	360	U	ug/kg	360	360	U	ug/kg	360
Chrysene	370	UJ	ug/kg	370	410	U	ug/kg	410	360	U	ug/kg	360	360	U	ug/kg	360
bis(2-Ethylhexyl) phthalate	370	UJ	ug/kg	370	410	U	ug/kg	410	360	U	ug/kg	360	360	U	ug/kg	360

Naval Air Station Whiting Field, Milton, Florida
Site 15 Surface Soil Data

Lab Sample Number:		G8913017RE				G8914014				G8914013				G8914011			
Site		WHITING				WHITING				WHITING				WHITING			
Locator		15S00901RE				15S01001				15S01101				15S01201			
Collect Date:		11-DEC-95				10-DEC-95				10-DEC-95				10-DEC-95			
		VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
Di-n-octylphthalate		370	UJ	ug/kg	370	410	U	ug/kg	410	360	U	ug/kg	360	360	U	ug/kg	360
Benzo (b) fluoranthene		370	UJ	ug/kg	370	410	U	ug/kg	410	360	U	ug/kg	360	360	U	ug/kg	360
Benzo (k) fluoranthene		370	UJ	ug/kg	370	410	U	ug/kg	410	360	U	ug/kg	360	360	U	ug/kg	360
Benzo (a) pyrene		370	UJ	ug/kg	370	410	U	ug/kg	410	360	U	ug/kg	360	360	U	ug/kg	360
Indeno (1,2,3-cd) pyrene		370	UJ	ug/kg	370	410	U	ug/kg	410	360	U	ug/kg	360	360	U	ug/kg	360
Dibenzo (a,h) anthracene		370	UJ	ug/kg	370	410	U	ug/kg	410	360	U	ug/kg	360	360	U	ug/kg	360
Benzo (g,h,i) perylene		370	UJ	ug/kg	370	410	U	ug/kg	410	360	U	ug/kg	360	360	U	ug/kg	360
CLP PESTICIDES/PCBS 90-SOW	ug/kg																
alpha-BHC		-		ug/kg		2.1	UJ	ug/kg	2.1	1.8	UJ	ug/kg	1.8	1.8	UJ	ug/kg	1.8
beta-BHC		-		ug/kg		2.1	U	ug/kg	2.1	1.8	U	ug/kg	1.8	1.8	U	ug/kg	1.8
delta-BHC		-		ug/kg		2.1	U	ug/kg	2.1	1.8	U	ug/kg	1.8	1.8	U	ug/kg	1.8
gamma-BHC (Lindane)		-		ug/kg		2.1	U	ug/kg	2.1	1.8	U	ug/kg	1.8	1.8	U	ug/kg	1.8
Heptachlor		-		ug/kg		2.1	U	ug/kg	2.1	1.8	U	ug/kg	1.8	1.8	U	ug/kg	1.8
Aldrin		-		ug/kg		2.1	U	ug/kg	2.1	1.8	U	ug/kg	1.8	1.8	U	ug/kg	1.8
Heptachlor epoxide		-		ug/kg		2.1	U	ug/kg	2.1	1.8	U	ug/kg	1.8	1.8	U	ug/kg	1.8
Endosulfan I		-		ug/kg		2.1	U	ug/kg	2.1	1.8	U	ug/kg	1.8	1.8	U	ug/kg	1.8
Dieldrin		-		ug/kg		4	U	ug/kg	4	3.5	U	ug/kg	3.5	3.6	U	ug/kg	3.6
4,4-DDE		-		ug/kg		3.1	J	ug/kg	4	50		ug/kg	4	3.6	U	ug/kg	3.6
Endrin		-		ug/kg		4	U	ug/kg	4	3.5	U	ug/kg	3.5	3.6	U	ug/kg	3.6
Endosulfan II		-		ug/kg		4	U	ug/kg	4	3.5	U	ug/kg	3.5	3.6	U	ug/kg	3.6
4,4-DDD		-		ug/kg		4	U	ug/kg	4	3.8		ug/kg	4	3.6	U	ug/kg	3.6
Endosulfan sulfate		-		ug/kg		4	U	ug/kg	4	3.5	U	ug/kg	3.5	3.6	U	ug/kg	3.6
4,4-DDT		-		ug/kg		4	U	ug/kg	4	14		ug/kg	4	3.6	U	ug/kg	3.6
Methoxychlor		-		ug/kg		21	U	ug/kg	21	18	U	ug/kg	18	18	U	ug/kg	18
Endrin ketone		-		ug/kg		4	U	ug/kg	4	3.5	U	ug/kg	3.5	3.6	U	ug/kg	3.6
Endrin aldehyde		-		ug/kg		4	U	ug/kg	4	3.5	U	ug/kg	3.5	3.6	U	ug/kg	3.6
alpha-Chlordane		-		ug/kg		2.1	U	ug/kg	2.1	1.8	U	ug/kg	1.8	1.8	U	ug/kg	1.8
gamma-Chlordane		-		ug/kg		2.1	U	ug/kg	2.1	1.8	U	ug/kg	1.8	1.8	U	ug/kg	1.8
Toxaphene		-		ug/kg		210	U	ug/kg	210	180	U	ug/kg	180	180	U	ug/kg	180
Aroclor-1016		-		ug/kg		40	U	ug/kg	40	35	U	ug/kg	35	36	U	ug/kg	36
Aroclor-1221		-		ug/kg		82	U	ug/kg	82	72	U	ug/kg	72	73	U	ug/kg	73
Aroclor-1232		-		ug/kg		40	U	ug/kg	40	35	U	ug/kg	35	36	U	ug/kg	36
Aroclor-1242		-		ug/kg		40	U	ug/kg	40	35	U	ug/kg	35	36	U	ug/kg	36
Aroclor-1248		-		ug/kg		40	U	ug/kg	40	35	U	ug/kg	35	36	U	ug/kg	36
Aroclor-1254		-		ug/kg		40	U	ug/kg	40	35	U	ug/kg	35	36	U	ug/kg	36
Aroclor-1260		-		ug/kg		40	U	ug/kg	40	35	U	ug/kg	35	36	U	ug/kg	36
CLP METALS AND CYANIDE	mg/kg																
Aluminum		-		mg/kg		5810		mg/kg	40	5060		mg/kg	40	4190		mg/kg	40
Antimony		-		mg/kg		12	UJ	mg/kg	12	12	UJ	mg/kg	12	12	UJ	mg/kg	12
Arsenic		-		mg/kg		1.5	J	mg/kg	2	.75	J	mg/kg	2	.84	J	mg/kg	2
Barium		-		mg/kg		6.5	J	mg/kg	40	7.4	J	mg/kg	40	11.4	J	mg/kg	40
Beryllium		-		mg/kg		1	UJ	mg/kg	1	1	UJ	mg/kg	1	1	UJ	mg/kg	1
Cadmium		-		mg/kg		1	U	mg/kg	1	1	U	mg/kg	1	1	U	mg/kg	1
Calcium		-		mg/kg		1000	UJ	mg/kg	1000	1000	UJ	mg/kg	1000	115	J	mg/kg	1000
Chromium		-		mg/kg		5.2		mg/kg	2	3.7		mg/kg	2	4.7		mg/kg	2
Cobalt		-		mg/kg		10	U	mg/kg	10	10	U	mg/kg	10	.57	J	mg/kg	10
Copper		-		mg/kg		5	UJ	mg/kg	5	5	UJ	mg/kg	5	7.1		mg/kg	5
Iron		-		mg/kg		3440		mg/kg	20	2780		mg/kg	20	2500		mg/kg	20
Lead		-		mg/kg		4.7		mg/kg	.6	3		mg/kg	.6	13.8		mg/kg	.6
Magnesium		-		mg/kg		85.7	J	mg/kg	1000	94.4	J	mg/kg	1000	99	J	mg/kg	1000

Naval Air Station Whiting Field, Milton, Florida
Site 15 Surface Soil Data

Lab Sample Number:	G8913017RE				G8914014				G8914013				G8914011			
Site	WHITING				WHITING				WHITING				WHITING			
Locator	15S00901RE				15S01001				15S01101				15S01201			
Collect Date:	11-DEC-95				10-DEC-95				10-DEC-95				10-DEC-95			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
Manganese	-		mg/kg		10.9		mg/kg	3	52.4		mg/kg	3	55.3		mg/kg	3
Mercury	-		mg/kg		.01	J	mg/kg	.1	.02	J	mg/kg	.1	.19		mg/kg	.1
Nickel	-		mg/kg		8	U	mg/kg	8	8	UJ	mg/kg	8	8	U	mg/kg	8
Potassium	-		mg/kg		1000	U	mg/kg	1000	1000	U	mg/kg	1000	1000	U	mg/kg	1000
Selenium	-		mg/kg		1	UJ	mg/kg	1	1	UJ	mg/kg	1	1	UJ	mg/kg	1
Silver	-		mg/kg		2	U	mg/kg	2	2	U	mg/kg	2	2	J	mg/kg	2
Sodium	-		mg/kg		1000	UJ	mg/kg	1000	1000	UJ	mg/kg	1000	1000	UJ	mg/kg	1000
Thallium	-		mg/kg		2	UJ	mg/kg	2	2	UJ	mg/kg	2	2	UJ	mg/kg	2
Vanadium	-		mg/kg		8.6	J	mg/kg	10	6.8	J	mg/kg	10	5.6	J	mg/kg	10
Zinc	-		mg/kg		3.3	J	mg/kg	4	3.2	J	mg/kg	4	15.9		mg/kg	4
Cyanide	-		mg/kg		.5	U	mg/kg	.5	.5	U	mg/kg	.5	.5	U	mg/kg	.5
Total organic carbon	-		mg/kg		-		mg/kg		-		mg/kg		-		mg/kg	
Total petroleum hydrocarbons	-		mg/kg		-		mg/kg		-		mg/kg		-		mg/kg	

Naval Air Station Whiting Field, Milton, Florida
Site 15 Surface Soil Data

Lab Sample Number:		G8913011				G8913010				G8913009				G8913012		
Site		WHITING				WHITING				WHITING				WHITING		
Locator		15S01301				15S01401				15S01501				15S01601		
Collect Date:		09-DEC-95				09-DEC-95				09-DEC-95				09-DEC-95		
		VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
CLP VOLATILES 90-SOW	ug/kg																
Chloromethane		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	-		ug/kg	
Bromomethane		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	-		ug/kg	
Vinyl chloride		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	-		ug/kg	
Chloroethane		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	-		ug/kg	
Methylene chloride		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	-		ug/kg	
Acetone		11	U	ug/kg	11	11	U	ug/kg	11	13	U	ug/kg	13	-		ug/kg	
Carbon disulfide		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	-		ug/kg	
1,1-Dichloroethene		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	-		ug/kg	
1,1-Dichloroethane		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	-		ug/kg	
1,2-Dichloroethene (total)		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	-		ug/kg	
Chloroform		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	-		ug/kg	
1,2-Dichloroethane		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	-		ug/kg	
2-Butanone		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	-		ug/kg	
1,1,1-Trichloroethane		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	-		ug/kg	
Carbon tetrachloride		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	-		ug/kg	
Bromodichloromethane		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	-		ug/kg	
1,2-Dichloropropane		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	-		ug/kg	
cis-1,3-Dichloropropene		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	-		ug/kg	
Trichloroethene		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	-		ug/kg	
Dibromochloromethane		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	-		ug/kg	
1,1,2-Trichloroethane		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	-		ug/kg	
Benzene		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	-		ug/kg	
trans-1,3-Dichloropropene		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	-		ug/kg	
Bromoform		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	-		ug/kg	
4-Methyl-2-pentanone		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	-		ug/kg	
2-Hexanone		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	-		ug/kg	
Tetrachloroethene		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	-		ug/kg	
Toluene		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	-		ug/kg	
1,1,2,2-Tetrachloroethane		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	-		ug/kg	
Chlorobenzene		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	-		ug/kg	
Ethylbenzene		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	-		ug/kg	
Styrene		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	-		ug/kg	
Xylenes (total)		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	-		ug/kg	
CLP SEMIVOLATILES 90-SOW	ug/kg																
Phenol		370	U	ug/kg	370	360	U	ug/kg	360	380	U	ug/kg	380	-		ug/kg	
bis(2-Chloroethyl) ether		370	U	ug/kg	370	360	U	ug/kg	360	380	U	ug/kg	380	-		ug/kg	
2-Chlorophenol		370	U	ug/kg	370	360	U	ug/kg	360	380	U	ug/kg	380	-		ug/kg	
1,3-Dichlorobenzene		370	U	ug/kg	370	360	U	ug/kg	360	380	U	ug/kg	380	-		ug/kg	
1,4-Dichlorobenzene		370	U	ug/kg	370	360	U	ug/kg	360	380	U	ug/kg	380	-		ug/kg	

Naval Air Station Whiting Field, Milton, Florida
Site 15 Surface Soil Data

Lab Sample Number:	G8913011				G8913010				G8913009				G8913012			
Site	WHITING				WHITING				WHITING				WHITING			
Locator	15S01301				15S01401				15S01501				15S01601			
Collect Date:	09-DEC-95				09-DEC-95				09-DEC-95				09-DEC-95			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
1,2-Dichlorobenzene	370	U	ug/kg	370	360	U	ug/kg	360	380	U	ug/kg	380	-		ug/kg	
2-Methylphenol	370	U	ug/kg	370	360	U	ug/kg	360	380	U	ug/kg	380	-		ug/kg	
2,2-oxybis(1-Chloropropane)	370	U	ug/kg	370	360	U	ug/kg	360	380	U	ug/kg	380	-		ug/kg	
4-Methylphenol	370	U	ug/kg	370	360	U	ug/kg	360	380	U	ug/kg	380	-		ug/kg	
N-Nitroso-di-n-propylamine	370	U	ug/kg	370	360	U	ug/kg	360	380	U	ug/kg	380	-		ug/kg	
Hexachloroethane	370	U	ug/kg	370	360	U	ug/kg	360	380	U	ug/kg	380	-		ug/kg	
Nitrobenzene	370	U	ug/kg	370	360	U	ug/kg	360	380	U	ug/kg	380	-		ug/kg	
Isophorone	370	U	ug/kg	370	360	U	ug/kg	360	380	U	ug/kg	380	-		ug/kg	
2-Nitrophenol	370	U	ug/kg	370	360	U	ug/kg	360	380	U	ug/kg	380	-		ug/kg	
2,4-Dimethylphenol	370	U	ug/kg	370	360	U	ug/kg	360	380	U	ug/kg	380	-		ug/kg	
bis(2-Chloroethoxy) methane	370	U	ug/kg	370	360	U	ug/kg	360	380	U	ug/kg	380	-		ug/kg	
2,4-Dichlorophenol	370	U	ug/kg	370	360	U	ug/kg	360	380	U	ug/kg	380	-		ug/kg	
1,2,4-Trichlorobenzene	370	U	ug/kg	370	360	U	ug/kg	360	380	U	ug/kg	380	-		ug/kg	
Naphthalene	370	U	ug/kg	370	360	U	ug/kg	360	380	U	ug/kg	380	-		ug/kg	
4-Chloroaniline	370	U	ug/kg	370	360	U	ug/kg	360	380	U	ug/kg	380	-		ug/kg	
Hexachlorobutadiene	370	U	ug/kg	370	360	U	ug/kg	360	380	U	ug/kg	380	-		ug/kg	
4-Chloro-3-methylphenol	370	U	ug/kg	370	360	U	ug/kg	360	380	U	ug/kg	380	-		ug/kg	
2-Methylnaphthalene	370	U	ug/kg	370	360	U	ug/kg	360	380	U	ug/kg	380	-		ug/kg	
Hexachlorocyclopentadiene	370	U	ug/kg	370	360	U	ug/kg	360	380	U	ug/kg	380	-		ug/kg	
2,4,6-Trichlorophenol	370	U	ug/kg	370	360	U	ug/kg	360	380	U	ug/kg	380	-		ug/kg	
2,4,5-Trichlorophenol	920	U	ug/kg	920	900	U	ug/kg	900	950	U	ug/kg	950	-		ug/kg	
2-Chloronaphthalene	370	U	ug/kg	370	360	U	ug/kg	360	380	U	ug/kg	380	-		ug/kg	
2-Nitroaniline	920	U	ug/kg	920	900	U	ug/kg	900	950	U	ug/kg	950	-		ug/kg	
Dimethylphthalate	370	U	ug/kg	370	360	U	ug/kg	360	380	U	ug/kg	380	-		ug/kg	
Acenaphthylene	370	U	ug/kg	370	360	U	ug/kg	360	380	U	ug/kg	380	-		ug/kg	
2,6-Dinitrotoluene	370	U	ug/kg	370	360	U	ug/kg	360	380	U	ug/kg	380	-		ug/kg	
3-Nitroaniline	920	U	ug/kg	920	900	U	ug/kg	900	950	U	ug/kg	950	-		ug/kg	
Acenaphthene	370	U	ug/kg	370	360	U	ug/kg	360	380	U	ug/kg	380	-		ug/kg	
2,4-Dinitrophenol	920	U	ug/kg	920	900	U	ug/kg	900	950	U	ug/kg	950	-		ug/kg	
4-Nitrophenol	920	U	ug/kg	920	900	U	ug/kg	900	950	U	ug/kg	950	-		ug/kg	
Dibenzofuran	370	U	ug/kg	370	360	U	ug/kg	360	380	U	ug/kg	380	-		ug/kg	
2,4-Dinitrotoluene	370	U	ug/kg	370	360	U	ug/kg	360	380	U	ug/kg	380	-		ug/kg	
Diethylphthalate	370	U	ug/kg	370	360	U	ug/kg	360	380	U	ug/kg	380	-		ug/kg	
4-Chlorophenyl-phenylether	370	U	ug/kg	370	360	U	ug/kg	360	380	U	ug/kg	380	-		ug/kg	
Fluorene	370	U	ug/kg	370	360	U	ug/kg	360	380	U	ug/kg	380	-		ug/kg	
4-Nitroaniline	920	U	ug/kg	920	900	U	ug/kg	900	950	U	ug/kg	950	-		ug/kg	
4,6-Dinitro-2-methylphenol	920	U	ug/kg	920	900	U	ug/kg	900	950	U	ug/kg	950	-		ug/kg	
N-Nitrosodiphenylamine	370	U	ug/kg	370	360	U	ug/kg	360	380	U	ug/kg	380	-		ug/kg	
4-Bromophenyl-phenylether	370	U	ug/kg	370	360	U	ug/kg	360	380	U	ug/kg	380	-		ug/kg	
Hexachlorobenzene	370	U	ug/kg	370	360	U	ug/kg	360	380	U	ug/kg	380	-		ug/kg	
Pentachlorophenol	920	U	ug/kg	920	900	U	ug/kg	900	950	U	ug/kg	950	-		ug/kg	
Phenanthrene	370	U	ug/kg	370	360	U	ug/kg	360	380	U	ug/kg	380	-		ug/kg	
Anthracene	370	U	ug/kg	370	360	U	ug/kg	360	380	U	ug/kg	380	-		ug/kg	
Carbazole	370	U	ug/kg	370	360	U	ug/kg	360	380	U	ug/kg	380	-		ug/kg	
Di-n-butylphthalate	370	U	ug/kg	370	360	U	ug/kg	360	380	U	ug/kg	380	-		ug/kg	
Fluoranthene	370	U	ug/kg	370	360	U	ug/kg	360	380	U	ug/kg	380	-		ug/kg	
Pyrene	370	U	ug/kg	370	360	U	ug/kg	360	380	U	ug/kg	380	-		ug/kg	
Butylbenzylphthalate	370	U	ug/kg	370	360	U	ug/kg	360	380	U	ug/kg	380	-		ug/kg	
3,3-Dichlorobenzidine	370	U	ug/kg	370	360	U	ug/kg	360	380	U	ug/kg	380	-		ug/kg	
Benzo (a) anthracene	370	U	ug/kg	370	360	U	ug/kg	360	380	U	ug/kg	380	-		ug/kg	
Chrysene	370	U	ug/kg	370	360	U	ug/kg	360	380	U	ug/kg	380	-		ug/kg	
bis(2-Ethylhexyl) phthalate	370	U	ug/kg	370	170	J	ug/kg	360	380	U	ug/kg	380	-		ug/kg	

Naval Air Station Whiting Field, Milton, Florida
Site 15 Surface Soil Data

Lab Sample Number:		G8913011				G8913010				G8913009				G8913012			
Site		WHITING				WHITING				WHITING				WHITING			
Locator		15S01301				15S01401				15S01501				15S01601			
Collect Date:		09-DEC-95				09-DEC-95				09-DEC-95				09-DEC-95			
		VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
Di-n-octylphthalate		370	U	ug/kg	370	360	U	ug/kg	360	380	U	ug/kg	380	-		ug/kg	
Benzo (b) fluoranthene		370	U	ug/kg	370	360	U	ug/kg	360	380	U	ug/kg	380	-		ug/kg	
Benzo (k) fluoranthene		370	U	ug/kg	370	360	U	ug/kg	360	380	U	ug/kg	380	-		ug/kg	
Benzo (a) pyrene		370	U	ug/kg	370	360	U	ug/kg	360	380	U	ug/kg	380	-		ug/kg	
Indeno (1,2,3-cd) pyrene		370	U	ug/kg	370	360	U	ug/kg	360	380	U	ug/kg	380	-		ug/kg	
Dibenzo (a,h) anthracene		370	U	ug/kg	370	360	U	ug/kg	360	380	U	ug/kg	380	-		ug/kg	
Benzo (g,h,i) perylene		370	U	ug/kg	370	360	U	ug/kg	360	380	U	ug/kg	380	-		ug/kg	
CLP PESTICIDES/PCBS 90-SOW	ug/kg																
alpha-BHC		1.8	UJ	ug/kg	1.8	1.8	UJ	ug/kg	1.8	1.9	UJ	ug/kg	1.9	-		ug/kg	
beta-BHC		1.8	U	ug/kg	1.8	1.8	U	ug/kg	1.8	1.9	U	ug/kg	1.9	-		ug/kg	
delta-BHC		1.8	U	ug/kg	1.8	1.8	U	ug/kg	1.8	1.9	U	ug/kg	1.9	-		ug/kg	
gamma-BHC (Lindane)		1.8	U	ug/kg	1.8	1.8	U	ug/kg	1.8	1.9	U	ug/kg	1.9	-		ug/kg	
Heptachlor		1.8	U	ug/kg	1.8	1.8	U	ug/kg	1.8	1.9	U	ug/kg	1.9	-		ug/kg	
Aldrin		1.8	U	ug/kg	1.8	1.8	U	ug/kg	1.8	1.9	U	ug/kg	1.9	-		ug/kg	
Heptachlor epoxide		1.8	U	ug/kg	1.8	1.8	U	ug/kg	1.8	1.9	U	ug/kg	1.9	-		ug/kg	
Endosulfan I		1.8	U	ug/kg	1.8	1.8	U	ug/kg	1.8	1.9	U	ug/kg	1.9	-		ug/kg	
Dieldrin		3.6	U	ug/kg	3.6	3.6	U	ug/kg	3.6	3.7	U	ug/kg	3.7	-		ug/kg	
4,4-DDE		3.6	U	ug/kg	3.6	3.6	U	ug/kg	3.6	3.7	U	ug/kg	3.7	-		ug/kg	
Endrin		3.6	U	ug/kg	3.6	3.6	U	ug/kg	3.6	3.7	U	ug/kg	3.7	-		ug/kg	
Endosulfan II		3.6	U	ug/kg	3.6	3.6	U	ug/kg	3.6	3.7	U	ug/kg	3.7	-		ug/kg	
4,4-DDD		3.6	U	ug/kg	3.6	3.6	U	ug/kg	3.6	3.7	U	ug/kg	3.7	-		ug/kg	
Endosulfan sulfate		3.6	U	ug/kg	3.6	3.6	U	ug/kg	3.6	3.7	U	ug/kg	3.7	-		ug/kg	
4,4-DDT		4.4		ug/kg	4	3.6	U	ug/kg	3.6	3.7	U	ug/kg	3.7	-		ug/kg	
Methoxychlor		18	U	ug/kg	18	18	U	ug/kg	18	19	U	ug/kg	19	-		ug/kg	
Endrin ketone		3.6	U	ug/kg	3.6	3.6	U	ug/kg	3.6	3.7	U	ug/kg	3.7	-		ug/kg	
Endrin aldehyde		3.6	U	ug/kg	3.6	3.6	U	ug/kg	3.6	3.7	U	ug/kg	3.7	-		ug/kg	
alpha-Chlordane		1.8	U	ug/kg	1.8	1.8	U	ug/kg	1.8	1.9	U	ug/kg	1.9	-		ug/kg	
gamma-Chlordane		1.8	U	ug/kg	1.8	1.8	U	ug/kg	1.8	1.9	U	ug/kg	1.9	-		ug/kg	
Toxaphene		180	U	ug/kg	180	180	U	ug/kg	180	190	U	ug/kg	190	-		ug/kg	
Aroclor-1016		36	U	ug/kg	36	36	U	ug/kg	36	37	U	ug/kg	37	-		ug/kg	
Aroclor-1221		73	U	ug/kg	73	73	U	ug/kg	73	76	U	ug/kg	76	-		ug/kg	
Aroclor-1232		36	U	ug/kg	36	36	U	ug/kg	36	37	U	ug/kg	37	-		ug/kg	
Aroclor-1242		36	U	ug/kg	36	36	U	ug/kg	36	37	U	ug/kg	37	-		ug/kg	
Aroclor-1248		36	U	ug/kg	36	36	U	ug/kg	36	37	U	ug/kg	37	-		ug/kg	
Aroclor-1254		36	U	ug/kg	36	36	U	ug/kg	36	37	U	ug/kg	37	-		ug/kg	
Aroclor-1260		36	U	ug/kg	36	36	U	ug/kg	36	37	U	ug/kg	37	-		ug/kg	
CLP METALS AND CYANIDE	mg/kg																
Aluminum		5860		mg/kg	40	6220		mg/kg	40	13400		mg/kg	40	7190		mg/kg	40
Antimony		12	UJ	mg/kg	12	12	UJ	mg/kg	12	12	UJ	mg/kg	12	12	UJ	mg/kg	12
Arsenic		1.6	J	mg/kg	2	1.5	J	mg/kg	2	6.8		mg/kg	2	1.5	J	mg/kg	2
Barium		5.5	J	mg/kg	40	7	J	mg/kg	40	11.8	J	mg/kg	40	4.9	J	mg/kg	40
Beryllium		1	UJ	mg/kg	1	1	UJ	mg/kg	1	1	UJ	mg/kg	1	1	UJ	mg/kg	1
Cadmium		1	U	mg/kg	1	1	U	mg/kg	1	1	U	mg/kg	1	1	U	mg/kg	1
Calcium		29.3	J	mg/kg	1000	23.3	J	mg/kg	1000	189	J	mg/kg	1000	25.1	J	mg/kg	1000
Chromium		4.3		mg/kg	2	10.2		mg/kg	2	12.4		mg/kg	2	5.4		mg/kg	2
Cobalt		10	U	mg/kg	10	10	U	mg/kg	10	10	U	mg/kg	10	10	U	mg/kg	10
Copper		5	UJ	mg/kg	5	5	UJ	mg/kg	5	4.2	J	mg/kg	5	5	UJ	mg/kg	5
Iron		3520	J	mg/kg	20	3620	J	mg/kg	20	9790	J	mg/kg	20	4610	J	mg/kg	20
Lead		3.6		mg/kg	.6	3.2		mg/kg	.6	9.7		mg/kg	.6	3.6		mg/kg	.6
Magnesium		74.8	J	mg/kg	1000	84.2	J	mg/kg	1000	114	J	mg/kg	1000	63.6	J	mg/kg	1000

Naval Air Station Whiting Field, Milton, Florida
Site 15 Surface Soil Data

Lab Sample Number:	G8913011				G8913010				G8913009				G8913012			
Site	WHITING				WHITING				WHITING				WHITING			
Locator	15S01301				15S01401				15S01501				15S01601			
Collect Date:	09-DEC-95				09-DEC-95				09-DEC-95				09-DEC-95			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
Manganese	51.9		mg/kg	3	56.3		mg/kg	3	44.3		mg/kg	3	23.1		mg/kg	3
Mercury	.01	J	mg/kg	.1	.01	J	mg/kg	.1	.02	J	mg/kg	.1	.1	U	mg/kg	.1
Nickel	8	UJ	mg/kg	8	8	U	mg/kg	8	8	U	mg/kg	8	8	UJ	mg/kg	8
Potassium	1000	U	mg/kg	1000	1000	U	mg/kg	1000	1000	U	mg/kg	1000	1000	U	mg/kg	1000
Selenium	1	U	mg/kg	1	1	U	mg/kg	1	.41	J	mg/kg	1	1	U	mg/kg	1
Silver	2	U	mg/kg	2	2	U	mg/kg	2	2	U	mg/kg	2	2	U	mg/kg	2
Sodium	1000	UJ	mg/kg	1000	1000	UJ	mg/kg	1000	1000	UJ	mg/kg	1000	1000	UJ	mg/kg	1000
Thallium	2	UJ	mg/kg	2	2	UJ	mg/kg	2	2	UJ	mg/kg	2	2	UJ	mg/kg	2
Vanadium	8.5	J	mg/kg	10	8.6	J	mg/kg	10	26.2		mg/kg	10	11.4		mg/kg	10
Zinc	3.1	J	mg/kg	4	11.2		mg/kg	4	5.3		mg/kg	4	2.7	J	mg/kg	4
Cyanide	.5	U	mg/kg	.5	.5	U	mg/kg	.5	.09	J	mg/kg	.5	.5	U	mg/kg	.5
Total organic carbon	-		mg/kg		-		mg/kg		-		mg/kg		-		mg/kg	
Total petroleum hydrocarbons	-		mg/kg		-		mg/kg		-		mg/kg		-		mg/kg	

Naval Air Station Whiting Field, Milton, Florida
Site 15 Surface Soil Data

Lab Sample Number:		G8913012				G8913013				G8913014				G8913015			
Site		WHITING				WHITING				WHITING				WHITING			
Locator		15S01601				15S01701				15S01701D				15S01801			
Collect Date:		10-DEC-95				10-DEC-95				10-DEC-95				10-DEC-95			
		VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
CLP VOLATILES 90-SOW	ug/kg																
Chloromethane		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
Bromomethane		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
Vinyl chloride		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
Chloroethane		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
Methylene chloride		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
Acetone		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
Carbon disulfide		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
1,1-Dichloroethene		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
1,1-Dichloroethane		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
1,2-Dichloroethene (total)		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
Chloroform		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
1,2-Dichloroethane		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
2-Butanone		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
1,1,1-Trichloroethane		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
Carbon tetrachloride		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
Bromodichloromethane		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
1,2-Dichloropropane		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
cis-1,3-Dichloropropene		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
Trichloroethene		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
Dibromochloromethane		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
1,1,2-Trichloroethane		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
Benzene		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
trans-1,3-Dichloropropene		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
Bromoform		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
4-Methyl-2-pentanone		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
2-Hexanone		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
Tetrachloroethene		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
Toluene		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
1,1,2,2-Tetrachloroethane		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
Chlorobenzene		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
Ethylbenzene		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
Styrene		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
Xylenes (total)		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
CLP SEMIVOLATILES 90-SOW	ug/kg																
Phenol		360	U	ug/kg	360	380	U	ug/kg	380	380	U	ug/kg	380	360	U	ug/kg	360
bis(2-Chloroethyl) ether		360	U	ug/kg	360	380	U	ug/kg	380	380	U	ug/kg	380	360	U	ug/kg	360
2-Chlorophenol		360	U	ug/kg	360	380	U	ug/kg	380	380	U	ug/kg	380	360	U	ug/kg	360
1,3-Dichlorobenzene		360	U	ug/kg	360	380	U	ug/kg	380	380	U	ug/kg	380	360	U	ug/kg	360
1,4-Dichlorobenzene		360	U	ug/kg	360	380	U	ug/kg	380	380	U	ug/kg	380	360	U	ug/kg	360

Naval Air Station Whiting Field, Milton, Florida
Site 15 Surface Soil Data

Lab Sample Number:	G8913012				G8913013				G8913014				G8913015			
Site	WHITING				WHITING				WHITING				WHITING			
Locator	15S01601				15S01701				15S01701D				15S01801			
Collect Date:	10-DEC-95				10-DEC-95				10-DEC-95				10-DEC-95			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
1,2-Dichlorobenzene	360	U	ug/kg	360	380	U	ug/kg	380	380	U	ug/kg	380	360	U	ug/kg	360
2-Methylphenol	360	U	ug/kg	360	380	U	ug/kg	380	380	U	ug/kg	380	360	U	ug/kg	360
2,2-oxybis(1-Chloropropane)	360	U	ug/kg	360	380	U	ug/kg	380	380	U	ug/kg	380	360	U	ug/kg	360
4-Methylphenol	360	U	ug/kg	360	380	U	ug/kg	380	380	U	ug/kg	380	360	U	ug/kg	360
N-Nitroso-di-n-propylamine	360	U	ug/kg	360	380	U	ug/kg	380	380	U	ug/kg	380	360	U	ug/kg	360
Hexachloroethane	360	U	ug/kg	360	380	U	ug/kg	380	380	U	ug/kg	380	360	U	ug/kg	360
Nitrobenzene	360	U	ug/kg	360	380	U	ug/kg	380	380	U	ug/kg	380	360	U	ug/kg	360
Isophorone	360	U	ug/kg	360	380	U	ug/kg	380	380	U	ug/kg	380	360	U	ug/kg	360
2-Nitrophenol	360	U	ug/kg	360	380	U	ug/kg	380	380	U	ug/kg	380	360	U	ug/kg	360
2,4-Dimethylphenol	360	U	ug/kg	360	380	U	ug/kg	380	380	U	ug/kg	380	360	U	ug/kg	360
bis(2-Chloroethoxy) methane	360	U	ug/kg	360	380	U	ug/kg	380	380	U	ug/kg	380	360	U	ug/kg	360
2,4-Dichlorophenol	360	U	ug/kg	360	380	U	ug/kg	380	380	U	ug/kg	380	360	U	ug/kg	360
1,2,4-Trichlorobenzene	360	U	ug/kg	360	380	U	ug/kg	380	380	U	ug/kg	380	360	U	ug/kg	360
Naphthalene	360	U	ug/kg	360	380	U	ug/kg	380	380	U	ug/kg	380	360	U	ug/kg	360
4-Chloroaniline	360	U	ug/kg	360	380	U	ug/kg	380	380	U	ug/kg	380	360	U	ug/kg	360
Hexachlorobutadiene	360	U	ug/kg	360	380	U	ug/kg	380	380	U	ug/kg	380	360	U	ug/kg	360
4-Chloro-3-methylphenol	360	U	ug/kg	360	380	U	ug/kg	380	380	U	ug/kg	380	360	U	ug/kg	360
2-Methylnaphthalene	360	U	ug/kg	360	380	U	ug/kg	380	380	U	ug/kg	380	360	U	ug/kg	360
Hexachlorocyclopentadiene	360	U	ug/kg	360	380	U	ug/kg	380	380	U	ug/kg	380	360	U	ug/kg	360
2,4,6-Trichlorophenol	360	U	ug/kg	360	380	U	ug/kg	380	380	U	ug/kg	380	360	U	ug/kg	360
2,4,5-Trichlorophenol	900	U	ug/kg	900	950	U	ug/kg	950	950	U	ug/kg	950	900	U	ug/kg	900
2-Chloronaphthalene	360	U	ug/kg	360	380	U	ug/kg	380	380	U	ug/kg	380	360	U	ug/kg	360
2-Nitroaniline	900	U	ug/kg	900	950	U	ug/kg	950	950	U	ug/kg	950	900	U	ug/kg	900
Dimethylphthalate	360	U	ug/kg	360	380	U	ug/kg	380	380	U	ug/kg	380	360	U	ug/kg	360
Acenaphthylene	360	U	ug/kg	360	380	U	ug/kg	380	380	U	ug/kg	380	360	U	ug/kg	360
2,6-Dinitrotoluene	360	U	ug/kg	360	380	U	ug/kg	380	380	U	ug/kg	380	360	U	ug/kg	360
3-Nitroaniline	900	U	ug/kg	900	950	U	ug/kg	950	950	U	ug/kg	950	900	U	ug/kg	900
Acenaphthene	360	U	ug/kg	360	380	U	ug/kg	380	380	U	ug/kg	380	360	U	ug/kg	360
2,4-Dinitrophenol	900	U	ug/kg	900	950	U	ug/kg	950	950	U	ug/kg	950	900	U	ug/kg	900
4-Nitrophenol	900	U	ug/kg	900	950	U	ug/kg	950	950	U	ug/kg	950	900	U	ug/kg	900
Dibenzofuran	360	U	ug/kg	360	380	U	ug/kg	380	380	U	ug/kg	380	360	U	ug/kg	360
2,4-Dinitrotoluene	360	U	ug/kg	360	380	U	ug/kg	380	380	U	ug/kg	380	360	U	ug/kg	360
Diethylphthalate	360	U	ug/kg	360	380	U	ug/kg	380	380	U	ug/kg	380	360	U	ug/kg	360
4-Chlorophenyl-phenylether	360	U	ug/kg	360	380	U	ug/kg	380	380	U	ug/kg	380	360	U	ug/kg	360
Fluorene	360	U	ug/kg	360	380	U	ug/kg	380	380	U	ug/kg	380	360	U	ug/kg	360
4-Nitroaniline	900	U	ug/kg	900	950	U	ug/kg	950	950	U	ug/kg	950	900	U	ug/kg	900
4,6-Dinitro-2-methylphenol	900	U	ug/kg	900	950	U	ug/kg	950	950	U	ug/kg	950	900	U	ug/kg	900
N-Nitrosodiphenylamine	360	U	ug/kg	360	380	U	ug/kg	380	380	U	ug/kg	380	360	U	ug/kg	360
4-Bromophenyl-phenylether	360	U	ug/kg	360	380	U	ug/kg	380	380	U	ug/kg	380	360	U	ug/kg	360
Hexachlorobenzene	360	U	ug/kg	360	380	U	ug/kg	380	380	U	ug/kg	380	360	U	ug/kg	360
Pentachlorophenol	900	U	ug/kg	900	950	U	ug/kg	950	950	U	ug/kg	950	900	U	ug/kg	900
Phenanthrene	360	U	ug/kg	360	380	U	ug/kg	380	380	U	ug/kg	380	360	U	ug/kg	360
Anthracene	360	U	ug/kg	360	380	U	ug/kg	380	380	U	ug/kg	380	360	U	ug/kg	360
Carbazole	360	U	ug/kg	360	380	U	ug/kg	380	380	U	ug/kg	380	360	U	ug/kg	360
Di-n-butylphthalate	360	U	ug/kg	360	380	U	ug/kg	380	380	U	ug/kg	380	360	U	ug/kg	360
Fluoranthene	360	U	ug/kg	360	380	U	ug/kg	380	380	U	ug/kg	380	360	U	ug/kg	360
Pyrene	360	U	ug/kg	360	380	U	ug/kg	380	380	U	ug/kg	380	360	U	ug/kg	360
Butylbenzylphthalate	360	U	ug/kg	360	380	U	ug/kg	380	380	U	ug/kg	380	360	U	ug/kg	360
3,3-Dichlorobenzidine	360	U	ug/kg	360	380	U	ug/kg	380	380	U	ug/kg	380	360	U	ug/kg	360
Benzo (a) anthracene	360	U	ug/kg	360	380	U	ug/kg	380	380	U	ug/kg	380	360	U	ug/kg	360
Chrysene	360	U	ug/kg	360	380	U	ug/kg	380	380	U	ug/kg	380	360	U	ug/kg	360
bis(2-Ethylhexyl) phthalate	360	U	ug/kg	360	380	U	ug/kg	380	380	U	ug/kg	380	360	U	ug/kg	360

Naval Air Station Whiting Field, Milton, Florida
Site 15 Surface Soil Data

Lab Sample Number:		G8913012				G8913013				G8913014				G8913015			
Site		WHITING				WHITING				WHITING				WHITING			
Locator		15S01601				15S01701				15S01701D				15S01801			
Collect Date:		10-DEC-95				10-DEC-95				10-DEC-95				10-DEC-95			
		VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
Di-n-octylphthalate		360	U	ug/kg	360	380	U	ug/kg	380	380	U	ug/kg	380	360	U	ug/kg	360
Benzo (b) fluoranthene		360	U	ug/kg	360	380	U	ug/kg	380	380	U	ug/kg	380	360	U	ug/kg	360
Benzo (k) fluoranthene		360	U	ug/kg	360	380	U	ug/kg	380	380	U	ug/kg	380	360	U	ug/kg	360
Benzo (a) pyrene		360	U	ug/kg	360	380	U	ug/kg	380	380	U	ug/kg	380	360	U	ug/kg	360
Indeno (1,2,3-cd) pyrene		360	U	ug/kg	360	380	U	ug/kg	380	380	U	ug/kg	380	360	U	ug/kg	360
Dibenzo (a,h) anthracene		360	U	ug/kg	360	380	U	ug/kg	380	380	U	ug/kg	380	360	U	ug/kg	360
Benzo (g,h,i) perylene		360	U	ug/kg	360	380	U	ug/kg	380	380	U	ug/kg	380	360	U	ug/kg	360
CLP PESTICIDES/PCBS 90-SOW	ug/kg																
alpha-BHC		1.8	UJ	ug/kg	1.8	1.9	UJ	ug/kg	1.9	1.9	UJ	ug/kg	1.9	1.8	UJ	ug/kg	1.8
beta-BHC		1.8	U	ug/kg	1.8	1.9	U	ug/kg	1.9	1.9	U	ug/kg	1.9	1.8	U	ug/kg	1.8
delta-BHC		1.8	U	ug/kg	1.8	1.9	U	ug/kg	1.9	1.9	U	ug/kg	1.9	1.8	U	ug/kg	1.8
gamma-BHC (Lindane)		1.8	U	ug/kg	1.8	1.9	U	ug/kg	1.9	1.9	U	ug/kg	1.9	1.8	U	ug/kg	1.8
Heptachlor		1.8	U	ug/kg	1.8	1.9	U	ug/kg	1.9	1.9	U	ug/kg	1.9	1.8	U	ug/kg	1.8
Aldrin		1.8	U	ug/kg	1.8	1.9	U	ug/kg	1.9	1.9	U	ug/kg	1.9	1.8	U	ug/kg	1.8
Heptachlor epoxide		1.8	U	ug/kg	1.8	1.9	U	ug/kg	1.9	1.9	U	ug/kg	1.9	1.8	U	ug/kg	1.8
Endosulfan I		1.8	U	ug/kg	1.8	1.9	U	ug/kg	1.9	1.9	U	ug/kg	1.9	1.8	U	ug/kg	1.8
Dieldrin		3.6	U	ug/kg	3.6	3.7	U	ug/kg	3.7	3.7	U	ug/kg	3.7	3.6	U	ug/kg	3.6
4,4-DDE		3.6	U	ug/kg	3.6	3.7	U	ug/kg	3.7	3.7	U	ug/kg	3.7	3.6	U	ug/kg	3.6
Endrin		3.6	U	ug/kg	3.6	3.7	U	ug/kg	3.7	3.7	U	ug/kg	3.7	3.6	U	ug/kg	3.6
Endosulfan II		3.6	U	ug/kg	3.6	3.7	U	ug/kg	3.7	3.7	U	ug/kg	3.7	3.6	U	ug/kg	3.6
4,4-DDD		3.6	U	ug/kg	3.6	3.7	U	ug/kg	3.7	3.7	U	ug/kg	3.7	3.6	U	ug/kg	3.6
Endosulfan sulfate		3.6	U	ug/kg	3.6	3.7	U	ug/kg	3.7	3.7	U	ug/kg	3.7	3.6	U	ug/kg	3.6
4,4-DDT		3.6	U	ug/kg	3.6	3.7	U	ug/kg	3.7	3.7	U	ug/kg	3.7	3.6	U	ug/kg	3.6
Methoxychlor		18	U	ug/kg	18	19	U	ug/kg	19	19	U	ug/kg	19	18	U	ug/kg	18
Endrin ketone		3.6	U	ug/kg	3.6	3.7	U	ug/kg	3.7	3.7	U	ug/kg	3.7	3.6	U	ug/kg	3.6
Endrin aldehyde		3.6	U	ug/kg	3.6	3.7	U	ug/kg	3.7	3.7	U	ug/kg	3.7	3.6	U	ug/kg	3.6
alpha-Chlordane		1.8	U	ug/kg	1.8	1.9	U	ug/kg	1.9	1.9	U	ug/kg	1.9	1.8	U	ug/kg	1.8
gamma-Chlordane		1.8	U	ug/kg	1.8	1.9	U	ug/kg	1.9	1.9	U	ug/kg	1.9	1.8	U	ug/kg	1.8
Toxaphene		180	U	ug/kg	180	190	U	ug/kg	190	190	U	ug/kg	190	180	U	ug/kg	180
Aroclor-1016		36	U	ug/kg	36	37	U	ug/kg	37	37	U	ug/kg	37	36	U	ug/kg	36
Aroclor-1221		73	U	ug/kg	73	76	U	ug/kg	76	76	U	ug/kg	76	73	U	ug/kg	73
Aroclor-1232		36	U	ug/kg	36	37	U	ug/kg	37	37	U	ug/kg	37	36	U	ug/kg	36
Aroclor-1242		36	U	ug/kg	36	37	U	ug/kg	37	37	U	ug/kg	37	36	U	ug/kg	36
Aroclor-1248		36	U	ug/kg	36	37	U	ug/kg	37	37	U	ug/kg	37	36	U	ug/kg	36
Aroclor-1254		36	U	ug/kg	36	37	U	ug/kg	37	37	U	ug/kg	37	36	U	ug/kg	36
Aroclor-1260		36	U	ug/kg	36	37	U	ug/kg	37	37	U	ug/kg	37	36	U	ug/kg	36
CLP METALS AND CYANIDE	mg/kg																
Aluminum		-		mg/kg		13700		mg/kg	40	9290		mg/kg	40	6020		mg/kg	40
Antimony		-		mg/kg		12	UJ	mg/kg	12	12	UJ	mg/kg	12	12	UJ	mg/kg	12
Arsenic		-		mg/kg		3.7		mg/kg	2	4.3		mg/kg	2	1	J	mg/kg	2
Barium		-		mg/kg		4.4	J	mg/kg	40	3.8	J	mg/kg	40	7.7	J	mg/kg	40
Beryllium		-		mg/kg		1	UJ	mg/kg	1	1	UJ	mg/kg	1	1	UJ	mg/kg	1
Cadmium		-		mg/kg		1	U	mg/kg	1	1	U	mg/kg	1	1	U	mg/kg	1
Calcium		-		mg/kg		23.7	J	mg/kg	1000	20.4	J	mg/kg	1000	1000	UJ	mg/kg	1000
Chromium		-		mg/kg		14.8		mg/kg	2	14		mg/kg	2	3.8		mg/kg	2
Cobalt		-		mg/kg		10	U	mg/kg	10	10	U	mg/kg	10	.53	J	mg/kg	10
Copper		-		mg/kg		5	UJ	mg/kg	5	5	UJ	mg/kg	5	5	UJ	mg/kg	5
Iron		-		mg/kg		11900	J	mg/kg	20	10400	J	mg/kg	20	3040	J	mg/kg	20
Lead		-		mg/kg		4.7		mg/kg	.6	4.1		mg/kg	.6	3.9		mg/kg	.6
Magnesium		-		mg/kg		51.2	J	mg/kg	1000	41.8	J	mg/kg	1000	108	J	mg/kg	1000

Naval Air Station Whiting Field, Milton, Florida
Site 15 Surface Soil Data

Lab Sample Number:	G8913012				G8913013				G8913014				G8913015			
Site	WHITING				WHITING				WHITING				WHITING			
Locator	15S01601				15S01701				15S01701D				15S01801			
Collect Date:	10-DEC-95				10-DEC-95				10-DEC-95				10-DEC-95			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
Manganese	-		mg/kg		10.8		mg/kg	3	6.8		mg/kg	3	116		mg/kg	3
Mercury	-		mg/kg		.1	U	mg/kg	.1	.1	U	mg/kg	.1	.01	J	mg/kg	.1
Nickel	-		mg/kg		8	U	mg/kg	8	8	UJ	mg/kg	8	8	UJ	mg/kg	8
Potassium	-		mg/kg		1000	U	mg/kg	1000	1000	U	mg/kg	1000	201	J	mg/kg	1000
Selenium	-		mg/kg		1	UJ	mg/kg	1	.25	J	mg/kg	1	.24	J	mg/kg	1
Silver	-		mg/kg		2	U	mg/kg	2	2	U	mg/kg	2	2	U	mg/kg	2
Sodium	-		mg/kg		1000	UJ	mg/kg	1000	1000	UJ	mg/kg	1000	1000	UJ	mg/kg	1000
Thallium	-		mg/kg		2	UJ	mg/kg	2	2	U	mg/kg	2	2	UJ	mg/kg	2
Vanadium	-		mg/kg		35.9		mg/kg	10	31.8		mg/kg	10	7.4	J	mg/kg	10
Zinc	-		mg/kg		4	UJ	mg/kg	4	4	UJ	mg/kg	4	3.5	J	mg/kg	4
Cyanide	-		mg/kg		.5	U	mg/kg	.5	.5	U	mg/kg	.5	.5	U	mg/kg	.5
Total organic carbon	-		mg/kg		-		mg/kg		-		mg/kg		-		mg/kg	
Total petroleum hydrocarbons	-		mg/kg		-		mg/kg		-		mg/kg		-		mg/kg	

Naval Air Station Whiting Field, Milton, Florida
Site 15 Surface Soil Data

Lab Sample Number:		G8913016				G8913002				G8913003				G8913004			
Site		WHITING				WHITING				WHITING				WHITING			
Locator		15S01901				15S02001				15S02001D				15S02101			
Collect Date:		10-DEC-95				09-DEC-95				09-DEC-95				09-DEC-95			
		VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
CLP VOLATILES 90-SOW	ug/kg																
Chloromethane		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
Bromomethane		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
Vinyl chloride		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
Chloroethane		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
Methylene chloride		11	U	ug/kg	11	11	U	ug/kg	11	5	J	ug/kg	11	9		ug/kg	11
Acetone		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	J	ug/kg	11
Carbon disulfide		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
1,1-Dichloroethene		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
1,1-Dichloroethane		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
1,2-Dichloroethene (total)		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
Chloroform		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
1,2-Dichloroethane		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
2-Butanone		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
1,1,1-Trichloroethane		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
Carbon tetrachloride		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
Bromodichloromethane		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
1,2-Dichloropropane		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
cis-1,3-Dichloropropene		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
Trichloroethene		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
Dibromochloromethane		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
1,1,2-Trichloroethane		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
Benzene		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
trans-1,3-Dichloropropene		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
Bromoform		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
4-Methyl-2-pentanone		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
2-Hexanone		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
Tetrachloroethene		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
Toluene		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
1,1,2,2-Tetrachloroethane		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
Chlorobenzene		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
Ethylbenzene		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
Styrene		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
Xylenes (total)		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
CLP SEMIVOLATILES 90-SOW	ug/kg																
Phenol		370	U	ug/kg	370	360	U	ug/kg	360	360	U	ug/kg	360	370	U	ug/kg	370
bis(2-Chloroethyl) ether		370	U	ug/kg	370	360	U	ug/kg	360	360	U	ug/kg	360	370	U	ug/kg	370
2-Chlorophenol		370	U	ug/kg	370	360	U	ug/kg	360	360	U	ug/kg	360	370	U	ug/kg	370
1,3-Dichlorobenzene		370	U	ug/kg	370	360	U	ug/kg	360	360	U	ug/kg	360	370	U	ug/kg	370
1,4-Dichlorobenzene		370	U	ug/kg	370	360	U	ug/kg	360	360	U	ug/kg	360	370	U	ug/kg	370

Naval Air Station Whiting Field, Milton, Florida
Site 15 Surface Soil Data

Lab Sample Number:	G8913016				G8913002				G8913003				G8913004			
Site	WHITING				WHITING				WHITING				WHITING			
Locator	15S01901				15S02001				15S02001D				15S02101			
Collect Date:	10-DEC-95				09-DEC-95				09-DEC-95				09-DEC-95			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
1,2-Dichlorobenzene	370	U	ug/kg	370	360	U	ug/kg	360	360	U	ug/kg	360	370	U	ug/kg	370
2-Methylphenol	370	U	ug/kg	370	360	U	ug/kg	360	360	U	ug/kg	360	370	U	ug/kg	370
2,2-oxybis(1-Chloropropane)	370	U	ug/kg	370	360	U	ug/kg	360	360	U	ug/kg	360	370	U	ug/kg	370
4-Methylphenol	370	U	ug/kg	370	360	U	ug/kg	360	360	U	ug/kg	360	370	U	ug/kg	370
N-Nitroso-di-n-propylamine	370	U	ug/kg	370	360	U	ug/kg	360	360	U	ug/kg	360	370	U	ug/kg	370
Hexachloroethane	370	U	ug/kg	370	360	U	ug/kg	360	360	U	ug/kg	360	370	U	ug/kg	370
Nitrobenzene	370	U	ug/kg	370	360	U	ug/kg	360	360	U	ug/kg	360	370	U	ug/kg	370
Isophorone	370	U	ug/kg	370	360	U	ug/kg	360	360	U	ug/kg	360	370	U	ug/kg	370
2-Nitrophenol	370	U	ug/kg	370	360	U	ug/kg	360	360	U	ug/kg	360	370	U	ug/kg	370
2,4-Dimethylphenol	370	U	ug/kg	370	360	U	ug/kg	360	360	U	ug/kg	360	370	U	ug/kg	370
bis(2-Chloroethoxy) methane	370	U	ug/kg	370	360	U	ug/kg	360	360	U	ug/kg	360	370	U	ug/kg	370
2,4-Dichlorophenol	370	U	ug/kg	370	360	U	ug/kg	360	360	U	ug/kg	360	370	U	ug/kg	370
1,2,4-Trichlorobenzene	370	U	ug/kg	370	360	U	ug/kg	360	360	U	ug/kg	360	370	U	ug/kg	370
Naphthalene	370	U	ug/kg	370	360	U	ug/kg	360	360	U	ug/kg	360	370	U	ug/kg	370
4-Chloroaniline	370	U	ug/kg	370	360	U	ug/kg	360	360	U	ug/kg	360	370	U	ug/kg	370
Hexachlorobutadiene	370	U	ug/kg	370	360	U	ug/kg	360	360	U	ug/kg	360	370	U	ug/kg	370
4-Chloro-3-methylphenol	370	U	ug/kg	370	360	U	ug/kg	360	360	U	ug/kg	360	370	U	ug/kg	370
2-Methylnaphthalene	370	U	ug/kg	370	360	U	ug/kg	360	360	U	ug/kg	360	370	U	ug/kg	370
Hexachlorocyclopentadiene	370	U	ug/kg	370	360	U	ug/kg	360	360	U	ug/kg	360	370	U	ug/kg	370
2,4,6-Trichlorophenol	370	U	ug/kg	370	360	U	ug/kg	360	360	U	ug/kg	360	370	U	ug/kg	370
2,4,5-Trichlorophenol	920	U	ug/kg	920	900	U	ug/kg	900	900	U	ug/kg	900	920	U	ug/kg	920
2-Chloronaphthalene	370	U	ug/kg	370	360	U	ug/kg	360	360	U	ug/kg	360	370	U	ug/kg	370
2-Nitroaniline	920	U	ug/kg	920	900	U	ug/kg	900	900	U	ug/kg	900	920	U	ug/kg	920
Dimethylphthalate	370	U	ug/kg	370	360	U	ug/kg	360	360	U	ug/kg	360	370	U	ug/kg	370
Acenaphthylene	370	U	ug/kg	370	360	U	ug/kg	360	360	U	ug/kg	360	370	U	ug/kg	370
2,6-Dinitrotoluene	370	U	ug/kg	370	360	U	ug/kg	360	360	U	ug/kg	360	370	U	ug/kg	370
3-Nitroaniline	920	U	ug/kg	920	900	U	ug/kg	900	900	U	ug/kg	900	920	U	ug/kg	920
Acenaphthene	370	U	ug/kg	370	360	U	ug/kg	360	360	U	ug/kg	360	370	U	ug/kg	370
2,4-Dinitrophenol	920	U	ug/kg	920	900	U	ug/kg	900	900	U	ug/kg	900	920	U	ug/kg	920
4-Nitrophenol	920	U	ug/kg	920	900	U	ug/kg	900	900	U	ug/kg	900	920	U	ug/kg	920
Dibenzofuran	370	U	ug/kg	370	360	U	ug/kg	360	360	U	ug/kg	360	370	U	ug/kg	370
2,4-Dinitrotoluene	370	U	ug/kg	370	360	U	ug/kg	360	360	U	ug/kg	360	370	U	ug/kg	370
Diethylphthalate	370	U	ug/kg	370	360	U	ug/kg	360	360	U	ug/kg	360	370	U	ug/kg	370
4-Chlorophenyl-phenylether	370	U	ug/kg	370	360	U	ug/kg	360	360	U	ug/kg	360	370	U	ug/kg	370
Fluorene	370	U	ug/kg	370	360	U	ug/kg	360	360	U	ug/kg	360	370	U	ug/kg	370
4-Nitroaniline	920	U	ug/kg	920	900	U	ug/kg	900	900	U	ug/kg	900	920	U	ug/kg	920
4,6-Dinitro-2-methylphenol	920	U	ug/kg	920	900	U	ug/kg	900	900	U	ug/kg	900	920	U	ug/kg	920
N-Nitrosodiphenylamine	370	U	ug/kg	370	360	U	ug/kg	360	360	U	ug/kg	360	370	U	ug/kg	370
4-Bromophenyl-phenylether	370	U	ug/kg	370	360	U	ug/kg	360	360	U	ug/kg	360	370	U	ug/kg	370
Hexachlorobenzene	370	U	ug/kg	370	360	U	ug/kg	360	360	U	ug/kg	360	370	U	ug/kg	370
Pentachlorophenol	920	U	ug/kg	920	900	U	ug/kg	900	900	U	ug/kg	900	920	U	ug/kg	920
Phenanthrene	370	U	ug/kg	370	360	U	ug/kg	360	360	U	ug/kg	360	370	U	ug/kg	370
Anthracene	370	U	ug/kg	370	360	U	ug/kg	360	360	U	ug/kg	360	370	U	ug/kg	370
Carbazole	370	U	ug/kg	370	360	U	ug/kg	360	360	U	ug/kg	360	370	U	ug/kg	370
Di-n-butylphthalate	370	U	ug/kg	370	360	U	ug/kg	360	360	U	ug/kg	360	370	U	ug/kg	370
Fluoranthene	370	U	ug/kg	370	360	U	ug/kg	360	360	U	ug/kg	360	370	U	ug/kg	370
Pyrene	370	U	ug/kg	370	360	U	ug/kg	360	360	U	ug/kg	360	370	U	ug/kg	370
Butylbenzylphthalate	370	U	ug/kg	370	360	U	ug/kg	360	360	U	ug/kg	360	370	U	ug/kg	370
3,3-Dichlorobenzidine	370	U	ug/kg	370	360	U	ug/kg	360	360	U	ug/kg	360	370	U	ug/kg	370
Benzo (a) anthracene	370	U	ug/kg	370	360	U	ug/kg	360	360	U	ug/kg	360	370	U	ug/kg	370
Chrysene	370	U	ug/kg	370	360	U	ug/kg	360	360	U	ug/kg	360	370	U	ug/kg	370
bis(2-Ethylhexyl) phthalate	370	U	ug/kg	370	360	U	ug/kg	360	360	U	ug/kg	360	370	U	ug/kg	370

Naval Air Station Whiting Field, Milton, Florida
Site 15 Surface Soil Data

Lab Sample Number:		G8913016				G8913002				G8913003				G8913004			
Site		WHITING				WHITING				WHITING				WHITING			
Locator		15S01901				15S02001				15S02001D				15S02101			
Collect Date:		10-DEC-95				09-DEC-95				09-DEC-95				09-DEC-95			
		VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
Di-n-octylphthalate		370	U	ug/kg	370	360	U	ug/kg	360	360	U	ug/kg	360	370	U	ug/kg	370
Benzo (b) fluoranthene		370	U	ug/kg	370	360	U	ug/kg	360	360	U	ug/kg	360	370	U	ug/kg	370
Benzo (k) fluoranthene		370	U	ug/kg	370	360	U	ug/kg	360	360	U	ug/kg	360	370	U	ug/kg	370
Benzo (a) pyrene		370	U	ug/kg	370	360	U	ug/kg	360	360	U	ug/kg	360	370	U	ug/kg	370
Indeno (1,2,3-cd) pyrene		370	U	ug/kg	370	360	U	ug/kg	360	360	U	ug/kg	360	370	U	ug/kg	370
Dibenzo (a,h) anthracene		370	U	ug/kg	370	360	U	ug/kg	360	360	U	ug/kg	360	370	U	ug/kg	370
Benzo (g,h,i) perylene		370	U	ug/kg	370	360	U	ug/kg	360	360	U	ug/kg	360	370	U	ug/kg	370
CLP PESTICIDES/PCBS 90-SOW	ug/kg																
alpha-BHC		1.8	UJ	ug/kg	1.8	1.8	UJ	ug/kg	1.8	1.8	UJ	ug/kg	1.8	1.8	UJ	ug/kg	1.8
beta-BHC		1.8	U	ug/kg	1.8	1.8	U	ug/kg	1.8	1.8	U	ug/kg	1.8	1.8	U	ug/kg	1.8
delta-BHC		1.8	U	ug/kg	1.8	1.8	U	ug/kg	1.8	1.8	U	ug/kg	1.8	1.8	U	ug/kg	1.8
gamma-BHC (Lindane)		1.8	U	ug/kg	1.8	1.8	U	ug/kg	1.8	1.8	U	ug/kg	1.8	1.8	U	ug/kg	1.8
Heptachlor		1.8	U	ug/kg	1.8	1.8	U	ug/kg	1.8	1.8	U	ug/kg	1.8	1.8	U	ug/kg	1.8
Aldrin		1.8	U	ug/kg	1.8	1.8	U	ug/kg	1.8	1.8	U	ug/kg	1.8	1.8	U	ug/kg	1.8
Heptachlor epoxide		1.8	U	ug/kg	1.8	1.8	U	ug/kg	1.8	1.8	U	ug/kg	1.8	1.8	U	ug/kg	1.8
Endosulfan I		1.8	U	ug/kg	1.8	1.8	U	ug/kg	1.8	1.8	U	ug/kg	1.8	1.8	U	ug/kg	1.8
Dieldrin		3.6	U	ug/kg	3.6	3.5	U	ug/kg	3.5	3.5	U	ug/kg	3.5	3.6	U	ug/kg	3.6
4,4-DDE		3.6	U	ug/kg	3.6	3.5	U	ug/kg	3.5	3.5	U	ug/kg	3.5	1.9	J	ug/kg	4
Endrin		3.6	U	ug/kg	3.6	3.5	U	ug/kg	3.5	3.5	U	ug/kg	3.5	3.6	U	ug/kg	3.6
Endosulfan II		3.6	U	ug/kg	3.6	3.5	U	ug/kg	3.5	3.5	U	ug/kg	3.5	3.6	U	ug/kg	3.6
4,4-DDD		3.6	U	ug/kg	3.6	3.5	U	ug/kg	3.5	3.5	U	ug/kg	3.5	3.6	U	ug/kg	3.6
Endosulfan sulfate		3.6	U	ug/kg	3.6	3.5	U	ug/kg	3.5	3.5	U	ug/kg	3.5	3.6	U	ug/kg	3.6
4,4-DDT		3.6	U	ug/kg	3.6	3.5	U	ug/kg	3.5	3.5	U	ug/kg	3.5	3.6	U	ug/kg	3.6
Methoxychlor		18	U	ug/kg	18	18	U	ug/kg	18	18	U	ug/kg	18	18	U	ug/kg	18
Endrin ketone		3.6	U	ug/kg	3.6	3.5	U	ug/kg	3.5	3.5	U	ug/kg	3.5	3.6	U	ug/kg	3.6
Endrin aldehyde		3.6	U	ug/kg	3.6	3.5	U	ug/kg	3.5	3.5	U	ug/kg	3.5	3.6	U	ug/kg	3.6
alpha-Chlordane		1.8	U	ug/kg	1.8	1.8	U	ug/kg	1.8	1.8	U	ug/kg	1.8	1.8	U	ug/kg	1.8
gamma-Chlordane		1.8	U	ug/kg	1.8	1.8	U	ug/kg	1.8	1.8	U	ug/kg	1.8	1.8	U	ug/kg	1.8
Toxaphene		180	U	ug/kg	180	180	U	ug/kg	180	180	U	ug/kg	180	180	U	ug/kg	180
Aroclor-1016		36	U	ug/kg	36	35	U	ug/kg	35	35	U	ug/kg	35	36	U	ug/kg	36
Aroclor-1221		73	U	ug/kg	73	72	U	ug/kg	72	72	U	ug/kg	72	73	U	ug/kg	73
Aroclor-1232		36	U	ug/kg	36	35	U	ug/kg	35	35	U	ug/kg	35	36	U	ug/kg	36
Aroclor-1242		36	U	ug/kg	36	35	U	ug/kg	35	35	U	ug/kg	35	36	U	ug/kg	36
Aroclor-1248		36	U	ug/kg	36	35	U	ug/kg	35	35	U	ug/kg	35	36	U	ug/kg	36
Aroclor-1254		36	U	ug/kg	36	35	U	ug/kg	35	35	U	ug/kg	35	36	U	ug/kg	36
Aroclor-1260		36	U	ug/kg	36	35	U	ug/kg	35	35	U	ug/kg	35	36	U	ug/kg	36
CLP METALS AND CYANIDE	mg/kg																
Aluminum		6040		mg/kg	40	4630		mg/kg	40	5470		mg/kg	40	4050		mg/kg	40
Antimony		12	UJ	mg/kg	12	12	UJ	mg/kg	12	12	UJ	mg/kg	12	12	UJ	mg/kg	12
Arsenic		1.2	J	mg/kg	2	1.2	J	mg/kg	2	1.1	J	mg/kg	2	1.1	J	mg/kg	2
Barium		8.4	J	mg/kg	40	5.6	J	mg/kg	40	6.6	J	mg/kg	40	4.4	J	mg/kg	40
Beryllium		1	UJ	mg/kg	1	1	UJ	mg/kg	1	1	UJ	mg/kg	1	1	UJ	mg/kg	1
Cadmium		1	U	mg/kg	1	1	U	mg/kg	1	1	U	mg/kg	1	1	U	mg/kg	1
Calcium		40.3	J	mg/kg	1000	1000	UJ	mg/kg	1000	25.2	J	mg/kg	1000	1000	UJ	mg/kg	1000
Chromium		5.2		mg/kg	2	3		mg/kg	2	3.7		mg/kg	2	2.8		mg/kg	2
Cobalt		.88	J	mg/kg	10	10	U	mg/kg	10	10	U	mg/kg	10	10	U	mg/kg	10
Copper		5	UJ	mg/kg	5	5	UJ	mg/kg	5	5	UJ	mg/kg	5	5	UJ	mg/kg	5
Iron		3220	J	mg/kg	20	2500	J	mg/kg	20	2950	J	mg/kg	20	2090	J	mg/kg	20
Lead		4.2		mg/kg	.6	5.9		mg/kg	.6	5.9		mg/kg	.6	2.8		mg/kg	.6
Magnesium		99.1	J	mg/kg	1000	85	J	mg/kg	1000	107	J	mg/kg	1000	74.3	J	mg/kg	1000

Naval Air Station Whiting Field, Milton, Florida
Site 15 Surface Soil Data

Lab Sample Number:	G8913016				G8913002				G8913003				G8913004			
Site	WHITING				WHITING				WHITING				WHITING			
Locator	15S01901				15S02001				15S02001D				15S02101			
Collect Date:	10-DEC-95				09-DEC-95				09-DEC-95				09-DEC-95			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
Manganese	139		mg/kg	3	75.2		mg/kg	3	87.1		mg/kg	3	43.3		mg/kg	3
Mercury	.04	J	mg/kg	.1	.02	J	mg/kg	.1	.02	J	mg/kg	.1	.01	J	mg/kg	.1
Nickel	8	UJ	mg/kg	8	8	UJ	mg/kg	8	8	U	mg/kg	8	8	UJ	mg/kg	8
Potassium	1000	U	mg/kg	1000	1000	U	mg/kg	1000	1000	U	mg/kg	1000	146	J	mg/kg	1000
Selenium	.3	J	mg/kg	1	.26	J	mg/kg	1	1	U	mg/kg	1	1	UJ	mg/kg	1
Silver	2	U	mg/kg	2	2	U	mg/kg	2	2	U	mg/kg	2	.67	J	mg/kg	2
Sodium	1000	UJ	mg/kg	1000	1000	UJ	mg/kg	1000	1000	UJ	mg/kg	1000	1000	UJ	mg/kg	1000
Thallium	2	UJ	mg/kg	2	2	UJ	mg/kg	2	2	UJ	mg/kg	2	2	UJ	mg/kg	2
Vanadium	7.7	J	mg/kg	10	5.7	J	mg/kg	10	7.1	J	mg/kg	10	4.8	J	mg/kg	10
Zinc	3.7	J	mg/kg	4	3	J	mg/kg	4	4.1	J	mg/kg	4	2.7	J	mg/kg	4
Cyanide	.5	U	mg/kg	.5	.5	U	mg/kg	.5	.5	U	mg/kg	.5	.5	U	mg/kg	.5
Total organic carbon	-		mg/kg		-		mg/kg		-		mg/kg		-		mg/kg	
Total petroleum hydrocarbons	-		mg/kg		-		mg/kg		-		mg/kg		-		mg/kg	

Naval Air Station Whiting Field, Milton, Florida
Site 15 Surface Soil Data

Lab Sample Number:		G8913005				G8913006				G8913007				G8913008			
Site		WHITING				WHITING				WHITING				WHITING			
Locator		15S02201				15S02301				15S02401				15S02501			
Collect Date:		09-DEC-95				09-DEC-95				09-DEC-95				09-DEC-95			
		VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
CLP VOLATILES 90-SOW	ug/kg																
Chloromethane		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
Bromomethane		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
Vinyl chloride		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
Chloroethane		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
Methylene chloride		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
Acetone		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
Carbon disulfide		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
1,1-Dichloroethene		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
1,1-Dichloroethane		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
1,2-Dichloroethene (total)		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
Chloroform		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
1,2-Dichloroethane		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
2-Butanone		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
1,1,1-Trichloroethane		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
Carbon tetrachloride		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
Bromodichloromethane		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
1,2-Dichloropropane		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
cis-1,3-Dichloropropene		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
Trichloroethene		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
Dibromochloromethane		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
1,1,2-Trichloroethane		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
Benzene		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
trans-1,3-Dichloropropene		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
Bromoform		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
4-Methyl-2-pentanone		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
2-Hexanone		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
Tetrachloroethene		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
Toluene		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
1,1,2,2-Tetrachloroethane		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
Chlorobenzene		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
Ethylbenzene		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
Styrene		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
Xylenes (total)		11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11	11	U	ug/kg	11
CLP SEMIVOLATILES 90-SOW	ug/kg																
Phenol		360	U	ug/kg	360	400	U	ug/kg	400	370	U	ug/kg	370	380	U	ug/kg	380
bis(2-Chloroethyl) ether		360	U	ug/kg	360	400	U	ug/kg	400	370	U	ug/kg	370	380	U	ug/kg	380
2-Chlorophenol		360	U	ug/kg	360	400	U	ug/kg	400	370	U	ug/kg	370	380	U	ug/kg	380
1,3-Dichlorobenzene		360	U	ug/kg	360	400	U	ug/kg	400	370	U	ug/kg	370	380	U	ug/kg	380
1,4-Dichlorobenzene		360	U	ug/kg	360	400	U	ug/kg	400	370	U	ug/kg	370	380	U	ug/kg	380

Naval Air Station Whiting Field, Milton, Florida
Site 15 Surface Soil Data

Lab Sample Number:	G8913005				G8913006				G8913007				G8913008			
Site	WHITING				WHITING				WHITING				WHITING			
Locator	15S02201				15S02301				15S02401				15S02501			
Collect Date:	09-DEC-95				09-DEC-95				09-DEC-95				09-DEC-95			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
1,2-Dichlorobenzene	360	U	ug/kg	360	400	U	ug/kg	400	370	U	ug/kg	370	380	U	ug/kg	380
2-Methylphenol	360	U	ug/kg	360	400	U	ug/kg	400	370	U	ug/kg	370	380	U	ug/kg	380
2,2-oxybis(1-Chloropropane)	360	U	ug/kg	360	400	U	ug/kg	400	370	U	ug/kg	370	380	U	ug/kg	380
4-Methylphenol	360	U	ug/kg	360	400	U	ug/kg	400	370	U	ug/kg	370	380	U	ug/kg	380
N-Nitroso-di-n-propylamine	360	U	ug/kg	360	400	U	ug/kg	400	370	U	ug/kg	370	380	U	ug/kg	380
Hexachloroethane	360	U	ug/kg	360	400	U	ug/kg	400	370	U	ug/kg	370	380	U	ug/kg	380
Nitrobenzene	360	U	ug/kg	360	400	U	ug/kg	400	370	U	ug/kg	370	380	U	ug/kg	380
Isophorone	360	U	ug/kg	360	400	U	ug/kg	400	370	U	ug/kg	370	380	U	ug/kg	380
2-Nitrophenol	360	U	ug/kg	360	400	U	ug/kg	400	370	U	ug/kg	370	380	U	ug/kg	380
2,4-Dimethylphenol	360	U	ug/kg	360	400	U	ug/kg	400	370	U	ug/kg	370	380	U	ug/kg	380
bis(2-Chloroethoxy) methane	360	U	ug/kg	360	400	U	ug/kg	400	370	U	ug/kg	370	380	U	ug/kg	380
2,4-Dichlorophenol	360	U	ug/kg	360	400	U	ug/kg	400	370	U	ug/kg	370	380	U	ug/kg	380
1,2,4-Trichlorobenzene	360	U	ug/kg	360	400	U	ug/kg	400	370	U	ug/kg	370	380	U	ug/kg	380
Naphthalene	360	U	ug/kg	360	400	U	ug/kg	400	370	U	ug/kg	370	380	U	ug/kg	380
4-Chloroaniline	360	U	ug/kg	360	400	U	ug/kg	400	370	U	ug/kg	370	380	U	ug/kg	380
Hexachlorobutadiene	360	U	ug/kg	360	400	U	ug/kg	400	370	U	ug/kg	370	380	U	ug/kg	380
4-Chloro-3-methylphenol	360	U	ug/kg	360	400	U	ug/kg	400	370	U	ug/kg	370	380	U	ug/kg	380
2-Methylnaphthalene	360	U	ug/kg	360	400	U	ug/kg	400	370	U	ug/kg	370	380	U	ug/kg	380
Hexachlorocyclopentadiene	360	U	ug/kg	360	400	U	ug/kg	400	370	U	ug/kg	370	380	U	ug/kg	380
2,4,6-Trichlorophenol	360	U	ug/kg	360	400	U	ug/kg	400	370	U	ug/kg	370	380	U	ug/kg	380
2,4,5-Trichlorophenol	900	U	ug/kg	900	990	U	ug/kg	990	920	U	ug/kg	920	950	U	ug/kg	950
2-Chloronaphthalene	360	U	ug/kg	360	400	U	ug/kg	400	370	U	ug/kg	370	380	U	ug/kg	380
2-Nitroaniline	900	U	ug/kg	900	990	U	ug/kg	990	920	U	ug/kg	920	950	U	ug/kg	950
Dimethylphthalate	360	U	ug/kg	360	400	U	ug/kg	400	370	U	ug/kg	370	380	U	ug/kg	380
Acenaphthylene	360	U	ug/kg	360	400	U	ug/kg	400	370	U	ug/kg	370	380	U	ug/kg	380
2,6-Dinitrotoluene	360	U	ug/kg	360	400	U	ug/kg	400	370	U	ug/kg	370	380	U	ug/kg	380
3-Nitroaniline	900	U	ug/kg	900	990	U	ug/kg	990	920	U	ug/kg	920	950	U	ug/kg	950
Acenaphthene	360	U	ug/kg	360	400	U	ug/kg	400	370	U	ug/kg	370	380	U	ug/kg	380
2,4-Dinitrophenol	900	U	ug/kg	900	990	U	ug/kg	990	920	U	ug/kg	920	950	U	ug/kg	950
4-Nitrophenol	900	U	ug/kg	900	990	U	ug/kg	990	920	U	ug/kg	920	950	U	ug/kg	950
Dibenzofuran	360	U	ug/kg	360	400	U	ug/kg	400	370	U	ug/kg	370	380	U	ug/kg	380
2,4-Dinitrotoluene	360	U	ug/kg	360	400	U	ug/kg	400	370	U	ug/kg	370	380	U	ug/kg	380
Diethylphthalate	360	U	ug/kg	360	400	U	ug/kg	400	370	U	ug/kg	370	380	U	ug/kg	380
4-Chlorophenyl-phenylether	360	U	ug/kg	360	400	U	ug/kg	400	370	U	ug/kg	370	380	U	ug/kg	380
Fluorene	360	U	ug/kg	360	400	U	ug/kg	400	370	U	ug/kg	370	380	U	ug/kg	380
4-Nitroaniline	900	U	ug/kg	900	990	U	ug/kg	990	920	U	ug/kg	920	950	U	ug/kg	950
4,6-Dinitro-2-methylphenol	900	U	ug/kg	900	990	U	ug/kg	990	920	U	ug/kg	920	950	U	ug/kg	950
N-Nitrosodiphenylamine	360	U	ug/kg	360	400	U	ug/kg	400	370	U	ug/kg	370	380	U	ug/kg	380
4-Bromophenyl-phenylether	360	U	ug/kg	360	400	U	ug/kg	400	370	U	ug/kg	370	380	U	ug/kg	380
Hexachlorobenzene	360	U	ug/kg	360	400	U	ug/kg	400	370	U	ug/kg	370	380	U	ug/kg	380
Pentachlorophenol	900	U	ug/kg	900	990	U	ug/kg	990	920	U	ug/kg	920	950	U	ug/kg	950
Phenanthrene	360	U	ug/kg	360	400	U	ug/kg	400	370	U	ug/kg	370	380	U	ug/kg	380
Anthracene	360	U	ug/kg	360	400	U	ug/kg	400	370	U	ug/kg	370	380	U	ug/kg	380
Carbazole	360	U	ug/kg	360	400	U	ug/kg	400	370	U	ug/kg	370	380	U	ug/kg	380
Di-n-butylphthalate	360	U	ug/kg	360	400	U	ug/kg	400	370	U	ug/kg	370	380	U	ug/kg	380
Fluoranthene	360	U	ug/kg	360	400	U	ug/kg	400	370	U	ug/kg	370	380	U	ug/kg	380
Pyrene	360	U	ug/kg	360	400	U	ug/kg	400	370	U	ug/kg	370	380	U	ug/kg	380
Butylbenzylphthalate	360	U	ug/kg	360	400	U	ug/kg	400	370	U	ug/kg	370	380	U	ug/kg	380
3,3-Dichlorobenzidine	360	U	ug/kg	360	400	U	ug/kg	400	370	U	ug/kg	370	380	U	ug/kg	380
Benzo (a) anthracene	360	U	ug/kg	360	400	U	ug/kg	400	370	U	ug/kg	370	380	U	ug/kg	380
Chrysene	360	U	ug/kg	360	400	U	ug/kg	400	370	U	ug/kg	370	380	U	ug/kg	380
bis(2-Ethylhexyl) phthalate	360	U	ug/kg	360	400	U	ug/kg	400	370	U	ug/kg	370	380	U	ug/kg	380

Naval Air Station Whiting Field, Milton, Florida
Site 15 Surface Soil Data

Lab Sample Number:		G8913005				G8913006				G8913007				G8913008			
Site		WHITING				WHITING				WHITING				WHITING			
Locator		15S02201				15S02301				15S02401				15S02501			
Collect Date:		09-DEC-95				09-DEC-95				09-DEC-95				09-DEC-95			
		VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
Di-n-octylphthalate		360	U	ug/kg	360	400	U	ug/kg	400	370	U	ug/kg	370	380	U	ug/kg	380
Benzo (b) fluoranthene		360	U	ug/kg	360	400	U	ug/kg	400	370	U	ug/kg	370	380	U	ug/kg	380
Benzo (k) fluoranthene		360	U	ug/kg	360	400	U	ug/kg	400	370	U	ug/kg	370	380	U	ug/kg	380
Benzo (a) pyrene		360	U	ug/kg	360	400	U	ug/kg	400	370	U	ug/kg	370	380	U	ug/kg	380
Indeno (1,2,3-cd) pyrene		360	U	ug/kg	360	400	U	ug/kg	400	370	U	ug/kg	370	380	U	ug/kg	380
Dibenzo (a,h) anthracene		360	U	ug/kg	360	400	U	ug/kg	400	370	U	ug/kg	370	380	U	ug/kg	380
Benzo (g,h,i) perylene		360	U	ug/kg	360	400	U	ug/kg	400	370	U	ug/kg	370	380	U	ug/kg	380
CLP PESTICIDES/PCBS 90-SOW	ug/kg																
alpha-BHC		1.8	UJ	ug/kg	1.8	1.8	UJ	ug/kg	1.8	1.9	UJ	ug/kg	1.9	2	UJ	ug/kg	2
beta-BHC		1.8	U	ug/kg	1.8	1.8	U	ug/kg	1.8	1.9	U	ug/kg	1.9	2	UJ	ug/kg	2
delta-BHC		1.8	U	ug/kg	1.8	1.8	U	ug/kg	1.8	1.9	U	ug/kg	1.9	2	UJ	ug/kg	2
gamma-BHC (Lindane)		1.8	U	ug/kg	1.8	1.8	U	ug/kg	1.8	1.9	U	ug/kg	1.9	2	UJ	ug/kg	2
Heptachlor		1.8	U	ug/kg	1.8	1.8	U	ug/kg	1.8	1.9	U	ug/kg	1.9	2	UJ	ug/kg	2
Aldrin		1.8	U	ug/kg	1.8	1.8	U	ug/kg	1.8	1.9	U	ug/kg	1.9	2	UJ	ug/kg	2
Heptachlor epoxide		1.8	U	ug/kg	1.8	1.8	U	ug/kg	1.8	1.9	U	ug/kg	1.9	2	UJ	ug/kg	2
Endosulfan I		1.8	U	ug/kg	1.8	1.8	U	ug/kg	1.8	1.9	U	ug/kg	1.9	2	UJ	ug/kg	2
Dieldrin		3.6	U	ug/kg	3.6	3.6	U	ug/kg	3.6	3.7	U	ug/kg	3.7	4	UJ	ug/kg	4
4,4-DDE		3.6	U	ug/kg	3.6	3.6	U	ug/kg	3.6	3.7	U	ug/kg	3.7	4	UJ	ug/kg	4
Endrin		3.6	U	ug/kg	3.6	3.6	U	ug/kg	3.6	3.7	U	ug/kg	3.7	4	UJ	ug/kg	4
Endosulfan II		3.6	U	ug/kg	3.6	3.6	U	ug/kg	3.6	3.7	U	ug/kg	3.7	4	UJ	ug/kg	4
4,4-DDD		3.6	U	ug/kg	3.6	3.6	U	ug/kg	3.6	3.7	U	ug/kg	3.7	4	UJ	ug/kg	4
Endosulfan sulfate		3.6	U	ug/kg	3.6	3.6	U	ug/kg	3.6	3.7	U	ug/kg	3.7	4	UJ	ug/kg	4
4,4-DDT		3.6	U	ug/kg	3.6	3.6	U	ug/kg	3.6	3.7	U	ug/kg	3.7	4	UJ	ug/kg	4
Methoxychlor		18	U	ug/kg	18	18	U	ug/kg	18	19	U	ug/kg	19	20	UJ	ug/kg	20
Endrin ketone		3.6	U	ug/kg	3.6	3.6	U	ug/kg	3.6	3.7	U	ug/kg	3.7	4	UJ	ug/kg	4
Endrin aldehyde		3.6	U	ug/kg	3.6	3.6	U	ug/kg	3.6	3.7	U	ug/kg	3.7	4	UJ	ug/kg	4
alpha-Chlordane		1.8	U	ug/kg	1.8	1.8	U	ug/kg	1.8	1.9	U	ug/kg	1.9	2	UJ	ug/kg	2
gamma-Chlordane		1.8	U	ug/kg	1.8	1.8	U	ug/kg	1.8	1.9	U	ug/kg	1.9	2	UJ	ug/kg	2
Toxaphene		180	U	ug/kg	180	180	U	ug/kg	180	190	U	ug/kg	190	200	UJ	ug/kg	200
Aroclor-1016		36	U	ug/kg	36	36	U	ug/kg	36	37	U	ug/kg	37	40	UJ	ug/kg	40
Aroclor-1221		73	U	ug/kg	73	73	U	ug/kg	73	74	U	ug/kg	74	81	UJ	ug/kg	81
Aroclor-1232		36	U	ug/kg	36	36	U	ug/kg	36	37	U	ug/kg	37	40	UJ	ug/kg	40
Aroclor-1242		36	U	ug/kg	36	36	U	ug/kg	36	37	U	ug/kg	37	40	UJ	ug/kg	40
Aroclor-1248		36	U	ug/kg	36	36	U	ug/kg	36	37	U	ug/kg	37	40	UJ	ug/kg	40
Aroclor-1254		36	U	ug/kg	36	36	U	ug/kg	36	37	U	ug/kg	37	40	UJ	ug/kg	40
Aroclor-1260		36	U	ug/kg	36	36	U	ug/kg	36	37	U	ug/kg	37	40	UJ	ug/kg	40
CLP METALS AND CYANIDE	mg/kg																
Aluminum		3910		mg/kg	40	3280		mg/kg	40	5410		mg/kg	40	5420		mg/kg	40
Antimony		12	UJ	mg/kg	12	12	U	mg/kg	12	12	UJ	mg/kg	12	12	UJ	mg/kg	12
Arsenic		.85	J	mg/kg	2	.77	J	mg/kg	2	1.1	J	mg/kg	2	1.1	J	mg/kg	2
Barium		5.2	J	mg/kg	40	4.5	J	mg/kg	40	7.3	J	mg/kg	40	6.9	J	mg/kg	40
Beryllium		1	UJ	mg/kg	1	1	UJ	mg/kg	1	1	UJ	mg/kg	1	1	UJ	mg/kg	1
Cadmium		1	U	mg/kg	1	1	U	mg/kg	1	1	U	mg/kg	1	1	U	mg/kg	1
Calcium		27.3	J	mg/kg	1000	27.9	J	mg/kg	1000	36.9	J	mg/kg	1000	36.9	J	mg/kg	1000
Chromium		2.8		mg/kg	2	4.4		mg/kg	2	3.9		mg/kg	2	3.3		mg/kg	2
Cobalt		10	U	mg/kg	10	10	U	mg/kg	10	10	U	mg/kg	10	10	U	mg/kg	10
Copper		5	UJ	mg/kg	5	5	UJ	mg/kg	5	4.4	J	mg/kg	5	5	UJ	mg/kg	5
Iron		1940	J	mg/kg	20	1610	J	mg/kg	20	2620	J	mg/kg	20	2800	J	mg/kg	20
Lead		2.7		mg/kg	.6	2.3		mg/kg	.6	3.7		mg/kg	.6	6.1		mg/kg	.6
Magnesium		81.1	J	mg/kg	1000	65.7	J	mg/kg	1000	106	J	mg/kg	1000	85.7	J	mg/kg	1000

Naval Air Station Whiting Field, Milton, Florida
Site 15 Surface Soil Data

Lab Sample Number:	G8913005				G8913006				G8913007				G8913008			
Site	WHITING				WHITING				WHITING				WHITING			
Locator	15S02201				15S02301				15S02401				15S02501			
Collect Date:	09-DEC-95				09-DEC-95				09-DEC-95				09-DEC-95			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
Manganese	52.1		mg/kg	3	52.8		mg/kg	3	86.3		mg/kg	3	122		mg/kg	3
Mercury	.01	J	mg/kg	.1	.01	J	mg/kg	.1	.02	J	mg/kg	.1	.02	J	mg/kg	.1
Nickel	3.3	J	mg/kg	8	8	U	mg/kg	8	8	UJ	mg/kg	8	8	U	mg/kg	8
Potassium	1000	U	mg/kg	1000	1000	U	mg/kg	1000	1000	U	mg/kg	1000	1000	U	mg/kg	1000
Selenium	1	UJ	mg/kg	1	1	U	mg/kg	1	1	UJ	mg/kg	1	1	UJ	mg/kg	1
Silver	2	U	mg/kg	2	2	U	mg/kg	2	2	U	mg/kg	2	2	U	mg/kg	2
Sodium	1000	U	mg/kg	1000	1000	UJ	mg/kg	1000	1000	UJ	mg/kg	1000	1000	UJ	mg/kg	1000
Thallium	2	UJ	mg/kg	2	2	UJ	mg/kg	2	2	UJ	mg/kg	2	2	UJ	mg/kg	2
Vanadium	4.7	J	mg/kg	10	4.1	J	mg/kg	10	6.7	J	mg/kg	10	6.6	J	mg/kg	10
Zinc	4	UJ	mg/kg	4	2.4	J	mg/kg	4	4	J	mg/kg	4	3.6	J	mg/kg	4
Cyanide	.5	U	mg/kg	.5	.5	U	mg/kg	.5	.5	U	mg/kg	.5	.5	U	mg/kg	.5
Total organic carbon	-		mg/kg		-		mg/kg		-		mg/kg		-		mg/kg	
Total petroleum hydrocarbons	-		mg/kg		-		mg/kg		-		mg/kg		-		mg/kg	

```
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

 ####   #####  ######  #####   #    #  ######  #    #   ####
#         #    #       #    #  #    #  #       ##   #  #
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Request id: lp0-10956

Printer: lp0

Options:

Thu Nov 13 14:25:17 EST 1997

Machine: abb3

Site is subsurface soil Data.

Naval Air Station Whiting Field, Milton, Florida
Site 15 Subsurface Soil Data

Lab Sample Number:	22883001				22889004				22889004				22889005			
Site	WHITING				WHITING				WHITING				WHITING			
Locator	15SS0201				15SS0502				15SS0502				15SS0603			
Collect Date:	02-OCT-92				03-OCT-92				04-OCT-92				03-OCT-92			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
CLP VOLATILES 90-SOW ug/kg																
Chloromethane	11	U	ug/kg	11	11	U	ug/kg	11	-		ug/kg		11	U	ug/kg	11
Bromomethane	11	U	ug/kg	11	11	U	ug/kg	11	-		ug/kg		11	U	ug/kg	11
Vinyl chloride	11	U	ug/kg	11	11	U	ug/kg	11	-		ug/kg		11	U	ug/kg	11
Chloroethane	11	U	ug/kg	11	11	U	ug/kg	11	-		ug/kg		11	U	ug/kg	11
Methylene chloride	12	UJ	ug/kg	11	11	UJ	ug/kg	11	-		ug/kg		11	UJ	ug/kg	11
Acetone	87	UJ	ug/kg	11	47	UJ	ug/kg	11	-		ug/kg		11	U	ug/kg	11
Carbon disulfide	11	U	ug/kg	11	11	U	ug/kg	11	-		ug/kg		11	U	ug/kg	11
1,1-Dichloroethene	11	U	ug/kg	11	11	U	ug/kg	11	-		ug/kg		11	U	ug/kg	11
1,1-Dichloroethane	11	U	ug/kg	11	11	U	ug/kg	11	-		ug/kg		11	U	ug/kg	11
1,2-Dichloroethene (total)	11	U	ug/kg	11	11	U	ug/kg	11	-		ug/kg		11	U	ug/kg	11
Chloroform	11	U	ug/kg	11	11	U	ug/kg	11	-		ug/kg		11	U	ug/kg	11
1,2-Dichloroethane	11	U	ug/kg	11	11	U	ug/kg	11	-		ug/kg		11	U	ug/kg	11
2-Butanone	11	U	ug/kg	11	11	U	ug/kg	11	-		ug/kg		11	U	ug/kg	11
1,1,1-Trichloroethane	11	U	ug/kg	11	11	U	ug/kg	11	-		ug/kg		11	U	ug/kg	11
Carbon tetrachloride	11	U	ug/kg	11	11	U	ug/kg	11	-		ug/kg		11	U	ug/kg	11
Bromodichloromethane	11	U	ug/kg	11	11	U	ug/kg	11	-		ug/kg		11	U	ug/kg	11
1,2-Dichloropropane	11	U	ug/kg	11	11	U	ug/kg	11	-		ug/kg		11	U	ug/kg	11
cis-1,3-Dichloropropene	11	U	ug/kg	11	11	U	ug/kg	11	-		ug/kg		11	U	ug/kg	11
Trichloroethene	11	U	ug/kg	11	11	U	ug/kg	11	-		ug/kg		11	U	ug/kg	11
Dibromochloromethane	11	U	ug/kg	11	11	U	ug/kg	11	-		ug/kg		11	U	ug/kg	11
1,1,2-Trichloroethane	11	U	ug/kg	11	11	U	ug/kg	11	-		ug/kg		11	U	ug/kg	11
Benzene	11	U	ug/kg	11	11	U	ug/kg	11	-		ug/kg		11	U	ug/kg	11
trans-1,3-Dichloropropene	11	U	ug/kg	11	11	U	ug/kg	11	-		ug/kg		11	U	ug/kg	11
Bromoform	11	U	ug/kg	11	11	U	ug/kg	11	-		ug/kg		11	U	ug/kg	11
4-Methyl-2-pentanone	11	U	ug/kg	11	11	U	ug/kg	11	-		ug/kg		11	U	ug/kg	11
2-Hexanone	3	J	ug/kg	11	11	U	ug/kg	11	-		ug/kg		11	U	ug/kg	11
Tetrachloroethene	11	U	ug/kg	11	11	U	ug/kg	11	-		ug/kg		11	U	ug/kg	11
Toluene	11	U	ug/kg	11	11	U	ug/kg	11	-		ug/kg		11	U	ug/kg	11
1,1,2,2-Tetrachloroethane	11	U	ug/kg	11	11	U	ug/kg	11	-		ug/kg		11	U	ug/kg	11
Chlorobenzene	11	U	ug/kg	11	11	U	ug/kg	11	-		ug/kg		11	U	ug/kg	11
Ethylbenzene	11	U	ug/kg	11	11	U	ug/kg	11	-		ug/kg		11	U	ug/kg	11
Styrene	11	U	ug/kg	11	11	U	ug/kg	11	-		ug/kg		11	U	ug/kg	11
Xylenes (total)	4	J	ug/kg	11	11	U	ug/kg	11	-		ug/kg		5	J	ug/kg	11
CLP SEMIVOLATILES 90-SOW ug/kg																
Phenol	53	J	ug/kg	360	350	U	ug/kg	350	-		ug/kg		360	U	ug/kg	360
bis(2-Chloroethyl) ether	360	U	ug/kg	360	350	U	ug/kg	350	-		ug/kg		360	U	ug/kg	360
2-Chlorophenol	360	U	ug/kg	360	350	U	ug/kg	350	-		ug/kg		360	U	ug/kg	360
1,3-Dichlorobenzene	360	U	ug/kg	360	350	U	ug/kg	350	-		ug/kg		360	U	ug/kg	360
1,4-Dichlorobenzene	360	U	ug/kg	360	350	U	ug/kg	350	-		ug/kg		360	U	ug/kg	360
1,2-Dichlorobenzene	360	U	ug/kg	360	350	U	ug/kg	350	-		ug/kg		360	U	ug/kg	360
2-Methylphenol	360	U	ug/kg	360	350	U	ug/kg	350	-		ug/kg		360	U	ug/kg	360
2,2-oxybis(1-Chloropropane)	360	UJ	ug/kg	360	350	U	ug/kg	350	-		ug/kg		360	UJ	ug/kg	360
4-Methylphenol	42	J	ug/kg	360	350	U	ug/kg	350	-		ug/kg		77	J	ug/kg	360
N-Nitroso-di-n-propylamine	360	UJ	ug/kg	360	350	U	ug/kg	350	-		ug/kg		360	UJ	ug/kg	360
Hexachloroethane	360	U	ug/kg	360	350	U	ug/kg	350	-		ug/kg		360	U	ug/kg	360
Nitrobenzene	360	UJ	ug/kg	360	350	UJ	ug/kg	350	-		ug/kg		360	UJ	ug/kg	360
Isophorone	360	UJ	ug/kg	360	350	UJ	ug/kg	350	-		ug/kg		360	UJ	ug/kg	360
2-Nitrophenol	360	U	ug/kg	360	350	U	ug/kg	350	-		ug/kg		360	U	ug/kg	360
2,4-Dimethylphenol	360	U	ug/kg	360	350	U	ug/kg	350	-		ug/kg		360	U	ug/kg	360

Naval Air Station Whiting Field, Milton, Florida
Site 15 Subsurface Soil Data

Lab Sample Number:	22883001				22889004				22889004				22889005			
Site	WHITING				WHITING				WHITING				WHITING			
Locator	15SS0201				15SS0502				15SS0502				15SS0603			
Collect Date:	02-OCT-92				03-OCT-92				04-OCT-92				03-OCT-92			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
bis(2-Chloroethoxy) methane	360	U	ug/kg	360	350	U	ug/kg	350	-		ug/kg		360	U	ug/kg	360
2,4-Dichlorophenol	360	U	ug/kg	360	350	U	ug/kg	350	-		ug/kg		360	U	ug/kg	360
1,2,4-Trichlorobenzene	360	U	ug/kg	360	350	U	ug/kg	350	-		ug/kg		360	U	ug/kg	360
Naphthalene	360	U	ug/kg	360	350	U	ug/kg	350	-		ug/kg		140	J	ug/kg	360
4-Chloroaniline	360	U	ug/kg	360	350	U	ug/kg	350	-		ug/kg		360	U	ug/kg	360
Hexachlorobutadiene	360	U	ug/kg	360	350	U	ug/kg	350	-		ug/kg		360	U	ug/kg	360
4-Chloro-3-methylphenol	360	U	ug/kg	360	350	U	ug/kg	350	-		ug/kg		360	U	ug/kg	360
2-Methylnaphthalene	360	U	ug/kg	360	350	U	ug/kg	350	-		ug/kg		68	J	ug/kg	360
Hexachlorocyclopentadiene	360	U	ug/kg	360	350	U	ug/kg	350	-		ug/kg		360	U	ug/kg	360
2,4,6-Trichlorophenol	360	U	ug/kg	360	350	U	ug/kg	350	-		ug/kg		360	U	ug/kg	360
2,4,5-Trichlorophenol	870	U	ug/kg	870	850	U	ug/kg	850	-		ug/kg		870	U	ug/kg	870
2-Chloronaphthalene	360	U	ug/kg	360	350	U	ug/kg	350	-		ug/kg		360	U	ug/kg	360
2-Nitroaniline	870	U	ug/kg	870	850	U	ug/kg	850	-		ug/kg		870	U	ug/kg	870
Dimethylphthalate	360	U	ug/kg	360	350	U	ug/kg	350	-		ug/kg		360	U	ug/kg	360
Acenaphthylene	360	U	ug/kg	360	350	U	ug/kg	350	-		ug/kg		360	U	ug/kg	360
2,6-Dinitrotoluene	360	U	ug/kg	360	350	UJ	ug/kg	350	-		ug/kg		360	U	ug/kg	360
3-Nitroaniline	870	U	ug/kg	870	850	UJ	ug/kg	850	-		ug/kg		870	U	ug/kg	870
Acenaphthene	360	U	ug/kg	360	350	U	ug/kg	350	-		ug/kg		360	U	ug/kg	360
2,4-Dinitrophenol	870	U	ug/kg	870	850	U	ug/kg	850	-		ug/kg		870	U	ug/kg	870
4-Nitrophenol	870	U	ug/kg	870	850	U	ug/kg	850	-		ug/kg		870	U	ug/kg	870
Dibenzofuran	360	U	ug/kg	360	350	U	ug/kg	350	-		ug/kg		360	U	ug/kg	360
2,4-Dinitrotoluene	360	U	ug/kg	360	350	UJ	ug/kg	350	-		ug/kg		360	U	ug/kg	360
Diethylphthalate	41	J	ug/kg	360	350	U	ug/kg	350	-		ug/kg		360	U	ug/kg	360
4-Chlorophenyl-phenylether	360	U	ug/kg	360	350	U	ug/kg	350	-		ug/kg		360	U	ug/kg	360
Fluorene	360	U	ug/kg	360	350	U	ug/kg	350	-		ug/kg		360	U	ug/kg	360
4-Nitroaniline	870	U	ug/kg	870	850	UJ	ug/kg	850	-		ug/kg		870	U	ug/kg	870
4,6-Dinitro-2-methylphenol	870	U	ug/kg	870	850	U	ug/kg	850	-		ug/kg		870	U	ug/kg	870
N-Nitrosodiphenylamine	360	U	ug/kg	360	350	U	ug/kg	350	-		ug/kg		360	U	ug/kg	360
4-Bromophenyl-phenylether	360	U	ug/kg	360	350	U	ug/kg	350	-		ug/kg		360	U	ug/kg	360
Hexachlorobenzene	360	U	ug/kg	360	350	U	ug/kg	350	-		ug/kg		360	U	ug/kg	360
Pentachlorophenol	870	U	ug/kg	870	850	U	ug/kg	850	-		ug/kg		870	U	ug/kg	870
Phenanthrene	360	U	ug/kg	360	350	U	ug/kg	350	-		ug/kg		360	U	ug/kg	360
Anthracene	360	U	ug/kg	360	350	U	ug/kg	350	-		ug/kg		360	U	ug/kg	360
Carbazole	360	U	ug/kg	360	350	UJ	ug/kg	350	-		ug/kg		360	U	ug/kg	360
Di-n-butylphthalate	360	UJ	ug/kg	360	350	UJ	ug/kg	350	-		ug/kg		360	U	ug/kg	360
Fluoranthene	360	U	ug/kg	360	350	U	ug/kg	350	-		ug/kg		360	U	ug/kg	360
Pyrene	360	U	ug/kg	360	350	U	ug/kg	350	-		ug/kg		360	U	ug/kg	360
Butylbenzylphthalate	360	UJ	ug/kg	360	350	U	ug/kg	350	-		ug/kg		360	UJ	ug/kg	360
3,3-Dichlorobenzidine	360	U	ug/kg	360	350	U	ug/kg	350	-		ug/kg		360	U	ug/kg	360
Benzo (a) anthracene	360	U	ug/kg	360	350	U	ug/kg	350	-		ug/kg		360	U	ug/kg	360
Chrysene	360	U	ug/kg	360	350	U	ug/kg	350	-		ug/kg		360	U	ug/kg	360
bis(2-Ethylhexyl) phthalate	42	J	ug/kg	360	350	UJ	ug/kg	350	-		ug/kg		230	J	ug/kg	360
Di-n-octylphthalate	360	U	ug/kg	360	350	U	ug/kg	350	-		ug/kg		360	U	ug/kg	360
Benzo (b) fluoranthene	360	U	ug/kg	360	350	U	ug/kg	350	-		ug/kg		360	U	ug/kg	360
Benzo (k) fluoranthene	360	U	ug/kg	360	350	U	ug/kg	350	-		ug/kg		360	U	ug/kg	360
Benzo (a) pyrene	360	U	ug/kg	360	350	U	ug/kg	350	-		ug/kg		360	U	ug/kg	360
Indeno (1,2,3-cd) pyrene	360	U	ug/kg	360	350	U	ug/kg	350	-		ug/kg		360	U	ug/kg	360
Dibenzo (a,h) anthracene	360	U	ug/kg	360	350	U	ug/kg	350	-		ug/kg		360	U	ug/kg	360
Benzo (g,h,i) perylene	360	U	ug/kg	360	350	U	ug/kg	350	-		ug/kg		360	U	ug/kg	360
CLP PESTICIDES/PCBS 90-SOW ug/kg																
alpha-BHC	1.8	U	ug/kg	1.8	1.8	U	ug/kg	1.8	-		ug/kg		1.8	U	ug/kg	1.8

Naval Air Station Whiting Field, Milton, Florida
Site 15 Subsurface Soil Data

Lab Sample Number:	22883001				22889004				22889004				22889005			
Site	WHITING				WHITING				WHITING				WHITING			
Locator	15SS0201				15SS0502				15SS0502				15SS0603			
Collect Date:	02-OCT-92				03-OCT-92				04-OCT-92				03-OCT-92			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
beta-BHC	1.8	U	ug/kg	1.8	1.8	U	ug/kg	1.8	-		ug/kg		1.8	U	ug/kg	1.8
delta-BHC	1.8	U	ug/kg	1.8	1.8	U	ug/kg	1.8	-		ug/kg		1.8	U	ug/kg	1.8
gamma-BHC (Lindane)	1.8	U	ug/kg	1.8	1.8	U	ug/kg	1.8	-		ug/kg		1.8	U	ug/kg	1.8
Heptachlor	1.8	U	ug/kg	1.8	1.8	U	ug/kg	1.8	-		ug/kg		1.8	U	ug/kg	1.8
Aldrin	1.8	U	ug/kg	1.8	1.8	U	ug/kg	1.8	-		ug/kg		1.8	U	ug/kg	1.8
Heptachlor epoxide	1.8	U	ug/kg	1.8	1.8	U	ug/kg	1.8	-		ug/kg		1.8	U	ug/kg	1.8
Endosulfan I	1.8	U	ug/kg	1.8	1.8	U	ug/kg	1.8	-		ug/kg		1.8	U	ug/kg	1.8
Dieldrin	3.5	U	ug/kg	3.5	3.5	U	ug/kg	3.5	-		ug/kg		3.6	U	ug/kg	3.6
4,4-DDE	3.5	U	ug/kg	3.5	3.5	U	ug/kg	3.5	-		ug/kg		3.6	U	ug/kg	3.6
Endrin	3.5	U	ug/kg	3.5	3.5	U	ug/kg	3.5	-		ug/kg		3.6	U	ug/kg	3.6
Endosulfan II	3.5	U	ug/kg	3.5	3.5	U	ug/kg	3.5	-		ug/kg		3.6	U	ug/kg	3.6
4,4-DDD	3.5	U	ug/kg	3.5	3.5	U	ug/kg	3.5	-		ug/kg		3.6	U	ug/kg	3.6
Endosulfan sulfate	3.5	U	ug/kg	3.5	3.5	U	ug/kg	3.5	-		ug/kg		3.6	U	ug/kg	3.6
4,4-DDT	3.5	U	ug/kg	3.5	3.5	U	ug/kg	3.5	-		ug/kg		3.6	U	ug/kg	3.6
Methoxychlor	18	U	ug/kg	18	18	U	ug/kg	18	-		ug/kg		18	U	ug/kg	18
Endrin ketone	3.5	U	ug/kg	3.5	3.5	U	ug/kg	3.5	-		ug/kg		3.6	U	ug/kg	3.6
Endrin aldehyde	3.5	U	ug/kg	3.5	3.5	U	ug/kg	3.5	-		ug/kg		3.6	U	ug/kg	3.6
alpha-Chlordane	1.8	U	ug/kg	1.8	1.8	U	ug/kg	1.8	-		ug/kg		1.8	U	ug/kg	1.8
gamma-Chlordane	1.8	U	ug/kg	1.8	1.8	U	ug/kg	1.8	-		ug/kg		1.8	U	ug/kg	1.8
Toxaphene	180	U	ug/kg	180	180	U	ug/kg	180	-		ug/kg		180	U	ug/kg	180
Aroclor-1016	35	U	ug/kg	35	35	U	ug/kg	35	-		ug/kg		36	U	ug/kg	36
Aroclor-1221	72	U	ug/kg	72	71	U	ug/kg	71	-		ug/kg		73	U	ug/kg	73
Aroclor-1232	35	U	ug/kg	35	35	U	ug/kg	35	-		ug/kg		36	U	ug/kg	36
Aroclor-1242	35	U	ug/kg	35	35	U	ug/kg	35	-		ug/kg		36	U	ug/kg	36
Aroclor-1248	35	U	ug/kg	35	35	U	ug/kg	35	-		ug/kg		36	U	ug/kg	36
Aroclor-1254	35	U	ug/kg	35	35	U	ug/kg	35	-		ug/kg		36	U	ug/kg	36
Aroclor-1260	35	U	ug/kg	35	35	U	ug/kg	35	-		ug/kg		36	U	ug/kg	36
CLP METALS AND CYANIDE mg/kg																
Aluminum	13900		mg/kg	40	-		mg/kg		3520		mg/kg	40	-		mg/kg	
Antimony	2.3	U	mg/kg	12	-		mg/kg		2.3	U	mg/kg	12	-		mg/kg	
Arsenic	2.6		mg/kg	2	-		mg/kg		.63	J	mg/kg	2	-		mg/kg	
Barium	5	J	mg/kg	40	-		mg/kg		1.6	J	mg/kg	40	-		mg/kg	
Beryllium	.17	J	mg/kg	1	-		mg/kg		.05	U	mg/kg	1	-		mg/kg	
Cadmium	.65	U	mg/kg	1	-		mg/kg		.64	U	mg/kg	1	-		mg/kg	
Calcium	131	J	mg/kg	1000	-		mg/kg		72.7	J	mg/kg	1000	-		mg/kg	
Chromium	11		mg/kg	2	-		mg/kg		3.8		mg/kg	2	-		mg/kg	
Cobalt	.71	J	mg/kg	10	-		mg/kg		.71	U	mg/kg	10	-		mg/kg	
Copper	5.9		mg/kg	5	-		mg/kg		.86	J	mg/kg	5	-		mg/kg	
Iron	7520		mg/kg	20	-		mg/kg		2100		mg/kg	20	-		mg/kg	
Lead	4.3		mg/kg	1	-		mg/kg		2.8		mg/kg	1	-		mg/kg	
Magnesium	78.9	J	mg/kg	1000	-		mg/kg		18.8	J	mg/kg	1000	-		mg/kg	
Manganese	21.4		mg/kg	3	-		mg/kg		10		mg/kg	3	-		mg/kg	
Mercury	.44	J	mg/kg	.1	-		mg/kg		.09	J	mg/kg	.1	-		mg/kg	
Nickel	2.3	J	mg/kg	8	-		mg/kg		1.1	U	mg/kg	8	-		mg/kg	
Potassium	137	J	mg/kg	1000	-		mg/kg		145	U	mg/kg	1000	-		mg/kg	
Selenium	.45	U	mg/kg	1	-		mg/kg		.45	U	mg/kg	1	-		mg/kg	
Silver	.51	J	mg/kg	2	-		mg/kg		.43	U	mg/kg	2	-		mg/kg	
Sodium	175	J	mg/kg	1000	-		mg/kg		165	J	mg/kg	1000	-		mg/kg	
Thallium	.34	U	mg/kg	2	-		mg/kg		.34	U	mg/kg	2	-		mg/kg	
Vanadium	22.5		mg/kg	10	-		mg/kg		6.5	J	mg/kg	10	-		mg/kg	
Zinc	9.9	J	mg/kg	4	-		mg/kg		3.1	J	mg/kg	4	-		mg/kg	

Naval Air Station Whiting Field, Milton, Florida
Site 15 Subsurface Soil Data

Lab Sample Number:	22883001				22889004				22889004				22889005			
Site	WHITING				WHITING				WHITING				WHITING			
Locator	15SS0201				15SS0502				15SS0502				15SS0603			
Collect Date:	02-OCT-92				03-OCT-92				04-OCT-92				03-OCT-92			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
Cyanide	.09	U	mg/kg	1	-		mg/kg		.53	J	mg/kg	1	-		mg/kg	
Total organic carbon	-		mg/kg		-		mg/kg		-		mg/kg		-		mg/kg	
Total petroleum hydrocarbons	-		mg/kg		-		mg/kg		-		mg/kg		-		mg/kg	

Naval Air Station Whiting Field, Milton, Florida
Site 15 Subsurface Soil Data

Lab Sample Number:		22889005			22891002			22891004		
Site		WHITING			WHITING			WHITING		
Locator		15SS0603			15SS0804			15SS1005		
Collect Date:		04-OCT-92			04-OCT-92			04-OCT-92		
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
CLP VOLATILES 90-SOW	ug/kg															
Chloromethane		-	ug/kg		11	U	ug/kg	11	11	U	ug/kg	11
Bromomethane		-	ug/kg		11	U	ug/kg	11	11	U	ug/kg	11
Vinyl chloride		-	ug/kg		11	U	ug/kg	11	11	U	ug/kg	11
Chloroethane		-	ug/kg		11	U	ug/kg	11	11	U	ug/kg	11
Methylene chloride		-	ug/kg		11	UJ	ug/kg	11	11	UJ	ug/kg	11
Acetone		-	ug/kg		63	UJ	ug/kg	11	12	UJ	ug/kg	11
Carbon disulfide		-	ug/kg		11	U	ug/kg	11	11	U	ug/kg	11
1,1-Dichloroethene		-	ug/kg		11	U	ug/kg	11	11	U	ug/kg	11
1,1-Dichloroethane		-	ug/kg		11	U	ug/kg	11	11	U	ug/kg	11
1,2-Dichloroethene (total)		-	ug/kg		11	U	ug/kg	11	11	U	ug/kg	11
Chloroform		-	ug/kg		11	U	ug/kg	11	11	U	ug/kg	11
1,2-Dichloroethane		-	ug/kg		11	U	ug/kg	11	11	U	ug/kg	11
2-Butanone		-	ug/kg		11	U	ug/kg	11	11	U	ug/kg	11
1,1,1-Trichloroethane		-	ug/kg		11	U	ug/kg	11	11	U	ug/kg	11
Carbon tetrachloride		-	ug/kg		11	U	ug/kg	11	11	U	ug/kg	11
Bromodichloromethane		-	ug/kg		11	U	ug/kg	11	11	U	ug/kg	11
1,2-Dichloropropane		-	ug/kg		11	U	ug/kg	11	11	U	ug/kg	11
cis-1,3-Dichloropropene		-	ug/kg		11	U	ug/kg	11	11	U	ug/kg	11
Trichloroethene		-	ug/kg		11	U	ug/kg	11	11	U	ug/kg	11
Dibromochloromethane		-	ug/kg		11	U	ug/kg	11	11	U	ug/kg	11
1,1,2-Trichloroethane		-	ug/kg		11	U	ug/kg	11	11	U	ug/kg	11
Benzene		-	ug/kg		11	U	ug/kg	11	11	U	ug/kg	11
trans-1,3-Dichloropropene		-	ug/kg		11	U	ug/kg	11	11	U	ug/kg	11
Bromoform		-	ug/kg		11	U	ug/kg	11	11	U	ug/kg	11
4-Methyl-2-pentanone		-	ug/kg		11	U	ug/kg	11	11	U	ug/kg	11
2-Hexanone		-	ug/kg		11	U	ug/kg	11	11	U	ug/kg	11
Tetrachloroethene		-	ug/kg		11	U	ug/kg	11	11	U	ug/kg	11
Toluene		-	ug/kg		11	U	ug/kg	11	11	U	ug/kg	11
1,1,2,2-Tetrachloroethane		-	ug/kg		11	U	ug/kg	11	11	U	ug/kg	11
Chlorobenzene		-	ug/kg		2	J	ug/kg	11	11	U	ug/kg	11
Ethylbenzene		-	ug/kg		11	U	ug/kg	11	11	U	ug/kg	11
Styrene		-	ug/kg		11	U	ug/kg	11	11	U	ug/kg	11
Xylenes (total)		-	ug/kg		5	J	ug/kg	11	6	J	ug/kg	11
CLP SEMIVOLATILES 90-SOW	ug/kg															
Phenol		-	ug/kg		370	U	ug/kg	370	350	U	ug/kg	350
bis(2-Chloroethyl) ether		-	ug/kg		370	U	ug/kg	370	350	U	ug/kg	350
2-Chlorophenol		-	ug/kg		370	U	ug/kg	370	350	U	ug/kg	350
1,3-Dichlorobenzene		-	ug/kg		370	U	ug/kg	370	350	U	ug/kg	350
1,4-Dichlorobenzene		-	ug/kg		110	J	ug/kg	370	350	U	ug/kg	350

Naval Air Station Whiting Field, Milton, Florida
Site 15 Subsurface Soil Data

Lab Sample Number:	22889005				22891002				22891004			
Site	WHITING				WHITING				WHITING			
Locator	15SS0603				15SS0804				15SS1005			
Collect Date:	04-OCT-92				04-OCT-92				04-OCT-92			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
1,2-Dichlorobenzene	-		ug/kg		370	U	ug/kg	370	350	U	ug/kg	350
2-Methylphenol	-		ug/kg		370	U	ug/kg	370	350	U	ug/kg	350
2,2-oxybis(1-Chloropropane)	-		ug/kg		370	U	ug/kg	370	350	U	ug/kg	350
4-Methylphenol	-		ug/kg		370	U	ug/kg	370	350	U	ug/kg	350
N-Nitroso-di-n-propylamine	-		ug/kg		370	U	ug/kg	370	350	U	ug/kg	350
Hexachloroethane	-		ug/kg		370	U	ug/kg	370	350	U	ug/kg	350
Nitrobenzene	-		ug/kg		370	U	ug/kg	370	350	U	ug/kg	350
Isophorone	-		ug/kg		370	UJ	ug/kg	370	350	UJ	ug/kg	350
2-Nitrophenol	-		ug/kg		370	U	ug/kg	370	350	U	ug/kg	350
2,4-Dimethylphenol	-		ug/kg		370	U	ug/kg	370	350	U	ug/kg	350
bis(2-Chloroethoxy) methane	-		ug/kg		370	U	ug/kg	370	350	U	ug/kg	350
2,4-Dichlorophenol	-		ug/kg		370	U	ug/kg	370	350	U	ug/kg	350
1,2,4-Trichlorobenzene	-		ug/kg		370	U	ug/kg	370	350	U	ug/kg	350
Naphthalene	-		ug/kg		92	J	ug/kg	370	350	U	ug/kg	350
4-Chloroaniline	-		ug/kg		370	U	ug/kg	370	350	U	ug/kg	350
Hexachlorobutadiene	-		ug/kg		370	U	ug/kg	370	350	U	ug/kg	350
4-Chloro-3-methylphenol	-		ug/kg		370	U	ug/kg	370	350	U	ug/kg	350
2-Methylnaphthalene	-		ug/kg		76	J	ug/kg	370	350	U	ug/kg	350
Hexachlorocyclopentadiene	-		ug/kg		370	U	ug/kg	370	350	U	ug/kg	350
2,4,6-Trichlorophenol	-		ug/kg		370	U	ug/kg	370	350	U	ug/kg	350
2,4,5-Trichlorophenol	-		ug/kg		900	U	ug/kg	900	850	U	ug/kg	850
2-Chloronaphthalene	-		ug/kg		370	U	ug/kg	370	350	U	ug/kg	350
2-Nitroaniline	-		ug/kg		900	U	ug/kg	900	850	U	ug/kg	850
Dimethylphthalate	-		ug/kg		370	U	ug/kg	370	350	U	ug/kg	350
Acenaphthylene	-		ug/kg		370	U	ug/kg	370	350	U	ug/kg	350
2,6-Dinitrotoluene	-		ug/kg		370	U	ug/kg	370	350	U	ug/kg	350
3-Nitroaniline	-		ug/kg		900	U	ug/kg	900	850	U	ug/kg	850
Acenaphthene	-		ug/kg		370	U	ug/kg	370	350	U	ug/kg	350
2,4-Dinitrophenol	-		ug/kg		900	U	ug/kg	900	850	U	ug/kg	850
4-Nitrophenol	-		ug/kg		900	UJ	ug/kg	900	850	UJ	ug/kg	850
Dibenzofuran	-		ug/kg		370	U	ug/kg	370	350	U	ug/kg	350
2,4-Dinitrotoluene	-		ug/kg		370	U	ug/kg	370	350	U	ug/kg	350
Diethylphthalate	-		ug/kg		370	U	ug/kg	370	350	U	ug/kg	350
4-Chlorophenyl-phenylether	-		ug/kg		370	U	ug/kg	370	350	U	ug/kg	350
Fluorene	-		ug/kg		370	U	ug/kg	370	350	U	ug/kg	350
4-Nitroaniline	-		ug/kg		900	U	ug/kg	900	850	U	ug/kg	850
4,6-Dinitro-2-methylphenol	-		ug/kg		900	U	ug/kg	900	850	U	ug/kg	850
N-Nitrosodiphenylamine	-		ug/kg		370	U	ug/kg	370	350	U	ug/kg	350
4-Bromophenyl-phenylether	-		ug/kg		370	U	ug/kg	370	350	U	ug/kg	350
Hexachlorobenzene	-		ug/kg		370	U	ug/kg	370	350	U	ug/kg	350
Pentachlorophenol	-		ug/kg		900	U	ug/kg	900	850	U	ug/kg	850
Phenanthrene	-		ug/kg		370	U	ug/kg	370	350	U	ug/kg	350
Anthracene	-		ug/kg		370	U	ug/kg	370	350	U	ug/kg	350
Carbazole	-		ug/kg		370	U	ug/kg	370	350	U	ug/kg	350
Di-n-butylphthalate	-		ug/kg		370	U	ug/kg	370	350	UJ	ug/kg	350
Fluoranthene	-		ug/kg		370	U	ug/kg	370	350	U	ug/kg	350
Pyrene	-		ug/kg		370	U	ug/kg	370	350	U	ug/kg	350
Butylbenzylphthalate	-		ug/kg		370	UJ	ug/kg	370	350	UJ	ug/kg	350
3,3-Dichlorobenzidine	-		ug/kg		370	UJ	ug/kg	370	350	UJ	ug/kg	350
Benzo (a) anthracene	-		ug/kg		370	U	ug/kg	370	350	U	ug/kg	350
Chrysene	-		ug/kg		370	U	ug/kg	370	350	U	ug/kg	350
bis(2-Ethylhexyl) phthalate	-		ug/kg		370	UJ	ug/kg	370	350	UJ	ug/kg	350

Naval Air Station Whiting Field, Milton, Florida
Site 15 Subsurface Soil Data

Lab Sample Number:		22889005				22891002				22891004			
Site		WHITING				WHITING				WHITING			
Locator		15SS0603				15SS0804				15SS1005			
Collect Date:		04-OCT-92				04-OCT-92				04-OCT-92			
		VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
Di-n-octylphthalate		-		ug/kg		370	U	ug/kg	370	350	U	ug/kg	350
Benzo (b) fluoranthene		-		ug/kg		370	U	ug/kg	370	350	U	ug/kg	350
Benzo (k) fluoranthene		-		ug/kg		370	U	ug/kg	370	350	U	ug/kg	350
Benzo (a) pyrene		-		ug/kg		370	U	ug/kg	370	350	U	ug/kg	350
Indeno (1,2,3-cd) pyrene		-		ug/kg		370	U	ug/kg	370	350	U	ug/kg	350
Dibenzo (a,h) anthracene		-		ug/kg		370	U	ug/kg	370	350	U	ug/kg	350
Benzo (g,h,i) perylene		-		ug/kg		370	U	ug/kg	370	350	U	ug/kg	350
CLP PESTICIDES/PCBS 90-SOW	ug/kg												
alpha-BHC		-		ug/kg		19	U	ug/kg	19	1.8	U	ug/kg	1.8
beta-BHC		-		ug/kg		19	U	ug/kg	19	1.8	U	ug/kg	1.8
delta-BHC		-		ug/kg		19	U	ug/kg	19	1.8	U	ug/kg	1.8
gamma-BHC (Lindane)		-		ug/kg		19	U	ug/kg	19	1.8	U	ug/kg	1.8
Heptachlor		-		ug/kg		19	U	ug/kg	19	1.8	U	ug/kg	1.8
Aldrin		-		ug/kg		19	U	ug/kg	19	1.8	U	ug/kg	1.8
Heptachlor epoxide		-		ug/kg		19	U	ug/kg	19	1.8	U	ug/kg	1.8
Endosulfan I		-		ug/kg		19	U	ug/kg	19	1.8	U	ug/kg	1.8
Dieldrin		-		ug/kg		37	U	ug/kg	37	3.5	U	ug/kg	3.5
4,4-DDE		-		ug/kg		37	U	ug/kg	37	2.3	J	ug/kg	3.5
Endrin		-		ug/kg		37	U	ug/kg	37	3.5	U	ug/kg	3.5
Endosulfan II		-		ug/kg		37	U	ug/kg	37	3.5	U	ug/kg	3.5
4,4-DDD		-		ug/kg		37	U	ug/kg	37	3.5	U	ug/kg	3.5
Endosulfan sulfate		-		ug/kg		37	U	ug/kg	37	3.5	U	ug/kg	3.5
4,4-DDT		-		ug/kg		37	U	ug/kg	37	3.5	U	ug/kg	3.5
Methoxychlor		-		ug/kg		190	U	ug/kg	190	18	U	ug/kg	18
Endrin ketone		-		ug/kg		37	U	ug/kg	37	3.5	U	ug/kg	3.5
Endrin aldehyde		-		ug/kg		37	U	ug/kg	37	3.5	U	ug/kg	3.5
alpha-Chlordane		-		ug/kg		19	U	ug/kg	19	1.8	U	ug/kg	1.8
gamma-Chlordane		-		ug/kg		19	U	ug/kg	19	1.8	U	ug/kg	1.8
Toxaphene		-		ug/kg		1900	U	ug/kg	1900	180	U	ug/kg	180
Aroclor-1016		-		ug/kg		370	U	ug/kg	370	35	U	ug/kg	35
Aroclor-1221		-		ug/kg		750	U	ug/kg	750	71	U	ug/kg	71
Aroclor-1232		-		ug/kg		370	U	ug/kg	370	35	U	ug/kg	35
Aroclor-1242		-		ug/kg		2200		ug/kg	370	35	U	ug/kg	35
Aroclor-1248		-		ug/kg		370	U	ug/kg	370	35	U	ug/kg	35
Aroclor-1254		-		ug/kg		370	U	ug/kg	370	35	U	ug/kg	35
Aroclor-1260		-		ug/kg		370	U	ug/kg	370	35	U	ug/kg	35
CLP METALS AND CYANIDE	mg/kg												
Aluminum		7250		mg/kg	40	15100		mg/kg	40	7760		mg/kg	40
Antimony		2.3	U	mg/kg	12	2.4	U	mg/kg	12	2.3	U	mg/kg	12
Arsenic		1.5	J	mg/kg	2	2.6		mg/kg	2	1.9	J	mg/kg	2
Barium		9.6	J	mg/kg	40	13.2	J	mg/kg	40	6.5	J	mg/kg	40
Beryllium		.11	J	mg/kg	1	.16	J	mg/kg	1	.09	J	mg/kg	1
Cadmium		2.1		mg/kg	1	.66	U	mg/kg	1	.63	U	mg/kg	1
Calcium		148	J	mg/kg	1000	267	J	mg/kg	1000	264	J	mg/kg	1000
Chromium		6.6		mg/kg	2	12.7		mg/kg	2	6.5		mg/kg	2
Cobalt		.72	U	mg/kg	10	.73	U	mg/kg	10	.71	U	mg/kg	10
Copper		3.5	J	mg/kg	5	6.8		mg/kg	5	3.6	J	mg/kg	5
Iron		3650		mg/kg	20	9640		mg/kg	20	4530		mg/kg	20
Lead		5.7		mg/kg	1	8.4		mg/kg	1	86.2		mg/kg	1
Magnesium		109	J	mg/kg	1000	96	J	mg/kg	1000	70.7	J	mg/kg	1000

Naval Air Station Whiting Field, Milton, Florida
Site 15 Subsurface Soil Data

Lab Sample Number:	22889005				22891002				22891004			
Site	WHITING				WHITING				WHITING			
Locator	15SS0603				15SS0804				15SS1005			
Collect Date:	04-OCT-92				04-OCT-92				04-OCT-92			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
Manganese	22.9		mg/kg	3	44.2		mg/kg	3	28.1		mg/kg	3
Mercury	.44	J	mg/kg	.1	.59		mg/kg	.1	.43	J	mg/kg	.1
Nickel	2.1	J	mg/kg	8	1.2	U	mg/kg	8	3	J	mg/kg	8
Potassium	157	J	mg/kg	1000	154	J	mg/kg	1000	145	U	mg/kg	1000
Selenium	.46	U	mg/kg	1	.46	U	mg/kg	1	.45	U	mg/kg	1
Silver	.48	J	mg/kg	2	.62	J	mg/kg	2	.43	U	mg/kg	2
Sodium	175	J	mg/kg	1000	191	J	mg/kg	1000	182	J	mg/kg	1000
Thallium	.35	U	mg/kg	2	.35	U	mg/kg	2	.34	U	mg/kg	2
Vanadium	11.1		mg/kg	10	25		mg/kg	10	13.9		mg/kg	10
Zinc	12.9		mg/kg	4	19.1		mg/kg	4	7.4	J	mg/kg	4
Cyanide	.55	J	mg/kg	1	.09	U	mg/kg	1	.09	U	mg/kg	1
Total organic carbon	-		mg/kg		-		mg/kg		-		mg/kg	
Total petroleum hydrocarbons	-		mg/kg		-		mg/kg		-		mg/kg	

APPENDIX F

APPENDIX F

GROUNDWATER SAMPLE ANALYTICAL DATA

Naval Air Station Whiting Field, Milton, Florida
Site 15 Groundwater Data

Lab Sample Number:		90271002				90210003				90210004				90210002			
Site		WHITING				WHITING				WHITING				WHITING			
Locator		WHF15-1				WHF15-2B				WHF15-2BA				WHF15-2C			
Collect Date:		03-DEC-93				09-NOV-93				09-NOV-93				09-NOV-93			
		VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
CLP VOLATILES 90-SOW	ug/l																
Chloromethane		10	UJ	ug/l	10	1	J	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Bromomethane		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Vinyl chloride		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Chloroethane		10	U	ug/l	10	10	UJ	ug/l	10	10	UJ	ug/l	10	10	UJ	ug/l	10
Methylene chloride		10	U	ug/l	10	10	UJ	ug/l	10	10	UJ	ug/l	10	10	UJ	ug/l	10
Acetone		10	U	ug/l	10	10	UJ	ug/l	10	10	UJ	ug/l	10	10	UJ	ug/l	10
Carbon disulfide		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
1,1-Dichloroethene		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
1,1-Dichloroethane		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
1,2-Dichloroethene (total)		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Chloroform		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
1,2-Dichloroethane		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
2-Butanone		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
1,1,1-Trichloroethane		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Carbon tetrachloride		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Bromodichloromethane		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
1,2-Dichloropropane		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
cis-1,3-Dichloropropene		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Trichloroethene		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Dibromochloromethane		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
1,1,2-Trichloroethane		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Benzene		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	UJ	ug/l	10
trans-1,3-Dichloropropene		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Bromoform		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
4-Methyl-2-pentanone		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
2-Hexanone		10	U	ug/l	10	10	UJ	ug/l	10	10	UJ	ug/l	10	10	UJ	ug/l	10
Tetrachloroethene		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Toluene		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
1,1,2,2-Tetrachloroethane		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Chlorobenzene		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Ethylbenzene		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Styrene		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Xylenes (total)		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
CLP SEMIVOLATILES 90-SOW	ug/l																
Phenol		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
bis(2-Chloroethyl) ether		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
2-Chlorophenol		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
1,3-Dichlorobenzene		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
1,4-Dichlorobenzene		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
1,2-Dichlorobenzene		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
2-Methylphenol		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
2,2-oxybis(1-Chloropropane)		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
4-Methylphenol		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
N-Nitroso-di-n-propylamine		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Hexachloroethane		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Nitrobenzene		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Isophorone		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
2-Nitrophenol		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
2,4-Dimethylphenol		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10

Naval Air Station Whiting Field, Milton, Florida
Site 15 Groundwater Data

Lab Sample Number:	90271002				90210003				90210004				90210002			
Site	WHITING				WHITING				WHITING				WHITING			
Locator	WHF15-1				WHF15-2B				WHF15-2BA				WHF15-2C			
Collect Date:	03-DEC-93				09-NOV-93				09-NOV-93				09-NOV-93			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
bis(2-Chloroethoxy) methane	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
2,4-Dichlorophenol	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
1,2,4-Trichlorobenzene	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Naphthalene	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
4-Chloroaniline	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Hexachlorobutadiene	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
4-Chloro-3-methylphenol	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
2-Methylnaphthalene	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Hexachlorocyclopentadiene	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
2,4,6-Trichlorophenol	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
2,4,5-Trichlorophenol	25	U	ug/l	25	25	U	ug/l	25	25	U	ug/l	25	25	U	ug/l	25
2-Chloronaphthalene	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
2-Nitroaniline	25	U	ug/l	25	25	U	ug/l	25	25	U	ug/l	25	25	U	ug/l	25
Dimethylphthalate	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Acenaphthylene	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
2,6-Dinitrotoluene	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	UJ	ug/l	10
3-Nitroaniline	25	U	ug/l	25	25	U	ug/l	25	25	U	ug/l	25	25	U	ug/l	25
Acenaphthene	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
2,4-Dinitrophenol	25	UJ	ug/l	25	25	UJ	ug/l	25	25	UJ	ug/l	25	25	UJ	ug/l	25
4-Nitrophenol	25	U	ug/l	25	25	U	ug/l	25	25	U	ug/l	25	25	U	ug/l	25
Dibenzofuran	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
2,4-Dinitrotoluene	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Diethylphthalate	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
4-Chlorophenyl-phenylether	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Fluorene	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
4-Nitroaniline	25	UJ	ug/l	25	25	UJ	ug/l	25	25	UJ	ug/l	25	25	UJ	ug/l	25
4,6-Dinitro-2-methylphenol	25	U	ug/l	25	25	UJ	ug/l	25	25	UJ	ug/l	25	25	UJ	ug/l	25
N-Nitrosodiphenylamine	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
4-Bromophenyl-phenylether	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Hexachlorobenzene	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Pentachlorophenol	25	UJ	ug/l	25	25	U	ug/l	25	25	U	ug/l	25	25	U	ug/l	25
Phenanthrene	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Anthracene	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Carbazole	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Di-n-butylphthalate	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Fluoranthene	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Pyrene	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Butylbenzylphthalate	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
3,3-Dichlorobenzidine	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Benzo (a) anthracene	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Chrysene	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
bis(2-Ethylhexyl) phthalate	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Di-n-octylphthalate	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Benzo (b) fluoranthene	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Benzo (k) fluoranthene	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Benzo (a) pyrene	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Indeno (1,2,3-cd) pyrene	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Dibenzo (a,h) anthracene	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Benzo (g,h,i) perylene	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
CLP PESTICIDES/PCBS 90-SOW ug/l																
alpha-BHC	.05	U	ug/l	.05	.05	U	ug/l	.05	.05	UJ	ug/l	.05	.05	U	ug/l	.05

Naval Air Station Whiting Field, Milton, Florida
Site 15 Groundwater Data

Lab Sample Number:		90271002				90210003				90210004				90210002			
Site		WHITING				WHITING				WHITING				WHITING			
Locator		WHF15-1				WHF15-2B				WHF15-2BA				WHF15-2C			
Collect Date:		03-DEC-93				09-NOV-93				09-NOV-93				09-NOV-93			
		VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
beta-BHC		.05	U	ug/l	.05	.05	U	ug/l	.05	.05	UJ	ug/l	.05	.05	U	ug/l	.05
delta-BHC		.05	U	ug/l	.05	.05	U	ug/l	.05	.05	UJ	ug/l	.05	.05	U	ug/l	.05
gamma-BHC (Lindane)		.05	U	ug/l	.05	.05	U	ug/l	.05	.05	UJ	ug/l	.05	.05	U	ug/l	.05
Heptachlor		.05	U	ug/l	.05	.05	U	ug/l	.05	.05	UJ	ug/l	.05	.05	U	ug/l	.05
Aldrin		.05	U	ug/l	.05	.05	U	ug/l	.05	.05	UJ	ug/l	.05	.05	U	ug/l	.05
Heptachlor epoxide		.05	U	ug/l	.05	.05	U	ug/l	.05	.05	UJ	ug/l	.05	.05	U	ug/l	.05
Endosulfan I		.05	U	ug/l	.05	.05	U	ug/l	.05	.05	UJ	ug/l	.05	.05	U	ug/l	.05
Dieldrin		.1	U	ug/l	.1	.1	U	ug/l	.1	.1	UJ	ug/l	.1	.1	U	ug/l	.1
4,4-DDE		.1	U	ug/l	.1	.1	U	ug/l	.1	.1	UJ	ug/l	.1	.1	U	ug/l	.1
Endrin		.1	U	ug/l	.1	.1	U	ug/l	.1	.1	UJ	ug/l	.1	.1	U	ug/l	.1
Endosulfan II		.1	U	ug/l	.1	.1	U	ug/l	.1	.1	UJ	ug/l	.1	.1	U	ug/l	.1
4,4-DDD		.1	U	ug/l	.1	.1	U	ug/l	.1	.1	UJ	ug/l	.1	.1	U	ug/l	.1
Endosulfan sulfate		.1	U	ug/l	.1	.1	U	ug/l	.1	.1	UJ	ug/l	.1	.1	U	ug/l	.1
4,4-DDT		.1	U	ug/l	.1	.1	U	ug/l	.1	.1	UJ	ug/l	.1	.1	U	ug/l	.1
Methoxychlor		.5	U	ug/l	.5	.5	U	ug/l	.5	.5	UJ	ug/l	.5	.5	U	ug/l	.5
Endrin ketone		.1	U	ug/l	.1	.1	U	ug/l	.1	.1	UJ	ug/l	.1	.1	U	ug/l	.1
Endrin aldehyde		.1	U	ug/l	.1	.1	U	ug/l	.1	.1	UJ	ug/l	.1	.1	U	ug/l	.1
alpha-Chlordane		.05	U	ug/l	.05	.05	U	ug/l	.05	.05	UJ	ug/l	.05	.05	U	ug/l	.05
gamma-Chlordane		.05	U	ug/l	.05	.05	U	ug/l	.05	.05	UJ	ug/l	.05	.05	U	ug/l	.05
Toxaphene		5	U	ug/l	5	5	U	ug/l	5	5	UJ	ug/l	5	5	U	ug/l	5
Aroclor-1016		1	U	ug/l	1	1	U	ug/l	1	1	UJ	ug/l	1	1	U	ug/l	1
Aroclor-1221		2	U	ug/l	2	2	U	ug/l	2	2	UJ	ug/l	2	2	U	ug/l	2
Aroclor-1232		1	U	ug/l	1	1	U	ug/l	1	1	UJ	ug/l	1	1	U	ug/l	1
Aroclor-1242		1	U	ug/l	1	1	U	ug/l	1	1	UJ	ug/l	1	1	U	ug/l	1
Aroclor-1248		1	U	ug/l	1	1	U	ug/l	1	1	UJ	ug/l	1	1	U	ug/l	1
Aroclor-1254		1	U	ug/l	1	1	U	ug/l	1	1	UJ	ug/l	1	1	U	ug/l	1
Aroclor-1260		1	U	ug/l	1	1	U	ug/l	1	1	UJ	ug/l	1	1	U	ug/l	1
CLP METALS AND CYANIDE	ug/l																
Aluminum		24.5	J	ug/l	200	76400		ug/l	200	45600		ug/l	200	39.2	J	ug/l	200
Antimony		20.7	U	ug/l	60	20.7	U	ug/l	60	20.7	U	ug/l	60	20.7	U	ug/l	60
Arsenic		1.6	U	ug/l	10	1.6	U	ug/l	10	1.6	U	ug/l	10	1.6	U	ug/l	10
Barium		24.3	J	ug/l	200	75.8	J	ug/l	200	56.1	J	ug/l	200	15.9	J	ug/l	200
Beryllium		.2	U	ug/l	5	.71	J	ug/l	5	.52	J	ug/l	5	.2	U	ug/l	5
Cadmium		7.6		ug/l	5	3.2	U	ug/l	5	5		ug/l	5	3.2	U	ug/l	5
Calcium		8710		ug/l	5000	2430	J	ug/l	5000	2570	J	ug/l	5000	801	J	ug/l	5000
Chromium		3.4	J	ug/l	10	71.5		ug/l	10	46.9		ug/l	10	3.3	U	ug/l	10
Cobalt		4.3	J	ug/l	50	4.1	U	ug/l	50	4.1	U	ug/l	50	4.1	U	ug/l	50
Copper		2.2	J	ug/l	25	30.6		ug/l	25	23.2	J	ug/l	25	2.1	U	ug/l	25
Iron		22.6	J	ug/l	100	94500		ug/l	100	78000		ug/l	100	46	J	ug/l	100
Lead		1	U	ug/l	3	12		ug/l	3	6.8		ug/l	3	1	U	ug/l	3
Magnesium		670	J	ug/l	5000	1240	J	ug/l	5000	1070	J	ug/l	5000	581	J	ug/l	5000
Manganese		2.5	J	ug/l	15	1270		ug/l	15	1260		ug/l	15	14.1	J	ug/l	15
Mercury		1		ug/l	.2	.15	U	ug/l	.2	.16	J	ug/l	.2	.15	U	ug/l	.2
Nickel		9	U	ug/l	40	20.5	J	ug/l	40	9	U	ug/l	40	9	U	ug/l	40
Potassium		870	J	ug/l	5000	1110	J	ug/l	5000	1020	J	ug/l	5000	614	U	ug/l	5000
Selenium		2	U	ug/l	5	2	U	ug/l	5	2	U	ug/l	5	2	U	ug/l	5
Silver		2.7	U	ug/l	10	3.8	J	ug/l	10	2.7	J	ug/l	10	2.7	U	ug/l	10
Sodium		4850	J	ug/l	5000	1080	J	ug/l	5000	1040	J	ug/l	5000	2670	J	ug/l	5000
Thallium		.88	U	ug/l	10	1	J	ug/l	10	.88	U	ug/l	10	.93	J	ug/l	10
Vanadium		2.5	U	ug/l	50	136		ug/l	50	102		ug/l	50	2.5	U	ug/l	50
Zinc		4.9	J	ug/l	20	51.6		ug/l	20	39.5		ug/l	20	14.7	J	ug/l	20

Naval Air Station Whiting Field, Milton, Florida
Site 15 Groundwater Data

Lab Sample Number:	90271002				90210003				90210004				90210002			
Site	WHITING				WHITING				WHITING				WHITING			
Locator	WHF15-1				WHF15-2B				WHF15-2BA				WHF15-2C			
Collect Date:	03-DEC-93				09-NOV-93				09-NOV-93				09-NOV-93			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
Cyanide	1.7	U	ug/l	10	1.9	J	ug/l	10	2.5	J	ug/l	10	1.7	U	ug/l	10

Locator Annotations: A = DUPLICATE SAMPLE B = SHALLOW SAMPLE C = INTERMEDIATE SAMPLE CD = DOUBLE INTERMEDIATE SAMPLE D = DEEP SAMPLE

Qualifiers: U = NOT DETECTED J = ESTIMATED VALUE UJ = REPORTED QUANTITATION LIMIT IS QUALIFIED AS ESTIMATED R = RESULT IS REJECTED AND UNUSABLE

Naval Air Station Whiting Field, Milton, Florida
Site 15 Groundwater Data

Lab Sample Number:		90210001			90203001			90199005			90199005RE		
Site		WHITING			WHITING			WHITING			WHITING		
Locator		WHF15-2D			WHF15-3B			WHF15-3C			WHF15-3CRE		
Collect Date:		09-NOV-93			14-NOV-93			03-NOV-93			03-NOV-93		
		VALUE QUAL	UNITS	DL	VALUE QUAL	UNITS	DL	VALUE QUAL	UNITS	DL	VALUE QUAL	UNITS	DL
CLP VOLATILES 90-SOW	ug/l												
Chloromethane		10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	-	ug/l	
Bromomethane		10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	-	ug/l	
Vinyl chloride		10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	-	ug/l	
Chloroethane		10 UJ	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	-	ug/l	
Methylene chloride		10 UJ	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	-	ug/l	
Acetone		10 UJ	ug/l	10	10 UJ	ug/l	10	10 UJ	ug/l	10	-	ug/l	
Carbon disulfide		10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	-	ug/l	
1,1-Dichloroethene		10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	-	ug/l	
1,1-Dichloroethane		10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	-	ug/l	
1,2-Dichloroethene (total)		10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	-	ug/l	
Chloroform		10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	-	ug/l	
1,2-Dichloroethane		10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	-	ug/l	
2-Butanone		10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	-	ug/l	
1,1,1-Trichloroethane		10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	-	ug/l	
Carbon tetrachloride		10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	-	ug/l	
Bromodichloromethane		10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	-	ug/l	
1,2-Dichloropropane		10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	-	ug/l	
cis-1,3-Dichloropropene		10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	-	ug/l	
Trichloroethene		10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	-	ug/l	
Dibromochloromethane		10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	-	ug/l	
1,1,2-Trichloroethane		10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	-	ug/l	
Benzene		10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	-	ug/l	
trans-1,3-Dichloropropene		10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	-	ug/l	
Bromoform		10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	-	ug/l	
4-Methyl-2-pentanone		10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	-	ug/l	
2-Hexanone		10 UJ	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	-	ug/l	
Tetrachloroethene		10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	-	ug/l	
Toluene		10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	-	ug/l	
1,1,2,2-Tetrachloroethane		10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	-	ug/l	
Chlorobenzene		10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	-	ug/l	
Ethylbenzene		10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	-	ug/l	
Styrene		10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	-	ug/l	
Xylenes (total)		10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	-	ug/l	
CLP SEMIVOLATILES 90-SOW	ug/l												
Phenol		10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	-	ug/l	
bis(2-Chloroethyl) ether		10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	-	ug/l	
2-Chlorophenol		10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	-	ug/l	
1,3-Dichlorobenzene		10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	-	ug/l	
1,4-Dichlorobenzene		10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	-	ug/l	

Naval Air Station Whiting Field, Milton, Florida
Site 15 Groundwater Data

Lab Sample Number:	90210001				90203001				90199005				90199005RE			
Site	WHITING				WHITING				WHITING				WHITING			
Locator	WHF15-2D				WHF15-3B				WHF15-3C				WHF15-3CRE			
Collect Date:	09-NOV-93				14-NOV-93				03-NOV-93				03-NOV-93			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
1,2-Dichlorobenzene	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
2-Methylphenol	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
2,2-oxybis(1-Chloropropane)	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
4-Methylphenol	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
N-Nitroso-di-n-propylamine	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
Hexachloroethane	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
Nitrobenzene	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
Isophorone	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
2-Nitrophenol	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
2,4-Dimethylphenol	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
bis(2-Chloroethoxy) methane	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
2,4-Dichlorophenol	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
1,2,4-Trichlorobenzene	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
Naphthalene	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
4-Chloroaniline	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
Hexachlorobutadiene	10	U	ug/l	10	10	U	ug/l	10	10	UJ	ug/l	10	-		ug/l	
4-Chloro-3-methylphenol	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
2-Methylnaphthalene	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
Hexachlorocyclopentadiene	10	U	ug/l	10	10	U	ug/l	10	10	UJ	ug/l	10	-		ug/l	
2,4,6-Trichlorophenol	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
2,4,5-Trichlorophenol	25	U	ug/l	25	25	U	ug/l	25	25	U	ug/l	25	-		ug/l	
2-Chloronaphthalene	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
2-Nitroaniline	25	U	ug/l	25	25	U	ug/l	25	25	U	ug/l	25	-		ug/l	
Dimethylphthalate	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
Acenaphthylene	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
2,6-Dinitrotoluene	10	UJ	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
3-Nitroaniline	25	U	ug/l	25	25	U	ug/l	25	25	U	ug/l	25	-		ug/l	
Acenaphthene	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
2,4-Dinitrophenol	25	UJ	ug/l	25	25	UJ	ug/l	25	25	UJ	ug/l	25	-		ug/l	
4-Nitrophenol	25	U	ug/l	25	25	U	ug/l	25	25	U	ug/l	25	-		ug/l	
Dibenzofuran	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
2,4-Dinitrotoluene	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
Diethylphthalate	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
4-Chlorophenyl-phenylether	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
Fluorene	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
4-Nitroaniline	25	UJ	ug/l	25	25	U	ug/l	25	25	UJ	ug/l	25	-		ug/l	
4,6-Dinitro-2-methylphenol	25	UJ	ug/l	25	25	U	ug/l	25	25	UJ	ug/l	25	-		ug/l	
N-Nitrosodiphenylamine	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
4-Bromophenyl-phenylether	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
Hexachlorobenzene	10	U	ug/l	10	10	U	ug/l	10	10	UJ	ug/l	10	-		ug/l	
Pentachlorophenol	25	U	ug/l	25	25	U	ug/l	25	25	U	ug/l	25	-		ug/l	
Phenanthrene	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
Anthracene	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
Carbazole	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
Di-n-butylphthalate	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
Fluoranthene	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
Pyrene	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
Butylbenzylphthalate	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
3,3-Dichlorobenzidine	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
Benzo (a) anthracene	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
Chrysene	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
bis(2-Ethylhexyl) phthalate	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	

Naval Air Station Whiting Field, Milton, Florida
Site 15 Groundwater Data

Lab Sample Number:		90210001				90203001				90199005				90199005RE			
Site		WHITING				WHITING				WHITING				WHITING			
Locator		WHF15-2D				WHF15-3B				WHF15-3C				WHF15-3CRE			
Collect Date:		09-NOV-93				14-NOV-93				03-NOV-93				03-NOV-93			
		VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
Di-n-octylphthalate		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
Benzo (b) fluoranthene		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
Benzo (k) fluoranthene		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
Benzo (a) pyrene		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
Indeno (1,2,3-cd) pyrene		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
Dibenzo (a,h) anthracene		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
Benzo (g,h,i) perylene		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
CLP PESTICIDES/PCBS 90-SOW	ug/l																
alpha-BHC		.05	U	ug/l	.05	.05	U	ug/l	.05	.05	UJ	ug/l	.05	.05	UJ	ug/l	.05
beta-BHC		.05	U	ug/l	.05	.05	U	ug/l	.05	.05	UJ	ug/l	.05	.05	UJ	ug/l	.05
delta-BHC		.05	U	ug/l	.05	.05	U	ug/l	.05	.05	UJ	ug/l	.05	.05	UJ	ug/l	.05
gamma-BHC (Lindane)		.05	U	ug/l	.05	.05	U	ug/l	.05	.05	UJ	ug/l	.05	.05	UJ	ug/l	.05
Heptachlor		.05	U	ug/l	.05	.05	U	ug/l	.05	.05	UJ	ug/l	.05	.05	UJ	ug/l	.05
Aldrin		.05	U	ug/l	.05	.05	U	ug/l	.05	.05	UJ	ug/l	.05	.05	UJ	ug/l	.05
Heptachlor epoxide		.05	U	ug/l	.05	.05	U	ug/l	.05	.05	UJ	ug/l	.05	.05	UJ	ug/l	.05
Endosulfan I		.05	U	ug/l	.05	.05	U	ug/l	.05	.05	UJ	ug/l	.05	.05	UJ	ug/l	.05
Dieldrin		.1	U	ug/l	.1	.1	U	ug/l	.1	.1	UJ	ug/l	.1	.1	UJ	ug/l	.1
4,4-DDE		.1	U	ug/l	.1	.1	U	ug/l	.1	.1	UJ	ug/l	.1	.1	UJ	ug/l	.1
Endrin		.1	U	ug/l	.1	.1	U	ug/l	.1	.1	UJ	ug/l	.1	.1	UJ	ug/l	.1
Endosulfan II		.1	U	ug/l	.1	.1	U	ug/l	.1	.1	UJ	ug/l	.1	.1	UJ	ug/l	.1
4,4-DDD		.1	U	ug/l	.1	.1	U	ug/l	.1	.1	UJ	ug/l	.1	.1	UJ	ug/l	.1
Endosulfan sulfate		.1	U	ug/l	.1	.1	U	ug/l	.1	.1	UJ	ug/l	.1	.1	UJ	ug/l	.1
4,4-DDT		.1	U	ug/l	.1	.1	U	ug/l	.1	.1	UJ	ug/l	.1	.1	UJ	ug/l	.1
Methoxychlor		.5	U	ug/l	.5	.5	U	ug/l	.5	.5	UJ	ug/l	.5	.5	UJ	ug/l	.5
Endrin ketone		.1	U	ug/l	.1	.1	U	ug/l	.1	.1	UJ	ug/l	.1	.1	UJ	ug/l	.1
Endrin aldehyde		.1	U	ug/l	.1	.1	U	ug/l	.1	.1	UJ	ug/l	.1	.1	UJ	ug/l	.1
alpha-Chlordane		.05	U	ug/l	.05	.05	U	ug/l	.05	.05	UJ	ug/l	.05	.05	UJ	ug/l	.05
gamma-Chlordane		.05	U	ug/l	.05	.05	U	ug/l	.05	.05	UJ	ug/l	.05	.05	UJ	ug/l	.05
Toxaphene		5	U	ug/l	5	5	U	ug/l	5	5	UJ	ug/l	5	5	UJ	ug/l	5
Aroclor-1016		1	U	ug/l	1	1	U	ug/l	1	1	UJ	ug/l	1	1	UJ	ug/l	1
Aroclor-1221		2	U	ug/l	2	2	U	ug/l	2	2	UJ	ug/l	2	2	UJ	ug/l	2
Aroclor-1232		1	U	ug/l	1	1	U	ug/l	1	1	UJ	ug/l	1	1	UJ	ug/l	1
Aroclor-1242		1	U	ug/l	1	1	U	ug/l	1	1	UJ	ug/l	1	1	UJ	ug/l	1
Aroclor-1248		1	U	ug/l	1	1	U	ug/l	1	1	UJ	ug/l	1	1	UJ	ug/l	1
Aroclor-1254		1	U	ug/l	1	1	U	ug/l	1	1	UJ	ug/l	1	1	UJ	ug/l	1
Aroclor-1260		1	U	ug/l	1	1	U	ug/l	1	1	UJ	ug/l	1	1	UJ	ug/l	1
CLP METALS AND CYANIDE	ug/l																
Aluminum		77.2		ug/l	200	10600		ug/l	200	19.9	U	ug/l	200	-		ug/l	
Antimony		20.7	U	ug/l	60	20.7	U	ug/l	60	20.7	U	ug/l	60	-		ug/l	
Arsenic		1.6	U	ug/l	10	2.1	J	ug/l	10	1.6	U	ug/l	10	-		ug/l	
Barium		8.5	J	ug/l	200	46	UJ	ug/l	200	8.4	J	ug/l	200	-		ug/l	
Beryllium		.2	U	ug/l	5	.2	U	ug/l	5	.2	UJ	ug/l	5	-		ug/l	
Cadmium		23.3		ug/l	5	3.2	U	ug/l	5	3.2	U	ug/l	5	-		ug/l	
Calcium		2090	J	ug/l	5000	1080	J	ug/l	5000	605	J	ug/l	5000	-		ug/l	
Chromium		3.3	U	ug/l	10	22.1		ug/l	10	3.3	U	ug/l	10	-		ug/l	
Cobalt		4.1	U	ug/l	50	4.1	U	ug/l	50	4.1	U	ug/l	50	-		ug/l	
Copper		2.6	J	ug/l	25	13.3	J	ug/l	25	8.8	J	ug/l	25	-		ug/l	
Iron		180		ug/l	100	33000		ug/l	100	75.2	J	ug/l	100	-		ug/l	
Lead		1	U	ug/l	3	6		ug/l	3	1	U	ug/l	3	-		ug/l	
Magnesium		491	J	ug/l	5000	1010	J	ug/l	5000	423	J	ug/l	5000	-		ug/l	

Naval Air Station Whiting Field, Milton, Florida
Site 15 Groundwater Data

Lab Sample Number:	90210001				90203001				90199005				90199005RE		
Site	WHITING				WHITING				WHITING				WHITING		
Locator	WHF15-2D				WHF15-3B				WHF15-3C				WHF15-3CRE		
Collect Date:	09-NOV-93				14-NOV-93				03-NOV-93				03-NOV-93		
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
Manganese	11.6	J	ug/l	15	39.6		ug/l	15	8	J	ug/l	15	-		ug/l	
Mercury	.17	J	ug/l	.2	.15	J	ug/l	.2	.15	U	ug/l	.2	-		ug/l	
Nickel	10	J	ug/l	40	9	U	ug/l	40	9	U	ug/l	40	-		ug/l	
Potassium	2240	J	ug/l	5000	916	J	ug/l	5000	614	U	ug/l	5000	-		ug/l	
Selenium	2	U	ug/l	5	2	U	ug/l	5	2	U	ug/l	5	-		ug/l	
Silver	2.7	U	ug/l	10	2.7	U	ug/l	10	2.7	U	ug/l	10	-		ug/l	
Sodium	3860	J	ug/l	5000	1810	J	ug/l	5000	2360	J	ug/l	5000	-		ug/l	
Thallium	.88	U	ug/l	10	.88	U	ug/l	10	.88	U	ug/l	10	-		ug/l	
Vanadium	2.5	U	ug/l	50	69		ug/l	50	2.5	U	ug/l	50	-		ug/l	
Zinc	16.8	J	ug/l	20	48.4		ug/l	20	35.9		ug/l	20	-		ug/l	
Cyanide	1.7	U	ug/l	10	1.7	U	ug/l	10	1.7	U	ug/l	10	-		ug/l	

Locator Annotations: A = DUPLICATE SAMPLE B = SHALLOW SAMPLE C = INTERMEDIATE SAMPLE CD = DOUBLE INTERMEDIATE SAMPLE D = DEEP SAMPLE

Qualifiers: U = NOT DETECTED J = ESTIMATED VALUE UJ = REPORTED QUANTITATION LIMIT IS QUALIFIED AS ESTIMATED R = RESULT IS REJECTED AND UNUSABLE

Naval Air Station Whiting Field, Milton, Florida
Site 15 Groundwater Data

Lab Sample Number:		90199004				90199004RE				90199003				90271001			
Site		WHITING				WHITING				WHITING				WHITING			
Locator		WHF15-3D				WHF15-3DRE				WHF15-4				WHF15-5			
Collect Date:		03-NOV-93				03-NOV-93				03-NOV-93				03-DEC-93			
		VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
CLP VOLATILES 90-SOW	ug/l																
Chloromethane		10	U	ug/l	10	-		ug/l		10	U	ug/l	10	10	UJ	ug/l	10
Bromomethane		10	U	ug/l	10	-		ug/l		10	U	ug/l	10	10	U	ug/l	10
Vinyl chloride		10	U	ug/l	10	-		ug/l		10	U	ug/l	10	10	U	ug/l	10
Chloroethane		10	U	ug/l	10	-		ug/l		10	U	ug/l	10	10	U	ug/l	10
Methylene chloride		10	U	ug/l	10	-		ug/l		10	U	ug/l	10	10	U	ug/l	10
Acetone		10	UJ	ug/l	10	-		ug/l		10	UJ	ug/l	10	10	U	ug/l	10
Carbon disulfide		10	U	ug/l	10	-		ug/l		10	U	ug/l	10	10	U	ug/l	10
1,1-Dichloroethene		10	U	ug/l	10	-		ug/l		10	U	ug/l	10	10	U	ug/l	10
1,1-Dichloroethane		10	U	ug/l	10	-		ug/l		10	U	ug/l	10	10	U	ug/l	10
1,2-Dichloroethene (total)		10	U	ug/l	10	-		ug/l		10	U	ug/l	10	10	U	ug/l	10
Chloroform		10	U	ug/l	10	-		ug/l		10	U	ug/l	10	10	U	ug/l	10
1,2-Dichloroethane		10	U	ug/l	10	-		ug/l		10	U	ug/l	10	10	U	ug/l	10
2-Butanone		10	U	ug/l	10	-		ug/l		10	U	ug/l	10	10	U	ug/l	10
1,1,1-Trichloroethane		10	U	ug/l	10	-		ug/l		10	U	ug/l	10	10	U	ug/l	10
Carbon tetrachloride		10	U	ug/l	10	-		ug/l		10	U	ug/l	10	10	U	ug/l	10
Bromodichloromethane		10	U	ug/l	10	-		ug/l		10	U	ug/l	10	10	U	ug/l	10
1,2-Dichloropropane		10	U	ug/l	10	-		ug/l		10	U	ug/l	10	10	U	ug/l	10
cis-1,3-Dichloropropene		10	U	ug/l	10	-		ug/l		10	U	ug/l	10	10	U	ug/l	10
Trichloroethene		10	U	ug/l	10	-		ug/l		10	U	ug/l	10	10	U	ug/l	10
Dibromochloromethane		10	U	ug/l	10	-		ug/l		10	U	ug/l	10	10	U	ug/l	10
1,1,2-Trichloroethane		10	U	ug/l	10	-		ug/l		10	U	ug/l	10	10	U	ug/l	10
Benzene		10	U	ug/l	10	-		ug/l		10	U	ug/l	10	10	U	ug/l	10
trans-1,3-Dichloropropene		10	U	ug/l	10	-		ug/l		10	U	ug/l	10	10	U	ug/l	10
Bromoform		10	U	ug/l	10	-		ug/l		10	U	ug/l	10	10	U	ug/l	10
4-Methyl-2-pentanone		10	U	ug/l	10	-		ug/l		10	U	ug/l	10	10	U	ug/l	10
2-Hexanone		10	U	ug/l	10	-		ug/l		10	U	ug/l	10	10	U	ug/l	10
Tetrachloroethene		10	U	ug/l	10	-		ug/l		10	U	ug/l	10	10	U	ug/l	10
Toluene		10	U	ug/l	10	-		ug/l		7	J	ug/l	10	10	U	ug/l	10
1,1,2,2-Tetrachloroethane		10	U	ug/l	10	-		ug/l		10	U	ug/l	10	10	U	ug/l	10
Chlorobenzene		10	U	ug/l	10	-		ug/l		10	U	ug/l	10	10	U	ug/l	10
Ethylbenzene		10	U	ug/l	10	-		ug/l		10	U	ug/l	10	10	U	ug/l	10
Styrene		10	U	ug/l	10	-		ug/l		10	U	ug/l	10	10	U	ug/l	10
Xylenes (total)		10	U	ug/l	10	-		ug/l		10	U	ug/l	10	10	U	ug/l	10
CLP SEMIVOLATILES 90-SOW	ug/l																
Phenol		10	U	ug/l	10	-		ug/l		10	U	ug/l	10	10	U	ug/l	10
bis(2-Chloroethyl) ether		10	U	ug/l	10	-		ug/l		10	U	ug/l	10	10	U	ug/l	10
2-Chlorophenol		10	U	ug/l	10	-		ug/l		10	U	ug/l	10	10	U	ug/l	10
1,3-Dichlorobenzene		10	U	ug/l	10	-		ug/l		10	U	ug/l	10	10	U	ug/l	10
1,4-Dichlorobenzene		10	U	ug/l	10	-		ug/l		10	U	ug/l	10	10	U	ug/l	10

Naval Air Station Whiting Field, Milton, Florida
Site 15 Groundwater Data

Lab Sample Number:	90199004				90199004RE				90199003				90271001			
Site	WHITING				WHITING				WHITING				WHITING			
Locator	WHF15-3D				WHF15-3DRE				WHF15-4				WHF15-5			
Collect Date:	03-NOV-93				03-NOV-93				03-NOV-93				03-DEC-93			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
1,2-Dichlorobenzene	10	U	ug/l	10	-		ug/l		10	U	ug/l	10	10	U	ug/l	10
2-Methylphenol	10	U	ug/l	10	-		ug/l		10	U	ug/l	10	10	U	ug/l	10
2,2-oxybis(1-Chloropropane)	10	U	ug/l	10	-		ug/l		10	U	ug/l	10	10	U	ug/l	10
4-Methylphenol	10	U	ug/l	10	-		ug/l		10	U	ug/l	10	10	U	ug/l	10
N-Nitroso-di-n-propylamine	10	U	ug/l	10	-		ug/l		10	U	ug/l	10	10	U	ug/l	10
Hexachloroethane	10	U	ug/l	10	-		ug/l		10	U	ug/l	10	10	U	ug/l	10
Nitrobenzene	10	U	ug/l	10	-		ug/l		10	U	ug/l	10	10	U	ug/l	10
Isophorone	10	U	ug/l	10	-		ug/l		10	U	ug/l	10	10	U	ug/l	10
2-Nitrophenol	10	U	ug/l	10	-		ug/l		10	U	ug/l	10	10	U	ug/l	10
2,4-Dimethylphenol	10	U	ug/l	10	-		ug/l		10	U	ug/l	10	10	U	ug/l	10
bis(2-Chloroethoxy) methane	10	U	ug/l	10	-		ug/l		10	U	ug/l	10	10	U	ug/l	10
2,4-Dichlorophenol	10	U	ug/l	10	-		ug/l		10	U	ug/l	10	10	U	ug/l	10
1,2,4-Trichlorobenzene	10	U	ug/l	10	-		ug/l		10	U	ug/l	10	10	U	ug/l	10
Naphthalene	10	U	ug/l	10	-		ug/l		10	U	ug/l	10	10	U	ug/l	10
4-Chloroaniline	10	U	ug/l	10	-		ug/l		10	U	ug/l	10	10	U	ug/l	10
Hexachlorobutadiene	10	UJ	ug/l	10	-		ug/l		10	UJ	ug/l	10	10	U	ug/l	10
4-Chloro-3-methylphenol	10	U	ug/l	10	-		ug/l		10	U	ug/l	10	10	U	ug/l	10
2-Methylnaphthalene	10	U	ug/l	10	-		ug/l		10	U	ug/l	10	10	U	ug/l	10
Hexachlorocyclopentadiene	10	UJ	ug/l	10	-		ug/l		10	UJ	ug/l	10	10	U	ug/l	10
2,4,6-Trichlorophenol	10	U	ug/l	10	-		ug/l		10	U	ug/l	10	10	U	ug/l	10
2,4,5-Trichlorophenol	25	U	ug/l	25	-		ug/l		25	U	ug/l	25	25	U	ug/l	25
2-Chloronaphthalene	10	U	ug/l	10	-		ug/l		10	U	ug/l	10	10	U	ug/l	10
2-Nitroaniline	25	U	ug/l	25	-		ug/l		25	U	ug/l	25	25	U	ug/l	25
Dimethylphthalate	10	U	ug/l	10	-		ug/l		10	U	ug/l	10	10	U	ug/l	10
Acenaphthylene	10	U	ug/l	10	-		ug/l		10	U	ug/l	10	10	U	ug/l	10
2,6-Dinitrotoluene	10	U	ug/l	10	-		ug/l		10	U	ug/l	10	10	U	ug/l	10
3-Nitroaniline	25	U	ug/l	25	-		ug/l		25	U	ug/l	25	25	U	ug/l	25
Acenaphthene	10	U	ug/l	10	-		ug/l		10	U	ug/l	10	10	U	ug/l	10
2,4-Dinitrophenol	25	UJ	ug/l	25	-		ug/l		25	UJ	ug/l	25	25	UJ	ug/l	25
4-Nitrophenol	25	U	ug/l	25	-		ug/l		25	U	ug/l	25	25	UJ	ug/l	25
Dibenzofuran	10	U	ug/l	10	-		ug/l		10	U	ug/l	10	10	U	ug/l	10
2,4-Dinitrotoluene	10	U	ug/l	10	-		ug/l		10	U	ug/l	10	10	U	ug/l	10
Diethylphthalate	10	U	ug/l	10	-		ug/l		10	U	ug/l	10	10	U	ug/l	10
4-Chlorophenyl-phenylether	10	U	ug/l	10	-		ug/l		10	U	ug/l	10	10	U	ug/l	10
Fluorene	10	U	ug/l	10	-		ug/l		10	U	ug/l	10	10	U	ug/l	10
4-Nitroaniline	25	UJ	ug/l	25	-		ug/l		25	UJ	ug/l	25	25	UJ	ug/l	25
4,6-Dinitro-2-methylphenol	25	UJ	ug/l	25	-		ug/l		25	UJ	ug/l	25	25	U	ug/l	25
N-Nitrosodiphenylamine	10	U	ug/l	10	-		ug/l		10	U	ug/l	10	10	U	ug/l	10
4-Bromophenyl-phenylether	10	U	ug/l	10	-		ug/l		10	U	ug/l	10	10	U	ug/l	10
Hexachlorobenzene	10	UJ	ug/l	10	-		ug/l		10	UJ	ug/l	10	10	U	ug/l	10
Pentachlorophenol	25	U	ug/l	25	-		ug/l		25	U	ug/l	25	25	UJ	ug/l	25
Phenanthrene	10	U	ug/l	10	-		ug/l		10	U	ug/l	10	10	U	ug/l	10
Anthracene	10	U	ug/l	10	-		ug/l		10	U	ug/l	10	10	U	ug/l	10
Carbazole	10	U	ug/l	10	-		ug/l		10	U	ug/l	10	10	U	ug/l	10
Di-n-butylphthalate	10	U	ug/l	10	-		ug/l		10	U	ug/l	10	10	U	ug/l	10
Fluoranthene	10	U	ug/l	10	-		ug/l		10	U	ug/l	10	10	U	ug/l	10
Pyrene	10	U	ug/l	10	-		ug/l		10	U	ug/l	10	10	U	ug/l	10
Butylbenzylphthalate	10	U	ug/l	10	-		ug/l		10	U	ug/l	10	10	U	ug/l	10
3,3-Dichlorobenzidine	10	U	ug/l	10	-		ug/l		10	U	ug/l	10	10	U	ug/l	10
Benzo (a) anthracene	10	U	ug/l	10	-		ug/l		10	U	ug/l	10	10	U	ug/l	10
Chrysene	10	U	ug/l	10	-		ug/l		10	U	ug/l	10	10	U	ug/l	10
bis(2-Ethylhexyl) phthalate	10	U	ug/l	10	-		ug/l		10		ug/l	10	21		ug/l	10

Naval Air Station Whiting Field, Milton, Florida
Site 15 Groundwater Data

Lab Sample Number:		90199004				90199004RE				90199003				90271001			
Site		WHITING				WHITING				WHITING				WHITING			
Locator		WHF15-3D				WHF15-3DRE				WHF15-4				WHF15-5			
Collect Date:		03-NOV-93				03-NOV-93				03-NOV-93				03-DEC-93			
		VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
Di-n-octylphthalate		10	U	ug/l	10	-		ug/l		10	U	ug/l	10	10	U	ug/l	10
Benzo (b) fluoranthene		10	U	ug/l	10	-		ug/l		10	U	ug/l	10	10	U	ug/l	10
Benzo (k) fluoranthene		10	U	ug/l	10	-		ug/l		10	U	ug/l	10	10	U	ug/l	10
Benzo (a) pyrene		10	U	ug/l	10	-		ug/l		10	U	ug/l	10	10	U	ug/l	10
Indeno (1,2,3-cd) pyrene		10	U	ug/l	10	-		ug/l		10	U	ug/l	10	10	U	ug/l	10
Dibenzo (a,h) anthracene		10	U	ug/l	10	-		ug/l		10	U	ug/l	10	10	U	ug/l	10
Benzo (g,h,i) perylene		10	U	ug/l	10	-		ug/l		10	U	ug/l	10	10	U	ug/l	10
CLP PESTICIDES/PCBS 90-SOW	ug/l																
alpha-BHC		.05	UJ	ug/l	.05	.05	UJ	ug/l	.05	.05	U	ug/l	.05	.05	U	ug/l	.05
beta-BHC		.05	UJ	ug/l	.05	.05	UJ	ug/l	.05	.05	U	ug/l	.05	.05	U	ug/l	.05
delta-BHC		.05	UJ	ug/l	.05	.05	UJ	ug/l	.05	.05	U	ug/l	.05	.05	U	ug/l	.05
gamma-BHC (Lindane)		.05	UJ	ug/l	.05	.05	UJ	ug/l	.05	.05	U	ug/l	.05	.05	U	ug/l	.05
Heptachlor		.05	UJ	ug/l	.05	.05	UJ	ug/l	.05	.05	U	ug/l	.05	.05	U	ug/l	.05
Aldrin		.05	UJ	ug/l	.05	.05	UJ	ug/l	.05	.05	U	ug/l	.05	.05	U	ug/l	.05
Heptachlor epoxide		.05	UJ	ug/l	.05	.05	UJ	ug/l	.05	.05	U	ug/l	.05	.05	U	ug/l	.05
Endosulfan I		.05	UJ	ug/l	.05	.05	UJ	ug/l	.05	.05	U	ug/l	.05	.05	U	ug/l	.05
Dieldrin		.1	UJ	ug/l	.1	.1	UJ	ug/l	.1	.1	U	ug/l	.1	.1	U	ug/l	.1
4,4-DDE		.1	UJ	ug/l	.1	.1	UJ	ug/l	.1	.1	U	ug/l	.1	.1	U	ug/l	.1
Endrin		.1	UJ	ug/l	.1	.1	UJ	ug/l	.1	.1	U	ug/l	.1	.1	U	ug/l	.1
Endosulfan II		.1	UJ	ug/l	.1	.1	UJ	ug/l	.1	.1	U	ug/l	.1	.1	U	ug/l	.1
4,4-DDD		.1	UJ	ug/l	.1	.1	UJ	ug/l	.1	.1	U	ug/l	.1	.1	U	ug/l	.1
Endosulfan sulfate		.1	UJ	ug/l	.1	.1	UJ	ug/l	.1	.1	U	ug/l	.1	.1	U	ug/l	.1
4,4-DDT		.1	UJ	ug/l	.1	.1	UJ	ug/l	.1	.1	U	ug/l	.1	.1	U	ug/l	.1
Methoxychlor		.5	UJ	ug/l	.5	.5	UJ	ug/l	.5	.5	U	ug/l	.5	.5	U	ug/l	.5
Endrin ketone		.1	UJ	ug/l	.1	.1	UJ	ug/l	.1	.1	U	ug/l	.1	.1	U	ug/l	.1
Endrin aldehyde		.1	UJ	ug/l	.1	.1	UJ	ug/l	.1	.1	U	ug/l	.1	.1	U	ug/l	.1
alpha-Chlordane		.05	UJ	ug/l	.05	.05	UJ	ug/l	.05	.05	U	ug/l	.05	.05	U	ug/l	.05
gamma-Chlordane		.05	UJ	ug/l	.05	.05	UJ	ug/l	.05	.05	U	ug/l	.05	.05	U	ug/l	.05
Toxaphene		5	UJ	ug/l	5	5	UJ	ug/l	5	5	U	ug/l	5	5	U	ug/l	5
Aroclor-1016		1	UJ	ug/l	1	1	UJ	ug/l	1	1	U	ug/l	1	1	U	ug/l	1
Aroclor-1221		2	UJ	ug/l	2	2	UJ	ug/l	2	2	U	ug/l	2	2	U	ug/l	2
Aroclor-1232		1	UJ	ug/l	1	1	UJ	ug/l	1	1	U	ug/l	1	1	U	ug/l	1
Aroclor-1242		1	UJ	ug/l	1	1	UJ	ug/l	1	1	U	ug/l	1	1	U	ug/l	1
Aroclor-1248		1	UJ	ug/l	1	1	UJ	ug/l	1	1	U	ug/l	1	1	U	ug/l	1
Aroclor-1254		1	UJ	ug/l	1	1	UJ	ug/l	1	1	U	ug/l	1	1	U	ug/l	1
Aroclor-1260		1	UJ	ug/l	1	1	UJ	ug/l	1	1	U	ug/l	1	1	U	ug/l	1
CLP METALS AND CYANIDE	ug/l																
Aluminum		19.9	U	ug/l	200	-		ug/l		3350		ug/l	200	519		ug/l	200
Antimony		20.7	U	ug/l	60	-		ug/l		20.7	U	ug/l	60	20.7	U	ug/l	60
Arsenic		1.6	U	ug/l	10	-		ug/l		1.6	U	ug/l	10	2.3	J	ug/l	10
Barium		7.8	J	ug/l	200	-		ug/l		23	J	ug/l	200	34.3	J	ug/l	200
Beryllium		.2	UJ	ug/l	5	-		ug/l		.2	UJ	ug/l	5	.2	U	ug/l	5
Cadmium		3.2	U	ug/l	5	-		ug/l		3.2	U	ug/l	5	3.2	U	ug/l	5
Calcium		2820	J	ug/l	5000	-		ug/l		4360	J	ug/l	5000	1320	J	ug/l	5000
Chromium		3.3	U	ug/l	10	-		ug/l		32.2		ug/l	10	11.2		ug/l	10
Cobalt		4.1	U	ug/l	50	-		ug/l		4.1	U	ug/l	50	4.1	U	ug/l	50
Copper		2.1	U	ug/l	25	-		ug/l		5	J	ug/l	25	7.6	J	ug/l	25
Iron		66	J	ug/l	100	-		ug/l		4700		ug/l	100	3390		ug/l	100
Lead		1	U	ug/l	3	-		ug/l		1	U	ug/l	3	3.6		ug/l	3
Magnesium		1430	J	ug/l	5000	-		ug/l		628	J	ug/l	5000	1340	J	ug/l	5000

Naval Air Station Whiting Field, Milton, Florida
Site 15 Groundwater Data

Lab Sample Number:	90199004				90199004RE				90199003				90271001			
Site	WHITING				WHITING				WHITING				WHITING			
Locator	WHF15-3D				WHF15-3DRE				WHF15-4				WHF15-5			
Collect Date:	03-NOV-93				03-NOV-93				03-NOV-93				03-DEC-93			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
Manganese	1.6	J	ug/l	15	-		ug/l		16.5		ug/l	15	41		ug/l	15
Mercury	.15	U	ug/l	.2	-		ug/l		.15	U	ug/l	.2	.15	U	ug/l	.2
Nickel	9	U	ug/l	40	-		ug/l		14	J	ug/l	40	9	U	ug/l	40
Potassium	1100	J	ug/l	5000	-		ug/l		3250	J	ug/l	5000	949	J	ug/l	5000
Selenium	2	U	ug/l	5	-		ug/l		2	U	ug/l	5	2	U	ug/l	5
Silver	2.7	U	ug/l	10	-		ug/l		2.7	U	ug/l	10	4.6	J	ug/l	10
Sodium	13300		ug/l	5000	-		ug/l		3540	J	ug/l	5000	1540	J	ug/l	5000
Thallium	.88	U	ug/l	10	-		ug/l		.88	U	ug/l	10	.88	U	ug/l	10
Vanadium	2.5	U	ug/l	50	-		ug/l		29.1	J	ug/l	50	2.5	U	ug/l	50
Zinc	10.8	J	ug/l	20	-		ug/l		16.9	J	ug/l	20	52.7		ug/l	20
Cyanide	1.7	U	ug/l	10	-		ug/l		1.7	U	ug/l	10	1.7	U	ug/l	10

Locator Annotations: A = DUPLICATE SAMPLE B = SHALLOW SAMPLE C = INTERMEDIATE SAMPLE CD = DOUBLE INTERMEDIATE SAMPLE D = DEEP SAMPLE

Qualifiers: U = NOT DETECTED J = ESTIMATED VALUE UJ = REPORTED QUANTITATION LIMIT IS QUALIFIED AS ESTIMATED R = RESULT IS REJECTED AND UNUSABLE

Naval Air Station Whiting Field, Milton, Florida
Site 15 Groundwater Data

Lab Sample Number:		90214004			90214003			RB956016			ME377003		
Site		WHITING			WHITING			WHITING			WHITING		
Locator		WHF15-6B			WHF15-6D			15G00101			15G00101		
Collect Date:		24-NOV-93			24-NOV-93			08-AUG-96			28-JUL-97		
		VALUE QUAL	UNITS	DL	VALUE QUAL	UNITS	DL	VALUE QUAL	UNITS	DL	VALUE QUAL	UNITS	DL
CLP VOLATILES 90-SOW	ug/l												
Chloromethane		10 UJ	ug/l	10	10 UJ	ug/l	10	10 UJ	ug/l	10	10 U	ug/l	10
Bromomethane		10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10
Vinyl chloride		10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10
Chloroethane		10 UJ	ug/l	10	10 UJ	ug/l	10	10 UJ	ug/l	10	10 U	ug/l	10
Methylene chloride		10 UJ	ug/l	10	10 UJ	ug/l	10	10 U	ug/l	10	10 U	ug/l	10
Acetone		10 UJ	ug/l	10	10 UJ	ug/l	10	22 UJ	ug/l	22	10 U	ug/l	10
Carbon disulfide		10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10
1,1-Dichloroethene		10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10
1,1-Dichloroethane		10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10
1,2-Dichloroethene (total)		3 J	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10
Chloroform		10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10
1,2-Dichloroethane		10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10
2-Butanone		10 UJ	ug/l	10	10 UJ	ug/l	10	10 U	ug/l	10	10 U	ug/l	10
1,1,1-Trichloroethane		10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10
Carbon tetrachloride		10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10
Bromodichloromethane		10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10
1,2-Dichloropropane		10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10
cis-1,3-Dichloropropene		10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10
Trichloroethene		10 U	ug/l	10	10 U	ug/l	10	2 J	ug/l	10	3 J	ug/l	10
Dibromochloromethane		10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10
1,1,2-Trichloroethane		10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10
Benzene		10 UJ	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10
trans-1,3-Dichloropropene		10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10
Bromoform		10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10
4-Methyl-2-pentanone		10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10
2-Hexanone		10 UJ	ug/l	10	10 UJ	ug/l	10	10 U	ug/l	10	10 U	ug/l	10
Tetrachloroethene		10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10
Toluene		10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10
1,1,2,2-Tetrachloroethane		10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10
Chlorobenzene		5 J	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10
Ethylbenzene		7 J	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10
Styrene		10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10
Xylenes (total)		10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10
CLP SEMIVOLATILES 90-SOW	ug/l												
Phenol		10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	-	ug/l	
bis(2-Chloroethyl) ether		10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	-	ug/l	
2-Chlorophenol		10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	-	ug/l	
1,3-Dichlorobenzene		10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	-	ug/l	
1,4-Dichlorobenzene		42	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	-	ug/l	

Naval Air Station Whiting Field, Milton, Florida
Site 15 Groundwater Data

Lab Sample Number:	90214004				90214003				RB956016				ME377003			
Site	WHITING				WHITING				WHITING				WHITING			
Locator	WHF15-6B				WHF15-6D				15G00101				15G00101			
Collect Date:	24-NOV-93				24-NOV-93				08-AUG-96				28-JUL-97			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
1,2-Dichlorobenzene	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
2-Methylphenol	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
2,2-oxybis(1-Chloropropane)	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
4-Methylphenol	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
N-Nitroso-di-n-propylamine	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
Hexachloroethane	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
Nitrobenzene	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
Isophorone	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
2-Nitrophenol	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
2,4-Dimethylphenol	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
bis(2-Chloroethoxy) methane	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
2,4-Dichlorophenol	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
1,2,4-Trichlorobenzene	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
Naphthalene	7	J	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
4-Chloroaniline	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
Hexachlorobutadiene	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
4-Chloro-3-methylphenol	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
2-Methylnaphthalene	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
Hexachlorocyclopentadiene	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
2,4,6-Trichlorophenol	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
2,4,5-Trichlorophenol	25	U	ug/l	25	25	U	ug/l	25	25	U	ug/l	25	-		ug/l	
2-Chloronaphthalene	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
2-Nitroaniline	25	U	ug/l	25	25	U	ug/l	25	25	U	ug/l	25	-		ug/l	
Dimethylphthalate	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
Acenaphthylene	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
2,6-Dinitrotoluene	10	UJ	ug/l	10	10	UJ	ug/l	10	10	U	ug/l	10	-		ug/l	
3-Nitroaniline	25	U	ug/l	25	25	U	ug/l	25	25	U	ug/l	25	-		ug/l	
Acenaphthene	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
2,4-Dinitrophenol	25	UJ	ug/l	25	25	UJ	ug/l	25	25	UJ	ug/l	25	-		ug/l	
4-Nitrophenol	25	U	ug/l	25	25	U	ug/l	25	25	U	ug/l	25	-		ug/l	
Dibenzofuran	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
2,4-Dinitrotoluene	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
Diethylphthalate	2	J	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
4-Chlorophenyl-phenylether	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
Fluorene	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
4-Nitroaniline	25	UJ	ug/l	25	25	UJ	ug/l	25	25	UJ	ug/l	25	-		ug/l	
4,6-Dinitro-2-methylphenol	25	UJ	ug/l	25	25	UJ	ug/l	25	25	UJ	ug/l	25	-		ug/l	
N-Nitrosodiphenylamine	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
4-Bromophenyl-phenylether	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
Hexachlorobenzene	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
Pentachlorophenol	25	U	ug/l	25	25	U	ug/l	25	25	U	ug/l	25	-		ug/l	
Phenanthrene	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
Anthracene	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
Carbazole	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
Di-n-butylphthalate	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
Fluoranthene	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
Pyrene	10	U	ug/l	10	10	U	ug/l	10	10	UJ	ug/l	10	-		ug/l	
Butylbenzylphthalate	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
3,3-Dichlorobenzidine	10	U	ug/l	10	10	U	ug/l	10	10	UJ	ug/l	10	-		ug/l	
Benzo (a) anthracene	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
Chrysene	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
bis(2-Ethylhexyl) phthalate	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	

Naval Air Station Whiting Field, Milton, Florida
Site 15 Groundwater Data

Lab Sample Number:		90214004				90214003				RB956016				ME377003			
Site		WHITING				WHITING				WHITING				WHITING			
Locator		WHF15-6B				WHF15-6D				15G00101				15G00101			
Collect Date:		24-NOV-93				24-NOV-93				08-AUG-96				28-JUL-97			
		VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
Di-n-octylphthalate		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
Benzo (b) fluoranthene		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
Benzo (k) fluoranthene		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
Benzo (a) pyrene		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
Indeno (1,2,3-cd) pyrene		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
Dibenzo (a,h) anthracene		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
Benzo (g,h,i) perylene		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
CLP PESTICIDES/PCBS 90-SOW	ug/l																
alpha-BHC		.05	U	ug/l	.05	.05	U	ug/l	.05	.05	UJ	ug/l	.05	-		ug/l	
beta-BHC		.05	U	ug/l	.05	.05	U	ug/l	.05	.05	UJ	ug/l	.05	-		ug/l	
delta-BHC		.05	U	ug/l	.05	.05	U	ug/l	.05	.05	UJ	ug/l	.05	-		ug/l	
gamma-BHC (Lindane)		.05	U	ug/l	.05	.05	U	ug/l	.05	.05	UJ	ug/l	.05	-		ug/l	
Heptachlor		.05	U	ug/l	.05	.05	U	ug/l	.05	.05	UJ	ug/l	.05	-		ug/l	
Aldrin		.05	U	ug/l	.05	.05	U	ug/l	.05	.05	UJ	ug/l	.05	-		ug/l	
Heptachlor epoxide		.05	U	ug/l	.05	.05	U	ug/l	.05	.05	UJ	ug/l	.05	-		ug/l	
Endosulfan I		.05	U	ug/l	.05	.05	U	ug/l	.05	.05	UJ	ug/l	.05	-		ug/l	
Dieldrin		.1	U	ug/l	.1	.1	U	ug/l	.1	.1	UJ	ug/l	.1	-		ug/l	
4,4-DDE		.1	U	ug/l	.1	.1	U	ug/l	.1	.1	UJ	ug/l	.1	-		ug/l	
Endrin		.1	U	ug/l	.1	.1	U	ug/l	.1	.1	UJ	ug/l	.1	-		ug/l	
Endosulfan II		.1	U	ug/l	.1	.1	U	ug/l	.1	.1	UJ	ug/l	.1	-		ug/l	
4,4-DDD		.1	U	ug/l	.1	.1	U	ug/l	.1	.1	UJ	ug/l	.1	-		ug/l	
Endosulfan sulfate		.1	U	ug/l	.1	.1	U	ug/l	.1	.1	UJ	ug/l	.1	-		ug/l	
4,4-DDT		.1	U	ug/l	.1	.1	U	ug/l	.1	.1	UJ	ug/l	.1	-		ug/l	
Methoxychlor		.5	U	ug/l	.5	.5	U	ug/l	.5	.5	UJ	ug/l	.5	-		ug/l	
Endrin ketone		.1	U	ug/l	.1	.1	U	ug/l	.1	.1	UJ	ug/l	.1	-		ug/l	
Endrin aldehyde		.1	U	ug/l	.1	.1	U	ug/l	.1	.1	UJ	ug/l	.1	-		ug/l	
alpha-Chlordane		.05	U	ug/l	.05	.05	U	ug/l	.05	.05	UJ	ug/l	.05	-		ug/l	
gamma-Chlordane		.05	U	ug/l	.05	.05	U	ug/l	.05	.05	UJ	ug/l	.05	-		ug/l	
Toxaphene		5	U	ug/l	5	5	U	ug/l	5	5	UJ	ug/l	5	-		ug/l	
Aroclor-1016		1	U	ug/l	1	1	U	ug/l	1	1	UJ	ug/l	1	-		ug/l	
Aroclor-1221		2	U	ug/l	2	2	U	ug/l	2	2	UJ	ug/l	2	-		ug/l	
Aroclor-1232		1	U	ug/l	1	1	U	ug/l	1	1	UJ	ug/l	1	-		ug/l	
Aroclor-1242		1	U	ug/l	1	1	U	ug/l	1	1	UJ	ug/l	1	-		ug/l	
Aroclor-1248		1	U	ug/l	1	1	U	ug/l	1	1	UJ	ug/l	1	-		ug/l	
Aroclor-1254		1	U	ug/l	1	1	U	ug/l	1	1	UJ	ug/l	1	-		ug/l	
Aroclor-1260		1	U	ug/l	1	1	U	ug/l	1	1	UJ	ug/l	1	-		ug/l	
CLP METALS AND CYANIDE	ug/l																
Aluminum		9990		ug/l	200	43	J	ug/l	200	153	J	ug/l		200	U	ug/l	200
Antimony		20.7	U	ug/l	60	20.7	U	ug/l	60	8.6	U	ug/l		60	U	ug/l	60
Arsenic		2.1	J	ug/l	10	1.6	U	ug/l	10	.5	U	ug/l		10	U	ug/l	10
Barium		126	J	ug/l	200	14.2	J	ug/l	200	26	J	ug/l		16.7	J	ug/l	200
Beryllium		.39	J	ug/l	5	.26	J	ug/l	5	.3	U	ug/l		5	U	ug/l	5
Cadmium		3.2	U	ug/l	5	12.7		ug/l	5	1.2	U	ug/l		5	U	ug/l	5
Calcium		7430		ug/l	5000	802	J	ug/l	5000	15000		ug/l		5000	U	ug/l	5000
Chromium		13		ug/l	10	3.3	U	ug/l	10	2	U	ug/l		10	U	ug/l	10
Cobalt		4.1	U	ug/l	50	4.1	U	ug/l	50	2.3	U	ug/l		50	U	ug/l	50
Copper		19.9	J	ug/l	25	2.6	J	ug/l	25	1.1	U	ug/l		25	U	ug/l	25
Iron		65600		ug/l	100	198		ug/l	100	13.3	U	ug/l		100	U	ug/l	100
Lead		3.9	J	ug/l	5	1.1	J	ug/l	3	1.1	J	ug/l		3	U	ug/l	3
Magnesium		3590	J	ug/l	5000	540	J	ug/l	5000	612	J	ug/l		506	J	ug/l	5000

Naval Air Station Whiting Field, Milton, Florida
Site 15 Groundwater Data

Lab Sample Number:	90214004				90214003				RB956016				ME377003			
Site	WHITING				WHITING				WHITING				WHITING			
Locator	WHF15-6B				WHF15-6D				15G00101				15G00101			
Collect Date:	24-NOV-93				24-NOV-93				08-AUG-96				28-JUL-97			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
Manganese	291		ug/l	15	10.8	J	ug/l	15	8.1	J	ug/l		15	U	ug/l	15
Mercury	.15	U	ug/l	.2	.15	U	ug/l	.2	.1	U	ug/l		.2	U	ug/l	.2
Nickel	11.7	J	ug/l	40	9	U	ug/l	40	7.3	U	ug/l		40	U	ug/l	40
Potassium	2680	J	ug/l	5000	641	J	ug/l	5000	1680	J	ug/l		5000	U	ug/l	5000
Selenium	2	U	ug/l	5	2	U	ug/l	5	.6	U	ug/l		5	UJ	ug/l	5
Silver	2.7	U	ug/l	10	2.7	U	ug/l	10	2.5	U	ug/l		10	U	ug/l	10
Sodium	3800	J	ug/l	5000	2890	J	ug/l	5000	3420	J	ug/l		4370	J	ug/l	5000
Thallium	.92	J	ug/l	10	.91	J	ug/l	10	.6	U	ug/l		10	U	ug/l	10
Vanadium	17.6	J	ug/l	50	2.5	U	ug/l	50	1.2	U	ug/l		50	U	ug/l	50
Zinc	43.7		ug/l	20	17.1	J	ug/l	20	7.5	U	ug/l		20	U	ug/l	20
Cyanide	2.1	J	ug/l	10	1.7	U	ug/l	10	2.5	J	ug/l		-		ug/l	

Locator Annotations: A = DUPLICATE SAMPLE B = SHALLOW SAMPLE C = INTERMEDIATE SAMPLE CD = DOUBLE INTERMEDIATE SAMPLE D = DEEP SAMPLE

Qualifiers: U = NOT DETECTED J = ESTIMATED VALUE UJ = REPORTED QUANTITATION LIMIT IS QUALIFIED AS ESTIMATED R = RESULT IS REJECTED AND UNUSABLE

Naval Air Station Whiting Field, Milton, Florida
Site 15 Groundwater Data

Lab Sample Number:		RB980003			ME377002			RB980010			RB980002		
Site		WHITING			WHITING			WHITING			WHITING		
Locator		15G00201			15G00201			15G00201F			15G00202		
Collect Date:		13-AUG-96			28-JUL-97			13-AUG-96			12-AUG-96		
		VALUE QUAL	UNITS	DL	VALUE QUAL	UNITS	DL	VALUE QUAL	UNITS	DL	VALUE QUAL	UNITS	DL
CLP VOLATILES 90-SOW	ug/l												
Chloromethane		10 UJ	ug/l	10	10 U	ug/l	10	-	ug/l		10 UJ	ug/l	10
Bromomethane		10 U	ug/l	10	10 U	ug/l	10	-	ug/l		10 U	ug/l	10
Vinyl chloride		10 U	ug/l	10	10 U	ug/l	10	-	ug/l		10 U	ug/l	10
Chloroethane		10 UJ	ug/l	10	10 U	ug/l	10	-	ug/l		10 UJ	ug/l	10
Methylene chloride		10 U	ug/l	10	10 U	ug/l	10	-	ug/l		10 U	ug/l	10
Acetone		10 UJ	ug/l	10	10 U	ug/l	10	-	ug/l		10 UJ	ug/l	10
Carbon disulfide		10 U	ug/l	10	10 U	ug/l	10	-	ug/l		10 U	ug/l	10
1,1-Dichloroethene		10 U	ug/l	10	10 U	ug/l	10	-	ug/l		10 U	ug/l	10
1,1-Dichloroethane		10 UJ	ug/l	10	10 U	ug/l	10	-	ug/l		10 UJ	ug/l	10
1,2-Dichloroethene (total)		10 U	ug/l	10	10 U	ug/l	10	-	ug/l		10 U	ug/l	10
Chloroform		10 U	ug/l	10	10 U	ug/l	10	-	ug/l		10 U	ug/l	10
1,2-Dichloroethane		10 U	ug/l	10	10 U	ug/l	10	-	ug/l		10 U	ug/l	10
2-Butanone		10 UJ	ug/l	10	10 U	ug/l	10	-	ug/l		10 UJ	ug/l	10
1,1,1-Trichloroethane		10 U	ug/l	10	10 U	ug/l	10	-	ug/l		10 U	ug/l	10
Carbon tetrachloride		10 U	ug/l	10	10 U	ug/l	10	-	ug/l		10 U	ug/l	10
Bromodichloromethane		10 U	ug/l	10	10 U	ug/l	10	-	ug/l		10 U	ug/l	10
1,2-Dichloropropane		10 U	ug/l	10	10 U	ug/l	10	-	ug/l		10 U	ug/l	10
cis-1,3-Dichloropropene		10 U	ug/l	10	10 U	ug/l	10	-	ug/l		10 U	ug/l	10
Trichloroethene		10 U	ug/l	10	10 U	ug/l	10	-	ug/l		1 J	ug/l	10
Dibromochloromethane		10 U	ug/l	10	10 U	ug/l	10	-	ug/l		10 U	ug/l	10
1,1,2-Trichloroethane		10 U	ug/l	10	10 U	ug/l	10	-	ug/l		10 U	ug/l	10
Benzene		10 U	ug/l	10	10 U	ug/l	10	-	ug/l		10 U	ug/l	10
trans-1,3-Dichloropropene		10 U	ug/l	10	10 U	ug/l	10	-	ug/l		10 U	ug/l	10
Bromoform		10 U	ug/l	10	10 U	ug/l	10	-	ug/l		10 U	ug/l	10
4-Methyl-2-pentanone		10 U	ug/l	10	10 U	ug/l	10	-	ug/l		10 U	ug/l	10
2-Hexanone		10 U	ug/l	10	10 U	ug/l	10	-	ug/l		10 U	ug/l	10
Tetrachloroethene		10 U	ug/l	10	10 U	ug/l	10	-	ug/l		10 U	ug/l	10
Toluene		10 U	ug/l	10	10 U	ug/l	10	-	ug/l		10 U	ug/l	10
1,1,2,2-Tetrachloroethane		10 U	ug/l	10	10 U	ug/l	10	-	ug/l		10 U	ug/l	10
Chlorobenzene		10 U	ug/l	10	10 U	ug/l	10	-	ug/l		10 U	ug/l	10
Ethylbenzene		10 U	ug/l	10	10 U	ug/l	10	-	ug/l		10 U	ug/l	10
Styrene		10 U	ug/l	10	10 U	ug/l	10	-	ug/l		10 U	ug/l	10
Xylenes (total)		10 U	ug/l	10	10 U	ug/l	10	-	ug/l		10 U	ug/l	10
CLP SEMIVOLATILES 90-SOW	ug/l												
Phenol		10 U	ug/l	10	-	ug/l		-	ug/l		10 UJ	ug/l	10
bis(2-Chloroethyl) ether		10 U	ug/l	10	-	ug/l		-	ug/l		10 UJ	ug/l	10
2-Chlorophenol		10 U	ug/l	10	-	ug/l		-	ug/l		10 UJ	ug/l	10
1,3-Dichlorobenzene		10 U	ug/l	10	-	ug/l		-	ug/l		10 UJ	ug/l	10
1,4-Dichlorobenzene		10 U	ug/l	10	-	ug/l		-	ug/l		10 UJ	ug/l	10

Naval Air Station Whiting Field, Milton, Florida
Site 15 Groundwater Data

Lab Sample Number:	RB980003				ME377002				RB980010				RB980002			
Site	WHITING				WHITING				WHITING				WHITING			
Locator	15G00201				15G00201				15G00201F				15G00202			
Collect Date:	13-AUG-96				28-JUL-97				13-AUG-96				12-AUG-96			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
1,2-Dichlorobenzene	10	U	ug/l	10	-		ug/l		-		ug/l		10	UJ	ug/l	10
2-Methylphenol	10	U	ug/l	10	-		ug/l		-		ug/l		10	UJ	ug/l	10
2,2-oxybis(1-Chloropropane)	10	U	ug/l	10	-		ug/l		-		ug/l		10	UJ	ug/l	10
4-Methylphenol	10	U	ug/l	10	-		ug/l		-		ug/l		10	UJ	ug/l	10
N-Nitroso-di-n-propylamine	10	U	ug/l	10	-		ug/l		-		ug/l		10	UJ	ug/l	10
Hexachloroethane	10	U	ug/l	10	-		ug/l		-		ug/l		10	UJ	ug/l	10
Nitrobenzene	10	U	ug/l	10	-		ug/l		-		ug/l		10	UJ	ug/l	10
Isophorone	10	U	ug/l	10	-		ug/l		-		ug/l		10	UJ	ug/l	10
2-Nitrophenol	10	U	ug/l	10	-		ug/l		-		ug/l		10	UJ	ug/l	10
2,4-Dimethylphenol	10	U	ug/l	10	-		ug/l		-		ug/l		10	UJ	ug/l	10
bis(2-Chloroethoxy) methane	10	U	ug/l	10	-		ug/l		-		ug/l		10	UJ	ug/l	10
2,4-Dichlorophenol	10	U	ug/l	10	-		ug/l		-		ug/l		10	UJ	ug/l	10
1,2,4-Trichlorobenzene	10	U	ug/l	10	-		ug/l		-		ug/l		10	UJ	ug/l	10
Naphthalene	10	U	ug/l	10	-		ug/l		-		ug/l		10	UJ	ug/l	10
4-Chloroaniline	10	U	ug/l	10	-		ug/l		-		ug/l		10	UJ	ug/l	10
Hexachlorobutadiene	10	U	ug/l	10	-		ug/l		-		ug/l		10	UJ	ug/l	10
4-Chloro-3-methylphenol	10	U	ug/l	10	-		ug/l		-		ug/l		10	UJ	ug/l	10
2-Methylnaphthalene	10	U	ug/l	10	-		ug/l		-		ug/l		10	UJ	ug/l	10
Hexachlorocyclopentadiene	10	U	ug/l	10	-		ug/l		-		ug/l		10	UJ	ug/l	10
2,4,6-Trichlorophenol	10	U	ug/l	10	-		ug/l		-		ug/l		10	UJ	ug/l	10
2,4,5-Trichlorophenol	25	U	ug/l	25	-		ug/l		-		ug/l		25	UJ	ug/l	25
2-Chloronaphthalene	10	U	ug/l	10	-		ug/l		-		ug/l		10	UJ	ug/l	10
2-Nitroaniline	25	U	ug/l	25	-		ug/l		-		ug/l		25	UJ	ug/l	25
Dimethylphthalate	10	U	ug/l	10	-		ug/l		-		ug/l		10	UJ	ug/l	10
Acenaphthylene	10	U	ug/l	10	-		ug/l		-		ug/l		10	UJ	ug/l	10
2,6-Dinitrotoluene	10	U	ug/l	10	-		ug/l		-		ug/l		10	UJ	ug/l	10
3-Nitroaniline	25	U	ug/l	25	-		ug/l		-		ug/l		25	UJ	ug/l	25
Acenaphthene	10	U	ug/l	10	-		ug/l		-		ug/l		10	UJ	ug/l	10
2,4-Dinitrophenol	25	UJ	ug/l	25	-		ug/l		-		ug/l		25	UJ	ug/l	25
4-Nitrophenol	25	U	ug/l	25	-		ug/l		-		ug/l		25	UJ	ug/l	25
Dibenzofuran	10	U	ug/l	10	-		ug/l		-		ug/l		10	UJ	ug/l	10
2,4-Dinitrotoluene	10	U	ug/l	10	-		ug/l		-		ug/l		10	UJ	ug/l	10
Diethylphthalate	10	U	ug/l	10	-		ug/l		-		ug/l		10	UJ	ug/l	10
4-Chlorophenyl-phenylether	10	U	ug/l	10	-		ug/l		-		ug/l		10	UJ	ug/l	10
Fluorene	10	U	ug/l	10	-		ug/l		-		ug/l		10	UJ	ug/l	10
4-Nitroaniline	25	UJ	ug/l	25	-		ug/l		-		ug/l		25	UJ	ug/l	25
4,6-Dinitro-2-methylphenol	25	UJ	ug/l	25	-		ug/l		-		ug/l		25	UJ	ug/l	25
N-Nitrosodiphenylamine	10	U	ug/l	10	-		ug/l		-		ug/l		10	UJ	ug/l	10
4-Bromophenyl-phenylether	10	U	ug/l	10	-		ug/l		-		ug/l		10	UJ	ug/l	10
Hexachlorobenzene	10	U	ug/l	10	-		ug/l		-		ug/l		10	UJ	ug/l	10
Pentachlorophenol	25	UJ	ug/l	25	-		ug/l		-		ug/l		25	UJ	ug/l	25
Phenanthrene	10	U	ug/l	10	-		ug/l		-		ug/l		10	UJ	ug/l	10
Anthracene	10	U	ug/l	10	-		ug/l		-		ug/l		10	UJ	ug/l	10
Carbazole	10	U	ug/l	10	-		ug/l		-		ug/l		10	UJ	ug/l	10
Di-n-butylphthalate	10	U	ug/l	10	-		ug/l		-		ug/l		10	UJ	ug/l	10
Fluoranthene	10	U	ug/l	10	-		ug/l		-		ug/l		10	UJ	ug/l	10
Pyrene	10	U	ug/l	10	-		ug/l		-		ug/l		10	UJ	ug/l	10
Butylbenzylphthalate	10	U	ug/l	10	-		ug/l		-		ug/l		10	UJ	ug/l	10
3,3-Dichlorobenzidine	10	UJ	ug/l	10	-		ug/l		-		ug/l		10	UJ	ug/l	10
Benzo (a) anthracene	10	U	ug/l	10	-		ug/l		-		ug/l		10	UJ	ug/l	10
Chrysene	10	U	ug/l	10	-		ug/l		-		ug/l		10	UJ	ug/l	10
bis(2-Ethylhexyl) phthalate	2	J	ug/l	10	-		ug/l		-		ug/l		2	J	ug/l	10

Naval Air Station Whiting Field, Milton, Florida
Site 15 Groundwater Data

Lab Sample Number:	RB980003				ME377002				RB980010				RB980002			
Site	WHITING				WHITING				WHITING				WHITING			
Locator	15G00201				15G00201				15G00201F				15G00202			
Collect Date:	13-AUG-96				28-JUL-97				13-AUG-96				12-AUG-96			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
Di-n-octylphthalate	10	U	ug/l	10	-		ug/l		-		ug/l		10	UJ	ug/l	10
Benzo (b) fluoranthene	10	U	ug/l	10	-		ug/l		-		ug/l		10	UJ	ug/l	10
Benzo (k) fluoranthene	10	U	ug/l	10	-		ug/l		-		ug/l		10	UJ	ug/l	10
Benzo (a) pyrene	10	U	ug/l	10	-		ug/l		-		ug/l		10	UJ	ug/l	10
Indeno (1,2,3-cd) pyrene	10	U	ug/l	10	-		ug/l		-		ug/l		10	UJ	ug/l	10
Dibenzo (a,h) anthracene	10	U	ug/l	10	-		ug/l		-		ug/l		10	UJ	ug/l	10
Benzo (g,h,i) perylene	10	U	ug/l	10	-		ug/l		-		ug/l		10	UJ	ug/l	10
CLP PESTICIDES/PCBS 90-SOW ug/l																
alpha-BHC	.05	UJ	ug/l	.05	-		ug/l		-		ug/l		.05	UJ	ug/l	.05
beta-BHC	.05	UJ	ug/l	.05	-		ug/l		-		ug/l		.05	UJ	ug/l	.05
delta-BHC	.05	UJ	ug/l	.05	-		ug/l		-		ug/l		.05	UJ	ug/l	.05
gamma-BHC (Lindane)	.05	UJ	ug/l	.05	-		ug/l		-		ug/l		.05	UJ	ug/l	.05
Heptachlor	.05	UJ	ug/l	.05	-		ug/l		-		ug/l		.05	UJ	ug/l	.05
Aldrin	.05	UJ	ug/l	.05	-		ug/l		-		ug/l		.05	UJ	ug/l	.05
Heptachlor epoxide	.05	UJ	ug/l	.05	-		ug/l		-		ug/l		.05	UJ	ug/l	.05
Endosulfan I	.05	UJ	ug/l	.05	-		ug/l		-		ug/l		.05	UJ	ug/l	.05
Dieldrin	.1	UJ	ug/l	.1	-		ug/l		-		ug/l		.1	UJ	ug/l	.1
4,4-DDE	.1	UJ	ug/l	.1	-		ug/l		-		ug/l		.1	UJ	ug/l	.1
Endrin	.1	UJ	ug/l	.1	-		ug/l		-		ug/l		.1	UJ	ug/l	.1
Endosulfan II	.1	UJ	ug/l	.1	-		ug/l		-		ug/l		.1	UJ	ug/l	.1
4,4-DDD	.1	UJ	ug/l	.1	-		ug/l		-		ug/l		.1	UJ	ug/l	.1
Endosulfan sulfate	.1	UJ	ug/l	.1	-		ug/l		-		ug/l		.1	UJ	ug/l	.1
4,4-DDT	.12	J	ug/l	.1	-		ug/l		-		ug/l		.1	UJ	ug/l	.1
Methoxychlor	.5	UJ	ug/l	.5	-		ug/l		-		ug/l		.5	UJ	ug/l	.5
Endrin ketone	.1	UJ	ug/l	.1	-		ug/l		-		ug/l		.1	UJ	ug/l	.1
Endrin aldehyde	.1	UJ	ug/l	.1	-		ug/l		-		ug/l		.1	UJ	ug/l	.1
alpha-Chlordane	.05	UJ	ug/l	.05	-		ug/l		-		ug/l		.05	UJ	ug/l	.05
gamma-Chlordane	.05	UJ	ug/l	.05	-		ug/l		-		ug/l		.05	UJ	ug/l	.05
Toxaphene	5	UJ	ug/l	5	-		ug/l		-		ug/l		5	UJ	ug/l	5
Aroclor-1016	1	UJ	ug/l	1	-		ug/l		-		ug/l		1	UJ	ug/l	1
Aroclor-1221	2	UJ	ug/l	2	-		ug/l		-		ug/l		2	UJ	ug/l	2
Aroclor-1232	1	UJ	ug/l	1	-		ug/l		-		ug/l		1	UJ	ug/l	1
Aroclor-1242	1	UJ	ug/l	1	-		ug/l		-		ug/l		1	UJ	ug/l	1
Aroclor-1248	1	UJ	ug/l	1	-		ug/l		-		ug/l		1	UJ	ug/l	1
Aroclor-1254	1	UJ	ug/l	1	-		ug/l		-		ug/l		1	UJ	ug/l	1
Aroclor-1260	1	UJ	ug/l	1	-		ug/l		-		ug/l		1	UJ	ug/l	1
CLP METALS AND CYANIDE ug/l																
Aluminum	1030		ug/l		200	U	ug/l	200	46.2	U	ug/l		204		ug/l	
Antimony	8.6	U	ug/l		60	U	ug/l	60	8.6	U	ug/l		8.6	U	ug/l	
Arsenic	2.2	J	ug/l		10	U	ug/l	10	.5	U	ug/l		.5	U	ug/l	
Barium	34.6	J	ug/l		27.1	J	ug/l	200	30.2	J	ug/l		23.2	J	ug/l	
Beryllium	.3	U	ug/l		5	U	ug/l	5	.3	U	ug/l		.3	U	ug/l	
Cadmium	1.2	U	ug/l		5	U	ug/l	5	1.3	J	ug/l		1.2	U	ug/l	
Calcium	1470	J	ug/l		1810	J	ug/l	5000	1480	J	ug/l		892	J	ug/l	
Chromium	2.8	J	ug/l		10	U	ug/l	10	2	U	ug/l		2	U	ug/l	
Cobalt	2.3	U	ug/l		50	U	ug/l	50	2.3	U	ug/l		2.3	U	ug/l	
Copper	1.3	J	ug/l		25	U	ug/l	25	1.1	U	ug/l		1.5	J	ug/l	
Iron	4250		ug/l		923		ug/l	100	89.8	J	ug/l		462		ug/l	
Lead	1.5	J	ug/l		3	U	ug/l	3	.5	U	ug/l		.5	J	ug/l	
Magnesium	283	J	ug/l		533	J	ug/l	5000	283	J	ug/l		751	J	ug/l	

Naval Air Station Whiting Field, Milton, Florida
Site 15 Groundwater Data

Lab Sample Number:	RB980003				ME377002				RB980010				RB980002			
Site	WHITING				WHITING				WHITING				WHITING			
Locator	15G00201				15G00201				15G00201F				15G00202			
Collect Date:	13-AUG-96				28-JUL-97				13-AUG-96				12-AUG-96			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
Manganese	141		ug/l		553		ug/l	15	131		ug/l		6.1	J	ug/l	
Mercury	.1	U	ug/l		.2	U	ug/l	.2	.1	U	ug/l		.2	U	ug/l	
Nickel	7.3	U	ug/l		40	U	ug/l	40	7.3	U	ug/l		7.3	U	ug/l	
Potassium	1600	J	ug/l		1080	J	ug/l	5000	1440	J	ug/l		431	J	ug/l	
Selenium	.6	U	ug/l		5	U	ug/l	5	.6	U	ug/l		.6	U	ug/l	
Silver	2.5	U	ug/l		10	U	ug/l	10	2.5	U	ug/l		2.5	U	ug/l	
Sodium	978	J	ug/l		1390	J	ug/l	5000	969	J	ug/l		3500	J	ug/l	
Thallium	.6	U	ug/l		10	U	ug/l	10	.6	U	ug/l		.6	U	ug/l	
Vanadium	5.2	J	ug/l		50	U	ug/l	50	1.2	U	ug/l		1.2	U	ug/l	
Zinc	5.2	U	ug/l		20	U	ug/l	20	7.5	U	ug/l		86.6		ug/l	
Cyanide	1.6	U	ug/l		-		ug/l		-		ug/l		1.5	U	ug/l	

Locator Annotations: A = DUPLICATE SAMPLE B = SHALLOW SAMPLE C = INTERMEDIATE SAMPLE CD = DOUBLE INTERMEDIATE SAMPLE D = DEEP SAMPLE

Qualifiers: U = NOT DETECTED J = ESTIMATED VALUE UJ = REPORTED QUANTITATION LIMIT IS QUALIFIED AS ESTIMATED R = RESULT IS REJECTED AND UNUSABLE

Naval Air Station Whiting Field, Milton, Florida
Site 15 Groundwater Data

Lab Sample Number:		ME377004				RB980009				RB956017				ME377005			
Site		WHITING				WHITING				WHITING				WHITING			
Locator		15G00202				15G00202F				15G00203				15G00203			
Collect Date:		29-JUL-97				12-AUG-96				09-AUG-96				29-JUL-97			
		VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
CLP VOLATILES 90-SOW	ug/l																
Chloromethane		10	U	ug/l	10	-		ug/l		10	UJ	ug/l	10	10	U	ug/l	10
Bromomethane		10	U	ug/l	10	-		ug/l		10	U	ug/l	10	10	U	ug/l	10
Vinyl chloride		10	U	ug/l	10	-		ug/l		10	U	ug/l	10	10	U	ug/l	10
Chloroethane		10	U	ug/l	10	-		ug/l		10	UJ	ug/l	10	10	U	ug/l	10
Methylene chloride		10	U	ug/l	10	-		ug/l		10	U	ug/l	10	10	U	ug/l	10
Acetone		10	U	ug/l	10	-		ug/l		15	UJ	ug/l	15	10	U	ug/l	10
Carbon disulfide		10	U	ug/l	10	-		ug/l		10	U	ug/l	10	10	U	ug/l	10
1,1-Dichloroethene		10	U	ug/l	10	-		ug/l		10	U	ug/l	10	10	U	ug/l	10
1,1-Dichloroethane		10	U	ug/l	10	-		ug/l		10	U	ug/l	10	10	U	ug/l	10
1,2-Dichloroethene (total)		10	U	ug/l	10	-		ug/l		10	U	ug/l	10	10	U	ug/l	10
Chloroform		10	U	ug/l	10	-		ug/l		10	U	ug/l	10	10	U	ug/l	10
1,2-Dichloroethane		10	U	ug/l	10	-		ug/l		10	U	ug/l	10	10	U	ug/l	10
2-Butanone		10	U	ug/l	10	-		ug/l		10	U	ug/l	10	10	U	ug/l	10
1,1,1-Trichloroethane		10	U	ug/l	10	-		ug/l		10	U	ug/l	10	10	U	ug/l	10
Carbon tetrachloride		10	U	ug/l	10	-		ug/l		10	U	ug/l	10	10	U	ug/l	10
Bromodichloromethane		10	U	ug/l	10	-		ug/l		10	U	ug/l	10	10	U	ug/l	10
1,2-Dichloropropane		10	U	ug/l	10	-		ug/l		10	U	ug/l	10	10	U	ug/l	10
cis-1,3-Dichloropropene		10	U	ug/l	10	-		ug/l		10	U	ug/l	10	10	U	ug/l	10
Trichloroethene		2	J	ug/l	10	-		ug/l		10	U	ug/l	10	1	J	ug/l	10
Dibromochloromethane		10	U	ug/l	10	-		ug/l		10	U	ug/l	10	10	U	ug/l	10
1,1,2-Trichloroethane		10	U	ug/l	10	-		ug/l		10	U	ug/l	10	10	U	ug/l	10
Benzene		10	U	ug/l	10	-		ug/l		10	U	ug/l	10	10	U	ug/l	10
trans-1,3-Dichloropropene		10	U	ug/l	10	-		ug/l		10	U	ug/l	10	10	U	ug/l	10
Bromoform		10	U	ug/l	10	-		ug/l		10	U	ug/l	10	10	U	ug/l	10
4-Methyl-2-pentanone		10	U	ug/l	10	-		ug/l		10	U	ug/l	10	10	U	ug/l	10
2-Hexanone		10	U	ug/l	10	-		ug/l		10	U	ug/l	10	10	U	ug/l	10
Tetrachloroethene		10	U	ug/l	10	-		ug/l		10	U	ug/l	10	10	U	ug/l	10
Toluene		10	U	ug/l	10	-		ug/l		10	U	ug/l	10	10	U	ug/l	10
1,1,2,2-Tetrachloroethane		10	U	ug/l	10	-		ug/l		10	U	ug/l	10	10	U	ug/l	10
Chlorobenzene		10	U	ug/l	10	-		ug/l		10	U	ug/l	10	10	U	ug/l	10
Ethylbenzene		10	U	ug/l	10	-		ug/l		10	U	ug/l	10	10	U	ug/l	10
Styrene		10	U	ug/l	10	-		ug/l		10	U	ug/l	10	10	U	ug/l	10
Xylenes (total)		10	U	ug/l	10	-		ug/l		10	U	ug/l	10	10	U	ug/l	10
CLP SEMIVOLATILES 90-SOW	ug/l																
Phenol		-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	
bis(2-Chloroethyl) ether		-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	
2-Chlorophenol		-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	
1,3-Dichlorobenzene		-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	
1,4-Dichlorobenzene		-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	

Naval Air Station Whiting Field, Milton, Florida
Site 15 Groundwater Data

Lab Sample Number:	ME377004				RB980009				RB956017				ME377005			
Site	WHITING				WHITING				WHITING				WHITING			
Locator	15G00202				15G00202F				15G00203				15G00203			
Collect Date:	29-JUL-97				12-AUG-96				09-AUG-96				29-JUL-97			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
1,2-Dichlorobenzene	-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	
2-Methylphenol	-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	
2,2-oxybis(1-Chloropropane)	-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	
4-Methylphenol	-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	
N-Nitroso-di-n-propylamine	-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	
Hexachloroethane	-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	
Nitrobenzene	-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	
Isophorone	-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	
2-Nitrophenol	-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	
2,4-Dimethylphenol	-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	
bis(2-Chloroethoxy) methane	-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	
2,4-Dichlorophenol	-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	
1,2,4-Trichlorobenzene	-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	
Naphthalene	-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	
4-Chloroaniline	-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	
Hexachlorobutadiene	-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	
4-Chloro-3-methylphenol	-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	
2-Methylnaphthalene	-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	
Hexachlorocyclopentadiene	-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	
2,4,6-Trichlorophenol	-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	
2,4,5-Trichlorophenol	-		ug/l		-		ug/l		25	U	ug/l	25	-		ug/l	
2-Chloronaphthalene	-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	
2-Nitroaniline	-		ug/l		-		ug/l		25	U	ug/l	25	-		ug/l	
Dimethylphthalate	-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	
Acenaphthylene	-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	
2,6-Dinitrotoluene	-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	
3-Nitroaniline	-		ug/l		-		ug/l		25	U	ug/l	25	-		ug/l	
Acenaphthene	-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	
2,4-Dinitrophenol	-		ug/l		-		ug/l		25	UJ	ug/l	25	-		ug/l	
4-Nitrophenol	-		ug/l		-		ug/l		25	U	ug/l	25	-		ug/l	
Dibenzofuran	-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	
2,4-Dinitrotoluene	-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	
Diethylphthalate	-		ug/l		-		ug/l		2	J	ug/l	10	-		ug/l	
4-Chlorophenyl-phenylether	-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	
Fluorene	-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	
4-Nitroaniline	-		ug/l		-		ug/l		25	UJ	ug/l	25	-		ug/l	
4,6-Dinitro-2-methylphenol	-		ug/l		-		ug/l		25	UJ	ug/l	25	-		ug/l	
N-Nitrosodiphenylamine	-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	
4-Bromophenyl-phenylether	-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	
Hexachlorobenzene	-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	
Pentachlorophenol	-		ug/l		-		ug/l		25	U	ug/l	25	-		ug/l	
Phenanthrene	-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	
Anthracene	-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	
Carbazole	-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	
Di-n-butylphthalate	-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	
Fluoranthene	-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	
Pyrene	-		ug/l		-		ug/l		10	UJ	ug/l	10	-		ug/l	
Butylbenzylphthalate	-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	
3,3-Dichlorobenzidine	-		ug/l		-		ug/l		10	UJ	ug/l	10	-		ug/l	
Benzo (a) anthracene	-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	
Chrysene	-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	
bis(2-Ethylhexyl) phthalate	-		ug/l		-		ug/l		1	J	ug/l	10	-		ug/l	

Naval Air Station Whiting Field, Milton, Florida
Site 15 Groundwater Data

Lab Sample Number:		ME377004				RB980009				RB956017				ME377005			
Site		WHITING				WHITING				WHITING				WHITING			
Locator		15G00202				15G00202F				15G00203				15G00203			
Collect Date:		29-JUL-97				12-AUG-96				09-AUG-96				29-JUL-97			
		VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
Di-n-octylphthalate		-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	
Benzo (b) fluoranthene		-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	
Benzo (k) fluoranthene		-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	
Benzo (a) pyrene		-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	
Indeno (1,2,3-cd) pyrene		-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	
Dibenzo (a,h) anthracene		-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	
Benzo (g,h,i) perylene		-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	
CLP PESTICIDES/PCBS 90-SOW	ug/l																
alpha-BHC		-		ug/l		-		ug/l		.05	U	ug/l	.05	-		ug/l	
beta-BHC		-		ug/l		-		ug/l		.05	U	ug/l	.05	-		ug/l	
delta-BHC		-		ug/l		-		ug/l		.05	U	ug/l	.05	-		ug/l	
gamma-BHC (Lindane)		-		ug/l		-		ug/l		.05	U	ug/l	.05	-		ug/l	
Heptachlor		-		ug/l		-		ug/l		.05	U	ug/l	.05	-		ug/l	
Aldrin		-		ug/l		-		ug/l		.05	U	ug/l	.05	-		ug/l	
Heptachlor epoxide		-		ug/l		-		ug/l		.05	U	ug/l	.05	-		ug/l	
Endosulfan I		-		ug/l		-		ug/l		.05	U	ug/l	.05	-		ug/l	
Dieldrin		-		ug/l		-		ug/l		.1	U	ug/l	.1	-		ug/l	
4,4-DDE		-		ug/l		-		ug/l		.1	U	ug/l	.1	-		ug/l	
Endrin		-		ug/l		-		ug/l		.1	U	ug/l	.1	-		ug/l	
Endosulfan II		-		ug/l		-		ug/l		.1	U	ug/l	.1	-		ug/l	
4,4-DDD		-		ug/l		-		ug/l		.1	U	ug/l	.1	-		ug/l	
Endosulfan sulfate		-		ug/l		-		ug/l		.1	U	ug/l	.1	-		ug/l	
4,4-DDT		-		ug/l		-		ug/l		.1	UJ	ug/l	.1	-		ug/l	
Methoxychlor		-		ug/l		-		ug/l		.5	U	ug/l	.5	-		ug/l	
Endrin ketone		-		ug/l		-		ug/l		.1	U	ug/l	.1	-		ug/l	
Endrin aldehyde		-		ug/l		-		ug/l		.1	U	ug/l	.1	-		ug/l	
alpha-Chlordane		-		ug/l		-		ug/l		.05	U	ug/l	.05	-		ug/l	
gamma-Chlordane		-		ug/l		-		ug/l		.05	U	ug/l	.05	-		ug/l	
Toxaphene		-		ug/l		-		ug/l		5	U	ug/l	5	-		ug/l	
Aroclor-1016		-		ug/l		-		ug/l		1	U	ug/l	1	-		ug/l	
Aroclor-1221		-		ug/l		-		ug/l		2	U	ug/l	2	-		ug/l	
Aroclor-1232		-		ug/l		-		ug/l		1	U	ug/l	1	-		ug/l	
Aroclor-1242		-		ug/l		-		ug/l		1	U	ug/l	1	-		ug/l	
Aroclor-1248		-		ug/l		-		ug/l		1	U	ug/l	1	-		ug/l	
Aroclor-1254		-		ug/l		-		ug/l		1	U	ug/l	1	-		ug/l	
Aroclor-1260		-		ug/l		-		ug/l		1	U	ug/l	1	-		ug/l	
CLP METALS AND CYANIDE	ug/l																
Aluminum		200	U	ug/l	200	15.7	U	ug/l		156	J	ug/l		200	U	ug/l	200
Antimony		60	U	ug/l	60	8.6	U	ug/l		8.6	U	ug/l		60	U	ug/l	60
Arsenic		10	U	ug/l	10	.5	U	ug/l		.5	U	ug/l		10	U	ug/l	10
Barium		24.6	J	ug/l	200	17.4	J	ug/l		8.2	J	ug/l		200	U	ug/l	200
Beryllium		5	U	ug/l	5	.3	U	ug/l		.3	U	ug/l		5	U	ug/l	5
Cadmium		5	U	ug/l	5	1.3	J	ug/l		1.2	U	ug/l		5	U	ug/l	5
Calcium		5000	U	ug/l	5000	1370	J	ug/l		1600	J	ug/l		1760	J	ug/l	5000
Chromium		10	U	ug/l	10	2	U	ug/l		2	U	ug/l		10	U	ug/l	10
Cobalt		50	U	ug/l	50	2.3	U	ug/l		2.3	U	ug/l		50	U	ug/l	50
Copper		25	U	ug/l	25	1.1	J	ug/l		1.1	U	ug/l		25	U	ug/l	25
Iron		100	U	ug/l	100	43.9	U	ug/l		314		ug/l		111		ug/l	100
Lead		3	U	ug/l	3	.5	U	ug/l		.5	U	ug/l		3	U	ug/l	3
Magnesium		758	J	ug/l	5000	695	J	ug/l		651	J	ug/l		840	J	ug/l	5000

Naval Air Station Whiting Field, Milton, Florida
Site 15 Groundwater Data

Lab Sample Number:	ME377004				RB980009				RB956017				ME377005			
Site	WHITING				WHITING				WHITING				WHITING			
Locator	15G00202				15G00202F				15G00203				15G00203			
Collect Date:	29-JUL-97				12-AUG-96				09-AUG-96				29-JUL-97			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
Manganese	5.4	J	ug/l	15	7	J	ug/l		25.9		ug/l		12.4	J	ug/l	15
Mercury	.2	U	ug/l	.2	.1	U	ug/l		.1	U	ug/l		.2	U	ug/l	.2
Nickel	40	U	ug/l	40	7.3	U	ug/l		7.3	U	ug/l		40	U	ug/l	40
Potassium	5000	U	ug/l	5000	316	U	ug/l		1250	J	ug/l		5000	U	ug/l	5000
Selenium	5	U	ug/l	5	.6	U	ug/l		.6	U	ug/l		5	U	ug/l	5
Silver	10	U	ug/l	10	2.5	U	ug/l		2.5	U	ug/l		10	U	ug/l	10
Sodium	4030	J	ug/l	5000	3510	J	ug/l		5750		ug/l		6310	J	ug/l	5000
Thallium	10	U	ug/l	10	.6	U	ug/l		.6	U	ug/l		10	U	ug/l	10
Vanadium	50	U	ug/l	50	1.2	U	ug/l		1.2	U	ug/l		50	U	ug/l	50
Zinc	20	U	ug/l	20	123		ug/l		30.5		ug/l		20	U	ug/l	20
Cyanide	-		ug/l		-		ug/l		1.9	J	ug/l		-		ug/l	

Locator Annotations: A = DUPLICATE SAMPLE B = SHALLOW SAMPLE C = INTERMEDIATE SAMPLE CD = DOUBLE INTERMEDIATE SAMPLE D = DEEP SAMPLE

Qualifiers: U = NOT DETECTED J = ESTIMATED VALUE UJ = REPORTED QUANTITATION LIMIT IS QUALIFIED AS ESTIMATED R = RESULT IS REJECTED AND UNUSABLE

Naval Air Station Whiting Field, Milton, Florida
Site 15 Groundwater Data

Lab Sample Number:		RB956019			RB956013			ME390002			RB956018		
Site		WHITING			WHITING			WHITING			WHITING		
Locator		15G00203F			15G00301			15G00301			15G00301F		
Collect Date:		09-AUG-96			08-AUG-96			29-JUL-97			08-AUG-96		
		VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
CLP VOLATILES 90-SOW	ug/l												
Chloromethane		-		ug/l		10	UJ	ug/l	10	10	U	ug/l	10
Bromomethane		-		ug/l		10	U	ug/l	10	10	U	ug/l	10
Vinyl chloride		-		ug/l		10	U	ug/l	10	10	U	ug/l	10
Chloroethane		-		ug/l		10	UJ	ug/l	10	10	U	ug/l	10
Methylene chloride		-		ug/l		10	U	ug/l	10	10	U	ug/l	10
Acetone		-		ug/l		11	UJ	ug/l	11	10	U	ug/l	10
Carbon disulfide		-		ug/l		10	U	ug/l	10	10	U	ug/l	10
1,1-Dichloroethene		-		ug/l		10	U	ug/l	10	10	U	ug/l	10
1,1-Dichloroethane		-		ug/l		10	U	ug/l	10	10	U	ug/l	10
1,2-Dichloroethene (total)		-		ug/l		10	U	ug/l	10	10	U	ug/l	10
Chloroform		-		ug/l		10	U	ug/l	10	10	U	ug/l	10
1,2-Dichloroethane		-		ug/l		10	U	ug/l	10	10	U	ug/l	10
2-Butanone		-		ug/l		10	U	ug/l	10	10	U	ug/l	10
1,1,1-Trichloroethane		-		ug/l		10	U	ug/l	10	10	U	ug/l	10
Carbon tetrachloride		-		ug/l		10	U	ug/l	10	10	U	ug/l	10
Bromodichloromethane		-		ug/l		10	U	ug/l	10	10	U	ug/l	10
1,2-Dichloropropane		-		ug/l		10	U	ug/l	10	10	U	ug/l	10
cis-1,3-Dichloropropene		-		ug/l		10	U	ug/l	10	10	U	ug/l	10
Trichloroethene		-		ug/l		10	U	ug/l	10	10	U	ug/l	10
Dibromochloromethane		-		ug/l		10	U	ug/l	10	10	U	ug/l	10
1,1,2-Trichloroethane		-		ug/l		10	U	ug/l	10	10	U	ug/l	10
Benzene		-		ug/l		10	U	ug/l	10	10	U	ug/l	10
trans-1,3-Dichloropropene		-		ug/l		10	U	ug/l	10	10	U	ug/l	10
Bromoform		-		ug/l		10	U	ug/l	10	10	U	ug/l	10
4-Methyl-2-pentanone		-		ug/l		10	U	ug/l	10	10	U	ug/l	10
2-Hexanone		-		ug/l		10	U	ug/l	10	10	U	ug/l	10
Tetrachloroethene		-		ug/l		10	U	ug/l	10	10	U	ug/l	10
Toluene		-		ug/l		10	U	ug/l	10	10	U	ug/l	10
1,1,2,2-Tetrachloroethane		-		ug/l		10	U	ug/l	10	10	U	ug/l	10
Chlorobenzene		-		ug/l		10	U	ug/l	10	10	U	ug/l	10
Ethylbenzene		-		ug/l		10	U	ug/l	10	10	U	ug/l	10
Styrene		-		ug/l		10	U	ug/l	10	10	U	ug/l	10
Xylenes (total)		-		ug/l		10	U	ug/l	10	10	U	ug/l	10
CLP SEMIVOLATILES 90-SOW	ug/l												
Phenol		-		ug/l		10	U	ug/l	10	-		ug/l	
bis(2-Chloroethyl) ether		-		ug/l		10	U	ug/l	10	-		ug/l	
2-Chlorophenol		-		ug/l		10	U	ug/l	10	-		ug/l	
1,3-Dichlorobenzene		-		ug/l		10	U	ug/l	10	-		ug/l	
1,4-Dichlorobenzene		-		ug/l		10	U	ug/l	10	-		ug/l	

Naval Air Station Whiting Field, Milton, Florida
Site 15 Groundwater Data

Lab Sample Number:	RB956019				RB956013				ME390002				RB956018			
Site	WHITING				WHITING				WHITING				WHITING			
Locator	15G00203F				15G00301				15G00301				15G00301F			
Collect Date:	09-AUG-96				08-AUG-96				29-JUL-97				08-AUG-96			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
1,2-Dichlorobenzene	-		ug/l		10	U	ug/l	10	-		ug/l		-		ug/l	
2-Methylphenol	-		ug/l		10	U	ug/l	10	-		ug/l		-		ug/l	
2,2-oxybis(1-Chloropropane)	-		ug/l		10	U	ug/l	10	-		ug/l		-		ug/l	
4-Methylphenol	-		ug/l		10	U	ug/l	10	-		ug/l		-		ug/l	
N-Nitroso-di-n-propylamine	-		ug/l		10	U	ug/l	10	-		ug/l		-		ug/l	
Hexachloroethane	-		ug/l		10	U	ug/l	10	-		ug/l		-		ug/l	
Nitrobenzene	-		ug/l		10	U	ug/l	10	-		ug/l		-		ug/l	
Isophorone	-		ug/l		10	U	ug/l	10	-		ug/l		-		ug/l	
2-Nitrophenol	-		ug/l		10	U	ug/l	10	-		ug/l		-		ug/l	
2,4-Dimethylphenol	-		ug/l		10	U	ug/l	10	-		ug/l		-		ug/l	
bis(2-Chloroethoxy) methane	-		ug/l		10	U	ug/l	10	-		ug/l		-		ug/l	
2,4-Dichlorophenol	-		ug/l		10	U	ug/l	10	-		ug/l		-		ug/l	
1,2,4-Trichlorobenzene	-		ug/l		10	U	ug/l	10	-		ug/l		-		ug/l	
Naphthalene	-		ug/l		10	U	ug/l	10	-		ug/l		-		ug/l	
4-Chloroaniline	-		ug/l		10	U	ug/l	10	-		ug/l		-		ug/l	
Hexachlorobutadiene	-		ug/l		10	U	ug/l	10	-		ug/l		-		ug/l	
4-Chloro-3-methylphenol	-		ug/l		10	U	ug/l	10	-		ug/l		-		ug/l	
2-Methylnaphthalene	-		ug/l		10	U	ug/l	10	-		ug/l		-		ug/l	
Hexachlorocyclopentadiene	-		ug/l		10	U	ug/l	10	-		ug/l		-		ug/l	
2,4,6-Trichlorophenol	-		ug/l		10	U	ug/l	10	-		ug/l		-		ug/l	
2,4,5-Trichlorophenol	-		ug/l		25	U	ug/l	25	-		ug/l		-		ug/l	
2-Chloronaphthalene	-		ug/l		10	U	ug/l	10	-		ug/l		-		ug/l	
2-Nitroaniline	-		ug/l		25	U	ug/l	25	-		ug/l		-		ug/l	
Dimethylphthalate	-		ug/l		10	U	ug/l	10	-		ug/l		-		ug/l	
Acenaphthylene	-		ug/l		10	U	ug/l	10	-		ug/l		-		ug/l	
2,6-Dinitrotoluene	-		ug/l		10	U	ug/l	10	-		ug/l		-		ug/l	
3-Nitroaniline	-		ug/l		25	U	ug/l	25	-		ug/l		-		ug/l	
Acenaphthene	-		ug/l		10	U	ug/l	10	-		ug/l		-		ug/l	
2,4-Dinitrophenol	-		ug/l		25	UJ	ug/l	25	-		ug/l		-		ug/l	
4-Nitrophenol	-		ug/l		25	U	ug/l	25	-		ug/l		-		ug/l	
Dibenzofuran	-		ug/l		10	U	ug/l	10	-		ug/l		-		ug/l	
2,4-Dinitrotoluene	-		ug/l		10	U	ug/l	10	-		ug/l		-		ug/l	
Diethylphthalate	-		ug/l		10	U	ug/l	10	-		ug/l		-		ug/l	
4-Chlorophenyl-phenylether	-		ug/l		10	U	ug/l	10	-		ug/l		-		ug/l	
Fluorene	-		ug/l		10	U	ug/l	10	-		ug/l		-		ug/l	
4-Nitroaniline	-		ug/l		25	UJ	ug/l	25	-		ug/l		-		ug/l	
4,6-Dinitro-2-methylphenol	-		ug/l		25	UJ	ug/l	25	-		ug/l		-		ug/l	
N-Nitrosodiphenylamine	-		ug/l		10	U	ug/l	10	-		ug/l		-		ug/l	
4-Bromophenyl-phenylether	-		ug/l		10	U	ug/l	10	-		ug/l		-		ug/l	
Hexachlorobenzene	-		ug/l		10	U	ug/l	10	-		ug/l		-		ug/l	
Pentachlorophenol	-		ug/l		25	U	ug/l	25	-		ug/l		-		ug/l	
Phenanthrene	-		ug/l		10	U	ug/l	10	-		ug/l		-		ug/l	
Anthracene	-		ug/l		10	U	ug/l	10	-		ug/l		-		ug/l	
Carbazole	-		ug/l		10	U	ug/l	10	-		ug/l		-		ug/l	
Di-n-butylphthalate	-		ug/l		10	U	ug/l	10	-		ug/l		-		ug/l	
Fluoranthene	-		ug/l		10	U	ug/l	10	-		ug/l		-		ug/l	
Pyrene	-		ug/l		10	UJ	ug/l	10	-		ug/l		-		ug/l	
Butylbenzylphthalate	-		ug/l		10	U	ug/l	10	-		ug/l		-		ug/l	
3,3-Dichlorobenzidine	-		ug/l		10	UJ	ug/l	10	-		ug/l		-		ug/l	
Benzo (a) anthracene	-		ug/l		10	U	ug/l	10	-		ug/l		-		ug/l	
Chrysene	-		ug/l		10	U	ug/l	10	-		ug/l		-		ug/l	
bis(2-Ethylhexyl) phthalate	-		ug/l		10	U	ug/l	10	-		ug/l		-		ug/l	

Naval Air Station Whiting Field, Milton, Florida
Site 15 Groundwater Data

Lab Sample Number:		RB956019				RB956013				ME390002				RB956018			
Site		WHITING				WHITING				WHITING				WHITING			
Locator		15G00203F				15G00301				15G00301				15G00301F			
Collect Date:		09-AUG-96				08-AUG-96				29-JUL-97				08-AUG-96			
		VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
Di-n-octylphthalate		-		ug/l		10	U	ug/l	10	-		ug/l		-		ug/l	
Benzo (b) fluoranthene		-		ug/l		10	U	ug/l	10	-		ug/l		-		ug/l	
Benzo (k) fluoranthene		-		ug/l		10	U	ug/l	10	-		ug/l		-		ug/l	
Benzo (a) pyrene		-		ug/l		10	U	ug/l	10	-		ug/l		-		ug/l	
Indeno (1,2,3-cd) pyrene		-		ug/l		10	U	ug/l	10	-		ug/l		-		ug/l	
Dibenzo (a,h) anthracene		-		ug/l		10	U	ug/l	10	-		ug/l		-		ug/l	
Benzo (g,h,i) perylene		-		ug/l		10	U	ug/l	10	-		ug/l		-		ug/l	
CLP PESTICIDES/PCBS 90-SOW	ug/l																
alpha-BHC		-		ug/l		.05	U	ug/l	.05	-		ug/l		-		ug/l	
beta-BHC		-		ug/l		.05	U	ug/l	.05	-		ug/l		-		ug/l	
delta-BHC		-		ug/l		.05	U	ug/l	.05	-		ug/l		-		ug/l	
gamma-BHC (Lindane)		-		ug/l		.05	U	ug/l	.05	-		ug/l		-		ug/l	
Heptachlor		-		ug/l		.05	U	ug/l	.05	-		ug/l		-		ug/l	
Aldrin		-		ug/l		.05	U	ug/l	.05	-		ug/l		-		ug/l	
Heptachlor epoxide		-		ug/l		.05	U	ug/l	.05	-		ug/l		-		ug/l	
Endosulfan I		-		ug/l		.05	U	ug/l	.05	-		ug/l		-		ug/l	
Dieldrin		-		ug/l		.1	U	ug/l	.1	-		ug/l		-		ug/l	
4,4-DDE		-		ug/l		.1	U	ug/l	.1	-		ug/l		-		ug/l	
Endrin		-		ug/l		.1	U	ug/l	.1	-		ug/l		-		ug/l	
Endosulfan II		-		ug/l		.1	U	ug/l	.1	-		ug/l		-		ug/l	
4,4-DDD		-		ug/l		.1	U	ug/l	.1	-		ug/l		-		ug/l	
Endosulfan sulfate		-		ug/l		.1	U	ug/l	.1	-		ug/l		-		ug/l	
4,4-DDT		-		ug/l		.1	UJ	ug/l	.1	-		ug/l		-		ug/l	
Methoxychlor		-		ug/l		.5	U	ug/l	.5	-		ug/l		-		ug/l	
Endrin ketone		-		ug/l		.1	U	ug/l	.1	-		ug/l		-		ug/l	
Endrin aldehyde		-		ug/l		.1	U	ug/l	.1	-		ug/l		-		ug/l	
alpha-Chlordane		-		ug/l		.05	U	ug/l	.05	-		ug/l		-		ug/l	
gamma-Chlordane		-		ug/l		.05	U	ug/l	.05	-		ug/l		-		ug/l	
Toxaphene		-		ug/l		5	U	ug/l	5	-		ug/l		-		ug/l	
Aroclor-1016		-		ug/l		1	U	ug/l	1	-		ug/l		-		ug/l	
Aroclor-1221		-		ug/l		2	U	ug/l	2	-		ug/l		-		ug/l	
Aroclor-1232		-		ug/l		1	U	ug/l	1	-		ug/l		-		ug/l	
Aroclor-1242		-		ug/l		1	U	ug/l	1	-		ug/l		-		ug/l	
Aroclor-1248		-		ug/l		1	U	ug/l	1	-		ug/l		-		ug/l	
Aroclor-1254		-		ug/l		1	U	ug/l	1	-		ug/l		-		ug/l	
Aroclor-1260		-		ug/l		1	U	ug/l	1	-		ug/l		-		ug/l	
CLP METALS AND CYANIDE	ug/l																
Aluminum		193	J	ug/l		50	U	ug/l		200	U	ug/l	200	36	U	ug/l	
Antimony		9.4	J	ug/l		8.6	U	ug/l		60	U	ug/l	60	8.6	U	ug/l	
Arsenic		.5	U	ug/l		.5	U	ug/l		10	U	ug/l	10	.5	U	ug/l	
Barium		8	J	ug/l		21.7	J	ug/l		14.2	J	ug/l	200	21.2	J	ug/l	
Beryllium		.3	U	ug/l		.3	U	ug/l		5	U	ug/l	5	.3	U	ug/l	
Cadmium		1.2	U	ug/l		1.2	U	ug/l		5	U	ug/l	5	1.2	U	ug/l	
Calcium		1660	J	ug/l		830	J	ug/l		2240	J	ug/l	5000	795	J	ug/l	
Chromium		2	U	ug/l		2	U	ug/l		10	U	ug/l	10	2	U	ug/l	
Cobalt		2.3	U	ug/l		2.3	U	ug/l		50	U	ug/l	50	2.3	U	ug/l	
Copper		1.1	U	ug/l		1.1	U	ug/l		25	U	ug/l	25	1.1	U	ug/l	
Iron		321		ug/l		447		ug/l		324		ug/l	100	331		ug/l	
Lead		.7	J	ug/l		1.2	J	ug/l		.98	J	ug/l	3	.9	J	ug/l	
Magnesium		695	J	ug/l		606	J	ug/l		404	J	ug/l	5000	603	J	ug/l	

Naval Air Station Whiting Field, Milton, Florida
Site 15 Groundwater Data

Lab Sample Number:	RB956019				RB956013				ME390002				RB956018			
Site	WHITING				WHITING				WHITING				WHITING			
Locator	15G00203F				15G00301				15G00301				15G00301F			
Collect Date:	09-AUG-96				08-AUG-96				29-JUL-97				08-AUG-96			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
Manganese	23		ug/l		9	J	ug/l		9	J	ug/l	15	9.8	J	ug/l	
Mercury	.1	U	ug/l		.1	U	ug/l		.2	U	ug/l	.2	.1	U	ug/l	
Nickel	7.3	U	ug/l		7.3	U	ug/l		40	U	ug/l	40	7.3	U	ug/l	
Potassium	1600	J	ug/l		946	J	ug/l		5000	U	ug/l	5000	743	J	ug/l	
Selenium	.6	U	ug/l		.6	U	ug/l		5	U	ug/l	5	.66	U	ug/l	
Silver	2.5	U	ug/l		2.5	U	ug/l		10	U	ug/l	10	2.5	U	ug/l	
Sodium	6610		ug/l		1800	J	ug/l		2080	J	ug/l	5000	1790	J	ug/l	
Thallium	.6	U	ug/l		.6	U	ug/l		10	U	ug/l	10	.6	U	ug/l	
Vanadium	1.4	J	ug/l		1.2	U	ug/l		50	U	ug/l	50	1.2	U	ug/l	
Zinc	30.5		ug/l		2.8	U	ug/l		20	U	ug/l	20	3.2	U	ug/l	
Cyanide	-		ug/l		1.9	J	ug/l		-		ug/l		-		ug/l	

Locator Annotations: A = DUPLICATE SAMPLE B = SHALLOW SAMPLE C = INTERMEDIATE SAMPLE CD = DOUBLE INTERMEDIATE SAMPLE D = DEEP SAMPLE

Qualifiers: U = NOT DETECTED J = ESTIMATED VALUE UJ = REPORTED QUANTITATION LIMIT IS QUALIFIED AS ESTIMATED R = RESULT IS REJECTED AND UNUSABLE

Naval Air Station Whiting Field, Milton, Florida
Site 15 Groundwater Data

Lab Sample Number:		RB956014				ME390003				RB956015				ME441007			
Site		WHITING				WHITING				WHITING				WHITING			
Locator		15G00302				15G00302				15G00303				15G00303			
Collect Date:		08-AUG-96				29-JUL-97				09-AUG-96				05-AUG-97			
		VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
CLP VOLATILES 90-SOW	ug/l																
Chloromethane		10	UJ	ug/l	10	10	U	ug/l	10	10	UJ	ug/l	10	10	U	ug/l	10
Bromomethane		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Vinyl chloride		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Chloroethane		10	UJ	ug/l	10	10	U	ug/l	10	10	UJ	ug/l	10	10	U	ug/l	10
Methylene chloride		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Acetone		10	UJ	ug/l	10	10	U	ug/l	10	20	UJ	ug/l	20	10	UJ	ug/l	10
Carbon disulfide		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
1,1-Dichloroethene		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
1,1-Dichloroethane		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
1,2-Dichloroethene (total)		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Chloroform		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
1,2-Dichloroethane		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
2-Butanone		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
1,1,1-Trichloroethane		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Carbon tetrachloride		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Bromodichloromethane		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
1,2-Dichloropropane		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
cis-1,3-Dichloropropene		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Trichloroethene		1	J	ug/l	10	3	J	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Dibromochloromethane		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
1,1,2-Trichloroethane		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Benzene		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
trans-1,3-Dichloropropene		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Bromoform		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
4-Methyl-2-pentanone		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
2-Hexanone		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Tetrachloroethene		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Toluene		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
1,1,2,2-Tetrachloroethane		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Chlorobenzene		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Ethylbenzene		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Styrene		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Xylenes (total)		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
CLP SEMIVOLATILES 90-SOW	ug/l																
Phenol		10	U	ug/l	10	-		ug/l		10	U	ug/l	10	-		ug/l	
bis(2-Chloroethyl) ether		10	U	ug/l	10	-		ug/l		10	U	ug/l	10	-		ug/l	
2-Chlorophenol		10	U	ug/l	10	-		ug/l		10	U	ug/l	10	-		ug/l	
1,3-Dichlorobenzene		10	U	ug/l	10	-		ug/l		10	U	ug/l	10	-		ug/l	
1,4-Dichlorobenzene		10	U	ug/l	10	-		ug/l		10	U	ug/l	10	-		ug/l	

Naval Air Station Whiting Field, Milton, Florida
Site 15 Groundwater Data

Lab Sample Number:	RB956014				ME390003				RB956015				ME441007			
Site	WHITING				WHITING				WHITING				WHITING			
Locator	15G00302				15G00302				15G00303				15G00303			
Collect Date:	08-AUG-96				29-JUL-97				09-AUG-96				05-AUG-97			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
1,2-Dichlorobenzene	10	U	ug/l	10	-		ug/l		10	U	ug/l	10	-		ug/l	
2-Methylphenol	10	U	ug/l	10	-		ug/l		10	U	ug/l	10	-		ug/l	
2,2-oxybis(1-Chloropropane)	10	U	ug/l	10	-		ug/l		10	U	ug/l	10	-		ug/l	
4-Methylphenol	10	U	ug/l	10	-		ug/l		10	U	ug/l	10	-		ug/l	
N-Nitroso-di-n-propylamine	10	U	ug/l	10	-		ug/l		10	U	ug/l	10	-		ug/l	
Hexachloroethane	10	U	ug/l	10	-		ug/l		10	U	ug/l	10	-		ug/l	
Nitrobenzene	10	U	ug/l	10	-		ug/l		10	U	ug/l	10	-		ug/l	
Isophorone	10	U	ug/l	10	-		ug/l		10	U	ug/l	10	-		ug/l	
2-Nitrophenol	10	U	ug/l	10	-		ug/l		10	U	ug/l	10	-		ug/l	
2,4-Dimethylphenol	10	U	ug/l	10	-		ug/l		10	U	ug/l	10	-		ug/l	
bis(2-Chloroethoxy) methane	10	U	ug/l	10	-		ug/l		10	U	ug/l	10	-		ug/l	
2,4-Dichlorophenol	10	U	ug/l	10	-		ug/l		10	U	ug/l	10	-		ug/l	
1,2,4-Trichlorobenzene	10	U	ug/l	10	-		ug/l		10	U	ug/l	10	-		ug/l	
Naphthalene	10	U	ug/l	10	-		ug/l		10	U	ug/l	10	-		ug/l	
4-Chloroaniline	10	U	ug/l	10	-		ug/l		10	U	ug/l	10	-		ug/l	
Hexachlorobutadiene	10	U	ug/l	10	-		ug/l		10	U	ug/l	10	-		ug/l	
4-Chloro-3-methylphenol	10	U	ug/l	10	-		ug/l		10	U	ug/l	10	-		ug/l	
2-Methylnaphthalene	10	U	ug/l	10	-		ug/l		10	U	ug/l	10	-		ug/l	
Hexachlorocyclopentadiene	10	U	ug/l	10	-		ug/l		10	U	ug/l	10	-		ug/l	
2,4,6-Trichlorophenol	10	U	ug/l	10	-		ug/l		10	U	ug/l	10	-		ug/l	
2,4,5-Trichlorophenol	25	U	ug/l	25	-		ug/l		25	U	ug/l	25	-		ug/l	
2-Chloronaphthalene	10	U	ug/l	10	-		ug/l		10	U	ug/l	10	-		ug/l	
2-Nitroaniline	25	U	ug/l	25	-		ug/l		25	U	ug/l	25	-		ug/l	
Dimethylphthalate	10	U	ug/l	10	-		ug/l		10	U	ug/l	10	-		ug/l	
Acenaphthylene	10	U	ug/l	10	-		ug/l		10	U	ug/l	10	-		ug/l	
2,6-Dinitrotoluene	10	U	ug/l	10	-		ug/l		10	U	ug/l	10	-		ug/l	
3-Nitroaniline	25	U	ug/l	25	-		ug/l		25	U	ug/l	25	-		ug/l	
Acenaphthene	10	U	ug/l	10	-		ug/l		10	U	ug/l	10	-		ug/l	
2,4-Dinitrophenol	25	UJ	ug/l	25	-		ug/l		25	UJ	ug/l	25	-		ug/l	
4-Nitrophenol	25	U	ug/l	25	-		ug/l		25	U	ug/l	25	-		ug/l	
Dibenzofuran	10	U	ug/l	10	-		ug/l		10	U	ug/l	10	-		ug/l	
2,4-Dinitrotoluene	10	U	ug/l	10	-		ug/l		10	U	ug/l	10	-		ug/l	
Diethylphthalate	10	U	ug/l	10	-		ug/l		10	U	ug/l	10	-		ug/l	
4-Chlorophenyl-phenylether	10	U	ug/l	10	-		ug/l		10	U	ug/l	10	-		ug/l	
Fluorene	10	U	ug/l	10	-		ug/l		10	U	ug/l	10	-		ug/l	
4-Nitroaniline	25	UJ	ug/l	25	-		ug/l		25	UJ	ug/l	25	-		ug/l	
4,6-Dinitro-2-methylphenol	25	UJ	ug/l	25	-		ug/l		25	UJ	ug/l	25	-		ug/l	
N-Nitrosodiphenylamine	10	U	ug/l	10	-		ug/l		10	U	ug/l	10	-		ug/l	
4-Bromophenyl-phenylether	10	U	ug/l	10	-		ug/l		10	U	ug/l	10	-		ug/l	
Hexachlorobenzene	10	U	ug/l	10	-		ug/l		10	U	ug/l	10	-		ug/l	
Pentachlorophenol	25	U	ug/l	25	-		ug/l		25	U	ug/l	25	-		ug/l	
Phenanthrene	10	U	ug/l	10	-		ug/l		10	U	ug/l	10	-		ug/l	
Anthracene	10	U	ug/l	10	-		ug/l		10	U	ug/l	10	-		ug/l	
Carbazole	10	U	ug/l	10	-		ug/l		10	U	ug/l	10	-		ug/l	
Di-n-butylphthalate	10	U	ug/l	10	-		ug/l		10	U	ug/l	10	-		ug/l	
Fluoranthene	10	U	ug/l	10	-		ug/l		10	U	ug/l	10	-		ug/l	
Pyrene	10	UJ	ug/l	10	-		ug/l		10	UJ	ug/l	10	-		ug/l	
Butylbenzylphthalate	10	U	ug/l	10	-		ug/l		10	U	ug/l	10	-		ug/l	
3,3-Dichlorobenzidine	10	UJ	ug/l	10	-		ug/l		10	UJ	ug/l	10	-		ug/l	
Benzo (a) anthracene	10	U	ug/l	10	-		ug/l		10	U	ug/l	10	-		ug/l	
Chrysene	10	U	ug/l	10	-		ug/l		10	U	ug/l	10	-		ug/l	
bis(2-Ethylhexyl) phthalate	3	J	ug/l	10	-		ug/l		10	U	ug/l	10	-		ug/l	

Naval Air Station Whiting Field, Milton, Florida
Site 15 Groundwater Data

Lab Sample Number:		RB956014				ME390003				RB956015				ME441007			
Site		WHITING				WHITING				WHITING				WHITING			
Locator		15G00302				15G00302				15G00303				15G00303			
Collect Date:		08-AUG-96				29-JUL-97				09-AUG-96				05-AUG-97			
		VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
Di-n-octylphthalate		10	U	ug/l	10	-		ug/l		10	U	ug/l	10	-		ug/l	
Benzo (b) fluoranthene		10	U	ug/l	10	-		ug/l		10	U	ug/l	10	-		ug/l	
Benzo (k) fluoranthene		10	U	ug/l	10	-		ug/l		10	U	ug/l	10	-		ug/l	
Benzo (a) pyrene		10	U	ug/l	10	-		ug/l		10	U	ug/l	10	-		ug/l	
Indeno (1,2,3-cd) pyrene		10	U	ug/l	10	-		ug/l		10	U	ug/l	10	-		ug/l	
Dibenzo (a,h) anthracene		10	U	ug/l	10	-		ug/l		10	U	ug/l	10	-		ug/l	
Benzo (g,h,i) perylene		10	U	ug/l	10	-		ug/l		10	U	ug/l	10	-		ug/l	
CLP PESTICIDES/PCBS 90-SOW	ug/l																
alpha-BHC		.05	U	ug/l	.05	-		ug/l		.05	UJ	ug/l	.05	-		ug/l	
beta-BHC		.05	U	ug/l	.05	-		ug/l		.05	UJ	ug/l	.05	-		ug/l	
delta-BHC		.05	U	ug/l	.05	-		ug/l		.05	UJ	ug/l	.05	-		ug/l	
gamma-BHC (Lindane)		.05	U	ug/l	.05	-		ug/l		.05	UJ	ug/l	.05	-		ug/l	
Heptachlor		.05	U	ug/l	.05	-		ug/l		.05	UJ	ug/l	.05	-		ug/l	
Aldrin		.05	U	ug/l	.05	-		ug/l		.05	UJ	ug/l	.05	-		ug/l	
Heptachlor epoxide		.05	U	ug/l	.05	-		ug/l		.05	UJ	ug/l	.05	-		ug/l	
Endosulfan I		.05	U	ug/l	.05	-		ug/l		.05	UJ	ug/l	.05	-		ug/l	
Dieldrin		.1	U	ug/l	.1	-		ug/l		.1	UJ	ug/l	.1	-		ug/l	
4,4-DDE		.1	U	ug/l	.1	-		ug/l		.1	UJ	ug/l	.1	-		ug/l	
Endrin		.1	U	ug/l	.1	-		ug/l		.1	UJ	ug/l	.1	-		ug/l	
Endosulfan II		.1	U	ug/l	.1	-		ug/l		.1	UJ	ug/l	.1	-		ug/l	
4,4-DDD		.1	U	ug/l	.1	-		ug/l		.1	UJ	ug/l	.1	-		ug/l	
Endosulfan sulfate		.1	U	ug/l	.1	-		ug/l		.1	UJ	ug/l	.1	-		ug/l	
4,4-DDT		.1	UJ	ug/l	.1	-		ug/l		.1	UJ	ug/l	.1	-		ug/l	
Methoxychlor		.5	U	ug/l	.5	-		ug/l		.5	UJ	ug/l	.5	-		ug/l	
Endrin ketone		.1	U	ug/l	.1	-		ug/l		.1	UJ	ug/l	.1	-		ug/l	
Endrin aldehyde		.1	U	ug/l	.1	-		ug/l		.1	UJ	ug/l	.1	-		ug/l	
alpha-Chlordane		.05	U	ug/l	.05	-		ug/l		.05	UJ	ug/l	.05	-		ug/l	
gamma-Chlordane		.05	U	ug/l	.05	-		ug/l		.05	UJ	ug/l	.05	-		ug/l	
Toxaphene		5	U	ug/l	5	-		ug/l		5	UJ	ug/l	5	-		ug/l	
Aroclor-1016		1	U	ug/l	1	-		ug/l		1	UJ	ug/l	1	-		ug/l	
Aroclor-1221		2	U	ug/l	2	-		ug/l		2	UJ	ug/l	2	-		ug/l	
Aroclor-1232		1	U	ug/l	1	-		ug/l		1	UJ	ug/l	1	-		ug/l	
Aroclor-1242		1	U	ug/l	1	-		ug/l		1	UJ	ug/l	1	-		ug/l	
Aroclor-1248		1	U	ug/l	1	-		ug/l		1	UJ	ug/l	1	-		ug/l	
Aroclor-1254		1	U	ug/l	1	-		ug/l		1	UJ	ug/l	1	-		ug/l	
Aroclor-1260		1	U	ug/l	1	-		ug/l		1	UJ	ug/l	1	-		ug/l	
CLP METALS AND CYANIDE	ug/l																
Aluminum		18.5	U	ug/l		200	U	ug/l	200	49.7	U	ug/l		171	J	ug/l	200
Antimony		8.6	U	ug/l		60	U	ug/l	60	8.6	U	ug/l		60	U	ug/l	60
Arsenic		.5	U	ug/l		10	U	ug/l	10	.5	U	ug/l		10	U	ug/l	10
Barium		15.1	J	ug/l		17.3	J	ug/l	200	13.7	J	ug/l		13.3	J	ug/l	200
Beryllium		.3	U	ug/l		5	U	ug/l	5	.3	U	ug/l		5	U	ug/l	5
Cadmium		2.3	J	ug/l		5	U	ug/l	5	1.2	U	ug/l		5	U	ug/l	5
Calcium		735	J	ug/l		5000	U	ug/l	5000	3470	J	ug/l		3570	J	ug/l	5000
Chromium		2.2	J	ug/l		10	U	ug/l	10	2	U	ug/l		10	U	ug/l	10
Cobalt		2.3	U	ug/l		50	U	ug/l	50	2.3	U	ug/l		50	U	ug/l	50
Copper		1.1	U	ug/l		25	U	ug/l	25	1.1	U	ug/l		25	U	ug/l	25
Iron		67.7	J	ug/l		100	U	ug/l	100	43.8	J	ug/l		136		ug/l	100
Lead		.5	J	ug/l		3	U	ug/l	3	.5	U	ug/l		3	U	ug/l	3
Magnesium		508	J	ug/l		598	J	ug/l	5000	1720	J	ug/l		1810	J	ug/l	5000

Naval Air Station Whiting Field, Milton, Florida
Site 15 Groundwater Data

Lab Sample Number:	RB956014				ME390003				RB956015				ME441007			
Site	WHITING				WHITING				WHITING				WHITING			
Locator	15G00302				15G00302				15G00303				15G00303			
Collect Date:	08-AUG-96				29-JUL-97				09-AUG-96				05-AUG-97			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
Manganese	3.4	J	ug/l		15	U	ug/l	15	1	U	ug/l		15	U	ug/l	15
Mercury	.1	U	ug/l		.2	U	ug/l	.2	.1	U	ug/l		.2	U	ug/l	.2
Nickel	7.3	U	ug/l		40	U	ug/l	40	7.3	U	ug/l		40	U	ug/l	40
Potassium	338	J	ug/l		5000	U	ug/l	5000	1550	J	ug/l		1280	J	ug/l	5000
Selenium	.6	U	ug/l		5	U	ug/l	5	.71	UJ	ug/l		5	U	ug/l	5
Silver	2.5	U	ug/l		10	U	ug/l	10	2.5	U	ug/l		10	U	ug/l	10
Sodium	2300	J	ug/l		3150	J	ug/l	5000	16800		ug/l		18300	J	ug/l	5000
Thallium	.6	U	ug/l		10	U	ug/l	10	.6	U	ug/l		10	U	ug/l	10
Vanadium	1.2	U	ug/l		50	U	ug/l	50	1.2	U	ug/l		50	U	ug/l	50
Zinc	127		ug/l		20	U	ug/l	20	1.6	U	ug/l		20	U	ug/l	20
Cyanide	2.5	J	ug/l		-		ug/l		2.5	J	ug/l		-		ug/l	

Locator Annotations: A = DUPLICATE SAMPLE B = SHALLOW SAMPLE C = INTERMEDIATE SAMPLE CD = DOUBLE INTERMEDIATE SAMPLE D = DEEP SAMPLE

Qualifiers: U = NOT DETECTED J = ESTIMATED VALUE UJ = REPORTED QUANTITATION LIMIT IS QUALIFIED AS ESTIMATED R = RESULT IS REJECTED AND UNUSABLE

Naval Air Station Whiting Field, Milton, Florida
Site 15 Groundwater Data

Lab Sample Number:		RB920003				ME404002				RB956005				ME404005			
Site		WHITING				WHITING				WHITING				WHITING			
Locator		15G00401				15G00401				15G00501				15G00501			
Collect Date:		30-JUL-96				30-JUL-97				06-AUG-96				31-JUL-97			
		VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
CLP VOLATILES 90-SOW	ug/l																
Chloromethane		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Bromomethane		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Vinyl chloride		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Chloroethane		10	UJ	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Methylene chloride		10	UJ	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Acetone		17	UJ	ug/l	17	10	UJ	ug/l	10	13	UJ	ug/l	13	10	UJ	ug/l	10
Carbon disulfide		10	UJ	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
1,1-Dichloroethene		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
1,1-Dichloroethane		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
1,2-Dichloroethene (total)		10	U	ug/l	10	10	U	ug/l	10	2	J	ug/l	10	10	U	ug/l	10
Chloroform		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
1,2-Dichloroethane		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
2-Butanone		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
1,1,1-Trichloroethane		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Carbon tetrachloride		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Bromodichloromethane		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
1,2-Dichloropropane		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
cis-1,3-Dichloropropene		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Trichloroethene		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Dibromochloromethane		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
1,1,2-Trichloroethane		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Benzene		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
trans-1,3-Dichloropropene		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Bromoform		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
4-Methyl-2-pentanone		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
2-Hexanone		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Tetrachloroethene		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Toluene		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
1,1,2,2-Tetrachloroethane		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Chlorobenzene		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Ethylbenzene		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Styrene		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Xylenes (total)		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
CLP SEMIVOLATILES 90-SOW	ug/l																
Phenol		10	U	ug/l	10	-		ug/l		10	U	ug/l	10	-		ug/l	
bis(2-Chloroethyl) ether		10	U	ug/l	10	-		ug/l		10	U	ug/l	10	-		ug/l	
2-Chlorophenol		10	U	ug/l	10	-		ug/l		10	U	ug/l	10	-		ug/l	
1,3-Dichlorobenzene		10	U	ug/l	10	-		ug/l		10	U	ug/l	10	-		ug/l	
1,4-Dichlorobenzene		10	U	ug/l	10	-		ug/l		1	J	ug/l	10	-		ug/l	

Naval Air Station Whiting Field, Milton, Florida
Site 15 Groundwater Data

Lab Sample Number:	RB920003				ME404002				RB956005				ME404005			
Site	WHITING				WHITING				WHITING				WHITING			
Locator	15G00401				15G00401				15G00501				15G00501			
Collect Date:	30-JUL-96				30-JUL-97				06-AUG-96				31-JUL-97			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
1,2-Dichlorobenzene	10	U	ug/l	10	-		ug/l		10	U	ug/l	10	-		ug/l	
2-Methylphenol	10	U	ug/l	10	-		ug/l		10	U	ug/l	10	-		ug/l	
2,2-oxybis(1-Chloropropane)	10	U	ug/l	10	-		ug/l		10	U	ug/l	10	-		ug/l	
4-Methylphenol	10	U	ug/l	10	-		ug/l		10	U	ug/l	10	-		ug/l	
N-Nitroso-di-n-propylamine	10	U	ug/l	10	-		ug/l		10	U	ug/l	10	-		ug/l	
Hexachloroethane	10	U	ug/l	10	-		ug/l		10	U	ug/l	10	-		ug/l	
Nitrobenzene	10	U	ug/l	10	-		ug/l		10	U	ug/l	10	-		ug/l	
Isophorone	10	U	ug/l	10	-		ug/l		10	U	ug/l	10	-		ug/l	
2-Nitrophenol	10	U	ug/l	10	-		ug/l		10	U	ug/l	10	-		ug/l	
2,4-Dimethylphenol	10	U	ug/l	10	-		ug/l		10	U	ug/l	10	-		ug/l	
bis(2-Chloroethoxy) methane	10	U	ug/l	10	-		ug/l		10	U	ug/l	10	-		ug/l	
2,4-Dichlorophenol	10	U	ug/l	10	-		ug/l		10	U	ug/l	10	-		ug/l	
1,2,4-Trichlorobenzene	10	U	ug/l	10	-		ug/l		10	U	ug/l	10	-		ug/l	
Naphthalene	10	U	ug/l	10	-		ug/l		1	J	ug/l	10	-		ug/l	
4-Chloroaniline	10	U	ug/l	10	-		ug/l		10	U	ug/l	10	-		ug/l	
Hexachlorobutadiene	10	U	ug/l	10	-		ug/l		10	U	ug/l	10	-		ug/l	
4-Chloro-3-methylphenol	10	U	ug/l	10	-		ug/l		10	U	ug/l	10	-		ug/l	
2-Methylnaphthalene	10	U	ug/l	10	-		ug/l		10	U	ug/l	10	-		ug/l	
Hexachlorocyclopentadiene	10	U	ug/l	10	-		ug/l		10	U	ug/l	10	-		ug/l	
2,4,6-Trichlorophenol	10	U	ug/l	10	-		ug/l		10	U	ug/l	10	-		ug/l	
2,4,5-Trichlorophenol	25	U	ug/l	25	-		ug/l		25	U	ug/l	25	-		ug/l	
2-Chloronaphthalene	10	U	ug/l	10	-		ug/l		10	U	ug/l	10	-		ug/l	
2-Nitroaniline	25	U	ug/l	25	-		ug/l		25	U	ug/l	25	-		ug/l	
Dimethylphthalate	10	U	ug/l	10	-		ug/l		10	U	ug/l	10	-		ug/l	
Acenaphthylene	10	U	ug/l	10	-		ug/l		10	U	ug/l	10	-		ug/l	
2,6-Dinitrotoluene	10	U	ug/l	10	-		ug/l		10	U	ug/l	10	-		ug/l	
3-Nitroaniline	25	U	ug/l	25	-		ug/l		25	U	ug/l	25	-		ug/l	
Acenaphthene	10	U	ug/l	10	-		ug/l		10	U	ug/l	10	-		ug/l	
2,4-Dinitrophenol	25	U	ug/l	25	-		ug/l		25	UJ	ug/l	25	-		ug/l	
4-Nitrophenol	25	U	ug/l	25	-		ug/l		25	U	ug/l	25	-		ug/l	
Dibenzofuran	10	U	ug/l	10	-		ug/l		10	U	ug/l	10	-		ug/l	
2,4-Dinitrotoluene	10	U	ug/l	10	-		ug/l		10	U	ug/l	10	-		ug/l	
Diethylphthalate	10	U	ug/l	10	-		ug/l		10	U	ug/l	10	-		ug/l	
4-Chlorophenyl-phenylether	10	U	ug/l	10	-		ug/l		10	U	ug/l	10	-		ug/l	
Fluorene	10	U	ug/l	10	-		ug/l		10	U	ug/l	10	-		ug/l	
4-Nitroaniline	25	UJ	ug/l	25	-		ug/l		25	U	ug/l	25	-		ug/l	
4,6-Dinitro-2-methylphenol	25	U	ug/l	25	-		ug/l		25	UJ	ug/l	25	-		ug/l	
N-Nitrosodiphenylamine	10	U	ug/l	10	-		ug/l		10	UJ	ug/l	10	-		ug/l	
4-Bromophenyl-phenylether	10	U	ug/l	10	-		ug/l		10	U	ug/l	10	-		ug/l	
Hexachlorobenzene	10	U	ug/l	10	-		ug/l		10	U	ug/l	10	-		ug/l	
Pentachlorophenol	25	U	ug/l	25	-		ug/l		25	U	ug/l	25	-		ug/l	
Phenanthrene	10	U	ug/l	10	-		ug/l		10	U	ug/l	10	-		ug/l	
Anthracene	10	U	ug/l	10	-		ug/l		10	U	ug/l	10	-		ug/l	
Carbazole	10	U	ug/l	10	-		ug/l		10	U	ug/l	10	-		ug/l	
Di-n-butylphthalate	10	U	ug/l	10	-		ug/l		10	U	ug/l	10	-		ug/l	
Fluoranthene	10	U	ug/l	10	-		ug/l		10	U	ug/l	10	-		ug/l	
Pyrene	10	U	ug/l	10	-		ug/l		10	UJ	ug/l	10	-		ug/l	
Butylbenzylphthalate	10	U	ug/l	10	-		ug/l		10	U	ug/l	10	-		ug/l	
3,3-Dichlorobenzidine	10	U	ug/l	10	-		ug/l		10	UJ	ug/l	10	-		ug/l	
Benzo (a) anthracene	10	U	ug/l	10	-		ug/l		10	U	ug/l	10	-		ug/l	
Chrysene	10	UJ	ug/l	10	-		ug/l		10	U	ug/l	10	-		ug/l	
bis(2-Ethylhexyl) phthalate	10	U	ug/l	10	-		ug/l		2	J	ug/l	10	-		ug/l	

Naval Air Station Whiting Field, Milton, Florida
Site 15 Groundwater Data

Lab Sample Number:		RB920003				ME404002				RB956005				ME404005			
Site		WHITING				WHITING				WHITING				WHITING			
Locator		15G00401				15G00401				15G00501				15G00501			
Collect Date:		30-JUL-96				30-JUL-97				06-AUG-96				31-JUL-97			
		VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
Di-n-octylphthalate		10	U	ug/l	10	-		ug/l		10	U	ug/l	10	-		ug/l	
Benzo (b) fluoranthene		10	U	ug/l	10	-		ug/l		10	U	ug/l	10	-		ug/l	
Benzo (k) fluoranthene		10	U	ug/l	10	-		ug/l		10	U	ug/l	10	-		ug/l	
Benzo (a) pyrene		10	U	ug/l	10	-		ug/l		10	U	ug/l	10	-		ug/l	
Indeno (1,2,3-cd) pyrene		10	UJ	ug/l	10	-		ug/l		10	U	ug/l	10	-		ug/l	
Dibenzo (a,h) anthracene		10	UJ	ug/l	10	-		ug/l		10	U	ug/l	10	-		ug/l	
Benzo (g,h,i) perylene		10	UJ	ug/l	10	-		ug/l		10	U	ug/l	10	-		ug/l	
CLP PESTICIDES/PCBS 90-SOW	ug/l																
alpha-BHC		.05	U	ug/l	.05	-		ug/l		.05	U	ug/l	.05	-		ug/l	
beta-BHC		.05	U	ug/l	.05	-		ug/l		.05	U	ug/l	.05	-		ug/l	
delta-BHC		.05	U	ug/l	.05	-		ug/l		.05	U	ug/l	.05	-		ug/l	
gamma-BHC (Lindane)		.05	U	ug/l	.05	-		ug/l		.05	U	ug/l	.05	-		ug/l	
Heptachlor		.05	U	ug/l	.05	-		ug/l		.05	U	ug/l	.05	-		ug/l	
Aldrin		.05	U	ug/l	.05	-		ug/l		.05	U	ug/l	.05	-		ug/l	
Heptachlor epoxide		.05	U	ug/l	.05	-		ug/l		.05	U	ug/l	.05	-		ug/l	
Endosulfan I		.05	U	ug/l	.05	-		ug/l		.05	U	ug/l	.05	-		ug/l	
Dieldrin		.1	U	ug/l	.1	-		ug/l		.1	U	ug/l	.1	-		ug/l	
4,4-DDE		.1	U	ug/l	.1	-		ug/l		.1	U	ug/l	.1	-		ug/l	
Endrin		.1	U	ug/l	.1	-		ug/l		.1	U	ug/l	.1	-		ug/l	
Endosulfan II		.1	U	ug/l	.1	-		ug/l		.1	U	ug/l	.1	-		ug/l	
4,4-DDD		.1	U	ug/l	.1	-		ug/l		.1	U	ug/l	.1	-		ug/l	
Endosulfan sulfate		.1	U	ug/l	.1	-		ug/l		.1	U	ug/l	.1	-		ug/l	
4,4-DDT		.1	UJ	ug/l	.1	-		ug/l		.1	UJ	ug/l	.1	-		ug/l	
Methoxychlor		.5	U	ug/l	.5	-		ug/l		.5	U	ug/l	.5	-		ug/l	
Endrin ketone		.1	U	ug/l	.1	-		ug/l		.1	U	ug/l	.1	-		ug/l	
Endrin aldehyde		.1	U	ug/l	.1	-		ug/l		.1	U	ug/l	.1	-		ug/l	
alpha-Chlordane		.05	U	ug/l	.05	-		ug/l		.05	U	ug/l	.05	-		ug/l	
gamma-Chlordane		.05	U	ug/l	.05	-		ug/l		.05	U	ug/l	.05	-		ug/l	
Toxaphene		5	U	ug/l	5	-		ug/l		5	U	ug/l	5	-		ug/l	
Aroclor-1016		1	U	ug/l	1	-		ug/l		1	U	ug/l	1	-		ug/l	
Aroclor-1221		2	U	ug/l	2	-		ug/l		2	U	ug/l	2	-		ug/l	
Aroclor-1232		1	U	ug/l	1	-		ug/l		1	U	ug/l	1	-		ug/l	
Aroclor-1242		1	U	ug/l	1	-		ug/l		1	U	ug/l	1	-		ug/l	
Aroclor-1248		1	U	ug/l	1	-		ug/l		1	U	ug/l	1	-		ug/l	
Aroclor-1254		1	U	ug/l	1	-		ug/l		1	U	ug/l	1	-		ug/l	
Aroclor-1260		1	U	ug/l	1	-		ug/l		1	U	ug/l	1	-		ug/l	
CLP METALS AND CYANIDE	ug/l																
Aluminum		102	J	ug/l		200	U	ug/l	200	174	J	ug/l		481		ug/l	200
Antimony		8.6	U	ug/l		60	U	ug/l	60	8.6	U	ug/l		60	U	ug/l	60
Arsenic		.5	U	ug/l		10	U	ug/l	10	1.8	J	ug/l		10	U	ug/l	10
Barium		11.5	J	ug/l		14.2	J	ug/l	200	31.9	J	ug/l		41.5	J	ug/l	200
Beryllium		.3	U	ug/l		5	U	ug/l	5	.3	U	ug/l		5	U	ug/l	5
Cadmium		1.2	U	ug/l		5	U	ug/l	5	1.2	U	ug/l		5	U	ug/l	5
Calcium		936	J	ug/l		2640	J	ug/l	5000	1110	J	ug/l		2650	J	ug/l	5000
Chromium		2	U	ug/l		10	U	ug/l	10	2.1	J	ug/l		10	U	ug/l	10
Cobalt		2.3	U	ug/l		50	U	ug/l	50	2.3	U	ug/l		50	U	ug/l	50
Copper		1.1	U	ug/l		25	U	ug/l	25	1.1	U	ug/l		25	U	ug/l	25
Iron		17.8	U	ug/l		100	U	ug/l	100	3730		ug/l		5150		ug/l	100
Lead		.5	U	ug/l		3	U	ug/l	3	.6	J	ug/l		1.7	J	ug/l	3
Magnesium		354	J	ug/l		5000	U	ug/l	5000	1160	J	ug/l		1470	J	ug/l	5000

Naval Air Station Whiting Field, Milton, Florida
Site 15 Groundwater Data

Lab Sample Number:	RB920003				ME404002				RB956005				ME404005			
Site	WHITING				WHITING				WHITING				WHITING			
Locator	15G00401				15G00401				15G00501				15G00501			
Collect Date:	30-JUL-96				30-JUL-97				06-AUG-96				31-JUL-97			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
Manganese	1.8	J	ug/l		15	U	ug/l	15	38.1		ug/l		92.2		ug/l	15
Mercury	.1	U	ug/l		.2	U	ug/l	.2	.1	U	ug/l		.2	U	ug/l	.2
Nickel	7.3	U	ug/l		40	U	ug/l	40	7.3	U	ug/l		40	U	ug/l	40
Potassium	978	J	ug/l		5000	U	ug/l	5000	792	J	ug/l		5000	U	ug/l	5000
Selenium	.6	U	ug/l		5	U	ug/l	5	.6	U	ug/l		5	U	ug/l	5
Silver	2.9	J	ug/l		10	U	ug/l	10	2.5	U	ug/l		10	U	ug/l	10
Sodium	3280	J	ug/l		2000	J	ug/l	5000	1480	J	ug/l		1070	J	ug/l	5000
Thallium	.6	U	ug/l		10	U	ug/l	10	.6	U	ug/l		.98	J	ug/l	10
Vanadium	1.2	U	ug/l		1.7	J	ug/l	50	1.9	J	ug/l		50	U	ug/l	50
Zinc	1.6	J	ug/l		20	U	ug/l	20	306		ug/l		20	U	ug/l	20
Cyanide	2	U	ug/l		-		ug/l		5	J	ug/l		-		ug/l	

Locator Annotations: A = DUPLICATE SAMPLE B = SHALLOW SAMPLE C = INTERMEDIATE SAMPLE CD = DOUBLE INTERMEDIATE SAMPLE D = DEEP SAMPLE

Qualifiers: U = NOT DETECTED J = ESTIMATED VALUE UJ = REPORTED QUANTITATION LIMIT IS QUALIFIED AS ESTIMATED R = RESULT IS REJECTED AND UNUSABLE

Naval Air Station Whiting Field, Milton, Florida
Site 15 Groundwater Data

Lab Sample Number:		RB956010			ME404006			RB956004			MC424002		
Site		WHITING			WHITING			WHITING			WHITING		
Locator		15G00501F			15G00501F			15G00502			15G00502		
Collect Date:		06-AUG-96			31-JUL-97			06-AUG-96			18-NOV-96		
		VALUE QUAL	UNITS	DL	VALUE QUAL	UNITS	DL	VALUE QUAL	UNITS	DL	VALUE QUAL	UNITS	DL
CLP VOLATILES 90-SOW	ug/l												
Chloromethane		-	ug/l		-	ug/l		10 U	ug/l	10	10 U	ug/l	10
Bromomethane		-	ug/l		-	ug/l		10 U	ug/l	10	10 U	ug/l	10
Vinyl chloride		-	ug/l		-	ug/l		10 U	ug/l	10	10 U	ug/l	10
Chloroethane		-	ug/l		-	ug/l		10 U	ug/l	10	10 U	ug/l	10
Methylene chloride		-	ug/l		-	ug/l		10 U	ug/l	10	10 U	ug/l	10
Acetone		-	ug/l		-	ug/l		10 UJ	ug/l	10	10 U	ug/l	10
Carbon disulfide		-	ug/l		-	ug/l		10 U	ug/l	10	10 U	ug/l	10
1,1-Dichloroethene		-	ug/l		-	ug/l		2 J	ug/l	10	10 U	ug/l	10
1,1-Dichloroethane		-	ug/l		-	ug/l		10 U	ug/l	10	10 U	ug/l	10
1,2-Dichloroethene (total)		-	ug/l		-	ug/l		38	ug/l	10	21	ug/l	10
Chloroform		-	ug/l		-	ug/l		10 U	ug/l	10	10 U	ug/l	10
1,2-Dichloroethane		-	ug/l		-	ug/l		10 U	ug/l	10	10 U	ug/l	10
2-Butanone		-	ug/l		-	ug/l		10 U	ug/l	10	10 U	ug/l	10
1,1,1-Trichloroethane		-	ug/l		-	ug/l		10 U	ug/l	10	10 U	ug/l	10
Carbon tetrachloride		-	ug/l		-	ug/l		10 U	ug/l	10	10 U	ug/l	10
Bromodichloromethane		-	ug/l		-	ug/l		10 U	ug/l	10	10 U	ug/l	10
1,2-Dichloropropane		-	ug/l		-	ug/l		10 U	ug/l	10	10 U	ug/l	10
cis-1,3-Dichloropropene		-	ug/l		-	ug/l		10 U	ug/l	10	10 U	ug/l	10
Trichloroethene		-	ug/l		-	ug/l		29	ug/l	10	21	ug/l	10
Dibromochloromethane		-	ug/l		-	ug/l		10 U	ug/l	10	10 U	ug/l	10
1,1,2-Trichloroethane		-	ug/l		-	ug/l		10 U	ug/l	10	10 U	ug/l	10
Benzene		-	ug/l		-	ug/l		130	ug/l	10	66	ug/l	10
trans-1,3-Dichloropropene		-	ug/l		-	ug/l		10 U	ug/l	10	10 U	ug/l	10
Bromoform		-	ug/l		-	ug/l		10 U	ug/l	10	10 U	ug/l	10
4-Methyl-2-pentanone		-	ug/l		-	ug/l		10 U	ug/l	10	10 U	ug/l	10
2-Hexanone		-	ug/l		-	ug/l		10 U	ug/l	10	10 U	ug/l	10
Tetrachloroethene		-	ug/l		-	ug/l		10 U	ug/l	10	10 U	ug/l	10
Toluene		-	ug/l		-	ug/l		10 U	ug/l	10	10 U	ug/l	10
1,1,2,2-Tetrachloroethane		-	ug/l		-	ug/l		10 U	ug/l	10	10 U	ug/l	10
Chlorobenzene		-	ug/l		-	ug/l		10 U	ug/l	10	10 U	ug/l	10
Ethylbenzene		-	ug/l		-	ug/l		10 U	ug/l	10	10 U	ug/l	10
Styrene		-	ug/l		-	ug/l		10 U	ug/l	10	10 U	ug/l	10
Xylenes (total)		-	ug/l		-	ug/l		10 U	ug/l	10	10 U	ug/l	10
CLP SEMIVOLATILES 90-SOW	ug/l												
Phenol		-	ug/l		-	ug/l		10 U	ug/l	10	-	ug/l	
bis(2-Chloroethyl) ether		-	ug/l		-	ug/l		10 U	ug/l	10	-	ug/l	
2-Chlorophenol		-	ug/l		-	ug/l		10 U	ug/l	10	-	ug/l	
1,3-Dichlorobenzene		-	ug/l		-	ug/l		10 U	ug/l	10	-	ug/l	
1,4-Dichlorobenzene		-	ug/l		-	ug/l		10 U	ug/l	10	-	ug/l	

Naval Air Station Whiting Field, Milton, Florida
Site 15 Groundwater Data

Lab Sample Number:	RB956010			ME404006			RB956004			MC424002		
Site	WHITING			WHITING			WHITING			WHITING		
Locator	15G00501F			15G00501F			15G00502			15G00502		
Collect Date:	06-AUG-96			31-JUL-97			06-AUG-96			18-NOV-96		
	VALUE QUAL	UNITS	DL	VALUE QUAL	UNITS	DL	VALUE QUAL	UNITS	DL	VALUE QUAL	UNITS	DL
1,2-Dichlorobenzene	-	ug/l		-	ug/l		10 U	ug/l	10	-	ug/l	
2-Methylphenol	-	ug/l		-	ug/l		10 U	ug/l	10	-	ug/l	
2,2-oxybis(1-Chloropropane)	-	ug/l		-	ug/l		10 U	ug/l	10	-	ug/l	
4-Methylphenol	-	ug/l		-	ug/l		10 U	ug/l	10	-	ug/l	
N-Nitroso-di-n-propylamine	-	ug/l		-	ug/l		10 U	ug/l	10	-	ug/l	
Hexachloroethane	-	ug/l		-	ug/l		10 U	ug/l	10	-	ug/l	
Nitrobenzene	-	ug/l		-	ug/l		10 U	ug/l	10	-	ug/l	
Isophorone	-	ug/l		-	ug/l		10 U	ug/l	10	-	ug/l	
2-Nitrophenol	-	ug/l		-	ug/l		10 U	ug/l	10	-	ug/l	
2,4-Dimethylphenol	-	ug/l		-	ug/l		10 U	ug/l	10	-	ug/l	
bis(2-Chloroethoxy) methane	-	ug/l		-	ug/l		10 U	ug/l	10	-	ug/l	
2,4-Dichlorophenol	-	ug/l		-	ug/l		10 U	ug/l	10	-	ug/l	
1,2,4-Trichlorobenzene	-	ug/l		-	ug/l		10 U	ug/l	10	-	ug/l	
Naphthalene	-	ug/l		-	ug/l		10 U	ug/l	10	-	ug/l	
4-Chloroaniline	-	ug/l		-	ug/l		10 U	ug/l	10	-	ug/l	
Hexachlorobutadiene	-	ug/l		-	ug/l		10 U	ug/l	10	-	ug/l	
4-Chloro-3-methylphenol	-	ug/l		-	ug/l		10 U	ug/l	10	-	ug/l	
2-Methylnaphthalene	-	ug/l		-	ug/l		10 U	ug/l	10	-	ug/l	
Hexachlorocyclopentadiene	-	ug/l		-	ug/l		10 U	ug/l	10	-	ug/l	
2,4,6-Trichlorophenol	-	ug/l		-	ug/l		10 U	ug/l	10	-	ug/l	
2,4,5-Trichlorophenol	-	ug/l		-	ug/l		25 U	ug/l	25	-	ug/l	
2-Chloronaphthalene	-	ug/l		-	ug/l		10 U	ug/l	10	-	ug/l	
2-Nitroaniline	-	ug/l		-	ug/l		25 U	ug/l	25	-	ug/l	
Dimethylphthalate	-	ug/l		-	ug/l		10 U	ug/l	10	-	ug/l	
Acenaphthylene	-	ug/l		-	ug/l		10 U	ug/l	10	-	ug/l	
2,6-Dinitrotoluene	-	ug/l		-	ug/l		10 U	ug/l	10	-	ug/l	
3-Nitroaniline	-	ug/l		-	ug/l		25 U	ug/l	25	-	ug/l	
Acenaphthene	-	ug/l		-	ug/l		10 U	ug/l	10	-	ug/l	
2,4-Dinitrophenol	-	ug/l		-	ug/l		25 U	ug/l	25	-	ug/l	
4-Nitrophenol	-	ug/l		-	ug/l		25 U	ug/l	25	-	ug/l	
Dibenzofuran	-	ug/l		-	ug/l		10 U	ug/l	10	-	ug/l	
2,4-Dinitrotoluene	-	ug/l		-	ug/l		10 U	ug/l	10	-	ug/l	
Diethylphthalate	-	ug/l		-	ug/l		10 U	ug/l	10	-	ug/l	
4-Chlorophenyl-phenylether	-	ug/l		-	ug/l		10 U	ug/l	10	-	ug/l	
Fluorene	-	ug/l		-	ug/l		10 U	ug/l	10	-	ug/l	
4-Nitroaniline	-	ug/l		-	ug/l		25 U	ug/l	25	-	ug/l	
4,6-Dinitro-2-methylphenol	-	ug/l		-	ug/l		25 U	ug/l	25	-	ug/l	
N-Nitrosodiphenylamine	-	ug/l		-	ug/l		10 U	ug/l	10	-	ug/l	
4-Bromophenyl-phenylether	-	ug/l		-	ug/l		10 U	ug/l	10	-	ug/l	
Hexachlorobenzene	-	ug/l		-	ug/l		10 U	ug/l	10	-	ug/l	
Pentachlorophenol	-	ug/l		-	ug/l		25 U	ug/l	25	-	ug/l	
Phenanthrene	-	ug/l		-	ug/l		10 U	ug/l	10	-	ug/l	
Anthracene	-	ug/l		-	ug/l		10 U	ug/l	10	-	ug/l	
Carbazole	-	ug/l		-	ug/l		10 U	ug/l	10	-	ug/l	
Di-n-butylphthalate	-	ug/l		-	ug/l		10 U	ug/l	10	-	ug/l	
Fluoranthene	-	ug/l		-	ug/l		10 U	ug/l	10	-	ug/l	
Pyrene	-	ug/l		-	ug/l		10 U	ug/l	10	-	ug/l	
Butylbenzylphthalate	-	ug/l		-	ug/l		10 U	ug/l	10	-	ug/l	
3,3-Dichlorobenzidine	-	ug/l		-	ug/l		10 U	ug/l	10	-	ug/l	
Benzo (a) anthracene	-	ug/l		-	ug/l		10 U	ug/l	10	-	ug/l	
Chrysene	-	ug/l		-	ug/l		10 U	ug/l	10	-	ug/l	
bis(2-Ethylhexyl) phthalate	-	ug/l		-	ug/l		10 U	ug/l	10	-	ug/l	

Naval Air Station Whiting Field, Milton, Florida
Site 15 Groundwater Data

Lab Sample Number:		RB956010				ME404006				RB956004				MC424002		
Site		WHITING				WHITING				WHITING				WHITING		
Locator		15G00501F				15G00501F				15G00502				15G00502		
Collect Date:		06-AUG-96				31-JUL-97				06-AUG-96				18-NOV-96		
		VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
Di-n-octylphthalate		-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	
Benzo (b) fluoranthene		-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	
Benzo (k) fluoranthene		-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	
Benzo (a) pyrene		-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	
Indeno (1,2,3-cd) pyrene		-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	
Dibenzo (a,h) anthracene		-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	
Benzo (g,h,i) perylene		-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	
CLP PESTICIDES/PCBS 90-SOW	ug/l																
alpha-BHC		-		ug/l		-		ug/l		.05	U	ug/l	.05	-		ug/l	
beta-BHC		-		ug/l		-		ug/l		.05	U	ug/l	.05	-		ug/l	
delta-BHC		-		ug/l		-		ug/l		.05	U	ug/l	.05	-		ug/l	
gamma-BHC (Lindane)		-		ug/l		-		ug/l		.05	U	ug/l	.05	-		ug/l	
Heptachlor		-		ug/l		-		ug/l		.05	U	ug/l	.05	-		ug/l	
Aldrin		-		ug/l		-		ug/l		.05	U	ug/l	.05	-		ug/l	
Heptachlor epoxide		-		ug/l		-		ug/l		.05	U	ug/l	.05	-		ug/l	
Endosulfan I		-		ug/l		-		ug/l		.05	U	ug/l	.05	-		ug/l	
Dieldrin		-		ug/l		-		ug/l		.1	U	ug/l	.1	-		ug/l	
4,4-DDE		-		ug/l		-		ug/l		.1	U	ug/l	.1	-		ug/l	
Endrin		-		ug/l		-		ug/l		.1	U	ug/l	.1	-		ug/l	
Endosulfan II		-		ug/l		-		ug/l		.1	U	ug/l	.1	-		ug/l	
4,4-DDD		-		ug/l		-		ug/l		.1	U	ug/l	.1	-		ug/l	
Endosulfan sulfate		-		ug/l		-		ug/l		.1	U	ug/l	.1	-		ug/l	
4,4-DDT		-		ug/l		-		ug/l		.1	UJ	ug/l	.1	-		ug/l	
Methoxychlor		-		ug/l		-		ug/l		.5	U	ug/l	.5	-		ug/l	
Endrin ketone		-		ug/l		-		ug/l		.1	U	ug/l	.1	-		ug/l	
Endrin aldehyde		-		ug/l		-		ug/l		.1	U	ug/l	.1	-		ug/l	
alpha-Chlordane		-		ug/l		-		ug/l		.05	U	ug/l	.05	-		ug/l	
gamma-Chlordane		-		ug/l		-		ug/l		.05	U	ug/l	.05	-		ug/l	
Toxaphene		-		ug/l		-		ug/l		5	U	ug/l	5	-		ug/l	
Aroclor-1016		-		ug/l		-		ug/l		1	U	ug/l	1	-		ug/l	
Aroclor-1221		-		ug/l		-		ug/l		2	U	ug/l	2	-		ug/l	
Aroclor-1232		-		ug/l		-		ug/l		1	U	ug/l	1	-		ug/l	
Aroclor-1242		-		ug/l		-		ug/l		1	U	ug/l	1	-		ug/l	
Aroclor-1248		-		ug/l		-		ug/l		1	U	ug/l	1	-		ug/l	
Aroclor-1254		-		ug/l		-		ug/l		1	U	ug/l	1	-		ug/l	
Aroclor-1260		-		ug/l		-		ug/l		1	U	ug/l	1	-		ug/l	
CLP METALS AND CYANIDE	ug/l																
Aluminum		63	U	ug/l		200	U	ug/l	200	14	U	ug/l		-		ug/l	
Antimony		8.6	U	ug/l		60	U	ug/l	60	8.6	U	ug/l		-		ug/l	
Arsenic		1.7	J	ug/l		10	U	ug/l	10	.5	U	ug/l		-		ug/l	
Barium		37.3	J	ug/l		36.9	J	ug/l	200	28.5	J	ug/l		-		ug/l	
Beryllium		.3	U	ug/l		5	U	ug/l	5	.3	U	ug/l		-		ug/l	
Cadmium		1.2	U	ug/l		5	U	ug/l	5	1.2	U	ug/l		-		ug/l	
Calcium		1480	J	ug/l		2510	J	ug/l	5000	2260	J	ug/l		-		ug/l	
Chromium		2	U	ug/l		10	U	ug/l	10	2	U	ug/l		-		ug/l	
Cobalt		2.3	U	ug/l		50	U	ug/l	50	2.3	U	ug/l		-		ug/l	
Copper		1.1	U	ug/l		25	U	ug/l	25	1.1	U	ug/l		-		ug/l	
Iron		2180		ug/l		3550		ug/l	100	2190		ug/l		-		ug/l	
Lead		.8	J	ug/l		3	U	ug/l	3	1.8	J	ug/l		-		ug/l	
Magnesium		1190	J	ug/l		1450	J	ug/l	5000	1130	J	ug/l		-		ug/l	

Naval Air Station Whiting Field, Milton, Florida
Site 15 Groundwater Data

Lab Sample Number:	RB956010				ME404006				RB956004				MC424002			
Site	WHITING				WHITING				WHITING				WHITING			
Locator	15G00501F				15G00501F				15G00502				15G00502			
Collect Date:	06-AUG-96				31-JUL-97				06-AUG-96				18-NOV-96			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
Manganese	61.5		ug/l		83		ug/l	15	114		ug/l		-		ug/l	
Mercury	.1	U	ug/l		.2	U	ug/l	.2	.1	U	ug/l		-		ug/l	
Nickel	7.8	J	ug/l		40	U	ug/l	40	7.3	U	ug/l		-		ug/l	
Potassium	630	J	ug/l		5000	U	ug/l	5000	316	U	ug/l		-		ug/l	
Selenium	.6	U	ug/l		5	U	ug/l	5	.6	U	ug/l		-		ug/l	
Silver	2.5	U	ug/l		10	U	ug/l	10	2.5	U	ug/l		-		ug/l	
Sodium	1500	J	ug/l		1300	J	ug/l	5000	2120	J	ug/l		-		ug/l	
Thallium	.6	U	ug/l		10	U	ug/l	10	.6	U	ug/l		-		ug/l	
Vanadium	1.2	U	ug/l		50	U	ug/l	50	1.2	U	ug/l		-		ug/l	
Zinc	112		ug/l		20	U	ug/l	20	7.4	U	ug/l		-		ug/l	
Cyanide	-		ug/l		-		ug/l		1.5	U	ug/l		-		ug/l	

Locator Annotations: A = DUPLICATE SAMPLE B = SHALLOW SAMPLE C = INTERMEDIATE SAMPLE CD = DOUBLE INTERMEDIATE SAMPLE D = DEEP SAMPLE

Qualifiers: U = NOT DETECTED J = ESTIMATED VALUE UJ = REPORTED QUANTITATION LIMIT IS QUALIFIED AS ESTIMATED R = RESULT IS REJECTED AND UNUSABLE

Naval Air Station Whiting Field, Milton, Florida
Site 15 Groundwater Data

Lab Sample Number:		ME404007				RB956004RE				RB956003				MC424003		
Site		WHITING				WHITING				WHITING				WHITING		
Locator		15G00502				15G00502RE				15G00503				15G00503		
Collect Date:		31-JUL-97				06-AUG-96				06-AUG-96				18-NOV-96		
		VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
CLP VOLATILES 90-SOW	ug/l																
Chloromethane		10	U	ug/l	10	-		ug/l		10	U	ug/l	10	25	U	ug/l	25
Bromomethane		10	U	ug/l	10	-		ug/l		10	U	ug/l	10	25	U	ug/l	25
Vinyl chloride		10	U	ug/l	10	-		ug/l		10	U	ug/l	10	25	U	ug/l	25
Chloroethane		10	U	ug/l	10	-		ug/l		10	U	ug/l	10	25	U	ug/l	25
Methylene chloride		10	U	ug/l	10	-		ug/l		10	U	ug/l	10	25	U	ug/l	25
Acetone		10	UJ	ug/l	10	-		ug/l		170	J	ug/l	10	25	U	ug/l	25
Carbon disulfide		10	U	ug/l	10	-		ug/l		10	U	ug/l	10	25	U	ug/l	25
1,1-Dichloroethene		10	U	ug/l	10	-		ug/l		11		ug/l	10	10	J	ug/l	25
1,1-Dichloroethane		10	U	ug/l	10	-		ug/l		10	U	ug/l	10	25	U	ug/l	25
1,2-Dichloroethene (total)		7	J	ug/l	10	-		ug/l		16		ug/l	10	22	J	ug/l	25
Chloroform		10	U	ug/l	10	-		ug/l		10	U	ug/l	10	25	U	ug/l	25
1,2-Dichloroethane		10	U	ug/l	10	-		ug/l		2	J	ug/l	10	25	U	ug/l	25
2-Butanone		10	U	ug/l	10	-		ug/l		10	U	ug/l	10	25	U	ug/l	25
1,1,1-Trichloroethane		10	U	ug/l	10	-		ug/l		10	U	ug/l	10	25	U	ug/l	25
Carbon tetrachloride		10	U	ug/l	10	-		ug/l		10	U	ug/l	10	25	U	ug/l	25
Bromodichloromethane		10	U	ug/l	10	-		ug/l		10	U	ug/l	10	25	U	ug/l	25
1,2-Dichloropropane		10	U	ug/l	10	-		ug/l		10	U	ug/l	10	25	U	ug/l	25
cis-1,3-Dichloropropene		10	U	ug/l	10	-		ug/l		10	U	ug/l	10	25	U	ug/l	25
Trichloroethene		7	J	ug/l	10	-		ug/l		320	R	ug/l	10	350		ug/l	25
Dibromochloromethane		10	U	ug/l	10	-		ug/l		10	U	ug/l	10	25	U	ug/l	25
1,1,2-Trichloroethane		10	U	ug/l	10	-		ug/l		10	U	ug/l	10	25	U	ug/l	25
Benzene		9	J	ug/l	10	-		ug/l		10	U	ug/l	10	25	U	ug/l	25
trans-1,3-Dichloropropene		10	U	ug/l	10	-		ug/l		10	U	ug/l	10	25	U	ug/l	25
Bromoform		10	U	ug/l	10	-		ug/l		10	U	ug/l	10	25	U	ug/l	25
4-Methyl-2-pentanone		10	U	ug/l	10	-		ug/l		10	U	ug/l	10	25	U	ug/l	25
2-Hexanone		10	U	ug/l	10	-		ug/l		10	U	ug/l	10	25	U	ug/l	25
Tetrachloroethene		10	U	ug/l	10	-		ug/l		10	U	ug/l	10	25	U	ug/l	25
Toluene		10	U	ug/l	10	-		ug/l		10	U	ug/l	10	25	U	ug/l	25
1,1,2,2-Tetrachloroethane		10	U	ug/l	10	-		ug/l		10	U	ug/l	10	25	U	ug/l	25
Chlorobenzene		10	U	ug/l	10	-		ug/l		10	U	ug/l	10	25	U	ug/l	25
Ethylbenzene		10	U	ug/l	10	-		ug/l		10	U	ug/l	10	25	U	ug/l	25
Styrene		10	U	ug/l	10	-		ug/l		10	U	ug/l	10	25	U	ug/l	25
Xylenes (total)		10	U	ug/l	10	-		ug/l		10	U	ug/l	10	25	U	ug/l	25
CLP SEMIVOLATILES 90-SOW	ug/l																
Phenol		-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	
bis(2-Chloroethyl) ether		-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	
2-Chlorophenol		-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	
1,3-Dichlorobenzene		-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	
1,4-Dichlorobenzene		-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	

Naval Air Station Whiting Field, Milton, Florida
Site 15 Groundwater Data

Lab Sample Number:	ME404007			RB956004RE			RB956003			MC424003		
Site	WHITING			WHITING			WHITING			WHITING		
Locator	15G00502			15G00502RE			15G00503			15G00503		
Collect Date:	31-JUL-97			06-AUG-96			06-AUG-96			18-NOV-96		
	VALUE	QUAL UNITS	DL	VALUE	QUAL UNITS	DL	VALUE	QUAL UNITS	DL	VALUE	QUAL UNITS	DL
1,2-Dichlorobenzene	-	ug/l		-	ug/l		10 U	ug/l	10	-	ug/l	
2-Methylphenol	-	ug/l		-	ug/l		10 U	ug/l	10	-	ug/l	
2,2-oxybis(1-Chloropropane)	-	ug/l		-	ug/l		10 U	ug/l	10	-	ug/l	
4-Methylphenol	-	ug/l		-	ug/l		10 U	ug/l	10	-	ug/l	
N-Nitroso-di-n-propylamine	-	ug/l		-	ug/l		10 U	ug/l	10	-	ug/l	
Hexachloroethane	-	ug/l		-	ug/l		10 U	ug/l	10	-	ug/l	
Nitrobenzene	-	ug/l		-	ug/l		10 U	ug/l	10	-	ug/l	
Isophorone	-	ug/l		-	ug/l		10 U	ug/l	10	-	ug/l	
2-Nitrophenol	-	ug/l		-	ug/l		10 U	ug/l	10	-	ug/l	
2,4-Dimethylphenol	-	ug/l		-	ug/l		10 U	ug/l	10	-	ug/l	
bis(2-Chloroethoxy) methane	-	ug/l		-	ug/l		10 U	ug/l	10	-	ug/l	
2,4-Dichlorophenol	-	ug/l		-	ug/l		10 U	ug/l	10	-	ug/l	
1,2,4-Trichlorobenzene	-	ug/l		-	ug/l		10 U	ug/l	10	-	ug/l	
Naphthalene	-	ug/l		-	ug/l		10 U	ug/l	10	-	ug/l	
4-Chloroaniline	-	ug/l		-	ug/l		10 U	ug/l	10	-	ug/l	
Hexachlorobutadiene	-	ug/l		-	ug/l		10 U	ug/l	10	-	ug/l	
4-Chloro-3-methylphenol	-	ug/l		-	ug/l		10 U	ug/l	10	-	ug/l	
2-Methylnaphthalene	-	ug/l		-	ug/l		10 U	ug/l	10	-	ug/l	
Hexachlorocyclopentadiene	-	ug/l		-	ug/l		10 U	ug/l	10	-	ug/l	
2,4,6-Trichlorophenol	-	ug/l		-	ug/l		10 U	ug/l	10	-	ug/l	
2,4,5-Trichlorophenol	-	ug/l		-	ug/l		25 U	ug/l	25	-	ug/l	
2-Chloronaphthalene	-	ug/l		-	ug/l		10 U	ug/l	10	-	ug/l	
2-Nitroaniline	-	ug/l		-	ug/l		25 U	ug/l	25	-	ug/l	
Dimethylphthalate	-	ug/l		-	ug/l		10 U	ug/l	10	-	ug/l	
Acenaphthylene	-	ug/l		-	ug/l		10 U	ug/l	10	-	ug/l	
2,6-Dinitrotoluene	-	ug/l		-	ug/l		10 U	ug/l	10	-	ug/l	
3-Nitroaniline	-	ug/l		-	ug/l		25 U	ug/l	25	-	ug/l	
Acenaphthene	-	ug/l		-	ug/l		10 U	ug/l	10	-	ug/l	
2,4-Dinitrophenol	-	ug/l		-	ug/l		25 U	ug/l	25	-	ug/l	
4-Nitrophenol	-	ug/l		-	ug/l		25 U	ug/l	25	-	ug/l	
Dibenzofuran	-	ug/l		-	ug/l		10 U	ug/l	10	-	ug/l	
2,4-Dinitrotoluene	-	ug/l		-	ug/l		10 U	ug/l	10	-	ug/l	
Diethylphthalate	-	ug/l		-	ug/l		10 U	ug/l	10	-	ug/l	
4-Chlorophenyl-phenylether	-	ug/l		-	ug/l		10 U	ug/l	10	-	ug/l	
Fluorene	-	ug/l		-	ug/l		10 U	ug/l	10	-	ug/l	
4-Nitroaniline	-	ug/l		-	ug/l		25 U	ug/l	25	-	ug/l	
4,6-Dinitro-2-methylphenol	-	ug/l		-	ug/l		25 U	ug/l	25	-	ug/l	
N-Nitrosodiphenylamine	-	ug/l		-	ug/l		10 U	ug/l	10	-	ug/l	
4-Bromophenyl-phenylether	-	ug/l		-	ug/l		10 U	ug/l	10	-	ug/l	
Hexachlorobenzene	-	ug/l		-	ug/l		10 U	ug/l	10	-	ug/l	
Pentachlorophenol	-	ug/l		-	ug/l		25 U	ug/l	25	-	ug/l	
Phenanthrene	-	ug/l		-	ug/l		10 U	ug/l	10	-	ug/l	
Anthracene	-	ug/l		-	ug/l		10 U	ug/l	10	-	ug/l	
Carbazole	-	ug/l		-	ug/l		10 U	ug/l	10	-	ug/l	
Di-n-butylphthalate	-	ug/l		-	ug/l		10 U	ug/l	10	-	ug/l	
Fluoranthene	-	ug/l		-	ug/l		10 U	ug/l	10	-	ug/l	
Pyrene	-	ug/l		-	ug/l		10 U	ug/l	10	-	ug/l	
Butylbenzylphthalate	-	ug/l		-	ug/l		10 U	ug/l	10	-	ug/l	
3,3-Dichlorobenzidine	-	ug/l		-	ug/l		10 U	ug/l	10	-	ug/l	
Benzo (a) anthracene	-	ug/l		-	ug/l		10 U	ug/l	10	-	ug/l	
Chrysene	-	ug/l		-	ug/l		10 U	ug/l	10	-	ug/l	
bis(2-Ethylhexyl) phthalate	-	ug/l		-	ug/l		10 U	ug/l	10	-	ug/l	

Naval Air Station Whiting Field, Milton, Florida
Site 15 Groundwater Data

Lab Sample Number:		ME404007				RB956004RE				RB956003				MC424003		
Site		WHITING				WHITING				WHITING				WHITING		
Locator		15G00502				15G00502RE				15G00503				15G00503		
Collect Date:		31-JUL-97				06-AUG-96				06-AUG-96				18-NOV-96		
		VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
Di-n-octylphthalate		-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	
Benzo (b) fluoranthene		-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	
Benzo (k) fluoranthene		-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	
Benzo (a) pyrene		-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	
Indeno (1,2,3-cd) pyrene		-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	
Dibenzo (a,h) anthracene		-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	
Benzo (g,h,i) perylene		-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	
CLP PESTICIDES/PCBS 90-SOW	ug/l																
alpha-BHC		-		ug/l		.05	R	ug/l	.05	.05	U	ug/l	.05	-		ug/l	
beta-BHC		-		ug/l		.05	R	ug/l	.05	.05	U	ug/l	.05	-		ug/l	
delta-BHC		-		ug/l		.05	R	ug/l	.05	.05	U	ug/l	.05	-		ug/l	
gamma-BHC (Lindane)		-		ug/l		.05	R	ug/l	.05	.05	U	ug/l	.05	-		ug/l	
Heptachlor		-		ug/l		.05	R	ug/l	.05	.05	U	ug/l	.05	-		ug/l	
Aldrin		-		ug/l		.05	R	ug/l	.05	.05	U	ug/l	.05	-		ug/l	
Heptachlor epoxide		-		ug/l		.05	R	ug/l	.05	.05	U	ug/l	.05	-		ug/l	
Endosulfan I		-		ug/l		.05	R	ug/l	.05	.05	U	ug/l	.05	-		ug/l	
Dieldrin		-		ug/l		.1	R	ug/l	.1	.1	U	ug/l	.1	-		ug/l	
4,4-DDE		-		ug/l		.1	R	ug/l	.1	.1	U	ug/l	.1	-		ug/l	
Endrin		-		ug/l		.1	R	ug/l	.1	.1	U	ug/l	.1	-		ug/l	
Endosulfan II		-		ug/l		.1	R	ug/l	.1	.1	U	ug/l	.1	-		ug/l	
4,4-DDD		-		ug/l		.1	R	ug/l	.1	.1	U	ug/l	.1	-		ug/l	
Endosulfan sulfate		-		ug/l		.1	R	ug/l	.1	.1	U	ug/l	.1	-		ug/l	
4,4-DDT		-		ug/l		.1	R	ug/l	.1	.1	UJ	ug/l	.1	-		ug/l	
Methoxychlor		-		ug/l		.5	R	ug/l	.5	.5	U	ug/l	.5	-		ug/l	
Endrin ketone		-		ug/l		.1	R	ug/l	.1	.1	U	ug/l	.1	-		ug/l	
Endrin aldehyde		-		ug/l		.1	R	ug/l	.1	.1	U	ug/l	.1	-		ug/l	
alpha-Chlordane		-		ug/l		.05	R	ug/l	.05	.05	U	ug/l	.05	-		ug/l	
gamma-Chlordane		-		ug/l		.05	R	ug/l	.05	.05	U	ug/l	.05	-		ug/l	
Toxaphene		-		ug/l		5	R	ug/l	5	5	U	ug/l	5	-		ug/l	
Aroclor-1016		-		ug/l		1	R	ug/l	1	1	U	ug/l	1	-		ug/l	
Aroclor-1221		-		ug/l		2	R	ug/l	2	2	U	ug/l	2	-		ug/l	
Aroclor-1232		-		ug/l		1	R	ug/l	1	1	U	ug/l	1	-		ug/l	
Aroclor-1242		-		ug/l		1	R	ug/l	1	1	U	ug/l	1	-		ug/l	
Aroclor-1248		-		ug/l		1	R	ug/l	1	1	U	ug/l	1	-		ug/l	
Aroclor-1254		-		ug/l		1	R	ug/l	1	1	U	ug/l	1	-		ug/l	
Aroclor-1260		-		ug/l		1	R	ug/l	1	1	U	ug/l	1	-		ug/l	
CLP METALS AND CYANIDE	ug/l																
Aluminum		200	U	ug/l	200	-		ug/l		103	J	ug/l		-		ug/l	
Antimony		60	U	ug/l	60	-		ug/l		8.6	U	ug/l		-		ug/l	
Arsenic		10	U	ug/l	10	-		ug/l		.5	U	ug/l		-		ug/l	
Barium		14.3	J	ug/l	200	-		ug/l		10.2	J	ug/l		-		ug/l	
Beryllium		5	U	ug/l	5	-		ug/l		.3	U	ug/l		-		ug/l	
Cadmium		5	U	ug/l	5	-		ug/l		1.2	U	ug/l		-		ug/l	
Calcium		5000	U	ug/l	5000	-		ug/l		2000	J	ug/l		-		ug/l	
Chromium		10	U	ug/l	10	-		ug/l		2	U	ug/l		-		ug/l	
Cobalt		50	U	ug/l	50	-		ug/l		2.3	U	ug/l		-		ug/l	
Copper		25	U	ug/l	25	-		ug/l		2	J	ug/l		-		ug/l	
Iron		1060		ug/l	100	-		ug/l		134		ug/l		-		ug/l	
Lead		3	UJ	ug/l	3	-		ug/l		.5	U	ug/l		-		ug/l	
Magnesium		516	J	ug/l	5000	-		ug/l		232	J	ug/l		-		ug/l	

Naval Air Station Whiting Field, Milton, Florida
Site 15 Groundwater Data

Lab Sample Number:	ME404007				RB956004RE				RB956003				MC424003		
Site	WHITING				WHITING				WHITING				WHITING		
Locator	15G00502				15G00502RE				15G00503				15G00503		
Collect Date:	31-JUL-97				06-AUG-96				06-AUG-96				18-NOV-96		
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
Manganese	29.9		ug/l	15	-		ug/l		71		ug/l		-		ug/l	
Mercury	.2	U	ug/l	.2	-		ug/l		.1	U	ug/l		-		ug/l	
Nickel	40	U	ug/l	40	-		ug/l		7.3	U	ug/l		-		ug/l	
Potassium	5000	U	ug/l	5000	-		ug/l		460	J	ug/l		-		ug/l	
Selenium	5	U	ug/l	5	-		ug/l		.6	UJ	ug/l		-		ug/l	
Silver	10	U	ug/l	10	-		ug/l		2.5	U	ug/l		-		ug/l	
Sodium	1700	J	ug/l	5000	-		ug/l		3250	J	ug/l		-		ug/l	
Thallium	10	U	ug/l	10	-		ug/l		.6	U	ug/l		-		ug/l	
Vanadium	50	U	ug/l	50	-		ug/l		1.7	J	ug/l		-		ug/l	
Zinc	20	U	ug/l	20	-		ug/l		49		ug/l		-		ug/l	
Cyanide	-		ug/l		-		ug/l		1.5	U	ug/l		-		ug/l	

Locator Annotations: A = DUPLICATE SAMPLE B = SHALLOW SAMPLE C = INTERMEDIATE SAMPLE CD = DOUBLE INTERMEDIATE SAMPLE D = DEEP SAMPLE

Qualifiers: U = NOT DETECTED J = ESTIMATED VALUE UJ = REPORTED QUANTITATION LIMIT IS QUALIFIED AS ESTIMATED R = RESULT IS REJECTED AND UNUSABLE

Naval Air Station Whiting Field, Milton, Florida
Site 15 Groundwater Data

Lab Sample Number:		ME404008				RB956003DL				RB956009				RB956006			
Site		WHITING				WHITING				WHITING				WHITING			
Locator		15G00503				15G00503DL				15G00503F				15G00601			
Collect Date:		31-JUL-97				06-AUG-96				06-AUG-96				07-AUG-96			
		VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
CLP VOLATILES 90-SOW	ug/l																
Chloromethane		25	U	ug/l	25	20	R	ug/l	20	-		ug/l		10	U	ug/l	10
Bromomethane		25	U	ug/l	25	20	R	ug/l	20	-		ug/l		10	U	ug/l	10
Vinyl chloride		25	U	ug/l	25	20	R	ug/l	20	-		ug/l		10	U	ug/l	10
Chloroethane		25	U	ug/l	25	20	R	ug/l	20	-		ug/l		10	U	ug/l	10
Methylene chloride		25	U	ug/l	25	20	R	ug/l	20	-		ug/l		10	U	ug/l	10
Acetone		25	UJ	ug/l	25	140	R	ug/l	20	-		ug/l		10	UJ	ug/l	10
Carbon disulfide		25	U	ug/l	25	20	R	ug/l	20	-		ug/l		10	U	ug/l	10
1,1-Dichloroethene		10	J	ug/l	25	8	R	ug/l	20	-		ug/l		10	U	ug/l	10
1,1-Dichloroethane		25	U	ug/l	25	20	R	ug/l	20	-		ug/l		10	U	ug/l	10
1,2-Dichloroethene (total)		14	J	ug/l	25	12	R	ug/l	20	-		ug/l		1	J	ug/l	10
Chloroform		25	U	ug/l	25	20	R	ug/l	20	-		ug/l		10	U	ug/l	10
1,2-Dichloroethane		25	U	ug/l	25	20	R	ug/l	20	-		ug/l		10	U	ug/l	10
2-Butanone		25	U	ug/l	25	20	R	ug/l	20	-		ug/l		10	U	ug/l	10
1,1,1-Trichloroethane		25	U	ug/l	25	20	R	ug/l	20	-		ug/l		10	U	ug/l	10
Carbon tetrachloride		25	U	ug/l	25	20	R	ug/l	20	-		ug/l		10	U	ug/l	10
Bromodichloromethane		25	U	ug/l	25	20	R	ug/l	20	-		ug/l		10	U	ug/l	10
1,2-Dichloropropane		25	U	ug/l	25	20	R	ug/l	20	-		ug/l		10	U	ug/l	10
cis-1,3-Dichloropropene		25	U	ug/l	25	20	R	ug/l	20	-		ug/l		10	U	ug/l	10
Trichloroethene		330		ug/l	25	230		ug/l	20	-		ug/l		10	U	ug/l	10
Dibromochloromethane		25	U	ug/l	25	20	R	ug/l	20	-		ug/l		10	U	ug/l	10
1,1,2-Trichloroethane		25	U	ug/l	25	20	R	ug/l	20	-		ug/l		10	U	ug/l	10
Benzene		25	U	ug/l	25	20	R	ug/l	20	-		ug/l		10	U	ug/l	10
trans-1,3-Dichloropropene		25	U	ug/l	25	20	R	ug/l	20	-		ug/l		10	U	ug/l	10
Bromoform		25	U	ug/l	25	20	R	ug/l	20	-		ug/l		10	U	ug/l	10
4-Methyl-2-pentanone		25	U	ug/l	25	20	R	ug/l	20	-		ug/l		10	U	ug/l	10
2-Hexanone		25	U	ug/l	25	20	R	ug/l	20	-		ug/l		10	U	ug/l	10
Tetrachloroethene		25	U	ug/l	25	20	R	ug/l	20	-		ug/l		10	U	ug/l	10
Toluene		25	U	ug/l	25	20	R	ug/l	20	-		ug/l		10	U	ug/l	10
1,1,2,2-Tetrachloroethane		25	U	ug/l	25	20	R	ug/l	20	-		ug/l		10	U	ug/l	10
Chlorobenzene		25	U	ug/l	25	20	R	ug/l	20	-		ug/l		5	J	ug/l	10
Ethylbenzene		25	U	ug/l	25	20	R	ug/l	20	-		ug/l		10	U	ug/l	10
Styrene		25	U	ug/l	25	20	R	ug/l	20	-		ug/l		10	U	ug/l	10
Xylenes (total)		25	U	ug/l	25	20	R	ug/l		-		ug/l		10	U	ug/l	10
CLP SEMIVOLATILES 90-SOW	ug/l																
Phenol		-		ug/l		-		ug/l		-		ug/l		10	U	ug/l	10
bis(2-Chloroethyl) ether		-		ug/l		-		ug/l		-		ug/l		10	U	ug/l	10
2-Chlorophenol		-		ug/l		-		ug/l		-		ug/l		10	U	ug/l	10
1,3-Dichlorobenzene		-		ug/l		-		ug/l		-		ug/l		10	U	ug/l	10
1,4-Dichlorobenzene		-		ug/l		-		ug/l		-		ug/l		12		ug/l	10

Naval Air Station Whiting Field, Milton, Florida
Site 15 Groundwater Data

Lab Sample Number:	ME404008				RB956003DL				RB956009				RB956006			
Site	WHITING				WHITING				WHITING				WHITING			
Locator	15G00503				15G00503DL				15G00503F				15G00601			
Collect Date:	31-JUL-97				06-AUG-96				06-AUG-96				07-AUG-96			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
1,2-Dichlorobenzene	-		ug/l		-		ug/l		-		ug/l		10	U	ug/l	10
2-Methylphenol	-		ug/l		-		ug/l		-		ug/l		10	U	ug/l	10
2,2-oxybis(1-Chloropropane)	-		ug/l		-		ug/l		-		ug/l		10	U	ug/l	10
4-Methylphenol	-		ug/l		-		ug/l		-		ug/l		10	U	ug/l	10
N-Nitroso-di-n-propylamine	-		ug/l		-		ug/l		-		ug/l		10	U	ug/l	10
Hexachloroethane	-		ug/l		-		ug/l		-		ug/l		10	U	ug/l	10
Nitrobenzene	-		ug/l		-		ug/l		-		ug/l		10	U	ug/l	10
Isophorone	-		ug/l		-		ug/l		-		ug/l		10	U	ug/l	10
2-Nitrophenol	-		ug/l		-		ug/l		-		ug/l		10	U	ug/l	10
2,4-Dimethylphenol	-		ug/l		-		ug/l		-		ug/l		10	U	ug/l	10
bis(2-Chloroethoxy) methane	-		ug/l		-		ug/l		-		ug/l		10	U	ug/l	10
2,4-Dichlorophenol	-		ug/l		-		ug/l		-		ug/l		10	U	ug/l	10
1,2,4-Trichlorobenzene	-		ug/l		-		ug/l		-		ug/l		10	U	ug/l	10
Naphthalene	-		ug/l		-		ug/l		-		ug/l		4	J	ug/l	10
4-Chloroaniline	-		ug/l		-		ug/l		-		ug/l		10	U	ug/l	10
Hexachlorobutadiene	-		ug/l		-		ug/l		-		ug/l		10	U	ug/l	10
4-Chloro-3-methylphenol	-		ug/l		-		ug/l		-		ug/l		10	U	ug/l	10
2-Methylnaphthalene	-		ug/l		-		ug/l		-		ug/l		10	U	ug/l	10
Hexachlorocyclopentadiene	-		ug/l		-		ug/l		-		ug/l		10	U	ug/l	10
2,4,6-Trichlorophenol	-		ug/l		-		ug/l		-		ug/l		10	U	ug/l	10
2,4,5-Trichlorophenol	-		ug/l		-		ug/l		-		ug/l		25	U	ug/l	25
2-Chloronaphthalene	-		ug/l		-		ug/l		-		ug/l		10	U	ug/l	10
2-Nitroaniline	-		ug/l		-		ug/l		-		ug/l		25	U	ug/l	25
Dimethylphthalate	-		ug/l		-		ug/l		-		ug/l		10	U	ug/l	10
Acenaphthylene	-		ug/l		-		ug/l		-		ug/l		10	U	ug/l	10
2,6-Dinitrotoluene	-		ug/l		-		ug/l		-		ug/l		10	U	ug/l	10
3-Nitroaniline	-		ug/l		-		ug/l		-		ug/l		25	U	ug/l	25
Acenaphthene	-		ug/l		-		ug/l		-		ug/l		10	U	ug/l	10
2,4-Dinitrophenol	-		ug/l		-		ug/l		-		ug/l		25	UJ	ug/l	25
4-Nitrophenol	-		ug/l		-		ug/l		-		ug/l		25	U	ug/l	25
Dibenzofuran	-		ug/l		-		ug/l		-		ug/l		10	U	ug/l	10
2,4-Dinitrotoluene	-		ug/l		-		ug/l		-		ug/l		10	U	ug/l	10
Diethylphthalate	-		ug/l		-		ug/l		-		ug/l		1	J	ug/l	10
4-Chlorophenyl-phenylether	-		ug/l		-		ug/l		-		ug/l		10	U	ug/l	10
Fluorene	-		ug/l		-		ug/l		-		ug/l		10	U	ug/l	10
4-Nitroaniline	-		ug/l		-		ug/l		-		ug/l		25	UJ	ug/l	25
4,6-Dinitro-2-methylphenol	-		ug/l		-		ug/l		-		ug/l		25	UJ	ug/l	25
N-Nitrosodiphenylamine	-		ug/l		-		ug/l		-		ug/l		10	U	ug/l	10
4-Bromophenyl-phenylether	-		ug/l		-		ug/l		-		ug/l		10	U	ug/l	10
Hexachlorobenzene	-		ug/l		-		ug/l		-		ug/l		10	U	ug/l	10
Pentachlorophenol	-		ug/l		-		ug/l		-		ug/l		25	U	ug/l	25
Phenanthrene	-		ug/l		-		ug/l		-		ug/l		10	U	ug/l	10
Anthracene	-		ug/l		-		ug/l		-		ug/l		10	U	ug/l	10
Carbazole	-		ug/l		-		ug/l		-		ug/l		10	U	ug/l	10
Di-n-butylphthalate	-		ug/l		-		ug/l		-		ug/l		10	U	ug/l	10
Fluoranthene	-		ug/l		-		ug/l		-		ug/l		10	U	ug/l	10
Pyrene	-		ug/l		-		ug/l		-		ug/l		10	UJ	ug/l	10
Butylbenzylphthalate	-		ug/l		-		ug/l		-		ug/l		10	U	ug/l	10
3,3-Dichlorobenzidine	-		ug/l		-		ug/l		-		ug/l		10	UJ	ug/l	10
Benzo (a) anthracene	-		ug/l		-		ug/l		-		ug/l		10	U	ug/l	10
Chrysene	-		ug/l		-		ug/l		-		ug/l		10	U	ug/l	10
bis(2-Ethylhexyl) phthalate	-		ug/l		-		ug/l		-		ug/l		10	U	ug/l	10

Naval Air Station Whiting Field, Milton, Florida
Site 15 Groundwater Data

Lab Sample Number:		ME404008				RB956003DL				RB956009				RB956006			
Site		WHITING				WHITING				WHITING				WHITING			
Locator		15G00503				15G00503DL				15G00503F				15G00601			
Collect Date:		31-JUL-97				06-AUG-96				06-AUG-96				07-AUG-96			
		VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
Di-n-octylphthalate		-		ug/l		-		ug/l		-		ug/l		10	U	ug/l	10
Benzo (b) fluoranthene		-		ug/l		-		ug/l		-		ug/l		10	U	ug/l	10
Benzo (k) fluoranthene		-		ug/l		-		ug/l		-		ug/l		10	U	ug/l	10
Benzo (a) pyrene		-		ug/l		-		ug/l		-		ug/l		10	U	ug/l	10
Indeno (1,2,3-cd) pyrene		-		ug/l		-		ug/l		-		ug/l		10	U	ug/l	10
Dibenzo (a,h) anthracene		-		ug/l		-		ug/l		-		ug/l		10	U	ug/l	10
Benzo (g,h,i) perylene		-		ug/l		-		ug/l		-		ug/l		10	U	ug/l	10
CLP PESTICIDES/PCBS 90-SOW	ug/l																
alpha-BHC		-		ug/l		-		ug/l		-		ug/l		.05	U	ug/l	.05
beta-BHC		-		ug/l		-		ug/l		-		ug/l		.05	U	ug/l	.05
delta-BHC		-		ug/l		-		ug/l		-		ug/l		.05	U	ug/l	.05
gamma-BHC (Lindane)		-		ug/l		-		ug/l		-		ug/l		.05	U	ug/l	.05
Heptachlor		-		ug/l		-		ug/l		-		ug/l		.05	U	ug/l	.05
Aldrin		-		ug/l		-		ug/l		-		ug/l		.05	U	ug/l	.05
Heptachlor epoxide		-		ug/l		-		ug/l		-		ug/l		.05	U	ug/l	.05
Endosulfan I		-		ug/l		-		ug/l		-		ug/l		.05	U	ug/l	.05
Dieldrin		-		ug/l		-		ug/l		-		ug/l		.1	U	ug/l	.1
4,4-DDE		-		ug/l		-		ug/l		-		ug/l		.1	U	ug/l	.1
Endrin		-		ug/l		-		ug/l		-		ug/l		.1	U	ug/l	.1
Endosulfan II		-		ug/l		-		ug/l		-		ug/l		.1	U	ug/l	.1
4,4-DDD		-		ug/l		-		ug/l		-		ug/l		.1	U	ug/l	.1
Endosulfan sulfate		-		ug/l		-		ug/l		-		ug/l		.1	U	ug/l	.1
4,4-DDT		-		ug/l		-		ug/l		-		ug/l		.1	UJ	ug/l	.1
Methoxychlor		-		ug/l		-		ug/l		-		ug/l		.5	U	ug/l	.5
Endrin ketone		-		ug/l		-		ug/l		-		ug/l		.1	U	ug/l	.1
Endrin aldehyde		-		ug/l		-		ug/l		-		ug/l		.1	U	ug/l	.1
alpha-Chlordane		-		ug/l		-		ug/l		-		ug/l		.05	U	ug/l	.05
gamma-Chlordane		-		ug/l		-		ug/l		-		ug/l		.05	U	ug/l	.05
Toxaphene		-		ug/l		-		ug/l		-		ug/l		5	U	ug/l	5
Aroclor-1016		-		ug/l		-		ug/l		-		ug/l		1	U	ug/l	1
Aroclor-1221		-		ug/l		-		ug/l		-		ug/l		2	U	ug/l	2
Aroclor-1232		-		ug/l		-		ug/l		-		ug/l		1	U	ug/l	1
Aroclor-1242		-		ug/l		-		ug/l		-		ug/l		1	U	ug/l	1
Aroclor-1248		-		ug/l		-		ug/l		-		ug/l		1	U	ug/l	1
Aroclor-1254		-		ug/l		-		ug/l		-		ug/l		1	U	ug/l	1
Aroclor-1260		-		ug/l		-		ug/l		-		ug/l		1	U	ug/l	1
CLP METALS AND CYANIDE	ug/l																
Aluminum		200	U	ug/l	200	-		ug/l		12.3	U	ug/l		89.4	J	ug/l	
Antimony		60	U	ug/l	60	-		ug/l		8.6	U	ug/l		8.6	U	ug/l	
Arsenic		17.2		ug/l	10	-		ug/l		.5	U	ug/l		8	J	ug/l	
Barium		9.8	J	ug/l	200	-		ug/l		8.7	J	ug/l		67.6	J	ug/l	
Beryllium		5	U	ug/l	5	-		ug/l		.3	U	ug/l		.3	U	ug/l	
Cadmium		5	U	ug/l	5	-		ug/l		1.2	U	ug/l		1.2	U	ug/l	
Calcium		5000	U	ug/l	5000	-		ug/l		2080	J	ug/l		3690	J	ug/l	
Chromium		10	U	ug/l	10	-		ug/l		2	U	ug/l		2	U	ug/l	
Cobalt		50	U	ug/l	50	-		ug/l		2.3	U	ug/l		2.3	U	ug/l	
Copper		25	U	ug/l	25	-		ug/l		1.7	J	ug/l		1.1	U	ug/l	
Iron		100	U	ug/l	100	-		ug/l		16.5	U	ug/l		31000		ug/l	
Lead		3	U	ug/l	3	-		ug/l		.7	J	ug/l		.9	J	ug/l	
Magnesium		361	J	ug/l	5000	-		ug/l		227	J	ug/l		1940	J	ug/l	

Naval Air Station Whiting Field, Milton, Florida
Site 15 Groundwater Data

Lab Sample Number:	ME404008				RB956003DL				RB956009				RB956006			
Site	WHITING				WHITING				WHITING				WHITING			
Locator	15G00503				15G00503DL				15G00503F				15G00601			
Collect Date:	31-JUL-97				06-AUG-96				06-AUG-96				07-AUG-96			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
Manganese	18.5		ug/l	15	-		ug/l		69.3		ug/l		139		ug/l	
Mercury	.06	J	ug/l	.2	-		ug/l		.1	U	ug/l		.1	U	ug/l	
Nickel	40	U	ug/l	40	-		ug/l		7.3	U	ug/l		7.3	U	ug/l	
Potassium	5000	U	ug/l	5000	-		ug/l		403	J	ug/l		2460	J	ug/l	
Selenium	5	U	ug/l	5	-		ug/l		.6	U	ug/l		.6	U	ug/l	
Silver	10	U	ug/l	10	-		ug/l		2.5	U	ug/l		2.5	U	ug/l	
Sodium	2480	J	ug/l	5000	-		ug/l		3260	J	ug/l		2630	J	ug/l	
Thallium	10	U	ug/l	10	-		ug/l		.6	U	ug/l		.6	U	ug/l	
Vanadium	50	U	ug/l	50	-		ug/l		1.2	U	ug/l		1.2	U	ug/l	
Zinc	20	U	ug/l	20	-		ug/l		88.3		ug/l		3.4	U	ug/l	
Cyanide	-		ug/l		-		ug/l		-		ug/l		1.5	U	ug/l	

Locator Annotations: A = DUPLICATE SAMPLE B = SHALLOW SAMPLE C = INTERMEDIATE SAMPLE CD = DOUBLE INTERMEDIATE SAMPLE D = DEEP SAMPLE

Qualifiers: U = NOT DETECTED J = ESTIMATED VALUE UJ = REPORTED QUANTITATION LIMIT IS QUALIFIED AS ESTIMATED R = RESULT IS REJECTED AND UNUSABLE

Naval Air Station Whiting Field, Milton, Florida
Site 15 Groundwater Data

Lab Sample Number:		ME367003				RB956008				RB956007				ME367004			
Site		WHITING				WHITING				WHITING				WHITING			
Locator		15G00601				15G00601D				15G00603				15G00602			
Collect Date:		27-JUL-97				07-AUG-96				07-AUG-96				27-JUL-97			
		VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
CLP VOLATILES 90-SOW	ug/l																
Chloromethane		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Bromomethane		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Vinyl chloride		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Chloroethane		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Methylene chloride		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Acetone		10	U	ug/l	10	10	UJ	ug/l	10	10	UJ	ug/l	10	10	U	ug/l	10
Carbon disulfide		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
1,1-Dichloroethene		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
1,1-Dichloroethane		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
1,2-Dichloroethene (total)		3	J	ug/l	10	1	J	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Chloroform		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
1,2-Dichloroethane		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
2-Butanone		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
1,1,1-Trichloroethane		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Carbon tetrachloride		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Bromodichloromethane		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
1,2-Dichloropropane		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
cis-1,3-Dichloropropene		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Trichloroethene		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	2	J	ug/l	10
Dibromochloromethane		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
1,1,2-Trichloroethane		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Benzene		1	J	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
trans-1,3-Dichloropropene		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Bromoform		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
4-Methyl-2-pentanone		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
2-Hexanone		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Tetrachloroethene		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Toluene		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
1,1,2,2-Tetrachloroethane		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Chlorobenzene		12		ug/l	10	5	J	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Ethylbenzene		2	J	ug/l	10	1	J	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Styrene		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Xylenes (total)		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
CLP SEMIVOLATILES 90-SOW	ug/l																
Phenol		-		ug/l		10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
bis(2-Chloroethyl) ether		-		ug/l		10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
2-Chlorophenol		-		ug/l		10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
1,3-Dichlorobenzene		-		ug/l		10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
1,4-Dichlorobenzene		-		ug/l		12		ug/l	10	10	U	ug/l	10	-		ug/l	

Naval Air Station Whiting Field, Milton, Florida
Site 15 Groundwater Data

Lab Sample Number:	ME367003			RB956008			RB956007			ME367004		
Site	WHITING			WHITING			WHITING			WHITING		
Locator	15G00601			15G00601D			15G00603			15G00602		
Collect Date:	27-JUL-97			07-AUG-96			07-AUG-96			27-JUL-97		
	VALUE	QUAL UNITS	DL	VALUE	QUAL UNITS	DL	VALUE	QUAL UNITS	DL	VALUE	QUAL UNITS	DL
1,2-Dichlorobenzene	-	ug/l		10	U ug/l	10	10	U ug/l	10	-	ug/l	
2-Methylphenol	-	ug/l		10	U ug/l	10	10	U ug/l	10	-	ug/l	
2,2-oxybis(1-Chloropropane)	-	ug/l		10	U ug/l	10	10	U ug/l	10	-	ug/l	
4-Methylphenol	-	ug/l		10	U ug/l	10	10	U ug/l	10	-	ug/l	
N-Nitroso-di-n-propylamine	-	ug/l		10	U ug/l	10	10	U ug/l	10	-	ug/l	
Hexachloroethane	-	ug/l		10	U ug/l	10	10	U ug/l	10	-	ug/l	
Nitrobenzene	-	ug/l		10	U ug/l	10	10	U ug/l	10	-	ug/l	
Isophorone	-	ug/l		10	U ug/l	10	10	U ug/l	10	-	ug/l	
2-Nitrophenol	-	ug/l		10	U ug/l	10	10	U ug/l	10	-	ug/l	
2,4-Dimethylphenol	-	ug/l		10	U ug/l	10	10	U ug/l	10	-	ug/l	
bis(2-Chloroethoxy) methane	-	ug/l		10	U ug/l	10	10	U ug/l	10	-	ug/l	
2,4-Dichlorophenol	-	ug/l		10	U ug/l	10	10	U ug/l	10	-	ug/l	
1,2,4-Trichlorobenzene	-	ug/l		10	U ug/l	10	10	U ug/l	10	-	ug/l	
Naphthalene	-	ug/l		4	J ug/l	10	10	U ug/l	10	-	ug/l	
4-Chloroaniline	-	ug/l		10	U ug/l	10	10	U ug/l	10	-	ug/l	
Hexachlorobutadiene	-	ug/l		10	U ug/l	10	10	U ug/l	10	-	ug/l	
4-Chloro-3-methylphenol	-	ug/l		10	U ug/l	10	10	U ug/l	10	-	ug/l	
2-Methylnaphthalene	-	ug/l		10	U ug/l	10	10	U ug/l	10	-	ug/l	
Hexachlorocyclopentadiene	-	ug/l		10	U ug/l	10	10	U ug/l	10	-	ug/l	
2,4,6-Trichlorophenol	-	ug/l		10	U ug/l	10	10	U ug/l	10	-	ug/l	
2,4,5-Trichlorophenol	-	ug/l		25	U ug/l	25	25	U ug/l	25	-	ug/l	
2-Chloronaphthalene	-	ug/l		10	U ug/l	10	10	U ug/l	10	-	ug/l	
2-Nitroaniline	-	ug/l		25	U ug/l	25	25	U ug/l	25	-	ug/l	
Dimethylphthalate	-	ug/l		10	U ug/l	10	10	U ug/l	10	-	ug/l	
Acenaphthylene	-	ug/l		10	U ug/l	10	10	U ug/l	10	-	ug/l	
2,6-Dinitrotoluene	-	ug/l		10	U ug/l	10	10	U ug/l	10	-	ug/l	
3-Nitroaniline	-	ug/l		25	U ug/l	25	25	U ug/l	25	-	ug/l	
Acenaphthene	-	ug/l		10	U ug/l	10	10	U ug/l	10	-	ug/l	
2,4-Dinitrophenol	-	ug/l		25	UJ ug/l	25	25	UJ ug/l	25	-	ug/l	
4-Nitrophenol	-	ug/l		25	U ug/l	25	25	U ug/l	25	-	ug/l	
Dibenzofuran	-	ug/l		10	U ug/l	10	10	U ug/l	10	-	ug/l	
2,4-Dinitrotoluene	-	ug/l		10	U ug/l	10	10	U ug/l	10	-	ug/l	
Diethylphthalate	-	ug/l		1	J ug/l	10	10	U ug/l	10	-	ug/l	
4-Chlorophenyl-phenylether	-	ug/l		10	U ug/l	10	10	U ug/l	10	-	ug/l	
Fluorene	-	ug/l		10	U ug/l	10	10	U ug/l	10	-	ug/l	
4-Nitroaniline	-	ug/l		25	UJ ug/l	25	25	UJ ug/l	25	-	ug/l	
4,6-Dinitro-2-methylphenol	-	ug/l		25	UJ ug/l	25	25	UJ ug/l	25	-	ug/l	
N-Nitrosodiphenylamine	-	ug/l		10	U ug/l	10	10	U ug/l	10	-	ug/l	
4-Bromophenyl-phenylether	-	ug/l		10	U ug/l	10	10	U ug/l	10	-	ug/l	
Hexachlorobenzene	-	ug/l		10	U ug/l	10	10	U ug/l	10	-	ug/l	
Pentachlorophenol	-	ug/l		25	U ug/l	25	25	U ug/l	25	-	ug/l	
Phenanthrene	-	ug/l		10	U ug/l	10	10	U ug/l	10	-	ug/l	
Anthracene	-	ug/l		10	U ug/l	10	10	U ug/l	10	-	ug/l	
Carbazole	-	ug/l		10	U ug/l	10	10	U ug/l	10	-	ug/l	
Di-n-butylphthalate	-	ug/l		10	U ug/l	10	10	U ug/l	10	-	ug/l	
Fluoranthene	-	ug/l		10	U ug/l	10	10	U ug/l	10	-	ug/l	
Pyrene	-	ug/l		10	UJ ug/l	10	10	UJ ug/l	10	-	ug/l	
Butylbenzylphthalate	-	ug/l		10	U ug/l	10	10	U ug/l	10	-	ug/l	
3,3-Dichlorobenzidine	-	ug/l		10	UJ ug/l	10	10	UJ ug/l	10	-	ug/l	
Benzo (a) anthracene	-	ug/l		10	U ug/l	10	10	U ug/l	10	-	ug/l	
Chrysene	-	ug/l		10	U ug/l	10	10	U ug/l	10	-	ug/l	
bis(2-Ethylhexyl) phthalate	-	ug/l		10	U ug/l	10	10	U ug/l	10	-	ug/l	

Naval Air Station Whiting Field, Milton, Florida
Site 15 Groundwater Data

Lab Sample Number:		ME367003				RB956008				RB956007				ME367004			
Site		WHITING				WHITING				WHITING				WHITING			
Locator		15G00601				15G00601D				15G00603				15G00602			
Collect Date:		27-JUL-97				07-AUG-96				07-AUG-96				27-JUL-97			
		VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
Di-n-octylphthalate		-		ug/l		10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
Benzo (b) fluoranthene		-		ug/l		10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
Benzo (k) fluoranthene		-		ug/l		10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
Benzo (a) pyrene		-		ug/l		10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
Indeno (1,2,3-cd) pyrene		-		ug/l		10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
Dibenzo (a,h) anthracene		-		ug/l		10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
Benzo (g,h,i) perylene		-		ug/l		10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
CLP PESTICIDES/PCBS 90-SOW	ug/l																
alpha-BHC		-		ug/l		.05	U	ug/l	.05	.05	U	ug/l	.05	-		ug/l	
beta-BHC		-		ug/l		.05	U	ug/l	.05	.05	U	ug/l	.05	-		ug/l	
delta-BHC		-		ug/l		.05	U	ug/l	.05	.05	U	ug/l	.05	-		ug/l	
gamma-BHC (Lindane)		-		ug/l		.05	U	ug/l	.05	.05	U	ug/l	.05	-		ug/l	
Heptachlor		-		ug/l		.05	U	ug/l	.05	.05	U	ug/l	.05	-		ug/l	
Aldrin		-		ug/l		.05	U	ug/l	.05	.05	U	ug/l	.05	-		ug/l	
Heptachlor epoxide		-		ug/l		.05	U	ug/l	.05	.05	U	ug/l	.05	-		ug/l	
Endosulfan I		-		ug/l		.05	U	ug/l	.05	.05	U	ug/l	.05	-		ug/l	
Dieldrin		-		ug/l		.1	U	ug/l	.1	.1	U	ug/l	.1	-		ug/l	
4,4-DDE		-		ug/l		.1	U	ug/l	.1	.1	U	ug/l	.1	-		ug/l	
Endrin		-		ug/l		.1	U	ug/l	.1	.1	U	ug/l	.1	-		ug/l	
Endosulfan II		-		ug/l		.1	U	ug/l	.1	.1	U	ug/l	.1	-		ug/l	
4,4-DDD		-		ug/l		.1	U	ug/l	.1	.1	U	ug/l	.1	-		ug/l	
Endosulfan sulfate		-		ug/l		.1	U	ug/l	.1	.1	U	ug/l	.1	-		ug/l	
4,4-DDT		-		ug/l		.1	UJ	ug/l	.1	.1	UJ	ug/l	.1	-		ug/l	
Methoxychlor		-		ug/l		.5	U	ug/l	.5	.5	U	ug/l	.5	-		ug/l	
Endrin ketone		-		ug/l		.1	U	ug/l	.1	.1	U	ug/l	.1	-		ug/l	
Endrin aldehyde		-		ug/l		.1	U	ug/l	.1	.1	U	ug/l	.1	-		ug/l	
alpha-Chlordane		-		ug/l		.05	U	ug/l	.05	.05	U	ug/l	.05	-		ug/l	
gamma-Chlordane		-		ug/l		.05	U	ug/l	.05	.05	U	ug/l	.05	-		ug/l	
Toxaphene		-		ug/l		5	U	ug/l	5	5	U	ug/l	5	-		ug/l	
Aroclor-1016		-		ug/l		1	U	ug/l	1	1	U	ug/l	1	-		ug/l	
Aroclor-1221		-		ug/l		2	U	ug/l	2	2	U	ug/l	2	-		ug/l	
Aroclor-1232		-		ug/l		1	U	ug/l	1	1	U	ug/l	1	-		ug/l	
Aroclor-1242		-		ug/l		1	U	ug/l	1	1	U	ug/l	1	-		ug/l	
Aroclor-1248		-		ug/l		1	U	ug/l	1	1	U	ug/l	1	-		ug/l	
Aroclor-1254		-		ug/l		1	U	ug/l	1	1	U	ug/l	1	-		ug/l	
Aroclor-1260		-		ug/l		1	U	ug/l	1	1	U	ug/l	1	-		ug/l	
CLP METALS AND CYANIDE	ug/l																
Aluminum		200	U	ug/l	200	55.8	U	ug/l		35.8	U	ug/l		200	U	ug/l	200
Antimony		60	U	ug/l	60	8.6	U	ug/l		8.6	U	ug/l		60	U	ug/l	60
Arsenic		14.2		ug/l	10	7.8	J	ug/l		.5	U	ug/l		10	U	ug/l	10
Barium		68.3	J	ug/l	200	63.7	J	ug/l		13.7	J	ug/l		13	J	ug/l	200
Beryllium		5	U	ug/l	5	.3	U	ug/l		.3	U	ug/l		5	U	ug/l	5
Cadmium		5	U	ug/l	5	1.2	U	ug/l		1.2	U	ug/l		5	U	ug/l	5
Calcium		4170	J	ug/l	5000	3620	J	ug/l		826	J	ug/l		5000	U	ug/l	5000
Chromium		10	U	ug/l	10	2	U	ug/l		2	U	ug/l		10	U	ug/l	10
Cobalt		50	U	ug/l	50	2.3	U	ug/l		2.3	U	ug/l		50	U	ug/l	50
Copper		25	U	ug/l	25	1.1	U	ug/l		1.1	U	ug/l		25	U	ug/l	25
Iron		40200		ug/l	100	30500		ug/l		56.7	J	ug/l		100	U	ug/l	100
Lead		3	U	ug/l	3	.5	U	ug/l		.5	U	ug/l		3	U	ug/l	3
Magnesium		2140	J	ug/l	5000	1900	J	ug/l		500	J	ug/l		504	J	ug/l	5000

Naval Air Station Whiting Field, Milton, Florida
Site 15 Groundwater Data

Lab Sample Number:	ME367003				RB956008				RB956007				ME367004			
Site	WHITING				WHITING				WHITING				WHITING			
Locator	15G00601				15G00601D				15G00603				15G00602			
Collect Date:	27-JUL-97				07-AUG-96				07-AUG-96				27-JUL-97			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
Manganese	164		ug/l	15	136		ug/l		3	J	ug/l		15	U	ug/l	15
Mercury	.2	U	ug/l	.2	.1	U	ug/l		.1	U	ug/l		.2	U	ug/l	.2
Nickel	40	U	ug/l	40	7.3	U	ug/l		7.3	U	ug/l		40	U	ug/l	40
Potassium	2190	J	ug/l	5000	2340	J	ug/l		354	J	ug/l		5000	U	ug/l	5000
Selenium	5	U	ug/l	5	.6	U	ug/l		.6	UJ	ug/l		5	U	ug/l	5
Silver	10	U	ug/l	10	2.5	U	ug/l		2.5	U	ug/l		10	U	ug/l	10
Sodium	2210	J	ug/l	5000	2590	J	ug/l		2540	J	ug/l		2870	J	ug/l	5000
Thallium	10	U	ug/l	10	.6	U	ug/l		.6	U	ug/l		10	UJ	ug/l	10
Vanadium	50	U	ug/l	50	1.2	U	ug/l		1.2	U	ug/l		50	U	ug/l	50
Zinc	20	U	ug/l	20	3.3	U	ug/l		173		ug/l		20	U	ug/l	20
Cyanide	-		ug/l		8.1	J	ug/l		1.5	U	ug/l		-		ug/l	

Locator Annotations: A = DUPLICATE SAMPLE B = SHALLOW SAMPLE C = INTERMEDIATE SAMPLE CD = DOUBLE INTERMEDIATE SAMPLE D = DEEP SAMPLE

Qualifiers: U = NOT DETECTED J = ESTIMATED VALUE UJ = REPORTED QUANTITATION LIMIT IS QUALIFIED AS ESTIMATED R = RESULT IS REJECTED AND UNUSABLE

Naval Air Station Whiting Field, Milton, Florida
Site 15 Groundwater Data

Lab Sample Number:		ME367005			RB920009			ME390004			RB920010		
Site		WHITING			WHITING			WHITING			WHITING		
Locator		15G00602D			15G00701			15G00701			15G00701D		
Collect Date:		27-JUL-97			31-JUL-96			30-JUL-97			31-JUL-96		
		VALUE QUAL	UNITS	DL	VALUE QUAL	UNITS	DL	VALUE QUAL	UNITS	DL	VALUE QUAL	UNITS	DL
CLP VOLATILES 90-SOW	ug/l												
Chloromethane		10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10
Bromomethane		10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10
Vinyl chloride		10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10
Chloroethane		10 U	ug/l	10	10 UJ	ug/l	10	10 U	ug/l	10	10 U	ug/l	10
Methylene chloride		10 U	ug/l	10	10 UJ	ug/l	10	10 U	ug/l	10	10 U	ug/l	10
Acetone		10 UJ	ug/l	10	10 UJ	ug/l	10	10 U	ug/l	10	10 UJ	ug/l	10
Carbon disulfide		10 U	ug/l	10	10 UJ	ug/l	10	10 U	ug/l	10	10 U	ug/l	10
1,1-Dichloroethene		10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10
1,1-Dichloroethane		10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10
1,2-Dichloroethene (total)		10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10
Chloroform		10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10
1,2-Dichloroethane		10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10
2-Butanone		10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10
1,1,1-Trichloroethane		10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10
Carbon tetrachloride		10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10
Bromodichloromethane		10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10
1,2-Dichloropropane		10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10
cis-1,3-Dichloropropene		10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10
Trichloroethene		2 J	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10
Dibromochloromethane		10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10
1,1,2-Trichloroethane		10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10
Benzene		10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10
trans-1,3-Dichloropropene		10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10
Bromoform		10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10
4-Methyl-2-pentanone		10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10
2-Hexanone		10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10
Tetrachloroethene		10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10
Toluene		10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10
1,1,2,2-Tetrachloroethane		10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10
Chlorobenzene		10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10
Ethylbenzene		10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10
Styrene		10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10
Xylenes (total)		10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10	10 U	ug/l	10
CLP SEMIVOLATILES 90-SOW	ug/l												
Phenol		-	ug/l		10 U	ug/l	10	-	ug/l		10 U	ug/l	10
bis(2-Chloroethyl) ether		-	ug/l		10 U	ug/l	10	-	ug/l		10 U	ug/l	10
2-Chlorophenol		-	ug/l		10 U	ug/l	10	-	ug/l		10 U	ug/l	10
1,3-Dichlorobenzene		-	ug/l		10 U	ug/l	10	-	ug/l		10 U	ug/l	10
1,4-Dichlorobenzene		-	ug/l		10 U	ug/l	10	-	ug/l		10 U	ug/l	10

Naval Air Station Whiting Field, Milton, Florida
Site 15 Groundwater Data

Lab Sample Number:	ME367005			RB920009			ME390004			RB920010		
Site	WHITING			WHITING			WHITING			WHITING		
Locator	15G00602D			15G00701			15G00701			15G00701D		
Collect Date:	27-JUL-97			31-JUL-96			30-JUL-97			31-JUL-96		
	VALUE QUAL	UNITS	DL	VALUE QUAL	UNITS	DL	VALUE QUAL	UNITS	DL	VALUE QUAL	UNITS	DL
1,2-Dichlorobenzene	-	ug/l		10 U	ug/l	10	-	ug/l		10 U	ug/l	10
2-Methylphenol	-	ug/l		10 U	ug/l	10	-	ug/l		10 U	ug/l	10
2,2-oxybis(1-Chloropropane)	-	ug/l		10 U	ug/l	10	-	ug/l		10 U	ug/l	10
4-Methylphenol	-	ug/l		10 U	ug/l	10	-	ug/l		10 U	ug/l	10
N-Nitroso-di-n-propylamine	-	ug/l		10 U	ug/l	10	-	ug/l		10 U	ug/l	10
Hexachloroethane	-	ug/l		10 U	ug/l	10	-	ug/l		10 U	ug/l	10
Nitrobenzene	-	ug/l		10 U	ug/l	10	-	ug/l		10 U	ug/l	10
Isophorone	-	ug/l		10 U	ug/l	10	-	ug/l		10 U	ug/l	10
2-Nitrophenol	-	ug/l		10 U	ug/l	10	-	ug/l		10 U	ug/l	10
2,4-Dimethylphenol	-	ug/l		10 U	ug/l	10	-	ug/l		10 U	ug/l	10
bis(2-Chloroethoxy) methane	-	ug/l		10 U	ug/l	10	-	ug/l		10 U	ug/l	10
2,4-Dichlorophenol	-	ug/l		10 U	ug/l	10	-	ug/l		10 U	ug/l	10
1,2,4-Trichlorobenzene	-	ug/l		10 U	ug/l	10	-	ug/l		10 U	ug/l	10
Naphthalene	-	ug/l		10 U	ug/l	10	-	ug/l		10 U	ug/l	10
4-Chloroaniline	-	ug/l		10 U	ug/l	10	-	ug/l		10 U	ug/l	10
Hexachlorobutadiene	-	ug/l		10 U	ug/l	10	-	ug/l		10 U	ug/l	10
4-Chloro-3-methylphenol	-	ug/l		10 U	ug/l	10	-	ug/l		10 U	ug/l	10
2-Methylnaphthalene	-	ug/l		10 U	ug/l	10	-	ug/l		10 U	ug/l	10
Hexachlorocyclopentadiene	-	ug/l		10 U	ug/l	10	-	ug/l		10 U	ug/l	10
2,4,6-Trichlorophenol	-	ug/l		10 U	ug/l	10	-	ug/l		10 U	ug/l	10
2,4,5-Trichlorophenol	-	ug/l		25 U	ug/l	25	-	ug/l		25 U	ug/l	25
2-Chloronaphthalene	-	ug/l		10 U	ug/l	10	-	ug/l		10 U	ug/l	10
2-Nitroaniline	-	ug/l		25 U	ug/l	25	-	ug/l		25 U	ug/l	25
Dimethylphthalate	-	ug/l		10 U	ug/l	10	-	ug/l		10 U	ug/l	10
Acenaphthylene	-	ug/l		10 U	ug/l	10	-	ug/l		10 U	ug/l	10
2,6-Dinitrotoluene	-	ug/l		10 U	ug/l	10	-	ug/l		10 U	ug/l	10
3-Nitroaniline	-	ug/l		25 U	ug/l	25	-	ug/l		25 U	ug/l	25
Acenaphthene	-	ug/l		10 U	ug/l	10	-	ug/l		10 U	ug/l	10
2,4-Dinitrophenol	-	ug/l		25 U	ug/l	25	-	ug/l		25 U	ug/l	25
4-Nitrophenol	-	ug/l		25 U	ug/l	25	-	ug/l		25 U	ug/l	25
Dibenzofuran	-	ug/l		10 U	ug/l	10	-	ug/l		10 U	ug/l	10
2,4-Dinitrotoluene	-	ug/l		10 U	ug/l	10	-	ug/l		10 U	ug/l	10
Diethylphthalate	-	ug/l		10 U	ug/l	10	-	ug/l		10 U	ug/l	10
4-Chlorophenyl-phenylether	-	ug/l		10 U	ug/l	10	-	ug/l		10 U	ug/l	10
Fluorene	-	ug/l		10 U	ug/l	10	-	ug/l		10 U	ug/l	10
4-Nitroaniline	-	ug/l		25 UJ	ug/l	25	-	ug/l		25 UJ	ug/l	25
4,6-Dinitro-2-methylphenol	-	ug/l		25 U	ug/l	25	-	ug/l		25 U	ug/l	25
N-Nitrosodiphenylamine	-	ug/l		10 U	ug/l	10	-	ug/l		10 U	ug/l	10
4-Bromophenyl-phenylether	-	ug/l		10 U	ug/l	10	-	ug/l		10 U	ug/l	10
Hexachlorobenzene	-	ug/l		10 U	ug/l	10	-	ug/l		10 U	ug/l	10
Pentachlorophenol	-	ug/l		25 U	ug/l	25	-	ug/l		25 U	ug/l	25
Phenanthrene	-	ug/l		10 U	ug/l	10	-	ug/l		10 U	ug/l	10
Anthracene	-	ug/l		10 U	ug/l	10	-	ug/l		10 U	ug/l	10
Carbazole	-	ug/l		10 U	ug/l	10	-	ug/l		10 U	ug/l	10
Di-n-butylphthalate	-	ug/l		10 U	ug/l	10	-	ug/l		10 U	ug/l	10
Fluoranthene	-	ug/l		10 U	ug/l	10	-	ug/l		10 U	ug/l	10
Pyrene	-	ug/l		10 U	ug/l	10	-	ug/l		10 U	ug/l	10
Butylbenzylphthalate	-	ug/l		10 U	ug/l	10	-	ug/l		10 U	ug/l	10
3,3-Dichlorobenzidine	-	ug/l		10 U	ug/l	10	-	ug/l		10 U	ug/l	10
Benzo (a) anthracene	-	ug/l		10 U	ug/l	10	-	ug/l		10 U	ug/l	10
Chrysene	-	ug/l		10 UJ	ug/l	10	-	ug/l		10 UJ	ug/l	10
bis(2-Ethylhexyl) phthalate	-	ug/l		10 U	ug/l	10	-	ug/l		10 U	ug/l	10

Naval Air Station Whiting Field, Milton, Florida
Site 15 Groundwater Data

Lab Sample Number:		ME367005				RB920009				ME390004				RB920010			
Site		WHITING				WHITING				WHITING				WHITING			
Locator		15G00602D				15G00701				15G00701				15G00701D			
Collect Date:		27-JUL-97				31-JUL-96				30-JUL-97				31-JUL-96			
		VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
Di-n-octylphthalate		-		ug/l		10	U	ug/l	10	-		ug/l		10	U	ug/l	10
Benzo (b) fluoranthene		-		ug/l		10	U	ug/l	10	-		ug/l		10	U	ug/l	10
Benzo (k) fluoranthene		-		ug/l		10	U	ug/l	10	-		ug/l		10	U	ug/l	10
Benzo (a) pyrene		-		ug/l		10	U	ug/l	10	-		ug/l		10	U	ug/l	10
Indeno (1,2,3-cd) pyrene		-		ug/l		10	UJ	ug/l	10	-		ug/l		10	UJ	ug/l	10
Dibenzo (a,h) anthracene		-		ug/l		10	UJ	ug/l	10	-		ug/l		10	UJ	ug/l	10
Benzo (g,h,i) perylene		-		ug/l		10	UJ	ug/l	10	-		ug/l		10	UJ	ug/l	10
CLP PESTICIDES/PCBS 90-SOW	ug/l																
alpha-BHC		-		ug/l		.05	U	ug/l	.05	-		ug/l		.05	U	ug/l	.05
beta-BHC		-		ug/l		.05	U	ug/l	.05	-		ug/l		.05	U	ug/l	.05
delta-BHC		-		ug/l		.05	U	ug/l	.05	-		ug/l		.05	U	ug/l	.05
gamma-BHC (Lindane)		-		ug/l		.05	U	ug/l	.05	-		ug/l		.05	U	ug/l	.05
Heptachlor		-		ug/l		.05	U	ug/l	.05	-		ug/l		.05	U	ug/l	.05
Aldrin		-		ug/l		.05	U	ug/l	.05	-		ug/l		.05	U	ug/l	.05
Heptachlor epoxide		-		ug/l		.05	U	ug/l	.05	-		ug/l		.05	U	ug/l	.05
Endosulfan I		-		ug/l		.05	U	ug/l	.05	-		ug/l		.05	U	ug/l	.05
Dieldrin		-		ug/l		.1	U	ug/l	.1	-		ug/l		.1	U	ug/l	.1
4,4-DDE		-		ug/l		.1	U	ug/l	.1	-		ug/l		.1	U	ug/l	.1
Endrin		-		ug/l		.1	U	ug/l	.1	-		ug/l		.1	U	ug/l	.1
Endosulfan II		-		ug/l		.1	U	ug/l	.1	-		ug/l		.1	U	ug/l	.1
4,4-DDD		-		ug/l		.1	U	ug/l	.1	-		ug/l		.1	U	ug/l	.1
Endosulfan sulfate		-		ug/l		.1	U	ug/l	.1	-		ug/l		.1	U	ug/l	.1
4,4-DDT		-		ug/l		.1	UJ	ug/l	.1	-		ug/l		.1	UJ	ug/l	.1
Methoxychlor		-		ug/l		.5	U	ug/l	.5	-		ug/l		.5	U	ug/l	.5
Endrin ketone		-		ug/l		.1	U	ug/l	.1	-		ug/l		.1	U	ug/l	.1
Endrin aldehyde		-		ug/l		.1	U	ug/l	.1	-		ug/l		.1	U	ug/l	.1
alpha-Chlordane		-		ug/l		.05	U	ug/l	.05	-		ug/l		.05	U	ug/l	.05
gamma-Chlordane		-		ug/l		.05	U	ug/l	.05	-		ug/l		.05	U	ug/l	.05
Toxaphene		-		ug/l		5	U	ug/l	5	-		ug/l		5	U	ug/l	5
Aroclor-1016		-		ug/l		1	U	ug/l	1	-		ug/l		1	U	ug/l	1
Aroclor-1221		-		ug/l		2	U	ug/l	2	-		ug/l		2	U	ug/l	2
Aroclor-1232		-		ug/l		1	U	ug/l	1	-		ug/l		1	U	ug/l	1
Aroclor-1242		-		ug/l		1	U	ug/l	1	-		ug/l		1	U	ug/l	1
Aroclor-1248		-		ug/l		1	U	ug/l	1	-		ug/l		1	U	ug/l	1
Aroclor-1254		-		ug/l		1	U	ug/l	1	-		ug/l		1	U	ug/l	1
Aroclor-1260		-		ug/l		1	U	ug/l	1	-		ug/l		1	U	ug/l	1
CLP METALS AND CYANIDE	ug/l																
Aluminum		200	U	ug/l	200	161	J	ug/l		200	U	ug/l	200	173	J	ug/l	
Antimony		60	U	ug/l	60	8.6	U	ug/l		60	U	ug/l	60	8.6	U	ug/l	
Arsenic		10	U	ug/l	10	.5	U	ug/l		10	U	ug/l	10	.5	U	ug/l	
Barium		13	J	ug/l	200	15.6	J	ug/l		20.4	J	ug/l	200	19.3	J	ug/l	
Beryllium		5	U	ug/l	5	.3	U	ug/l		5	U	ug/l	5	.3	U	ug/l	
Cadmium		5	U	ug/l	5	1.2	U	ug/l		5	U	ug/l	5	1.2	U	ug/l	
Calcium		5000	U	ug/l	5000	356	J	ug/l		5000	U	ug/l	5000	360	J	ug/l	
Chromium		10	U	ug/l	10	2.9	J	ug/l		10	U	ug/l	10	2	J	ug/l	
Cobalt		50	U	ug/l	50	2.3	U	ug/l		50	U	ug/l	50	2.3	U	ug/l	
Copper		25	U	ug/l	25	1.1	U	ug/l		25	U	ug/l	25	1.1	U	ug/l	
Iron		92.6	J	ug/l	100	183		ug/l		155		ug/l	100	202		ug/l	
Lead		3	U	ug/l	3	.7	U	ug/l		3	UJ	ug/l	3	.6	U	ug/l	
Magnesium		490	J	ug/l	5000	433	J	ug/l		482	J	ug/l	5000	422	J	ug/l	

Naval Air Station Whiting Field, Milton, Florida
Site 15 Groundwater Data

Lab Sample Number:	ME367005				RB920009				ME390004				RB920010			
Site	WHITING				WHITING				WHITING				WHITING			
Locator	15G00602D				15G00701				15G00701				15G00701D			
Collect Date:	27-JUL-97				31-JUL-96				30-JUL-97				31-JUL-96			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
Manganese	15	U	ug/l	15	2.8	J	ug/l		15	U	ug/l	15	2.6	J	ug/l	
Mercury	.2	U	ug/l	.2	.1	U	ug/l		.2	U	ug/l	.2	.1	U	ug/l	
Nickel	40	U	ug/l	40	7.3	U	ug/l		40	U	ug/l	40	7.3	U	ug/l	
Potassium	5000	U	ug/l	5000	316	U	ug/l		5000	U	ug/l	5000	316	U	ug/l	
Selenium	5	U	ug/l	5	.6	U	ug/l		5	U	ug/l	5	.6	UJ	ug/l	
Silver	10	U	ug/l	10	2.5	U	ug/l		10	U	ug/l	10	2.5	U	ug/l	
Sodium	2740	J	ug/l	5000	1530	J	ug/l		1840	J	ug/l	5000	1610	J	ug/l	
Thallium	10	U	ug/l	10	.6	U	ug/l		10	U	ug/l	10	.6	U	ug/l	
Vanadium	50	U	ug/l	50	1.2	U	ug/l		50	U	ug/l	50	1.2	J	ug/l	
Zinc	20	U	ug/l	20	3.4	J	ug/l		20	U	ug/l	20	3.6	J	ug/l	
Cyanide	-		ug/l		2.6	U	ug/l		-		ug/l		3.2	U	ug/l	

Locator Annotations: A = DUPLICATE SAMPLE B = SHALLOW SAMPLE C = INTERMEDIATE SAMPLE CD = DOUBLE INTERMEDIATE SAMPLE D = DEEP SAMPLE

Qualifiers: U = NOT DETECTED J = ESTIMATED VALUE UJ = REPORTED QUANTITATION LIMIT IS QUALIFIED AS ESTIMATED R = RESULT IS REJECTED AND UNUSABLE

Naval Air Station Whiting Field, Milton, Florida
Site 15 Groundwater Data

Lab Sample Number:		RB920007				ME390005				RB920008				RB956002			
Site		WHITING				WHITING				WHITING				WHITING			
Locator		15G00702				15G00702				15G00702F				15G00703			
Collect Date:		31-JUL-96				30-JUL-97				31-JUL-96				05-AUG-96			
		VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
CLP VOLATILES 90-SOW	ug/l																
Chloromethane		10	U	ug/l	10	10	U	ug/l	10	-		ug/l		10	U	ug/l	10
Bromomethane		10	U	ug/l	10	10	U	ug/l	10	-		ug/l		10	U	ug/l	10
Vinyl chloride		10	U	ug/l	10	10	U	ug/l	10	-		ug/l		10	U	ug/l	10
Chloroethane		10	U	ug/l	10	10	U	ug/l	10	-		ug/l		10	U	ug/l	10
Methylene chloride		10	U	ug/l	10	10	U	ug/l	10	-		ug/l		10	U	ug/l	10
Acetone		27	UJ	ug/l	27	10	U	ug/l	10	-		ug/l		140	J	ug/l	10
Carbon disulfide		10	U	ug/l	10	10	U	ug/l	10	-		ug/l		10	U	ug/l	10
1,1-Dichloroethene		10	U	ug/l	10	10	U	ug/l	10	-		ug/l		5	J	ug/l	10
1,1-Dichloroethane		10	U	ug/l	10	10	U	ug/l	10	-		ug/l		10	U	ug/l	10
1,2-Dichloroethene (total)		10	U	ug/l	10	14		ug/l	10	-		ug/l		4	J	ug/l	10
Chloroform		10	U	ug/l	10	10	U	ug/l	10	-		ug/l		10	U	ug/l	10
1,2-Dichloroethane		10	U	ug/l	10	10	U	ug/l	10	-		ug/l		10	U	ug/l	10
2-Butanone		10	U	ug/l	10	10	U	ug/l	10	-		ug/l		10	U	ug/l	10
1,1,1-Trichloroethane		10	U	ug/l	10	10	U	ug/l	10	-		ug/l		10	U	ug/l	10
Carbon tetrachloride		10	U	ug/l	10	10	U	ug/l	10	-		ug/l		10	U	ug/l	10
Bromodichloromethane		10	U	ug/l	10	10	U	ug/l	10	-		ug/l		10	U	ug/l	10
1,2-Dichloropropane		10	U	ug/l	10	10	U	ug/l	10	-		ug/l		10	U	ug/l	10
cis-1,3-Dichloropropene		10	U	ug/l	10	10	U	ug/l	10	-		ug/l		10	U	ug/l	10
Trichloroethene		1	J	ug/l	10	5	J	ug/l	10	-		ug/l		150		ug/l	10
Dibromochloromethane		10	U	ug/l	10	10	U	ug/l	10	-		ug/l		10	U	ug/l	10
1,1,2-Trichloroethane		10	U	ug/l	10	10	U	ug/l	10	-		ug/l		10	U	ug/l	10
Benzene		10	U	ug/l	10	100		ug/l	10	-		ug/l		10	U	ug/l	10
trans-1,3-Dichloropropene		10	U	ug/l	10	10	U	ug/l	10	-		ug/l		10	U	ug/l	10
Bromoform		10	U	ug/l	10	10	U	ug/l	10	-		ug/l		10	U	ug/l	10
4-Methyl-2-pentanone		10	U	ug/l	10	10	U	ug/l	10	-		ug/l		10	U	ug/l	10
2-Hexanone		10	U	ug/l	10	10	U	ug/l	10	-		ug/l		10	U	ug/l	10
Tetrachloroethene		10	U	ug/l	10	10	U	ug/l	10	-		ug/l		10	U	ug/l	10
Toluene		10	U	ug/l	10	10	U	ug/l	10	-		ug/l		10	U	ug/l	10
1,1,2,2-Tetrachloroethane		10	U	ug/l	10	10	U	ug/l	10	-		ug/l		10	U	ug/l	10
Chlorobenzene		10	U	ug/l	10	10	U	ug/l	10	-		ug/l		10	U	ug/l	10
Ethylbenzene		10	U	ug/l	10	10	U	ug/l	10	-		ug/l		10	U	ug/l	10
Styrene		10	U	ug/l	10	10	U	ug/l	10	-		ug/l		10	U	ug/l	10
Xylenes (total)		10	U	ug/l	10	1	J	ug/l	10	-		ug/l		10	U	ug/l	10
CLP SEMIVOLATILES 90-SOW	ug/l																
Phenol		10	U	ug/l	10	-		ug/l		-		ug/l		10	U	ug/l	10
bis(2-Chloroethyl) ether		10	U	ug/l	10	-		ug/l		-		ug/l		10	U	ug/l	10
2-Chlorophenol		10	U	ug/l	10	-		ug/l		-		ug/l		10	U	ug/l	10
1,3-Dichlorobenzene		10	U	ug/l	10	-		ug/l		-		ug/l		10	U	ug/l	10
1,4-Dichlorobenzene		10	U	ug/l	10	-		ug/l		-		ug/l		10	U	ug/l	10

Naval Air Station Whiting Field, Milton, Florida
Site 15 Groundwater Data

Lab Sample Number:	RB920007				ME390005				RB920008				RB956002			
Site	WHITING				WHITING				WHITING				WHITING			
Locator	15G00702				15G00702				15G00702F				15G00703			
Collect Date:	31-JUL-96				30-JUL-97				31-JUL-96				05-AUG-96			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
1,2-Dichlorobenzene	10	U	ug/l	10	-		ug/l		-		ug/l		10	U	ug/l	10
2-Methylphenol	10	U	ug/l	10	-		ug/l		-		ug/l		10	U	ug/l	10
2,2-oxybis(1-Chloropropane)	10	U	ug/l	10	-		ug/l		-		ug/l		10	U	ug/l	10
4-Methylphenol	10	U	ug/l	10	-		ug/l		-		ug/l		10	U	ug/l	10
N-Nitroso-di-n-propylamine	10	U	ug/l	10	-		ug/l		-		ug/l		10	U	ug/l	10
Hexachloroethane	10	U	ug/l	10	-		ug/l		-		ug/l		10	U	ug/l	10
Nitrobenzene	10	U	ug/l	10	-		ug/l		-		ug/l		10	U	ug/l	10
Isophorone	10	U	ug/l	10	-		ug/l		-		ug/l		10	U	ug/l	10
2-Nitrophenol	10	U	ug/l	10	-		ug/l		-		ug/l		10	U	ug/l	10
2,4-Dimethylphenol	10	U	ug/l	10	-		ug/l		-		ug/l		10	U	ug/l	10
bis(2-Chloroethoxy) methane	10	U	ug/l	10	-		ug/l		-		ug/l		10	U	ug/l	10
2,4-Dichlorophenol	10	U	ug/l	10	-		ug/l		-		ug/l		10	U	ug/l	10
1,2,4-Trichlorobenzene	10	U	ug/l	10	-		ug/l		-		ug/l		10	U	ug/l	10
Naphthalene	10	U	ug/l	10	-		ug/l		-		ug/l		10	U	ug/l	10
4-Chloroaniline	10	U	ug/l	10	-		ug/l		-		ug/l		10	U	ug/l	10
Hexachlorobutadiene	10	U	ug/l	10	-		ug/l		-		ug/l		10	U	ug/l	10
4-Chloro-3-methylphenol	10	U	ug/l	10	-		ug/l		-		ug/l		10	U	ug/l	10
2-Methylnaphthalene	10	U	ug/l	10	-		ug/l		-		ug/l		10	U	ug/l	10
Hexachlorocyclopentadiene	10	U	ug/l	10	-		ug/l		-		ug/l		10	U	ug/l	10
2,4,6-Trichlorophenol	10	U	ug/l	10	-		ug/l		-		ug/l		10	U	ug/l	10
2,4,5-Trichlorophenol	25	U	ug/l	25	-		ug/l		-		ug/l		25	U	ug/l	25
2-Chloronaphthalene	10	U	ug/l	10	-		ug/l		-		ug/l		10	U	ug/l	10
2-Nitroaniline	25	U	ug/l	25	-		ug/l		-		ug/l		25	U	ug/l	25
Dimethylphthalate	10	U	ug/l	10	-		ug/l		-		ug/l		10	U	ug/l	10
Acenaphthylene	10	U	ug/l	10	-		ug/l		-		ug/l		10	U	ug/l	10
2,6-Dinitrotoluene	10	U	ug/l	10	-		ug/l		-		ug/l		10	U	ug/l	10
3-Nitroaniline	25	U	ug/l	25	-		ug/l		-		ug/l		25	U	ug/l	25
Acenaphthene	10	U	ug/l	10	-		ug/l		-		ug/l		10	U	ug/l	10
2,4-Dinitrophenol	25	U	ug/l	25	-		ug/l		-		ug/l		25	UJ	ug/l	25
4-Nitrophenol	25	U	ug/l	25	-		ug/l		-		ug/l		25	U	ug/l	25
Dibenzofuran	10	U	ug/l	10	-		ug/l		-		ug/l		10	U	ug/l	10
2,4-Dinitrotoluene	10	U	ug/l	10	-		ug/l		-		ug/l		10	U	ug/l	10
Diethylphthalate	10	U	ug/l	10	-		ug/l		-		ug/l		10	U	ug/l	10
4-Chlorophenyl-phenylether	10	U	ug/l	10	-		ug/l		-		ug/l		10	U	ug/l	10
Fluorene	10	U	ug/l	10	-		ug/l		-		ug/l		10	U	ug/l	10
4-Nitroaniline	25	UJ	ug/l	25	-		ug/l		-		ug/l		25	UJ	ug/l	25
4,6-Dinitro-2-methylphenol	25	U	ug/l	25	-		ug/l		-		ug/l		25	UJ	ug/l	25
N-Nitrosodiphenylamine	10	U	ug/l	10	-		ug/l		-		ug/l		10	U	ug/l	10
4-Bromophenyl-phenylether	10	U	ug/l	10	-		ug/l		-		ug/l		10	U	ug/l	10
Hexachlorobenzene	10	U	ug/l	10	-		ug/l		-		ug/l		10	U	ug/l	10
Pentachlorophenol	25	U	ug/l	25	-		ug/l		-		ug/l		25	U	ug/l	25
Phenanthrene	10	U	ug/l	10	-		ug/l		-		ug/l		10	U	ug/l	10
Anthracene	10	U	ug/l	10	-		ug/l		-		ug/l		10	U	ug/l	10
Carbazole	10	U	ug/l	10	-		ug/l		-		ug/l		10	U	ug/l	10
Di-n-butylphthalate	10	U	ug/l	10	-		ug/l		-		ug/l		10	U	ug/l	10
Fluoranthene	10	U	ug/l	10	-		ug/l		-		ug/l		10	U	ug/l	10
Pyrene	10	U	ug/l	10	-		ug/l		-		ug/l		10	UJ	ug/l	10
Butylbenzylphthalate	10	U	ug/l	10	-		ug/l		-		ug/l		10	U	ug/l	10
3,3-Dichlorobenzidine	10	U	ug/l	10	-		ug/l		-		ug/l		10	UJ	ug/l	10
Benzo (a) anthracene	10	U	ug/l	10	-		ug/l		-		ug/l		10	U	ug/l	10
Chrysene	10	UJ	ug/l	10	-		ug/l		-		ug/l		10	U	ug/l	10
bis(2-Ethylhexyl) phthalate	10	U	ug/l	10	-		ug/l		-		ug/l		2	J	ug/l	10

Naval Air Station Whiting Field, Milton, Florida
Site 15 Groundwater Data

Lab Sample Number:	RB920007				ME390005				RB920008				RB956002			
Site	WHITING				WHITING				WHITING				WHITING			
Locator	15G00702				15G00702				15G00702F				15G00703			
Collect Date:	31-JUL-96				30-JUL-97				31-JUL-96				05-AUG-96			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
Di-n-octylphthalate	10	U	ug/l	10	-		ug/l		-		ug/l		10	U	ug/l	10
Benzo (b) fluoranthene	10	U	ug/l	10	-		ug/l		-		ug/l		10	U	ug/l	10
Benzo (k) fluoranthene	10	U	ug/l	10	-		ug/l		-		ug/l		10	U	ug/l	10
Benzo (a) pyrene	10	U	ug/l	10	-		ug/l		-		ug/l		10	U	ug/l	10
Indeno (1,2,3-cd) pyrene	10	UJ	ug/l	10	-		ug/l		-		ug/l		10	U	ug/l	10
Dibenzo (a,h) anthracene	10	UJ	ug/l	10	-		ug/l		-		ug/l		10	U	ug/l	10
Benzo (g,h,i) perylene	10	UJ	ug/l	10	-		ug/l		-		ug/l		10	U	ug/l	10
CLP PESTICIDES/PCBS 90-SOW ug/l																
alpha-BHC	.05	U	ug/l	.05	-		ug/l		-		ug/l		.05	U	ug/l	.05
beta-BHC	.05	U	ug/l	.05	-		ug/l		-		ug/l		.05	U	ug/l	.05
delta-BHC	.05	U	ug/l	.05	-		ug/l		-		ug/l		.05	U	ug/l	.05
gamma-BHC (Lindane)	.05	U	ug/l	.05	-		ug/l		-		ug/l		.05	U	ug/l	.05
Heptachlor	.05	U	ug/l	.05	-		ug/l		-		ug/l		.05	U	ug/l	.05
Aldrin	.05	U	ug/l	.05	-		ug/l		-		ug/l		.05	U	ug/l	.05
Heptachlor epoxide	.05	U	ug/l	.05	-		ug/l		-		ug/l		.05	U	ug/l	.05
Endosulfan I	.05	U	ug/l	.05	-		ug/l		-		ug/l		.05	U	ug/l	.05
Dieldrin	.1	U	ug/l	.1	-		ug/l		-		ug/l		.1	U	ug/l	.1
4,4-DDE	.1	U	ug/l	.1	-		ug/l		-		ug/l		.1	U	ug/l	.1
Endrin	.1	U	ug/l	.1	-		ug/l		-		ug/l		.1	U	ug/l	.1
Endosulfan II	.1	U	ug/l	.1	-		ug/l		-		ug/l		.1	U	ug/l	.1
4,4-DDD	.1	U	ug/l	.1	-		ug/l		-		ug/l		.1	U	ug/l	.1
Endosulfan sulfate	.1	U	ug/l	.1	-		ug/l		-		ug/l		.1	U	ug/l	.1
4,4-DDT	.1	UJ	ug/l	.1	-		ug/l		-		ug/l		.1	UJ	ug/l	.1
Methoxychlor	.5	U	ug/l	.5	-		ug/l		-		ug/l		.5	U	ug/l	.5
Endrin ketone	.1	U	ug/l	.1	-		ug/l		-		ug/l		.1	U	ug/l	.1
Endrin aldehyde	.1	U	ug/l	.1	-		ug/l		-		ug/l		.1	U	ug/l	.1
alpha-Chlordane	.05	U	ug/l	.05	-		ug/l		-		ug/l		.05	U	ug/l	.05
gamma-Chlordane	.05	U	ug/l	.05	-		ug/l		-		ug/l		.05	U	ug/l	.05
Toxaphene	5	U	ug/l	5	-		ug/l		-		ug/l		5	U	ug/l	5
Aroclor-1016	1	U	ug/l	1	-		ug/l		-		ug/l		1	U	ug/l	1
Aroclor-1221	2	U	ug/l	2	-		ug/l		-		ug/l		2	U	ug/l	2
Aroclor-1232	1	U	ug/l	1	-		ug/l		-		ug/l		1	U	ug/l	1
Aroclor-1242	1	U	ug/l	1	-		ug/l		-		ug/l		1	U	ug/l	1
Aroclor-1248	1	U	ug/l	1	-		ug/l		-		ug/l		1	U	ug/l	1
Aroclor-1254	1	U	ug/l	1	-		ug/l		-		ug/l		1	U	ug/l	1
Aroclor-1260	1	U	ug/l	1	-		ug/l		-		ug/l		1	U	ug/l	1
CLP METALS AND CYANIDE ug/l																
Aluminum	500		ug/l		538		ug/l	200	10.4	U	ug/l		48.2	U	ug/l	
Antimony	8.6	U	ug/l		60	U	ug/l	60	8.6	U	ug/l		8.6	U	ug/l	
Arsenic	.6	J	ug/l		10	U	ug/l	10	.5	U	ug/l		.5	U	ug/l	
Barium	15.5	J	ug/l		15.4	J	ug/l	200	11.8	J	ug/l		7.8	J	ug/l	
Beryllium	.3	U	ug/l		5	U	ug/l	5	.3	U	ug/l		.3	U	ug/l	
Cadmium	1.2	U	ug/l		5	U	ug/l	5	1.2	U	ug/l		1.2	U	ug/l	
Calcium	2460	J	ug/l		1350	J	ug/l	5000	1990	J	ug/l		783	J	ug/l	
Chromium	2	U	ug/l		10	U	ug/l	10	2	U	ug/l		2.6	J	ug/l	
Cobalt	2.3	U	ug/l		50	U	ug/l	50	2.3	U	ug/l		2.3	U	ug/l	
Copper	3.3	J	ug/l		25	U	ug/l	25	1.5	J	ug/l		1.1	U	ug/l	
Iron	380		ug/l		388		ug/l	100	6.9	U	ug/l		63.6	J	ug/l	
Lead	1.5	U	ug/l		3	UJ	ug/l	3	.6	U	ug/l		.5	U	ug/l	
Magnesium	474	J	ug/l		501	J	ug/l	5000	386	J	ug/l		279	J	ug/l	

Naval Air Station Whiting Field, Milton, Florida
Site 15 Groundwater Data

Lab Sample Number:	RB920007				ME390005				RB920008				RB956002			
Site	WHITING				WHITING				WHITING				WHITING			
Locator	15G00702				15G00702				15G00702F				15G00703			
Collect Date:	31-JUL-96				30-JUL-97				31-JUL-96				05-AUG-96			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
Manganese	70.4		ug/l		50.7		ug/l	15	62.3		ug/l		14.5	J	ug/l	
Mercury	.1	U	ug/l		.2	U	ug/l	.2	.1	U	ug/l		.1	U	ug/l	
Nickel	7.3	U	ug/l		40	U	ug/l	40	7.3	U	ug/l		7.4	J	ug/l	
Potassium	698	J	ug/l		5000	U	ug/l	5000	714	J	ug/l		451	J	ug/l	
Selenium	.6	U	ug/l		5	UJ	ug/l	5	.6	U	ug/l		.6	U	ug/l	
Silver	2.5	U	ug/l		10	U	ug/l	10	2.5	U	ug/l		2.5	U	ug/l	
Sodium	9090		ug/l		4130	J	ug/l	5000	7340		ug/l		2890	J	ug/l	
Thallium	.6	U	ug/l		10	U	ug/l	10	.6	U	ug/l		.6	U	ug/l	
Vanadium	1.9	J	ug/l		50	U	ug/l	50	1.2	U	ug/l		1.2	U	ug/l	
Zinc	65.1		ug/l		20	U	ug/l	20	38.6		ug/l		66.3		ug/l	
Cyanide	7.6	U	ug/l		-		ug/l		-		ug/l		1.5	U	ug/l	

Locator Annotations: A = DUPLICATE SAMPLE B = SHALLOW SAMPLE C = INTERMEDIATE SAMPLE CD = DOUBLE INTERMEDIATE SAMPLE D = DEEP SAMPLE

Qualifiers: U = NOT DETECTED J = ESTIMATED VALUE UJ = REPORTED QUANTITATION LIMIT IS QUALIFIED AS ESTIMATED R = RESULT IS REJECTED AND UNUSABLE

Naval Air Station Whiting Field, Milton, Florida
Site 15 Groundwater Data

Lab Sample Number:		ME404003				ME404004				RB980005				ME441002			
Site		WHITING				WHITING				WHITING				WHITING			
Locator		15G00703				15G00703D				15G00801				15G00801			
Collect Date:		30-JUL-97				30-JUL-97				13-AUG-96				04-AUG-97			
		VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
CLP VOLATILES 90-SOW	ug/l																
Chloromethane		10	U	ug/l	10	10	U	ug/l	10	10	UJ	ug/l	10	10	U	ug/l	10
Bromomethane		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Vinyl chloride		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Chloroethane		10	U	ug/l	10	10	U	ug/l	10	10	UJ	ug/l	10	10	U	ug/l	10
Methylene chloride		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Acetone		10	UJ	ug/l	10	10	UJ	ug/l	10	10	UJ	ug/l	10	10	UJ	ug/l	10
Carbon disulfide		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
1,1-Dichloroethene		2	J	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
1,1-Dichloroethane		10	U	ug/l	10	10	U	ug/l	10	10	UJ	ug/l	10	10	U	ug/l	10
1,2-Dichloroethene (total)		1	J	ug/l	10	2	J	ug/l	10	1	J	ug/l	10	10	U	ug/l	10
Chloroform		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
1,2-Dichloroethane		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
2-Butanone		10	U	ug/l	10	10	U	ug/l	10	10	UJ	ug/l	10	10	U	ug/l	10
1,1,1-Trichloroethane		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Carbon tetrachloride		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Bromodichloromethane		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
1,2-Dichloropropane		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
cis-1,3-Dichloropropene		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Trichloroethene		36		ug/l	10	38		ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Dibromochloromethane		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
1,1,2-Trichloroethane		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Benzene		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
trans-1,3-Dichloropropene		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Bromoform		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
4-Methyl-2-pentanone		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
2-Hexanone		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Tetrachloroethene		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Toluene		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
1,1,2,2-Tetrachloroethane		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Chlorobenzene		10	U	ug/l	10	10	U	ug/l	10	3	J	ug/l	10	4	J	ug/l	10
Ethylbenzene		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Styrene		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Xylenes (total)		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
CLP SEMIVOLATILES 90-SOW	ug/l																
Phenol		-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	
bis(2-Chloroethyl) ether		-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	
2-Chlorophenol		-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	
1,3-Dichlorobenzene		-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	
1,4-Dichlorobenzene		-		ug/l		-		ug/l		8	J	ug/l	10	-		ug/l	

Naval Air Station Whiting Field, Milton, Florida
Site 15 Groundwater Data

Lab Sample Number:	ME404003				ME404004				RB980005				ME441002			
Site	WHITING				WHITING				WHITING				WHITING			
Locator	15G00703				15G00703D				15G00801				15G00801			
Collect Date:	30-JUL-97				30-JUL-97				13-AUG-96				04-AUG-97			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
1,2-Dichlorobenzene	-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	
2-Methylphenol	-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	
2,2-oxybis(1-Chloropropane)	-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	
4-Methylphenol	-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	
N-Nitroso-di-n-propylamine	-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	
Hexachloroethane	-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	
Nitrobenzene	-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	
Isophorone	-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	
2-Nitrophenol	-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	
2,4-Dimethylphenol	-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	
bis(2-Chloroethoxy) methane	-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	
2,4-Dichlorophenol	-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	
1,2,4-Trichlorobenzene	-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	
Naphthalene	-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	
4-Chloroaniline	-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	
Hexachlorobutadiene	-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	
4-Chloro-3-methylphenol	-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	
2-Methylnaphthalene	-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	
Hexachlorocyclopentadiene	-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	
2,4,6-Trichlorophenol	-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	
2,4,5-Trichlorophenol	-		ug/l		-		ug/l		25	U	ug/l	25	-		ug/l	
2-Chloronaphthalene	-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	
2-Nitroaniline	-		ug/l		-		ug/l		25	U	ug/l	25	-		ug/l	
Dimethylphthalate	-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	
Acenaphthylene	-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	
2,6-Dinitrotoluene	-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	
3-Nitroaniline	-		ug/l		-		ug/l		25	U	ug/l	25	-		ug/l	
Acenaphthene	-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	
2,4-Dinitrophenol	-		ug/l		-		ug/l		25	UJ	ug/l	25	-		ug/l	
4-Nitrophenol	-		ug/l		-		ug/l		25	U	ug/l	25	-		ug/l	
Dibenzofuran	-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	
2,4-Dinitrotoluene	-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	
Diethylphthalate	-		ug/l		-		ug/l		1	J	ug/l	10	-		ug/l	
4-Chlorophenyl-phenylether	-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	
Fluorene	-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	
4-Nitroaniline	-		ug/l		-		ug/l		25	UJ	ug/l	25	-		ug/l	
4,6-Dinitro-2-methylphenol	-		ug/l		-		ug/l		25	UJ	ug/l	25	-		ug/l	
N-Nitrosodiphenylamine	-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	
4-Bromophenyl-phenylether	-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	
Hexachlorobenzene	-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	
Pentachlorophenol	-		ug/l		-		ug/l		25	UJ	ug/l	25	-		ug/l	
Phenanthrene	-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	
Anthracene	-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	
Carbazole	-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	
Di-n-butylphthalate	-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	
Fluoranthene	-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	
Pyrene	-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	
Butylbenzylphthalate	-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	
3,3-Dichlorobenzidine	-		ug/l		-		ug/l		10	UJ	ug/l	10	-		ug/l	
Benzo (a) anthracene	-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	
Chrysene	-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	
bis(2-Ethylhexyl) phthalate	-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	

Naval Air Station Whiting Field, Milton, Florida
Site 15 Groundwater Data

Lab Sample Number:		ME404003				ME404004				RB980005				ME441002			
Site		WHITING				WHITING				WHITING				WHITING			
Locator		15G00703				15G00703D				15G00801				15G00801			
Collect Date:		30-JUL-97				30-JUL-97				13-AUG-96				04-AUG-97			
		VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
Di-n-octylphthalate		-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	
Benzo (b) fluoranthene		-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	
Benzo (k) fluoranthene		-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	
Benzo (a) pyrene		-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	
Indeno (1,2,3-cd) pyrene		-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	
Dibenzo (a,h) anthracene		-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	
Benzo (g,h,i) perylene		-		ug/l		-		ug/l		10	U	ug/l	10	-		ug/l	
CLP PESTICIDES/PCBS 90-SOW	ug/l																
alpha-BHC		-		ug/l		-		ug/l		.05	UJ	ug/l	.05	-		ug/l	
beta-BHC		-		ug/l		-		ug/l		.05	UJ	ug/l	.05	-		ug/l	
delta-BHC		-		ug/l		-		ug/l		.05	UJ	ug/l	.05	-		ug/l	
gamma-BHC (Lindane)		-		ug/l		-		ug/l		.05	UJ	ug/l	.05	-		ug/l	
Heptachlor		-		ug/l		-		ug/l		.05	UJ	ug/l	.05	-		ug/l	
Aldrin		-		ug/l		-		ug/l		.05	UJ	ug/l	.05	-		ug/l	
Heptachlor epoxide		-		ug/l		-		ug/l		.05	UJ	ug/l	.05	-		ug/l	
Endosulfan I		-		ug/l		-		ug/l		.05	UJ	ug/l	.05	-		ug/l	
Dieldrin		-		ug/l		-		ug/l		.1	UJ	ug/l	.1	-		ug/l	
4,4-DDE		-		ug/l		-		ug/l		.1	UJ	ug/l	.1	-		ug/l	
Endrin		-		ug/l		-		ug/l		.1	UJ	ug/l	.1	-		ug/l	
Endosulfan II		-		ug/l		-		ug/l		.1	UJ	ug/l	.1	-		ug/l	
4,4-DDD		-		ug/l		-		ug/l		.1	UJ	ug/l	.1	-		ug/l	
Endosulfan sulfate		-		ug/l		-		ug/l		.1	UJ	ug/l	.1	-		ug/l	
4,4-DDT		-		ug/l		-		ug/l		.1	UJ	ug/l	.1	-		ug/l	
Methoxychlor		-		ug/l		-		ug/l		.5	UJ	ug/l	.5	-		ug/l	
Endrin ketone		-		ug/l		-		ug/l		.1	UJ	ug/l	.1	-		ug/l	
Endrin aldehyde		-		ug/l		-		ug/l		.1	UJ	ug/l	.1	-		ug/l	
alpha-Chlordane		-		ug/l		-		ug/l		.05	UJ	ug/l	.05	-		ug/l	
gamma-Chlordane		-		ug/l		-		ug/l		.05	UJ	ug/l	.05	-		ug/l	
Toxaphene		-		ug/l		-		ug/l		5	UJ	ug/l	5	-		ug/l	
Aroclor-1016		-		ug/l		-		ug/l		1	UJ	ug/l	1	-		ug/l	
Aroclor-1221		-		ug/l		-		ug/l		2	UJ	ug/l	2	-		ug/l	
Aroclor-1232		-		ug/l		-		ug/l		1	UJ	ug/l	1	-		ug/l	
Aroclor-1242		-		ug/l		-		ug/l		1	UJ	ug/l	1	-		ug/l	
Aroclor-1248		-		ug/l		-		ug/l		1	UJ	ug/l	1	-		ug/l	
Aroclor-1254		-		ug/l		-		ug/l		1	UJ	ug/l	1	-		ug/l	
Aroclor-1260		-		ug/l		-		ug/l		1	UJ	ug/l	1	-		ug/l	
CLP METALS AND CYANIDE	ug/l																
Aluminum		200	U	ug/l	200	200	U	ug/l	200	53.5	U	ug/l		143	J	ug/l	200
Antimony		60	U	ug/l	60	21.2	J	ug/l	60	8.6	U	ug/l		60	U	ug/l	60
Arsenic		10	U	ug/l	10	10	U	ug/l	10	1.2	J	ug/l		2	J	ug/l	10
Barium		200	U	ug/l	200	200	U	ug/l	200	69.8	J	ug/l		34.7	J	ug/l	200
Beryllium		5	U	ug/l	5	5	U	ug/l	5	.3	U	ug/l		5	U	ug/l	5
Cadmium		5	U	ug/l	5	5	U	ug/l	5	1.2	U	ug/l		5	U	ug/l	5
Calcium		5000	U	ug/l	5000	5000	U	ug/l	5000	2570	J	ug/l		1870	J	ug/l	5000
Chromium		10	U	ug/l	10	10	U	ug/l	10	2	U	ug/l		10	U	ug/l	10
Cobalt		50	U	ug/l	50	50	U	ug/l	50	2.3	U	ug/l		50	U	ug/l	50
Copper		25	U	ug/l	25	25	U	ug/l	25	1.1	U	ug/l		25	U	ug/l	25
Iron		107		ug/l	100	115		ug/l	100	22100		ug/l		4760		ug/l	100
Lead		3	U	ug/l	3	5.1		ug/l	3	.5	U	ug/l		3	U	ug/l	3
Magnesium		280	J	ug/l	5000	266	J	ug/l	5000	2330	J	ug/l		1370	J	ug/l	5000

Naval Air Station Whiting Field, Milton, Florida
Site 15 Groundwater Data

Lab Sample Number:	ME404003				ME404004				RB980005				ME441002			
Site	WHITING				WHITING				WHITING				WHITING			
Locator	15G00703				15G00703D				15G00801				15G00801			
Collect Date:	30-JUL-97				30-JUL-97				13-AUG-96				04-AUG-97			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
Manganese	6.9	J	ug/l	15	6.5	J	ug/l	15	150		ug/l		84.6		ug/l	15
Mercury	.2	U	ug/l	.2	.2	U	ug/l	.2	.1	U	ug/l		.2	U	ug/l	.2
Nickel	40	U	ug/l	40	40	U	ug/l	40	7.3	U	ug/l		40	U	ug/l	40
Potassium	5000	U	ug/l	5000	5000	U	ug/l	5000	1080	J	ug/l		5000	U	ug/l	5000
Selenium	5	U	ug/l	5	5	UJ	ug/l	5	.6	U	ug/l		5	U	ug/l	5
Silver	10	U	ug/l	10	10	U	ug/l	10	2.5	U	ug/l		10	U	ug/l	10
Sodium	2040	J	ug/l	5000	1820	J	ug/l	5000	2160	J	ug/l		1830	J	ug/l	5000
Thallium	10	U	ug/l	10	10	U	ug/l	10	.6	U	ug/l		10	U	ug/l	10
Vanadium	50	U	ug/l	50	50	U	ug/l	50	1.2	U	ug/l		50	U	ug/l	50
Zinc	20	U	ug/l	20	20	U	ug/l	20	2.2	U	ug/l		20	U	ug/l	20
Cyanide	-		ug/l		-		ug/l		2.2	U	ug/l		-		ug/l	

Locator Annotations: A = DUPLICATE SAMPLE B = SHALLOW SAMPLE C = INTERMEDIATE SAMPLE CD = DOUBLE INTERMEDIATE SAMPLE D = DEEP SAMPLE

Qualifiers: U = NOT DETECTED J = ESTIMATED VALUE UJ = REPORTED QUANTITATION LIMIT IS QUALIFIED AS ESTIMATED R = RESULT IS REJECTED AND UNUSABLE

Naval Air Station Whiting Field, Milton, Florida
Site 15 Groundwater Data

Lab Sample Number:		ME441003				RB980004				MC424006				ME441004			
Site		WHITING				WHITING				WHITING				WHITING			
Locator		15G00801D				15G00802				15G00802				15G00802			
Collect Date:		04-AUG-97				13-AUG-96				20-NOV-96				04-AUG-97			
		VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
CLP VOLATILES 90-SOW	ug/l																
Chloromethane		10	U	ug/l	10	10	UJ	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Bromomethane		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Vinyl chloride		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Chloroethane		10	U	ug/l	10	10	UJ	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Methylene chloride		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Acetone		10	UJ	ug/l	10	10	UJ	ug/l	10	10	U	ug/l	10	10	UJ	ug/l	10
Carbon disulfide		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
1,1-Dichloroethene		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
1,1-Dichloroethane		10	U	ug/l	10	10	UJ	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
1,2-Dichloroethene (total)		10	U	ug/l	10	10	U	ug/l	10	3	J	ug/l	10	1	J	ug/l	10
Chloroform		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
1,2-Dichloroethane		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
2-Butanone		10	U	ug/l	10	10	UJ	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
1,1,1-Trichloroethane		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Carbon tetrachloride		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Bromodichloromethane		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
1,2-Dichloropropane		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
cis-1,3-Dichloropropene		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Trichloroethene		10	U	ug/l	10	5	J	ug/l	10	15		ug/l	10	11		ug/l	10
Dibromochloromethane		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
1,1,2-Trichloroethane		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Benzene		10	U	ug/l	10	5	J	ug/l	10	84		ug/l	10	19		ug/l	10
trans-1,3-Dichloropropene		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Bromoform		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
4-Methyl-2-pentanone		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
2-Hexanone		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Tetrachloroethene		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Toluene		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
1,1,2,2-Tetrachloroethane		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Chlorobenzene		4	J	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Ethylbenzene		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Styrene		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
Xylenes (total)		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10
CLP SEMIVOLATILES 90-SOW	ug/l																
Phenol		-		ug/l		10	U	ug/l	10	-		ug/l		-		ug/l	
bis(2-Chloroethyl) ether		-		ug/l		10	U	ug/l	10	-		ug/l		-		ug/l	
2-Chlorophenol		-		ug/l		10	U	ug/l	10	-		ug/l		-		ug/l	
1,3-Dichlorobenzene		-		ug/l		10	U	ug/l	10	-		ug/l		-		ug/l	
1,4-Dichlorobenzene		-		ug/l		10	U	ug/l	10	-		ug/l		-		ug/l	

Naval Air Station Whiting Field, Milton, Florida
Site 15 Groundwater Data

Lab Sample Number:	ME441003				RB980004				MC424006				ME441004			
Site	WHITING				WHITING				WHITING				WHITING			
Locator	15G00801D				15G00802				15G00802				15G00802			
Collect Date:	04-AUG-97				13-AUG-96				20-NOV-96				04-AUG-97			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
1,2-Dichlorobenzene	-		ug/l		10	U	ug/l	10	-		ug/l		-		ug/l	
2-Methylphenol	-		ug/l		10	U	ug/l	10	-		ug/l		-		ug/l	
2,2-oxybis(1-Chloropropane)	-		ug/l		10	U	ug/l	10	-		ug/l		-		ug/l	
4-Methylphenol	-		ug/l		10	U	ug/l	10	-		ug/l		-		ug/l	
N-Nitroso-di-n-propylamine	-		ug/l		10	U	ug/l	10	-		ug/l		-		ug/l	
Hexachloroethane	-		ug/l		10	U	ug/l	10	-		ug/l		-		ug/l	
Nitrobenzene	-		ug/l		10	U	ug/l	10	-		ug/l		-		ug/l	
Isophorone	-		ug/l		10	U	ug/l	10	-		ug/l		-		ug/l	
2-Nitrophenol	-		ug/l		10	U	ug/l	10	-		ug/l		-		ug/l	
2,4-Dimethylphenol	-		ug/l		10	U	ug/l	10	-		ug/l		-		ug/l	
bis(2-Chloroethoxy) methane	-		ug/l		10	U	ug/l	10	-		ug/l		-		ug/l	
2,4-Dichlorophenol	-		ug/l		10	U	ug/l	10	-		ug/l		-		ug/l	
1,2,4-Trichlorobenzene	-		ug/l		10	U	ug/l	10	-		ug/l		-		ug/l	
Naphthalene	-		ug/l		10	U	ug/l	10	-		ug/l		-		ug/l	
4-Chloroaniline	-		ug/l		10	U	ug/l	10	-		ug/l		-		ug/l	
Hexachlorobutadiene	-		ug/l		10	U	ug/l	10	-		ug/l		-		ug/l	
4-Chloro-3-methylphenol	-		ug/l		10	U	ug/l	10	-		ug/l		-		ug/l	
2-Methylnaphthalene	-		ug/l		10	U	ug/l	10	-		ug/l		-		ug/l	
Hexachlorocyclopentadiene	-		ug/l		10	U	ug/l	10	-		ug/l		-		ug/l	
2,4,6-Trichlorophenol	-		ug/l		10	U	ug/l	10	-		ug/l		-		ug/l	
2,4,5-Trichlorophenol	-		ug/l		25	U	ug/l	25	-		ug/l		-		ug/l	
2-Chloronaphthalene	-		ug/l		10	U	ug/l	10	-		ug/l		-		ug/l	
2-Nitroaniline	-		ug/l		25	U	ug/l	25	-		ug/l		-		ug/l	
Dimethylphthalate	-		ug/l		10	U	ug/l	10	-		ug/l		-		ug/l	
Acenaphthylene	-		ug/l		10	U	ug/l	10	-		ug/l		-		ug/l	
2,6-Dinitrotoluene	-		ug/l		10	U	ug/l	10	-		ug/l		-		ug/l	
3-Nitroaniline	-		ug/l		25	U	ug/l	25	-		ug/l		-		ug/l	
Acenaphthene	-		ug/l		10	U	ug/l	10	-		ug/l		-		ug/l	
2,4-Dinitrophenol	-		ug/l		25	UJ	ug/l	25	-		ug/l		-		ug/l	
4-Nitrophenol	-		ug/l		25	U	ug/l	25	-		ug/l		-		ug/l	
Dibenzofuran	-		ug/l		10	U	ug/l	10	-		ug/l		-		ug/l	
2,4-Dinitrotoluene	-		ug/l		10	U	ug/l	10	-		ug/l		-		ug/l	
Diethylphthalate	-		ug/l		10	U	ug/l	10	-		ug/l		-		ug/l	
4-Chlorophenyl-phenylether	-		ug/l		10	U	ug/l	10	-		ug/l		-		ug/l	
Fluorene	-		ug/l		10	U	ug/l	10	-		ug/l		-		ug/l	
4-Nitroaniline	-		ug/l		25	UJ	ug/l	25	-		ug/l		-		ug/l	
4,6-Dinitro-2-methylphenol	-		ug/l		25	UJ	ug/l	25	-		ug/l		-		ug/l	
N-Nitrosodiphenylamine	-		ug/l		10	U	ug/l	10	-		ug/l		-		ug/l	
4-Bromophenyl-phenylether	-		ug/l		10	U	ug/l	10	-		ug/l		-		ug/l	
Hexachlorobenzene	-		ug/l		10	U	ug/l	10	-		ug/l		-		ug/l	
Pentachlorophenol	-		ug/l		25	UJ	ug/l	25	-		ug/l		-		ug/l	
Phenanthrene	-		ug/l		10	U	ug/l	10	-		ug/l		-		ug/l	
Anthracene	-		ug/l		10	U	ug/l	10	-		ug/l		-		ug/l	
Carbazole	-		ug/l		10	U	ug/l	10	-		ug/l		-		ug/l	
Di-n-butylphthalate	-		ug/l		10	U	ug/l	10	-		ug/l		-		ug/l	
Fluoranthene	-		ug/l		10	U	ug/l	10	-		ug/l		-		ug/l	
Pyrene	-		ug/l		10	U	ug/l	10	-		ug/l		-		ug/l	
Butylbenzylphthalate	-		ug/l		10	U	ug/l	10	-		ug/l		-		ug/l	
3,3-Dichlorobenzidine	-		ug/l		10	UJ	ug/l	10	-		ug/l		-		ug/l	
Benzo (a) anthracene	-		ug/l		10	U	ug/l	10	-		ug/l		-		ug/l	
Chrysene	-		ug/l		10	U	ug/l	10	-		ug/l		-		ug/l	
bis(2-Ethylhexyl) phthalate	-		ug/l		5	J	ug/l	10	-		ug/l		-		ug/l	

Naval Air Station Whiting Field, Milton, Florida
Site 15 Groundwater Data

Lab Sample Number:		ME441003			RB980004			MC424006			ME441004		
Site		WHITING			WHITING			WHITING			WHITING		
Locator		15G00801D			15G00802			15G00802			15G00802		
Collect Date:		04-AUG-97			13-AUG-96			20-NOV-96			04-AUG-97		
		VALUE QUAL	UNITS	DL	VALUE QUAL	UNITS	DL	VALUE QUAL	UNITS	DL	VALUE QUAL	UNITS	DL
Di-n-octylphthalate		-	ug/l		10 UJ	ug/l	10	-	ug/l		-	ug/l	
Benzo (b) fluoranthene		-	ug/l		10 UJ	ug/l	10	-	ug/l		-	ug/l	
Benzo (k) fluoranthene		-	ug/l		10 UJ	ug/l	10	-	ug/l		-	ug/l	
Benzo (a) pyrene		-	ug/l		10 UJ	ug/l	10	-	ug/l		-	ug/l	
Indeno (1,2,3-cd) pyrene		-	ug/l		10 UJ	ug/l	10	-	ug/l		-	ug/l	
Dibenzo (a,h) anthracene		-	ug/l		10 UJ	ug/l	10	-	ug/l		-	ug/l	
Benzo (g,h,i) perylene		-	ug/l		10 UJ	ug/l	10	-	ug/l		-	ug/l	
CLP PESTICIDES/PCBS 90-SOW	ug/l												
alpha-BHC		-	ug/l		.05 UJ	ug/l	.05	-	ug/l		-	ug/l	
beta-BHC		-	ug/l		.05 U	ug/l	.05	-	ug/l		-	ug/l	
delta-BHC		-	ug/l		.05 UJ	ug/l	.05	-	ug/l		-	ug/l	
gamma-BHC (Lindane)		-	ug/l		.05 U	ug/l	.05	-	ug/l		-	ug/l	
Heptachlor		-	ug/l		.05 U	ug/l	.05	-	ug/l		-	ug/l	
Aldrin		-	ug/l		.05 U	ug/l	.05	-	ug/l		-	ug/l	
Heptachlor epoxide		-	ug/l		.05 U	ug/l	.05	-	ug/l		-	ug/l	
Endosulfan I		-	ug/l		.05 U	ug/l	.05	-	ug/l		-	ug/l	
Dieldrin		-	ug/l		.1 U	ug/l	.1	-	ug/l		-	ug/l	
4,4-DDE		-	ug/l		.1 U	ug/l	.1	-	ug/l		-	ug/l	
Endrin		-	ug/l		.1 U	ug/l	.1	-	ug/l		-	ug/l	
Endosulfan II		-	ug/l		.1 U	ug/l	.1	-	ug/l		-	ug/l	
4,4-DDD		-	ug/l		.1 U	ug/l	.1	-	ug/l		-	ug/l	
Endosulfan sulfate		-	ug/l		.1 U	ug/l	.1	-	ug/l		-	ug/l	
4,4-DDT		-	ug/l		.1 U	ug/l	.1	-	ug/l		-	ug/l	
Methoxychlor		-	ug/l		.5 U	ug/l	.5	-	ug/l		-	ug/l	
Endrin ketone		-	ug/l		.1 U	ug/l	.1	-	ug/l		-	ug/l	
Endrin aldehyde		-	ug/l		.1 U	ug/l	.1	-	ug/l		-	ug/l	
alpha-Chlordane		-	ug/l		.05 U	ug/l	.05	-	ug/l		-	ug/l	
gamma-Chlordane		-	ug/l		.05 U	ug/l	.05	-	ug/l		-	ug/l	
Toxaphene		-	ug/l		5 U	ug/l	5	-	ug/l		-	ug/l	
Aroclor-1016		-	ug/l		1 U	ug/l	1	-	ug/l		-	ug/l	
Aroclor-1221		-	ug/l		2 U	ug/l	2	-	ug/l		-	ug/l	
Aroclor-1232		-	ug/l		1 U	ug/l	1	-	ug/l		-	ug/l	
Aroclor-1242		-	ug/l		1 U	ug/l	1	-	ug/l		-	ug/l	
Aroclor-1248		-	ug/l		1 U	ug/l	1	-	ug/l		-	ug/l	
Aroclor-1254		-	ug/l		1 U	ug/l	1	-	ug/l		-	ug/l	
Aroclor-1260		-	ug/l		1 U	ug/l	1	-	ug/l		-	ug/l	
CLP METALS AND CYANIDE	ug/l												
Aluminum		116 J	ug/l	200	127 J	ug/l		-	ug/l		200 U	ug/l	200
Antimony		60 U	ug/l	60	8.6 U	ug/l		-	ug/l		60 U	ug/l	60
Arsenic		10 U	ug/l	10	.5 U	ug/l		-	ug/l		10 U	ug/l	10
Barium		37.3 J	ug/l	200	21.9 J	ug/l		-	ug/l		9.3 J	ug/l	200
Beryllium		5 U	ug/l	5	.3 U	ug/l		-	ug/l		5 U	ug/l	5
Cadmium		5 U	ug/l	5	1.2 U	ug/l		-	ug/l		5 U	ug/l	5
Calcium		2010 J	ug/l	5000	5760	ug/l		-	ug/l		1760 J	ug/l	5000
Chromium		10 U	ug/l	10	2 U	ug/l		-	ug/l		10 U	ug/l	10
Cobalt		50 U	ug/l	50	2.3 U	ug/l		-	ug/l		50 U	ug/l	50
Copper		25 U	ug/l	25	1.8 J	ug/l		-	ug/l		25 U	ug/l	25
Iron		4940	ug/l	100	118	ug/l		-	ug/l		75 J	ug/l	100
Lead		3 U	ug/l	3	.5 U	ug/l		-	ug/l		3 U	ug/l	3
Magnesium		1470 J	ug/l	5000	796 J	ug/l		-	ug/l		381 J	ug/l	5000

Naval Air Station Whiting Field, Milton, Florida
Site 15 Groundwater Data

Lab Sample Number:	ME441003				RB980004				MC424006				ME441004			
Site	WHITING				WHITING				WHITING				WHITING			
Locator	15G00801D				15G00802				15G00802				15G00802			
Collect Date:	04-AUG-97				13-AUG-96				20-NOV-96				04-AUG-97			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
Manganese	91.4		ug/l	15	215		ug/l		-		ug/l		106		ug/l	15
Mercury	.2	U	ug/l	.2	.1	U	ug/l		-		ug/l		.2	U	ug/l	.2
Nickel	40	U	ug/l	40	7.3	U	ug/l		-		ug/l		40	U	ug/l	40
Potassium	5000	U	ug/l	5000	649	J	ug/l		-		ug/l		5000	U	ug/l	5000
Selenium	5	U	ug/l	5	.6	U	ug/l		-		ug/l		5	U	ug/l	5
Silver	10	U	ug/l	10	2.5	U	ug/l		-		ug/l		10	U	ug/l	10
Sodium	1960	J	ug/l	5000	18600		ug/l		-		ug/l		4890	J	ug/l	5000
Thallium	.9	J	ug/l	10	.6	U	ug/l		-		ug/l		10	U	ug/l	10
Vanadium	50	U	ug/l	50	1.2	U	ug/l		-		ug/l		50	U	ug/l	50
Zinc	20	U	ug/l	20	197		ug/l		-		ug/l		20	U	ug/l	20
Cyanide	-		ug/l		4.2	U	ug/l		-		ug/l		-		ug/l	

Locator Annotations: A = DUPLICATE SAMPLE B = SHALLOW SAMPLE C = INTERMEDIATE SAMPLE CD = DOUBLE INTERMEDIATE SAMPLE D = DEEP SAMPLE

Qualifiers: U = NOT DETECTED J = ESTIMATED VALUE UJ = REPORTED QUANTITATION LIMIT IS QUALIFIED AS ESTIMATED R = RESULT IS REJECTED AND UNUSABLE

Naval Air Station Whiting Field, Milton, Florida
Site 15 Groundwater Data

Lab Sample Number:		RB980011			RB980004R			RB980007			MC424007		
Site		WHITING			WHITING			WHITING			WHITING		
Locator		15G00802F			15G00802RE			15G00803			15G00803		
Collect Date:		13-AUG-96			13-AUG-96			14-AUG-96			20-NOV-96		
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	
CLP VOLATILES 90-SOW	ug/l												
Chloromethane		-	ug/l		-		ug/l		10	UJ	ug/l	10	10 U ug/l 10
Bromomethane		-	ug/l		-		ug/l		10	U	ug/l	10	10 U ug/l 10
Vinyl chloride		-	ug/l		-		ug/l		10	U	ug/l	10	10 U ug/l 10
Chloroethane		-	ug/l		-		ug/l		10	UJ	ug/l	10	10 U ug/l 10
Methylene chloride		-	ug/l		-		ug/l		10	U	ug/l	10	10 U ug/l 10
Acetone		-	ug/l		-		ug/l		25	UJ	ug/l	25	10 U ug/l 10
Carbon disulfide		-	ug/l		-		ug/l		10	U	ug/l	10	10 U ug/l 10
1,1-Dichloroethene		-	ug/l		-		ug/l		10	U	ug/l	10	10 U ug/l 10
1,1-Dichloroethane		-	ug/l		-		ug/l		10	U	ug/l	10	10 U ug/l 10
1,2-Dichloroethene (total)		-	ug/l		-		ug/l		10	U	ug/l	10	10 U ug/l 10
Chloroform		-	ug/l		-		ug/l		10	U	ug/l	10	10 U ug/l 10
1,2-Dichloroethane		-	ug/l		-		ug/l		10	U	ug/l	10	10 U ug/l 10
2-Butanone		-	ug/l		-		ug/l		7	J	ug/l	10	10 U ug/l 10
1,1,1-Trichloroethane		-	ug/l		-		ug/l		10	U	ug/l	10	10 U ug/l 10
Carbon tetrachloride		-	ug/l		-		ug/l		10	U	ug/l	10	10 U ug/l 10
Bromodichloromethane		-	ug/l		-		ug/l		10	U	ug/l	10	10 U ug/l 10
1,2-Dichloropropane		-	ug/l		-		ug/l		10	U	ug/l	10	10 U ug/l 10
cis-1,3-Dichloropropene		-	ug/l		-		ug/l		10	U	ug/l	10	10 U ug/l 10
Trichloroethene		-	ug/l		-		ug/l		4	J	ug/l	10	5 J ug/l 10
Dibromochloromethane		-	ug/l		-		ug/l		10	U	ug/l	10	10 U ug/l 10
1,1,2-Trichloroethane		-	ug/l		-		ug/l		10	U	ug/l	10	10 U ug/l 10
Benzene		-	ug/l		-		ug/l		10	U	ug/l	10	10 U ug/l 10
trans-1,3-Dichloropropene		-	ug/l		-		ug/l		10	U	ug/l	10	10 U ug/l 10
Bromoform		-	ug/l		-		ug/l		10	U	ug/l	10	10 U ug/l 10
4-Methyl-2-pentanone		-	ug/l		-		ug/l		10	U	ug/l	10	10 U ug/l 10
2-Hexanone		-	ug/l		-		ug/l		10	U	ug/l	10	10 U ug/l 10
Tetrachloroethene		-	ug/l		-		ug/l		10	U	ug/l	10	10 U ug/l 10
Toluene		-	ug/l		-		ug/l		10	U	ug/l	10	10 U ug/l 10
1,1,2,2-Tetrachloroethane		-	ug/l		-		ug/l		10	U	ug/l	10	10 U ug/l 10
Chlorobenzene		-	ug/l		-		ug/l		10	U	ug/l	10	10 U ug/l 10
Ethylbenzene		-	ug/l		-		ug/l		10	U	ug/l	10	10 U ug/l 10
Styrene		-	ug/l		-		ug/l		10	U	ug/l	10	10 U ug/l 10
Xylenes (total)		-	ug/l		-		ug/l		10	U	ug/l	10	10 U ug/l 10
CLP SEMIVOLATILES 90-SOW	ug/l												
Phenol		-	ug/l		10	R	ug/l	10	10	U	ug/l	10	- ug/l
bis(2-Chloroethyl) ether		-	ug/l		10	R	ug/l	10	10	U	ug/l	10	- ug/l
2-Chlorophenol		-	ug/l		10	R	ug/l	10	10	U	ug/l	10	- ug/l
1,3-Dichlorobenzene		-	ug/l		10	R	ug/l	10	10	U	ug/l	10	- ug/l
1,4-Dichlorobenzene		-	ug/l		10	R	ug/l	10	10	U	ug/l	10	- ug/l

Naval Air Station Whiting Field, Milton, Florida
Site 15 Groundwater Data

Lab Sample Number:	RB980011				RB980004R				RB980007				MC424007		
Site	WHITING				WHITING				WHITING				WHITING		
Locator	15G00802F				15G00802RE				15G00803				15G00803		
Collect Date:	13-AUG-96				13-AUG-96				14-AUG-96				20-NOV-96		
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
1,2-Dichlorobenzene	-		ug/l		10	R	ug/l	10	10	U	ug/l	10	-		ug/l	
2-Methylphenol	-		ug/l		10	R	ug/l	10	10	U	ug/l	10	-		ug/l	
2,2-oxybis(1-Chloropropane)	-		ug/l		10	R	ug/l	10	10	U	ug/l	10	-		ug/l	
4-Methylphenol	-		ug/l		10	R	ug/l	10	10	U	ug/l	10	-		ug/l	
N-Nitroso-di-n-propylamine	-		ug/l		10	R	ug/l	10	10	U	ug/l	10	-		ug/l	
Hexachloroethane	-		ug/l		10	R	ug/l	10	10	U	ug/l	10	-		ug/l	
Nitrobenzene	-		ug/l		10	R	ug/l	10	10	U	ug/l	10	-		ug/l	
Isophorone	-		ug/l		10	R	ug/l	10	10	U	ug/l	10	-		ug/l	
2-Nitrophenol	-		ug/l		10	R	ug/l	10	10	U	ug/l	10	-		ug/l	
2,4-Dimethylphenol	-		ug/l		10	R	ug/l	10	10	U	ug/l	10	-		ug/l	
bis(2-Chloroethoxy) methane	-		ug/l		10	R	ug/l	10	10	U	ug/l	10	-		ug/l	
2,4-Dichlorophenol	-		ug/l		10	R	ug/l	10	10	U	ug/l	10	-		ug/l	
1,2,4-Trichlorobenzene	-		ug/l		10	R	ug/l	10	10	U	ug/l	10	-		ug/l	
Naphthalene	-		ug/l		10	R	ug/l	10	10	U	ug/l	10	-		ug/l	
4-Chloroaniline	-		ug/l		10	R	ug/l	10	10	U	ug/l	10	-		ug/l	
Hexachlorobutadiene	-		ug/l		10	R	ug/l	10	10	U	ug/l	10	-		ug/l	
4-Chloro-3-methylphenol	-		ug/l		10	R	ug/l		10	U	ug/l	10	-		ug/l	
2-Methylnaphthalene	-		ug/l		10	R	ug/l	10	10	U	ug/l	10	-		ug/l	
Hexachlorocyclopentadiene	-		ug/l		10	R	ug/l	10	10	U	ug/l	10	-		ug/l	
2,4,6-Trichlorophenol	-		ug/l		10	R	ug/l	10	10	U	ug/l	10	-		ug/l	
2,4,5-Trichlorophenol	-		ug/l		25	R	ug/l	25	25	U	ug/l	25	-		ug/l	
2-Chloronaphthalene	-		ug/l		10	R	ug/l	10	10	U	ug/l	10	-		ug/l	
2-Nitroaniline	-		ug/l		25	R	ug/l	25	25	U	ug/l	25	-		ug/l	
Dimethylphthalate	-		ug/l		10	R	ug/l	10	10	U	ug/l	10	-		ug/l	
Acenaphthylene	-		ug/l		10	R	ug/l	10	10	U	ug/l	10	-		ug/l	
2,6-Dinitrotoluene	-		ug/l		10	R	ug/l	10	10	U	ug/l	10	-		ug/l	
3-Nitroaniline	-		ug/l		25	R	ug/l	25	25	U	ug/l	25	-		ug/l	
Acenaphthene	-		ug/l		10	R	ug/l	10	10	U	ug/l	10	-		ug/l	
2,4-Dinitrophenol	-		ug/l		25	R	ug/l	25	25	UJ	ug/l	25	-		ug/l	
4-Nitrophenol	-		ug/l		25	R	ug/l	25	25	U	ug/l	25	-		ug/l	
Dibenzofuran	-		ug/l		10	R	ug/l	10	10	U	ug/l	10	-		ug/l	
2,4-Dinitrotoluene	-		ug/l		10	R	ug/l	10	10	U	ug/l	10	-		ug/l	
Diethylphthalate	-		ug/l		10	R	ug/l	10	10	U	ug/l	10	-		ug/l	
4-Chlorophenyl-phenylether	-		ug/l		10	R	ug/l		10	U	ug/l	10	-		ug/l	
Fluorene	-		ug/l		10	R	ug/l	10	10	U	ug/l	10	-		ug/l	
4-Nitroaniline	-		ug/l		25	R	ug/l	25	25	UJ	ug/l	25	-		ug/l	
4,6-Dinitro-2-methylphenol	-		ug/l		25	R	ug/l	25	25	UJ	ug/l	25	-		ug/l	
N-Nitrosodiphenylamine	-		ug/l		10	R	ug/l		10	U	ug/l	10	-		ug/l	
4-Bromophenyl-phenylether	-		ug/l		10	R	ug/l	10	10	U	ug/l	10	-		ug/l	
Hexachlorobenzene	-		ug/l		10	R	ug/l	10	10	U	ug/l	10	-		ug/l	
Pentachlorophenol	-		ug/l		25	R	ug/l	25	25	UJ	ug/l	25	-		ug/l	
Phenanthrene	-		ug/l		10	R	ug/l	10	10	U	ug/l	10	-		ug/l	
Anthracene	-		ug/l		10	R	ug/l	10	10	U	ug/l	10	-		ug/l	
Carbazole	-		ug/l		10	R	ug/l	10	10	U	ug/l	10	-		ug/l	
Di-n-butylphthalate	-		ug/l		10	R	ug/l	10	10	U	ug/l	10	-		ug/l	
Fluoranthene	-		ug/l		10	R	ug/l	10	10	U	ug/l	10	-		ug/l	
Pyrene	-		ug/l		10	R	ug/l	10	10	U	ug/l	10	-		ug/l	
Butylbenzylphthalate	-		ug/l		10	R	ug/l	10	10	U	ug/l	10	-		ug/l	
3,3-Dichlorobenzidine	-		ug/l		10	R	ug/l	10	10	UJ	ug/l	10	-		ug/l	
Benzo (a) anthracene	-		ug/l		10	R	ug/l	10	10	U	ug/l	10	-		ug/l	
Chrysene	-		ug/l		10	R	ug/l	10	10	U	ug/l	10	-		ug/l	
bis(2-Ethylhexyl) phthalate	-		ug/l		5	R	ug/l	10	2	J	ug/l	10	-		ug/l	

Naval Air Station Whiting Field, Milton, Florida
Site 15 Groundwater Data

Lab Sample Number:		RB980011				RB980004R				RB980007				MC424007		
Site		WHITING				WHITING				WHITING				WHITING		
Locator		15G00802F				15G00802RE				15G00803				15G00803		
Collect Date:		13-AUG-96				13-AUG-96				14-AUG-96				20-NOV-96		
		VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
Di-n-octylphthalate		-		ug/l		10	R	ug/l	10	10	U	ug/l	10	-		ug/l	
Benzo (b) fluoranthene		-		ug/l		10	R	ug/l	10	10	U	ug/l	10	-		ug/l	
Benzo (k) fluoranthene		-		ug/l		10	R	ug/l	10	10	U	ug/l	10	-		ug/l	
Benzo (a) pyrene		-		ug/l		10	R	ug/l	10	10	U	ug/l	10	-		ug/l	
Indeno (1,2,3-cd) pyrene		-		ug/l		10	R	ug/l	10	10	U	ug/l	10	-		ug/l	
Dibenzo (a,h) anthracene		-		ug/l		10	R	ug/l	10	10	U	ug/l	10	-		ug/l	
Benzo (g,h,i) perylene		-		ug/l		10	R	ug/l	10	10	U	ug/l	10	-		ug/l	
CLP PESTICIDES/PCBS 90-SOW	ug/l																
alpha-BHC		-		ug/l		-		ug/l		.05	UJ	ug/l	.05	-		ug/l	
beta-BHC		-		ug/l		-		ug/l		.05	UJ	ug/l	.05	-		ug/l	
delta-BHC		-		ug/l		-		ug/l		.05	UJ	ug/l	.05	-		ug/l	
gamma-BHC (Lindane)		-		ug/l		-		ug/l		.05	UJ	ug/l	.05	-		ug/l	
Heptachlor		-		ug/l		-		ug/l		.05	UJ	ug/l	.05	-		ug/l	
Aldrin		-		ug/l		-		ug/l		.05	UJ	ug/l	.05	-		ug/l	
Heptachlor epoxide		-		ug/l		-		ug/l		.05	UJ	ug/l	.05	-		ug/l	
Endosulfan I		-		ug/l		-		ug/l		.05	UJ	ug/l	.05	-		ug/l	
Dieldrin		-		ug/l		-		ug/l		.1	UJ	ug/l	.1	-		ug/l	
4,4-DDE		-		ug/l		-		ug/l		.1	UJ	ug/l	.1	-		ug/l	
Endrin		-		ug/l		-		ug/l		.1	UJ	ug/l	.1	-		ug/l	
Endosulfan II		-		ug/l		-		ug/l		.1	UJ	ug/l	.1	-		ug/l	
4,4-DDD		-		ug/l		-		ug/l		.1	UJ	ug/l	.1	-		ug/l	
Endosulfan sulfate		-		ug/l		-		ug/l		.1	UJ	ug/l	.1	-		ug/l	
4,4-DDT		-		ug/l		-		ug/l		.16	J	ug/l	.1	-		ug/l	
Methoxychlor		-		ug/l		-		ug/l		.5	UJ	ug/l	.5	-		ug/l	
Endrin ketone		-		ug/l		-		ug/l		.1	UJ	ug/l	.1	-		ug/l	
Endrin aldehyde		-		ug/l		-		ug/l		.1	UJ	ug/l	.1	-		ug/l	
alpha-Chlordane		-		ug/l		-		ug/l		.05	UJ	ug/l	.05	-		ug/l	
gamma-Chlordane		-		ug/l		-		ug/l		.05	UJ	ug/l	.05	-		ug/l	
Toxaphene		-		ug/l		-		ug/l		5	UJ	ug/l	5	-		ug/l	
Aroclor-1016		-		ug/l		-		ug/l		1	UJ	ug/l	1	-		ug/l	
Aroclor-1221		-		ug/l		-		ug/l		2	UJ	ug/l	2	-		ug/l	
Aroclor-1232		-		ug/l		-		ug/l		1	UJ	ug/l	1	-		ug/l	
Aroclor-1242		-		ug/l		-		ug/l		1	UJ	ug/l	1	-		ug/l	
Aroclor-1248		-		ug/l		-		ug/l		1	UJ	ug/l	1	-		ug/l	
Aroclor-1254		-		ug/l		-		ug/l		1	UJ	ug/l	1	-		ug/l	
Aroclor-1260		-		ug/l		-		ug/l		1	UJ	ug/l	1	-		ug/l	
CLP METALS AND CYANIDE	ug/l																
Aluminum		9.1	U	ug/l		-		ug/l		187	J	ug/l		-		ug/l	
Antimony		8.6	U	ug/l		-		ug/l		8.6	U	ug/l		-		ug/l	
Arsenic		.5	U	ug/l		-		ug/l		.5	U	ug/l		-		ug/l	
Barium		22.8	J	ug/l		-		ug/l		10.6	J	ug/l		-		ug/l	
Beryllium		.3	U	ug/l		-		ug/l		.3	U	ug/l		-		ug/l	
Cadmium		1.2	U	ug/l		-		ug/l		1.2	U	ug/l		-		ug/l	
Calcium		6270		ug/l		-		ug/l		1440	J	ug/l		-		ug/l	
Chromium		2	U	ug/l		-		ug/l		2.9	J	ug/l		-		ug/l	
Cobalt		2.3	U	ug/l		-		ug/l		2.3	U	ug/l		-		ug/l	
Copper		1.5	J	ug/l		-		ug/l		4	J	ug/l		-		ug/l	
Iron		12.7	U	ug/l		-		ug/l		194		ug/l		-		ug/l	
Lead		.5	U	ug/l		-		ug/l		.8	J	ug/l		-		ug/l	
Magnesium		839	J	ug/l		-		ug/l		322	J	ug/l		-		ug/l	

Naval Air Station Whiting Field, Milton, Florida
Site 15 Groundwater Data

Lab Sample Number:	RB980011				RB980004R				RB980007				MC424007			
Site	WHITING				WHITING				WHITING				WHITING			
Locator	15G00802F				15G00802RE				15G00803				15G00803			
Collect Date:	13-AUG-96				13-AUG-96				14-AUG-96				20-NOV-96			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
Manganese	226		ug/l		-		ug/l		33.1		ug/l		-		ug/l	
Mercury	.1	U	ug/l		-		ug/l		.21	U	ug/l		-		ug/l	
Nickel	7.3	U	ug/l		-		ug/l		7.3	U	ug/l		-		ug/l	
Potassium	740	J	ug/l		-		ug/l		522	J	ug/l		-		ug/l	
Selenium	.6	U	ug/l		-		ug/l		.6	U	ug/l		-		ug/l	
Silver	2.5	U	ug/l		-		ug/l		2.5	U	ug/l		-		ug/l	
Sodium	19800		ug/l		-		ug/l		5350		ug/l		-		ug/l	
Thallium	.6	U	ug/l		-		ug/l		.6	U	ug/l		-		ug/l	
Vanadium	1.2	U	ug/l		-		ug/l		2	J	ug/l		-		ug/l	
Zinc	232		ug/l		-		ug/l		176		ug/l		-		ug/l	
Cyanide	-		ug/l		-		ug/l		1.6	U	ug/l		-		ug/l	

Locator Annotations: A = DUPLICATE SAMPLE B = SHALLOW SAMPLE C = INTERMEDIATE SAMPLE CD = DOUBLE INTERMEDIATE SAMPLE D = DEEP SAMPLE

Qualifiers: U = NOT DETECTED J = ESTIMATED VALUE UJ = REPORTED QUANTITATION LIMIT IS QUALIFIED AS ESTIMATED R = RESULT IS REJECTED AND UNUSABLE

Naval Air Station Whiting Field, Milton, Florida
Site 15 Groundwater Data

Lab Sample Number:		ME441006				RB980008				MC424008				RB980013		
Site		WHITING				WHITING				WHITING				WHITING		
Locator		15G00803				15G00803D				15G00803D				15G00803F		
Collect Date:		05-AUG-97				14-AUG-96				20-NOV-96				13-AUG-96		
		VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
CLP VOLATILES 90-SOW	ug/l																
Chloromethane		10	U	ug/l	10	10	UJ	ug/l	10	10	U	ug/l	10	-		ug/l	
Bromomethane		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
Vinyl chloride		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
Chloroethane		10	U	ug/l	10	10	UJ	ug/l	10	10	U	ug/l	10	-		ug/l	
Methylene chloride		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
Acetone		10	UJ	ug/l	10	10	UJ	ug/l	10	10	U	ug/l	10	-		ug/l	
Carbon disulfide		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
1,1-Dichloroethene		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
1,1-Dichloroethane		10	U	ug/l	10	10	UJ	ug/l	10	10	U	ug/l	10	-		ug/l	
1,2-Dichloroethene (total)		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
Chloroform		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
1,2-Dichloroethane		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
2-Butanone		10	U	ug/l	10	10	UJ	ug/l	10	10	U	ug/l	10	-		ug/l	
1,1,1-Trichloroethane		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
Carbon tetrachloride		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
Bromodichloromethane		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
1,2-Dichloropropane		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
cis-1,3-Dichloropropene		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
Trichloroethene		7	J	ug/l	10	4	J	ug/l	10	5	J	ug/l	10	-		ug/l	
Dibromochloromethane		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
1,1,2-Trichloroethane		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
Benzene		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
trans-1,3-Dichloropropene		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
Bromoform		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
4-Methyl-2-pentanone		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
2-Hexanone		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
Tetrachloroethene		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
Toluene		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
1,1,2,2-Tetrachloroethane		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
Chlorobenzene		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
Ethylbenzene		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
Styrene		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
Xylenes (total)		10	U	ug/l	10	10	U	ug/l	10	10	U	ug/l	10	-		ug/l	
CLP SEMIVOLATILES 90-SOW	ug/l																
Phenol		-		ug/l		10	U	ug/l	10	-		ug/l		-		ug/l	
bis(2-Chloroethyl) ether		-		ug/l		10	U	ug/l	10	-		ug/l		-		ug/l	
2-Chlorophenol		-		ug/l		10	U	ug/l	10	-		ug/l		-		ug/l	
1,3-Dichlorobenzene		-		ug/l		10	U	ug/l	10	-		ug/l		-		ug/l	
1,4-Dichlorobenzene		-		ug/l		10	U	ug/l	10	-		ug/l		-		ug/l	

Naval Air Station Whiting Field, Milton, Florida
Site 15 Groundwater Data

Lab Sample Number:	ME441006			RB980008			MC424008			RB980013		
Site	WHITING			WHITING			WHITING			WHITING		
Locator	15G00803			15G00803D			15G00803D			15G00803F		
Collect Date:	05-AUG-97			14-AUG-96			20-NOV-96			13-AUG-96		
	VALUE QUAL	UNITS	DL	VALUE QUAL	UNITS	DL	VALUE QUAL	UNITS	DL	VALUE QUAL	UNITS	DL
1,2-Dichlorobenzene	-	ug/l		10 U	ug/l	10	-	ug/l		-	ug/l	
2-Methylphenol	-	ug/l		10 U	ug/l	10	-	ug/l		-	ug/l	
2,2-oxybis(1-Chloropropane)	-	ug/l		10 U	ug/l	10	-	ug/l		-	ug/l	
4-Methylphenol	-	ug/l		10 U	ug/l	10	-	ug/l		-	ug/l	
N-Nitroso-di-n-propylamine	-	ug/l		10 U	ug/l	10	-	ug/l		-	ug/l	
Hexachloroethane	-	ug/l		10 U	ug/l	10	-	ug/l		-	ug/l	
Nitrobenzene	-	ug/l		10 U	ug/l	10	-	ug/l		-	ug/l	
Isophorone	-	ug/l		10 U	ug/l	10	-	ug/l		-	ug/l	
2-Nitrophenol	-	ug/l		10 U	ug/l	10	-	ug/l		-	ug/l	
2,4-Dimethylphenol	-	ug/l		10 U	ug/l	10	-	ug/l		-	ug/l	
bis(2-Chloroethoxy) methane	-	ug/l		10 U	ug/l	10	-	ug/l		-	ug/l	
2,4-Dichlorophenol	-	ug/l		10 U	ug/l	10	-	ug/l		-	ug/l	
1,2,4-Trichlorobenzene	-	ug/l		10 U	ug/l	10	-	ug/l		-	ug/l	
Naphthalene	-	ug/l		10 U	ug/l	10	-	ug/l		-	ug/l	
4-Chloroaniline	-	ug/l		10 U	ug/l	10	-	ug/l		-	ug/l	
Hexachlorobutadiene	-	ug/l		10 U	ug/l	10	-	ug/l		-	ug/l	
4-Chloro-3-methylphenol	-	ug/l		10 U	ug/l	10	-	ug/l		-	ug/l	
2-Methylnaphthalene	-	ug/l		10 U	ug/l	10	-	ug/l		-	ug/l	
Hexachlorocyclopentadiene	-	ug/l		10 U	ug/l	10	-	ug/l		-	ug/l	
2,4,6-Trichlorophenol	-	ug/l		10 U	ug/l	10	-	ug/l		-	ug/l	
2,4,5-Trichlorophenol	-	ug/l		25 U	ug/l	25	-	ug/l		-	ug/l	
2-Chloronaphthalene	-	ug/l		10 U	ug/l	10	-	ug/l		-	ug/l	
2-Nitroaniline	-	ug/l		25 U	ug/l	25	-	ug/l		-	ug/l	
Dimethylphthalate	-	ug/l		10 U	ug/l	10	-	ug/l		-	ug/l	
Acenaphthylene	-	ug/l		10 U	ug/l	10	-	ug/l		-	ug/l	
2,6-Dinitrotoluene	-	ug/l		10 U	ug/l	10	-	ug/l		-	ug/l	
3-Nitroaniline	-	ug/l		25 U	ug/l	25	-	ug/l		-	ug/l	
Acenaphthene	-	ug/l		10 U	ug/l	10	-	ug/l		-	ug/l	
2,4-Dinitrophenol	-	ug/l		25 UJ	ug/l	25	-	ug/l		-	ug/l	
4-Nitrophenol	-	ug/l		25 U	ug/l	25	-	ug/l		-	ug/l	
Dibenzofuran	-	ug/l		10 U	ug/l	10	-	ug/l		-	ug/l	
2,4-Dinitrotoluene	-	ug/l		10 U	ug/l	10	-	ug/l		-	ug/l	
Diethylphthalate	-	ug/l		10 U	ug/l	10	-	ug/l		-	ug/l	
4-Chlorophenyl-phenylether	-	ug/l		10 U	ug/l	10	-	ug/l		-	ug/l	
Fluorene	-	ug/l		10 U	ug/l	10	-	ug/l		-	ug/l	
4-Nitroaniline	-	ug/l		25 UJ	ug/l	25	-	ug/l		-	ug/l	
4,6-Dinitro-2-methylphenol	-	ug/l		25 UJ	ug/l	25	-	ug/l		-	ug/l	
N-Nitrosodiphenylamine	-	ug/l		10 U	ug/l	10	-	ug/l		-	ug/l	
4-Bromophenyl-phenylether	-	ug/l		10 U	ug/l	10	-	ug/l		-	ug/l	
Hexachlorobenzene	-	ug/l		10 U	ug/l	10	-	ug/l		-	ug/l	
Pentachlorophenol	-	ug/l		25 UJ	ug/l	25	-	ug/l		-	ug/l	
Phenanthrene	-	ug/l		10 U	ug/l	10	-	ug/l		-	ug/l	
Anthracene	-	ug/l		10 U	ug/l	10	-	ug/l		-	ug/l	
Carbazole	-	ug/l		10 U	ug/l	10	-	ug/l		-	ug/l	
Di-n-butylphthalate	-	ug/l		10 U	ug/l	10	-	ug/l		-	ug/l	
Fluoranthene	-	ug/l		10 U	ug/l	10	-	ug/l		-	ug/l	
Pyrene	-	ug/l		10 U	ug/l	10	-	ug/l		-	ug/l	
Butylbenzylphthalate	-	ug/l		10 U	ug/l	10	-	ug/l		-	ug/l	
3,3-Dichlorobenzidine	-	ug/l		10 UJ	ug/l	10	-	ug/l		-	ug/l	
Benzo (a) anthracene	-	ug/l		10 U	ug/l	10	-	ug/l		-	ug/l	
Chrysene	-	ug/l		10 U	ug/l	10	-	ug/l		-	ug/l	
bis(2-Ethylhexyl) phthalate	-	ug/l		1 J	ug/l	10	-	ug/l		-	ug/l	

Naval Air Station Whiting Field, Milton, Florida
Site 15 Groundwater Data

Lab Sample Number:		ME441006			RB980008			MC424008			RB980013		
Site		WHITING			WHITING			WHITING			WHITING		
Locator		15G00803			15G00803D			15G00803D			15G00803F		
Collect Date:		05-AUG-97			14-AUG-96			20-NOV-96			13-AUG-96		
		VALUE QUAL	UNITS	DL	VALUE QUAL	UNITS	DL	VALUE QUAL	UNITS	DL	VALUE QUAL	UNITS	DL
Di-n-octylphthalate		-	ug/l		10 U	ug/l	10	-	ug/l		-	ug/l	
Benzo (b) fluoranthene		-	ug/l		10 U	ug/l	10	-	ug/l		-	ug/l	
Benzo (k) fluoranthene		-	ug/l		10 U	ug/l	10	-	ug/l		-	ug/l	
Benzo (a) pyrene		-	ug/l		10 U	ug/l	10	-	ug/l		-	ug/l	
Indeno (1,2,3-cd) pyrene		-	ug/l		10 U	ug/l	10	-	ug/l		-	ug/l	
Dibenzo (a,h) anthracene		-	ug/l		10 U	ug/l	10	-	ug/l		-	ug/l	
Benzo (g,h,i) perylene		-	ug/l		10 U	ug/l	10	-	ug/l		-	ug/l	
CLP PESTICIDES/PCBS 90-SOW	ug/l												
alpha-BHC		-	ug/l		.05 UJ	ug/l	.05	-	ug/l		-	ug/l	
beta-BHC		-	ug/l		.05 U	ug/l	.05	-	ug/l		-	ug/l	
delta-BHC		-	ug/l		.05 UJ	ug/l	.05	-	ug/l		-	ug/l	
gamma-BHC (Lindane)		-	ug/l		.05 U	ug/l	.05	-	ug/l		-	ug/l	
Heptachlor		-	ug/l		.05 U	ug/l	.05	-	ug/l		-	ug/l	
Aldrin		-	ug/l		.05 U	ug/l	.05	-	ug/l		-	ug/l	
Heptachlor epoxide		-	ug/l		.05 U	ug/l	.05	-	ug/l		-	ug/l	
Endosulfan I		-	ug/l		.05 U	ug/l	.05	-	ug/l		-	ug/l	
Dieldrin		-	ug/l		.1 U	ug/l	.1	-	ug/l		-	ug/l	
4,4-DDE		-	ug/l		.1 U	ug/l	.1	-	ug/l		-	ug/l	
Endrin		-	ug/l		.1 U	ug/l	.1	-	ug/l		-	ug/l	
Endosulfan II		-	ug/l		.1 U	ug/l	.1	-	ug/l		-	ug/l	
4,4-DDD		-	ug/l		.1 U	ug/l	.1	-	ug/l		-	ug/l	
Endosulfan sulfate		-	ug/l		.1 U	ug/l	.1	-	ug/l		-	ug/l	
4,4-DDT		-	ug/l		.079 J	ug/l	.1	-	ug/l		-	ug/l	
Methoxychlor		-	ug/l		.5 U	ug/l	.5	-	ug/l		-	ug/l	
Endrin ketone		-	ug/l		.1 U	ug/l	.1	-	ug/l		-	ug/l	
Endrin aldehyde		-	ug/l		.1 U	ug/l	.1	-	ug/l		-	ug/l	
alpha-Chlordane		-	ug/l		.05 U	ug/l	.05	-	ug/l		-	ug/l	
gamma-Chlordane		-	ug/l		.05 U	ug/l	.05	-	ug/l		-	ug/l	
Toxaphene		-	ug/l		5 U	ug/l	5	-	ug/l		-	ug/l	
Aroclor-1016		-	ug/l		1 U	ug/l	1	-	ug/l		-	ug/l	
Aroclor-1221		-	ug/l		2 U	ug/l	2	-	ug/l		-	ug/l	
Aroclor-1232		-	ug/l		1 U	ug/l	1	-	ug/l		-	ug/l	
Aroclor-1242		-	ug/l		1 U	ug/l	1	-	ug/l		-	ug/l	
Aroclor-1248		-	ug/l		1 U	ug/l	1	-	ug/l		-	ug/l	
Aroclor-1254		-	ug/l		1 U	ug/l	1	-	ug/l		-	ug/l	
Aroclor-1260		-	ug/l		1 U	ug/l	1	-	ug/l		-	ug/l	
CLP METALS AND CYANIDE	ug/l												
Aluminum		110 J	ug/l	200	146 J	ug/l		-	ug/l		8.5 U	ug/l	
Antimony		60 U	ug/l	60	8.6 U	ug/l		-	ug/l		11 J	ug/l	
Arsenic		10 U	ug/l	10	.5 U	ug/l		-	ug/l		.5 U	ug/l	
Barium		8.9 J	ug/l	200	10.8 J	ug/l		-	ug/l		7.9 J	ug/l	
Beryllium		5 U	ug/l	5	.3 U	ug/l		-	ug/l		.3 U	ug/l	
Cadmium		5 U	ug/l	5	1.2 U	ug/l		-	ug/l		1.2 U	ug/l	
Calcium		5000 U	ug/l	5000	1170 J	ug/l		-	ug/l		1130 J	ug/l	
Chromium		10 U	ug/l	10	2 U	ug/l		-	ug/l		2 U	ug/l	
Cobalt		50 U	ug/l	50	2.4 J	ug/l		-	ug/l		2.3 U	ug/l	
Copper		25 U	ug/l	25	2.4 J	ug/l		-	ug/l		1.1 U	ug/l	
Iron		91.4 J	ug/l	100	175	ug/l		-	ug/l		5.8 U	ug/l	
Lead		3 U	ug/l	3	.5 J	ug/l		-	ug/l		.5 U	ug/l	
Magnesium		361 J	ug/l	5000	296 J	ug/l		-	ug/l		268 J	ug/l	

Naval Air Station Whiting Field, Milton, Florida
Site 15 Groundwater Data

Lab Sample Number:	ME441006				RB980008				MC424008				RB980013			
Site	WHITING				WHITING				WHITING				WHITING			
Locator	15G00803				15G00803D				15G00803D				15G00803F			
Collect Date:	05-AUG-97				14-AUG-96				20-NOV-96				13-AUG-96			
	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL	VALUE	QUAL	UNITS	DL
Manganese	14.7	J	ug/l	15	32.9		ug/l		-		ug/l		32		ug/l	
Mercury	.2	U	ug/l	.2	.1	U	ug/l		-		ug/l		.1	U	ug/l	
Nickel	40	U	ug/l	40	7.3	U	ug/l		-		ug/l		7.3	U	ug/l	
Potassium	5000	U	ug/l	5000	316	U	ug/l		-		ug/l		485	J	ug/l	
Selenium	5	U	ug/l	5	.6	U	ug/l		-		ug/l		.6	U	ug/l	
Silver	10	U	ug/l	10	2.5	U	ug/l		-		ug/l		2.5	U	ug/l	
Sodium	2270	J	ug/l	5000	5380		ug/l		-		ug/l		4650	J	ug/l	
Thallium	10	U	ug/l	10	.6	U	ug/l		-		ug/l		.6	J	ug/l	
Vanadium	50	U	ug/l	50	1.5	J	ug/l		-		ug/l		1.8	J	ug/l	
Zinc	20	U	ug/l	20	178		ug/l		-		ug/l		40.2		ug/l	
Cyanide	-		ug/l		4.2	U	ug/l		-		ug/l		-		ug/l	

Locator Annotations: A = DUPLICATE SAMPLE B = SHALLOW SAMPLE C = INTERMEDIATE SAMPLE CD = DOUBLE INTERMEDIATE SAMPLE D = DEEP SAMPLE

Qualifiers: U = NOT DETECTED J = ESTIMATED VALUE UJ = REPORTED QUANTITATION LIMIT IS QUALIFIED AS ESTIMATED R = RESULT IS REJECTED AND UNUSABLE

APPENDIX G

APPENDIX G

HUMAN HEALTH RISK DATA

Table G-1
Screening Concentrations for Surface Soil
for Selection of Chemicals of Potential Concern

Remedial Investigation Report
Site 15
NAS Whiting Field, Milton, Florida

Analyte	Risk Based Screening Concentration[1]	Florida Cleanup Target Level[2]	Florida Cleanup Target Level Leaching Value[2]	Selected Screening Concentration[3]
Volatile Organic Compounds (μg/kg)				
Acetone	780,000	780,000	2,800	780,000
Methylene chloride	85,000	16,000	20	16,000
Xylenes (total)	16,000,000	5,900,000	200	5,900,000
Semivolatile Organic Compounds (μg/kg)				
Butylbenzylphthalate	1,600,000	15,000,000	310,000	1,600,000
Di-n-butylphthalate	780,000	7,300,000	47,000	780,000
Ibis(2-Ethylhexyl)phthalate	46,000	76,000	3,600,000	46,000
Pesticides/PCBs (μg/kg)				
4,4-DDD	2,700	4,600	4,000	2,700
4,4-DDE	1,900	3,300	18,000	1,900
4,4-DDT	1,900	3,300	11,000	1,900
Inorganics (mg/kg)				
Aluminum	7,800	72,000	NC	7,800
Arsenic	0.43[4]	0.8	29	0.43
Barium	550	110	1,600	110
Beryllium	16	120	63	16
Calcium	1,000,000[5]	NSC	NC	1,000,000
Chromium	23	210	38	23
Cobalt	470	4,700	NC	470
Copper	310	110	NC	110
Cyanide	160[7]	30	NC	30
Iron	2,300	23,000	NC	2,300
Lead	400[8]	400	NC	400
Magnesium	460,468[5]	NSC	NC	460,468
Manganese	160	1,600	NC	160
Mercury	2.3	3.4	2.1	2.3

See notes at end of table.

Table G-1
Screening Concentrations for Surface Soil
for Selection of Chemicals of Potential Concern

Remedial Investigation Report
Site 15
NAS Whiting Field, Milton, Florida

Analyte	Risk Based Screening Concentration[1]	Florida Cleanup Target Level[2]	Florida Cleanup Target Level Leaching Value[2]	Selected Screening Concentration[3]
Inorganics (mg/kg) (Cont.)				
Nickel	160	110	130	110
Potassium	1,000,000[5]	NSC	NC	1,000,000
Selenium	39	390	5	39
Silver	39	390	17	39
Sodium	1,000,000[5]	NSC	NC	1,000,000
Vanadium	55	15	980	15
Zinc	2,300	23,000	6,000	2,300

[1] For all chemicals except the essential nutrients, the USEPA Region III RBC Table for residential soil (October 1, 1998) has been used, unless otherwise noted. Screening values are based on a cancer risk of 10^{-6} or a hazard quotient of 1.0. Noncarcinogenic RBCs have been adjusted to reflect a target hazard quotient of 0.1.
[2] Chapter 62-777, Florida Administrative Code, June, 1999. Cleanup target levels are based on a target cancer risk of 10^{-6} or a target hazard quotient of 1.
[3] The selected screening concentration for the human health risk assessment is the lowest value of the RBC and the Florida Cleanup Target Level.
[4] RBC value is based on arsenic as a carcinogen.
[5] Essential nutrient screening value (see GIR Report).
[6] RBC and Florida Cleanup Target Level values are based on Chromium VI.
[7] RBC value is based on hydrogen cyanide.
[8] RBC is not available for lead; value is from Revised Interim Guidance on Establishing Soil Lead Cleanup Levels at Superfund Sites (OSWER Directive 9355.4-12).

NOTES: µg/kg = micrograms per kilogram. mg/kg = milligrams per kilogram.
NC = not calculated, per FDEP, 1996. NSC = no screening criteria available.
RBC = USEPA Region III Risk Based Concentration.

Table G-2
Screening Concentrations for Subsurface Soil
for Selection of Chemicals of Potential Concern

Remedial Investigation Report
Site 15
NAS Whiting Field, Milton, Florida

Analyte	Risk-Based Screening Concentration[1]	Florida Cleanup Target Level[2]	Florida Cleanup Target Level Leaching Value[2]	Selected Screening Concentration[3]
Volatile Organic Compounds (μg/kg)				
2-Hexanone	8,200,000	34,000	1,400	34,000
Chlorobenzene	4,100,000	200,000	1,300	200,000
Xylenes (total)	410,000,000	40,000,000	200	40,000,000
Semivolatile Organic Compounds (μg/kg)				
1,4-Dichlorobenzene	240,000	9,000	2,200	9,000
2-Methylnaphthalene	4,100,000	560,000	6,100	560,000
4-Methylphenol	1,000,000	3,000,000	30	1,000,000
Diethylphthalate	160,000,000	920,000,000	86,000	160,000,000
Naphthalene	4,100,000	270,000	1,700	270,000
Phenol	120,000,000	390,000,000	50	120,000,000
bis(2-Ethylhexyl)phthalate	410,000	280,000	3,600,000	280,000
Pesticides/PCBs (μg/kg)				
4,4-DDE	17,000	13,000	18,000	13,000
Aroclor-1242	2,900[4]	2,100	17,000	2,100
Inorganics (mg/kg)				
Aluminum	200,000	NSC	NSC	200,000
Arsenic	3.8[5]	4.62	29	3.8
Barium	14,000	87,000	1,600	14,000
Beryllium	410	800	63	410
Cadmium	100	1,300	8	100
Calcium	1,000,000[6]	NSC	NSC	1,000,000
Chromium	610	420[7]	38	420
Cobalt	12,000	110,000	NSC	12,000
Copper	8,200	76,000	NC	8,200
Cyanide	4,100	28,000	40	4,100

See notes at end of table.

Table G-2
Screening Concentrations for Subsurface Soil
for Selection of Chemicals of Potential Concern

Remedial Investigation Report
Site 15
NAS Whiting Field, Milton, Florida

Analyte	Risk-Based Screening Concentration[1]	Florida Cleanup Target Level[2]	Florida Cleanup Target Level Leaching Value[2]	Selected Screening Concentration[3]
Iron	61,000	480,000	NC	61,000
Lead	400[8]	920	NC	400
Magnesium	460,468[6]	NSC	NC	460,468
Manganese	4,100	22,000	NC	4,100
Mercury	61	26	2.1	26
Nickel	4,100	28,000	130	4,100
Potassium	1,000,000[6]	NSC	NC	1,000,000
Silver	1,000	9,100	17	1,000
Sodium	1,000,000[6]	NSC	NC	1,000,000
Vanadium	1,400	7,400	980	1,400
Zinc	61,000	560,000	6,000	61,000

[1] For all chemicals except the essential nutrients, the USEPA Region III RBC Table for industrial soil (October 1, 1998) has been used, unless otherwise noted. Screening values are based on a cancer risk of 10^{-6} or a hazard quotient of 1.0. Noncarcinogenic RBCs have been adjusted to reflect a target hazard quotient of 0.1.
[2] Chapter 62-777, Florida Administrative Code, June, 1999.
[3] The selected screening concentration for the human health risk assessment is the lowest value of the RBC and the Florida Cleanup Target Level. .
[4] Polychlorinated biphenyls value was used.
[5] RBC value is based on arsenic's properties as a carcinogen.
[6] Essential nutrient screening value (see GIR Report).
[7] RBC and Florida Cleanup Target Level values are based on Chromium VI.
[8] RBC is not available for lead; value is from Revised Interim Guidance on Establishing Soil Lead Cleanup Levels at Superfund Sites (OSWER Directive 9355.4-12).

Notes:
μg/kg = micrograms per kilogram.
DDE = Dichlorodiphenyl dichloroethylene.
NSC = no screening criteria available.
RBC = USEPA Region III Risk Based Concentration.
mg/kg = milligrams per kilogram.
NC = not calculated per FDEP, 1996.
PCBs = Polychlorinated biphenyls.

Table G-3
Screening Concentrations for Groundwater
For Selection of Chemicals of Potential Concern

Remedial Investigation Report
Site 15
NAS Whiting Field, Milton, Florida

Chemical	Risk-Based Screening Concentration[1]	Federal MCL[2]	Florida Groundwater Cleanup Target Levels[3]	Selected Screening Concentration[4]
Volatiles (µg/L)				
1,1-Dichloroethene	0.044	7	7	0.044
1,2-Dichloroethene (total)	5.5	70[5]	70[5]	5.5
Acetone	370	NSC	700	370
Benzene	0.36	5	1	0.36
2-Butanone	190	NSC	4,200	190
Chlorobenzene	3.5	100	100	3.5
Ethylbenzene	130	700	30	30
Trichloroethene	1.6	5	3	1.6
Xylenes (total)	1,200	10,000	20	20
Semivolatiles (µg/L)				
1,4-Dichlorobenzene	0.47	60	75	0.47
Diethylphthalate	2,900	NSC	5,600	2,900
Naphthalene	73	NSC	20	20
bis(2-Ethylhexl)phthalate	4.8	6	6	4.8
Pesticides/PCBs (µg/L)				
4,4-DDT	0.2	NSC	0.1	0.1
Inorganics (µg/L)				
Aluminum	3,700	200	(200)	200
Antimony	1.5	6	6	1.5
Arsenic	0.045[6]	50	50	0.045
Barium	260	2,000	2,000	260
Cadmium	1.8	5	5	1.8
Calcium	1,055,398	NSC	NSC	1,055,398
Chromium	11[8]	100	100[7]	11
Cobalt	220	NSC	420	220
Copper	150	1,000	(1,000)	150
Cyanide	73[10]	200	200	73

See notes at end of table

Table G-3
Screening Concentrations for Groundwater
For Selection of Chemicals of Potential Concern

Remedial Investigation Report
Site 15
NAS Whiting Field, Milton, Florida

Chemical	Risk-Based Screening Concentration[1]	Federal MCL[2]	Florida Groundwater Cleanup Target Levels[3]	Selected Screening Concentration[4]
Inorganics (μg/L) (cont.)				
Iron	1,100	(300)	(300)	300
Lead	NSC	15[11]	15	15
Magnesium	118,807[7]	NSC	NSC	118,807
Manganese	73	(50)	(50)	73
Mercury	1.1	2	2	1.1
Nickel	73	100	100	73
Potassium	297,016[7]	NSC	NSC	297,016
Silver	18	100	100	18
Sodium	396,022[7]	NSC	160,000	160,000
Thallium	0.26	2	2	0.26
Vanadium	26	NSC	[49]	26
Zinc	1,100	(5,000)	(5,000)	1,100

[1] For all chemicals except the essential nutrients, the USEPA Region III RBC Table for tap water (October, 1998) has been used. Screening values are based on a cancer risk of 10^{-6} and a hazard quotient of 1. Per USEPA Region IV Guidance (USEPA, 1995), the noncarcinogenic RBCs have been adjusted to reflect a target hazard quotient of 0.1.
[2] Federal MCLs are taken from USEPA Drinking Water Regulations and Health Advisories from February 1996. Primary MCLs have no marks, Secondary MCLs are indicated by parenthesis (), and Federal maximum contaminant level goals (MCLGs) are indicated by brackets []. The lowest of these nonzero values is presented.
[3] Chapter 62-777, Florida Administrative Code, June 1999. Primary Standards have no marks, Secondary Standards are indicated by parenthesis (), and other criteria (i.e., carcinogen, organoleptic, or a systemic toxicant) are indicated by brackets [].
[4] The selected screening concentration for the human health risk assessment is the lowest value of the RBC, Federal MCL value, and Florida Groundwater Cleanup Target Level values.
[5] Value is based on 1,2-Dichloroethene (cis).
[6] Value is based on arsenic as a carcinogen.
[7] Essential nutrient screening value (see GIR Report).
[8] RBC value is based on Chromium VI.
[9] Treatment technology action level for copper in drinking water distribution system (USEPA Drinking Water Standards and Health Advisories, May 1996).
[10] RBC value is based on hydrogen cyanide.
[11] Treatment technology action level for lead in drinking water (USEPA Drinking Water Standards and Health Advisories, May 1996).

NOTES: μg/L = micrograms per liter. NSC = no screening concentration.
RBC = USEPA Region III Risk Based Concentration. MCL = maximum contaminant level.

Table G-4
Oral Dose-Response Data for Carcinogenic Effects

Remedial Investigation Report
Site 15
NAS, Whiting Field, Milton, Florida

Chemical	Weight of Evidence	Oral Slope Factor (mg/kg/day)(-1)	Source	Test Species	Exposure Route	Tumor Type	Study Source
Volatiles							
1,1-Dichloroethylene	C	6.0e-01	IRIS	Rat	Oral-drinking water	Adrenal	IRIS
1,2-Dichloroethylene (total)	D	NE					
Benzene	A	2.9e-02	IRIS	Human	Inhalation	Leukemia	IRIS
Chlorobenzene	D	NE					
Trichloroethylene	B2	1.1e-02	(1)				
Semivolatiles							
1,4-Dichlorobenzene	C	2.4e-02	HEAST	Mouse	Oral-gavage	Liver	HEAST
bis(2-Ethylhexyl)phthalate	B2	1.4e-02	IRIS	Rat	Oral-diet	Liver	IRIS
Pesticides/PCBs							
4,4'-DDT	B2	3.4e-01	IRIS	Mouse/rat	Oral-diet	Liver	IRIS
Inorganics							
Aluminum	D	NE					
Arsenic	A	1.5e+00	IRIS	Human	Oral-drinking water	Skin	IRIS
Iron	D	NE					

See notes at end of table

Table G-4 (Continued)
Oral Dose-Response Data for Carcinogenic Effects

Remedial Investigation Report
Site 15
NAS, Whiting Field, Milton, Florida

Chemical	Weight of Evidence	Oral Slope Factor (mg/kg/day)(-1)	Source	Test Species	Exposure Route	Tumor Type	Study Source
Inorganics (Cont.)							
Manganese	D	NE					
Thallium	D	NE					

(1) This value was provided by the Environmental Criteria and Assessment Office (ECAO) of the USEPA in response to a specific request.

Weight of Evidence (route-specific):
- A = Human carcinogen
- B = Probable human carcinogen (B1 = limited human evidence; B2 = sufficient human evidence)
- C = Possible human carcinogen
- D = Not classifiable as to human carcinogenicity

Notes: ND = No Data
NE = Not Evaluated

Integrated Risk Information System (IRIS) on-line database search, current as of Febuary 1998.
Health Effects Assessment Summary Tables (HEAST), current as of July 1997.

Table G-5
Dermal Dose-Response Data for Carcinogenic Effects

Remedial Investigation Report
Site 15
NAS, Whitting Field, Milton, Florida

Compound	Weight of Evidence	Oral Slope Factor (mg/kg-day)-1	Oral Absorption Efficiency	Reference	Dermal Slope Factor (mg/kg-day)-1
Volatiles					
1,1-Dichloroethylene	C	6.0e-01	100%	Putcha et al., 1986	6.0e-01
1,2-Dichloroethylene (total)	D	NE			NE
Benzene	A	2.9e-02		(1)	2.9e-02
Chlorobenzene	D	NE			NE
Trichloroethylene	B2	1.1e-02	100%	Prout et al., 1985	1.1e-02
Semivolatiles					
1,4-Dichlorobenzene	C	2.4e-02	100%	ATSDR, 1989	2.4e-02
bis(2-Ethylhexyl)phthalate	B2	1.4e-02	100%	Chadwick et al., 1982	1.4e-02
Pesticides/PCBs					
4,4'-DDT	B2	3.4e-01	20%	Siebert, 1976	1.7e+00
Inorganics					
Aluminum	D	NE			NE
Arsenic	A	1.5e+00	98%	Vahter, 1983	1.5e+00
Iron	D	NE			NE

See notes at end of table

Table G-5 (Continued)
Dermal Dose-Response Data for Carcinogenic Effects

Remedial Investigation Report
Site 15
NAS, Whitting Field, Milton, Florida

Compound	Weight of Evidence	Oral Slope Factor (mg/kg-day)-1	Oral Absorption Efficiency	Reference	Dermal Slope Factor (mg/kg-day)-1
Inorganics (Cont.)					
Manganese	D	NE			NE
Thallium	D	NE			NE

(1) This toxicity values is based on absorbed dose. Therefore, no adjustment of this value is necessary.

Weight of Evidence (route-specific):
- A = Human carcinogen
- B = Probable human carcinogen (B1 = limited human evidence; B2 = sufficient human evidence)
- C = Possible human carcinogen
- D = Not classifiable as to human carcinogenicity

ATSDR, 1989b. "Toxicological Profile for p-DCB". Agency for Toxic Substances and Disease Registry, U.S. Public Health Service, Jan. 1989.
Chadwick, M., Branfman, A.K. and Silveria, D.M. 1982. Dose-dependence of and Effect of Prior Exposure on the Metabolism of DEPH Administered in the Diet to Rats. Report to Chemical Manufacturers Association. Arthur D. Little, Inc.
Putcha, L., Bruchner, J.V. and D'Soyza, R. 1986. Toxicokinetics and Bioavailability of Oral and Intravenous 1,1-Dichloroethylene. Fund. Appl. Toxicol. 6: 240-250.
Prout, M.Prout, M.S., Provan, W.M. and Green, T. 1985. Species Differences in Response to Trichloroethylene. Toxicol. Appl. Pharmacol. 79: 389-400.
Siebert, S. 1976. The Lymphatic Absorption of p,p'-DDT and Some Structurally-Related Compounds in the Rat. Pharmacol. 14: 443-454.
Vahter, M. 1983. Metabolism of Arsenic. In: Fowler, B.A., ed. Biological and Environmental Effect of Arsenic. NY: Elsevier. pp. 171-198.

Notes: NE = Not Evaluated

Table G-6
Inhalation Dose-Response Data for Carcinogenic Effects

Remedial Investigation Report
Site 15
NAS, Whiting Field, Milton, Florida

Chemical	Weight of Evidence	Inhalation Slope Factor (mg/kg/day)(-1)	Source	Inhalation Unit Risk ($\mu g/m^3$)(-1)	Source	Test Species	Exposure Route	Tumor Type	Study Source
Volatiles									
1,1-Dichloroethylene	C	1.2e+00	HEAST	5.0e-05	IRIS	Mouse	Inhalation	Kidney	IRIS
1,2-Dichloroethylene (total)	D	NE		NE					
Benzene	A	2.9e-02	HEAST	8.3e-06	IRIS	Human	Inhalation	Leukemia	IRIS
Chlorobenzene	D	NE		NE					
Trichloroethylene	B2	6.0e-03	(1)	1.7e-06	(1)				
Semivolatiles									
1,4-Dichlorobenzene	D	NE		NE					
bis(2-Ethylhexyl)phthalate	D	NE		NE					
Pesticides/PCBs									
4,4'-DDT	B2	3.4e-01	HEAST	9.7e-05	IRIS	Mouse/rat	Oral-diet	Liver	IRIS
Inorganics									
Aluminum	D	NE		NE					
Arsenic	A	1.5e+01	HEAST	4.3e-03	IRIS	Human	Inhalation	Lung	IRIS
Iron	D	NE		NE					

See notes at end of table

Table G-6 (continued)
Inhalation Dose-Response Data for Carcinogenic Effects

Remedial Investigation Report
Site 15
NAS, Whiting Field, Milton, Florida

Chemical	Weight of Evidence	Inhalation Slope Factor (mg/kg/day)(-1)	Source	Inhalation Unit Risk ($\mu g/m^3$)(-1)	Source	Test Species	Exposure Route	Tumor Type	Study Source
Inorganics (Cont.)									
Manganese	D	NE		NE					
Thallium	D	NE		NE					

(1) This value was provided by the Environmental Criteria and Assessment Office (ECAO) of the USEPA in response to a specific request.

Weight of Evidence (route-specific):
- A = Human carcinogen
- B = Probable human carcinogen (B1 = limited human evidence; B2 = sufficient human evidence)
- C = Possible human carcinogen
- D = Not classifiable as to human carcinogenicity

Notes: NE = Not Evaluated

Integrated Risk Information System (IRIS) on-line database search, current as of Febuary 1998.
Health Effects Assessment Summary Tables (HEAST), current as of July 1997.

Table G-7
Oral Dose-Response Data for Noncarcinogenic Effects

Remedial Investigation Report
Site 15
NAS, Whiting Field, Milton, FLorida

Chemical	Chronic		Subchronic		Study Type	Confid-ence Level	Critical Effect	Test Animal	Uncertainty Factor	Study Source
	Oral RfD (mg/kg-day)	Source	Oral RfD (mg/kg-day)	Source						
Volatiles										
1,1-Dichloroethylene	9.0e-03	IRIS	9.0e-03	HEAST	Oral-drinking water	Medium	Hepatic lesions	Rat	1000 H,A,L	IRIS
1,2-Dichloroethylene (total)	9.0e-03	HEAST (1)	9.0e-03	HEAST (1)						
Benzene	3.0e-04	(2)	ND							
Chlorobenzene	2.0e-02	IRIS	ND		Oral-capsule	Medium	Hepatic changes	Dog	1000 H,A,S	IRIS
Trichloroethylene	6.0e-03	(2)	ND							
Semivolatiles										
1,4-Dichlorobenzene	ND		ND							
bis(2-Ethylhexyl)phthalate	2.0e-02	IRIS	ND		Oral-diet	Medium	Increased liver weight	Guinea pig	1000 H,A,S,L	IRIS
Pesticides/PCBs										
4,4'-DDT	5.0e-04	IRIS	5.0e-04	HEAST	Oral-diet	Medium	Liver lesions	Rat	100 H,A	IRIS
Inorganics										
Aluminum	1.0e+00	(2)	ND							
Arsenic	3.0e-04	IRIS	3.0e-04	HEAST	Oral-drinking water	Medium	Hyperpigm-entation, keratosis	Human	3 D	IRIS

See notes at end of table

Table G-7 (Continued)
Oral Dose-Response Data
for Noncarcinogenic Effects

Remedial Investigation Report
Site 15
NAS, Whiting Field, Milton, FLorida

Chemical		Chronic		Subchronic		Study Type	Confid-ence Level	Critical Effect	Test Animal	Uncertainty Factor	Study Source
		Oral RfD (mg/kg-day)	Source	Oral RfD (mg/kg-day)	Source						
Inorganics (Cont.)											
Iron		3.0e-01	(2)	ND							
Manganese	Food	1.4e-01	IRIS	1.4e-01	HEAST	Oral-diet	NA	CNS effects	Human	1	IRIS
	All other media	4.7e-02	IRIS	ND		Oral-diet	NA	CNS effects	Human	3 M	IRIS
Thallium		8.0e-05	IRIS (3)	8.0e-04	HEAST (3)	Oral-gavage	Low	No effects observed	Rat	3000 H,A,S,D	IRIS

(1) This value was provided by the Environmental Criteria and Assessment Office (ECAO) of the USEPA in response to a specific request.
(2) The values for 1,1-dichloroethylene have been used as surrogates for 1,2-dichloroethylene (total) adopted based on analogy.
(3) The ingestion RfD values for thallium are based on thallium sulfate.

Uncertainty factors:
- H = Variation in human sensitivity
- A = Animal to human extrapolation
- S = Extrapolation from subchronic to chronic NOAEL
- L = Extrapolation from LOAEL to NOAEL
- D = Inadequate data
- M = Modifying factor

Notes:
- ND = No Data
- NA = Not Applicable

Integrated Risk Information System (IRIS) on-line database search, current as of Febuary 1998.
Health Effects Assessment Summary Tables (HEAST), current as of July 1997.

Table G-8
Dermal Dose-Response Data for Noncarcinogenic Effects

Remedial Investigation Report
Site 15
NAS, Whiting Field, Milton, Florida

Chemical	Chronic Oral RfD (mg/kg-day)	Subchronic Oral RfD (mg/kg-day)	Oral Absorption Efficiency	Reference	Dermal Chronic RfD (mg/kg-day)	Dermal Subchronic RfD (mg/kg-day)
Volatiles						
1,1-Dichloroethylene	9.0e-03	9.0e-03	100%	Putcha et al., 1986	9.0e-03	9.0e-03
1,2-Dichloroethylene (total)	9.0e-03	9.0e-03	100%	(1)	9.0e-03	9.0e-03
Benzene	3.0e-04	ND	100%	ATSDR, 1993	3.0e-04	ND
Chlorobenzene	2.0e-02	ND	100%	Ogata & Shimada, 1983	2.0e-02	ND
Trichloroethylene	6.0e-03	ND	100%	Prout et al., 1985	6.0e-03	ND
Semivolatiles						
1,4-Dichlorobenzene	ND	ND	100%	ATSDR, 1989	ND	ND
bis(2-Ethylhexyl)phthalate	2.0e-02	ND	100%	Chadwick et al., 1982	2.0e-02	ND
Pesticides/PCBs						
4,4'-DDT	5.0e-04	5.0e-04	20%	Siebert, 1976	1.0e-04	1.0e-04
Inorganics						
Aluminum	1.0e+00	ND	20%	(3)	2.0e-01	ND
Arsenic	3.0e-04	3.0e-04	98%	Vahter, 1983	2.9e-04	2.9e-04
Iron	3.0e-01	ND	2%	Goyer, 1991	6.0e-03	ND

See notes at end of table

Table G-8 (continued)
Dermal Dose-Response Data for Noncarcinogenic Effects

Remedial Investigation Report
Site 15
NAS, Whiting Field, Milton, Florida

Chemical	Chronic Oral RfD (mg/kg-day)	Subchronic Oral RfD (mg/kg-day)	Oral Absorption Efficiency	Reference	Dermal Chronic RfD (mg/kg-day)	Dermal Subchronic RfD (mg/kg-day)
Inorganics (Cont.)						
Manganese	4.7e-02	ND	4%	ATSDR, 1991b	1.9e-03	ND
Thallium	8.0e-05	8.0e-04	100%	Lie et al., 1960	8.0e-05	8.0e-04

(1) The oral absorption efficiency of 1,2-dichloroethylene is assumed to be identical to that of 1,1-dichloroethylene, based on structural analogy.
(2) The oral absorption efficiency of all phthalates is assumed to be identical to that of bis(2-ethylhexyl)phthalate, based on structural analogy.
(3) Inorganics lacking specific information on absorption efficiency are assigned a default value of 20% (USEPA Region IV, 1993).

Weight of Evidence (route-specific):

- A = Human carcinogen
- B = Probable human carcinogen (B1 = limited human evidence; B2 = sufficient human evidence)
- C = Possible human carcinogen
- D = Not classifiable as to human carcinogenicity

ATSDR, 1993. "Toxicological Profile for Benzene". Agency for Toxic Substances and Disease Registry, U.S. Public Health Service.
ATSDR, 1991a. "Toxicological Profile for Antimony". Agency for Toxic Substances and Disease Registry, U.S. Public Health Service (Draft).
ATSDR, 1991b. "Toxicological Profile for Manganese". Agency for Toxic Substances and Disease Registry, U.S. Public Health Service (Draft).
ATSDR, 1989. "Toxicological Profile for p-DCB". Agency for Toxic Substances and Disease Registry, U.S. Public Health Service, Jan. 1989.
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Goyer, R.A., 1991. Toxic Effects of Metals. In: Cassarett and Doull's Toxicology: The Basic Science of Posions, 4th edition. Eds. M.O. Amdur, J. Doull and C.D. Klaassen. Pergamon Press, N.Y.
Lie, R., Thomas, R. and Scott, J. 1960. The Distribution and Excretion of Thallium^{204} in the Rat, with Suggested MPC's and a Bio-assay Procedure. Health Phys. 2: 334-340.
Ogata, M. and Shimada, Y. 1987. Differences in Urinary Monochlorobenzene Metabolities Between Rats and Humans. Int. Arch. Occup. Environ. Health 53: 51-57.
Putcha, L., Bruchner, J.V. and D'Soyza, R. 1986. Toxicokinetics and Bioavailability of Oral and Intravenous 1,1-Dichloroethylene. Fund. Appl. Toxicol. 6: 240-250.
Prout, M.S., Provan, W.M. and Green, T. 1985. Species Differences in Response to Trichloroethylene. Toxicol. Appl. Pharmacol. 79: 389-400.
Siebert, S. 1976. The Lymphatic Absorption of p,p'-DDT and Some Structurally-Related Compounds in the Rat. Pharmacol. 14: 443-454.
Vahter, M. 1983. Metabolism of Arsenic. In: Fowler, B.A., ed. Biological and Environmental Effect of Arsenic. NY: Elsevier. pp. 171-198.

Notes: ND = No Data

Table G-9
Inhalation Dose-Response Data for Noncarcinogenic Effects

Remedial Investigation Report
Site 15
NAS, Whiting Field, Milton, Florida

Chemical	Chronic		Subchronic		Study Type	Confidence Level	Critical Effect	Test Animal	Uncertainty Factor	Study Source
	RfC ($\mu g/m^3$)	Source	RfC ($\mu g/m^3$)	Source						
Volatiles										
1,1-Dichloroethylene	ND		ND							
1,2-Dichloroethylene (total)	ND		ND							
Benzene	ND		ND							
Chlorobenzene	2.0e+01	HEAST (1)	ND		Inhalation	Low	Liver, kidney effects	Rat	10,000 H,A,S,L	HEAST
Trichloroethylene	ND		ND							
Semivolatiles										
1,4-Dichlorobenzene	8.0e+02	IRIS	2.5e+03	HEAST	Inhalation	Medium	Increased liver weight	Rat	100 H,A,S	IRIS
bis(2-Ethylhexyl)phthalate	ND		ND							
Pesticides/PCBs										
4,4'-DDT	ND		ND							
Inorganics										
Aluminum	ND		ND							
Arsenic	ND		ND							
Iron	ND		ND							

See notes at end of table

Table G-9 (Continued)
Inhalation Dose-Response Data for Noncarcinogenic Effects

Remedial Investigation Report
Site 15
NAS, Whiting Field, Milton, Florida

Chemical	Chronic		Subchronic		Study Type	Confidence Level	Critical Effect	Test Animal	Uncertainty Factor	Study Source
	RfC ($\mu g/m^3$)	Source	RfC ($\mu g/m^3$)	Source						
Inorganics (Cont.)										
Manganese	5.0e-02	IRIS	ND		Inhalation	Medium	Impaired neurobehavioal function	Human	1000 H,L,D	IRIS
Thallium	ND		ND							

(1) Chlorobenzene has a chronic inhalation RfD of 5.0e-03 mg/kg-day (HEAST).

Uncertainty factors:
- A = Animal to human extrapolation
- H = Variation in human sensitivity
- S = Extrapolation from subchronic to chronic NOAEL
- L = Extrapolation from LOAEL to NOAEL
- D = Inadequate data
- M = Modifying factor

Notes: ND = No Data
NA = Not Applicable

Integrated Risk Information System (IRIS) on-line database search, current as of Febuary 1998.
Health Effects Assessment Summary Tables (HEAST), current as July 1997.

HUMAN HEALTH TOXICITY PROFILES

1,4-Dichlorobenzene. 1,4-Dichlorobenzene has been used as mothballs, an insecticidal fumigant, a germicide, and a space deodorant. Human exposure to 1,4-dichlorobenzene has produced irritation to skin, throat, and eyes; prolonged exposure to high concentrations may cause weakness, dizziness, loss of weight, or liver injury. In several studies involving female rats and mice, no overt signs of toxicity were apparent at any exposure level. Non-tumor and tumor pathology did not indicate any treatment related effect of either species. An embryotoxicity and teratology study on rats did not demonstrate any signs of embryo- or phytotoxicity or teratogenicity at any exposure level (Loeser, 1983). In a series of mutagenicity tests, 1,4-dichlorobenzene did not produce a mutagenic response. (Loeser, 1983). Other exposure studies in rats have produced developmental abnormalities, phytotoxicity, and kidney tumors. Additional exposure studies in animals have produced histological changes in the lung, cirrhosis and necrosis of the liver, swelling of the tubular epithelium of the kidneys. 1,4-dichlorobenzene has been classified by the USEPA as a group C carcinogen, possibly carcinogenic to humans.

References:
Health Effects Summary Tables (HEAST), 1993. United States Environmental Protection Agency.

Loeser E, Litchfield MH; Food Chem Toxicol 21 (6): 825-32 (1983)

1,1-Dichloroethene. 1,1-Dichloroethene is a man-made chlorinated solvent that is used to make polyvinylidene chloride copolymers, which are used as flexible films for packaging all types of materials, including food.

Data on 1,1-dichloroethene exposure in humans are limited. However, available evidence suggests that 1,1-dichloroethene causes central nervous system depression and liver toxicity in humans. Toxicity data on laboratory animals confirm this evidence, and also indicate that 1,1-dichloroethene may produce adverse effects on the kidney, heart, and lung. Pharmacokinetic data from laboratory animals suggest that 1,1-dichloroethene is metabolized to toxic metabolites, and that these metabolites are responsible for the adverse effects. Therefore, organs with high biotransformation enzyme activity, such as the liver, kidney, and lungs, are likely to be adversely impacted. Limited evidence in animals suggests that 1,1-dichloroethene may be carcinogenic. Therefore, the USEPA has placed 1,1-dichloroethene in weight-of-evidence group C, possible human carcinogen.

References:
MADEP, 1992. "Risk Assessment Shortform Residential Exposure Scenario, Version 1.6"; Policy #WSC/ORS-142-92; Office of Research and Standards and the Bureau of Waste Site Cleanup, Boston, MA; September 1992.

Agency for Toxic Substances and Disease Registry (ATSDR), 1992. "Toxicological Profile for 1,1-Dichloroethene"; Agency for Toxic Substances and Disease Registry, U.S. Public Health Service, October 1992.

1,2-Dichloroethene. 1,2-Dichloroethene is a volatile organic compound which exists as cis- and trans-isomers. The commercially used material is usually a mixture of the two isomers. In the past, it was used as a general inhalation anesthetic. It is used most often as a solvent for dyes, perfume oils, waxes, resins, and plastics. It is also used as an intermediate in the synthesis of polymers.

1,2-Dichloroethene is absorbed by all routes of administration. Distribution is rapid and, due to its lipophilic nature, occurs to all organ systems. It is extensively metabolized to dichloroacetaldehyde and chloroacetic acids which are excreted primarily through urine.

Dermal contact to 1,2-dichloroethene may result in defatting of the skin and dermatitis. Exposure to airborne 1,2-dichloroethene causes irritation to eyes, mucous membranes and the upper respiratory tract. Systemically, the trans-isomer is believed to be more toxic than the cis-isomer. However, both have been reported to produce central nervous system depression and toxicity to liver and lungs. No data on the reproductive toxicity of 1,2-dichloroethene exists. Both isomers have tested negative for mutagenicity in vitro tests. Cancer effects have not been studied in humans or animals.

References:
Agency for Toxic Substances and Disease Registry (ATSDR), 1990. "Toxicological Profile for 1,2-Dichloroethene"; Agency for Toxic Substances and Disease Registry, U.S. Public Health Service, February 1990.

Mycroft, F.J., Jones, J.R., and Olson, K.R. 1990. Environmental and Occupational Toxicology. In: Poisoning and Drug Overdose. Ed. K.R. Olson. Appleton & Lange, CT. p. 397.

Aluminum. Aluminum occurs naturally in the soil and makes up approximately 8 percent of the earths crust. Higher soil concentrations are associated with industries which burn coal and aluminum mining and smelting. Human exposures to aluminum may occur through ingestion of foods grown in soil that contains aluminum and use of antacids, antiperspirants, and other drug store items. Aluminum in antiperspirants can cause skin rashes in some people. Factory workers who inhale large amounts of aluminum dust may develop lung problems. Aluminum has caused lower birth weights in some animals. Studies have shown that aluminum accumulates in the brains of people with Alzheimer's disease. However, any causal link between aluminum exposure and this disease is yet to be demonstrated. Both human epidemiological studies and animal experiments strongly suggests that aluminum is not a carcinogen.

References:
Agency for Toxic Substances and Disease Registry (ATSDR), 1989. "Toxicological Profile for Aluminum"; Agency for Toxic Substances and Disease Registry, U.S. Public Health Service, October 1989.

Antimony. Antimony enters the environment during the mining and processing of its ores and other related metals. Small amounts of antimony are also released into the environment by incinerators and coal-burning power plants. Antimony will strongly adhere to soil which contains iron, manganese, or aluminum. Antimony was used for medicinal purposes to treat people infected with parasites. However, chronic exposure can cause eye, skin, and lung irritation, as well as heart problems, vomiting and diarrhea. The oral RfD was based on changes in glucose and cholesterol levels in an oral drinking water study in rats. Antimony has not been evaluated by the USEPA for evidence of human carcinogenic potential.

References:
Agency for Toxic Substances and Disease Registry (ATSDR), 1991. "Toxicological Profile for Antimony"; Agency for Toxic Substances and Disease Registry, U.S. Public Health Service, February 1991.

Integrated Risk Information System (IRIS), 1993. United States Environmental Protection Agency.

Arsenic. Arsenic had once used in pesticide formulations and has industrial uses in tanneries, as well as the glass and wine making industries. Toxicity depends on its chemical form. Arsenic is an irritant of the skin, mucous membranes, and gastrointestinal tract. Symptoms of acute toxicity include vomiting, diarrhea, convulsions, and a severe drop in blood pressure. Subchronic effects include hyperpigmentation, sensory-motor polyneuropathy, persistent headache, and lethargy. Chronic oral exposure has caused skin lesions, peripheral vascular disease, and peripheral neuropathy. The USEPA has classified arsenic as Group A, human carcinogen, based on increased incidence of skin and lung cancer in epidemiology studies.

References:
Agency for Toxic Substances and Disease Registry (ATSDR), 1992. "Toxicological Profile for Arsenic"; Agency for Toxic Substances and Disease Registry, U.S. Public Health Service, February 1992.

Benzene. Benzene is an organic solvent that is found in the environment from both natural processes from petroleum sources. Benzene is used in the synthesis of many industrial chemicals and pharmaceuticals, for the extraction of fats and oils, in the manufacture of explosives, in is a major component of petroleum based fuels such as gasoline.

Benzene is readily absorbed orally, moderately absorbed by inhalation, and poorly absorbed dermally. Its toxic actions are primarily a result of its metabolites, which are largely produced in the liver, and to some extent, in the bone marrow. Acute exposure to benzene has produced central nervous system depression in humans and animals. Chronic exposures have produced adverse liver effects and hematological toxicity, including aplastic anemia and leukemia. Available evidence does not suggest that benzene is teratogenic in humans or animals. There is sufficient evidence of benzene-induced carcinogenicity in humans via inhalation exposure, placing it in USEPA weight-of-evidence group A, human carcinogen.

References:
MADEP, 1992. "Risk Assessment Shortform Residential Exposure Scenario, Version 1.6"; Policy #WSC/ORS-

142-92; Office of Research and Standards and the Bureau of Waste Site Cleanup, Boston, MA; September 1992.

Bis(2-ethylhexyl)phthalate (DEHP). DEHP is used industrially as a plasticizer for resins and is found in many plastic materials as it makes them more flexible. It is also used in manufacturing organic pump fluids in electrical capacitors. Acute exposure to DEHP has produced eye and mucous membrane irritation, nausea, and diarrhea. Chronic exposure of laboratory animals to DEHP indicate that the target organs are the liver, causing morphological and biochemical changes, as well as the testes, producing damage to the seminiferous tubules. DEHP has produced developmental and reproductive effects in laboratory animals including spina bifida and reduced fertility. DEHP has been shown to cause a dose-related increase in liver tumors in mice and rats. Thus, the USEPA has designated DEHP as a B2, probable human carcinogen.

References:
ATSDR, 1991. Toxicological Profile for Di(2-ethylhexyl)phthalate. Agency for Toxic Substances and Disease Registry, U.S. Public Health Service, October, 1991.

Chlorobenzene. Chlorobenzene is used industrially as a solvent and in the manufacture of other chemicals. It is an intermediate in the manufacture of dyestuffs and pesticides. Acute exposures have caused irritation of the eyes, nose, and skin, as well as CNS depression accompanied by drowsiness, numbness, nausea, and vomiting. Evidence from animal studies indicate that exposure via ingestion or inhalation can produce severe kidney and liver effects. The USEPA has classified chlorobenzene in Group D, inadequate evidence of carcinogenicity.

References:
Clayton, George D. and Florence E. Clayton, editors, 1981. Patty's Industrial Hygiene and Toxicology, 3rd Revised Edition; John Wiley & Sons; New York.

Integrated Risk Information System (IRIS), 1993. United States Environmental Protection Agency.

DDT. DDT was one of the most highly used insecticides, and is now ubiquitous in the environment. It was used extensively in World War II to control lice (applied directly to human skin), and later used as an agricultural insecticide and as a public health tool to control insects which spread typhus and malaria. DDD and DDE were contained as impurities in DDT, and are also primary metabolites of DDT, and share similar toxicological properties. DDT, DDD, and DDE are highly persistent in the environment, and thus tend to bioconcentrate in the food chain. This, combined with its toxicological properties, has been attributed to the decline in population of several predatory bird species.

DDT is absorbed to a minor extent via inhalation and dermal routes, and to a large extent by the oral route. Exposure to humans is likely greatest through ingestion of mucous that was contaminated with DDT that had been inhaled. DDT is absorbed into the lymphatic system and distributed to fats throughout the body. In both humans and animals, DDT acts as a CNS stimulant by interfering with the movement of ions within neurons. DDT acts as an estrogenic compound in animals, and this has been attributed to numerous adverse reproductive effects observed in animals exposed to DDT. DDT also causes liver hypertrophy, hepatocyte degeneration, and induces the enzyme cytochrome P450, which can effect the metabolism of other xenobiotics. There is no conclusive evidence of DDT-induced carcinogenicity in humans. However, DDT has produced liver tumors in laboratory animals. DDD, DDE, and DDT have, therefore, been placed in USEPA's weight of evidence group B2, probable human carcinogen.

References:
Agency for Toxic Substances and Disease Registry (ATSDR), 1992. "Toxicological Profile for DDD, DDE, and DDT"; Agency for Toxic Substances and Disease Registry, U.S. Public Health Service, October 1992.

Iron. Iron is a metal which is required for a variety of physiological functions such as heme biosynthesis, oxidative phosphorylation and mixed-function oxidase-mediated metabolic reactions. Only divalent forms of iron are absorbed. As absorption occurs, divalent iron is biochemically converted to trivalent iron, the biologically active form. Under normal conditions, absorbed dietary iron is complexed to hemoglobin and transported to the liver for storage until needed for physiological reactions. The balance of iron is regulated only by the amount of dietary intake and the degree of intestinal absorption. Intestinal absorption tends to be low (2 - 15 %) except during periods of increased iron need when absorption efficiency increases dramatically.

Acute iron toxicity has been well characterized following the accidental ingestion of iron-containing preparations

by children. Shortly after ingestion, the corrosive effects of iron cause vomiting and diarrhea, often bloody. Later signs include shock, metabolic acidosis, seizures, liver and/or kidney failure, coma, and death. Chronic iron overload manifests as disturbances in liver function, diabetes mellitus, and endocrine and cardiovascular effects. Inhalation of iron containing dust or fumes in occupational settings may result in deposition of iron particles in the lungs leading to interstitial fibrosis. Autopsies of hematite miners noted an increase in lung cancer. However, the etiology of the lung cancer may be related to factors other than iron exposure such as cigarette, silica or PAH exposures.

References:

Aisen, P., Cohen, G. and Kang, J.O., 1990. Iron Toxicosis. Int. Rev. Exp. Pathol. 31:1-46.

Goyer, R.A., 1991. Toxic Effects of Metals. In: Casarett and Doull's Toxicology: The Basic Science of Poisons, 3rd edition. Eds. C.D. Klaassen, M.O. Amdur and J. Doull. Macmillan Publishing Co. N.Y.

Manganese. Manganese is a naturally-occurring substance found in many types of rock. It does not generally occur in the environment as the pure metal, rather, it is found combined with other chemicals such as sulfur, oxygen, and chlorine. Manganese is mixed with iron to make various types of steel. Manganese is a component of some ceramics, pesticides, fertilizers, and in nutritional supplements. In small doses manganese is beneficial to human health. Manganese miners and steel workers exposed to elevated concentrations of manganese have evidenced mental and emotional disturbances, and slow and clumsy body movements. Target organs of manganese are the lung and CNS. When inhaled, manganese dust can also cause lung irritation. EPA has classified manganese as a Class D, not classifiable as to human carcinogenicity.

References:

Agency for Toxic Substances and Disease Registry (ATSDR), 1991. "Toxicological Profile for Manganese"; Agency for Toxic Substances and Disease Registry, U.S. Public Health Service, February 1991.

Thallium. Thallium is a naturally-occurring soft metal that is a minor constituent in a variety of ores and is obtained as a by-product of the refining of iron, cadmium, and zinc. It is used as a catalyst, in certain alloys, jewelry, thermometers, semiconductors, dyes and pigments, and optical lenses. It has been used medically as a depilatory agent. Additionally, it is used as a rodenticide and insecticide. Thallium is efficiently absorbed from the gastrointestinal tract. Excretion occurs primarily through urine and feces. Following absorption, distribution occurs to kidney tissue to a large extent, with lesser distribution to thyroid, intestines, testes, pancreas, skin, bone, and spleen.

Thallium is one of the more toxic metals. Acute toxicity results in gastrointestinal irritation, shock, ascending paralysis, seizures, and psychic disturbances. Signs of subacute or chronic thallium poisoning include hair loss, nail dystrophy, cataracts, peripheral muscular weakness and atrophy, chorea, peripheral neuropathy, and kidney damage. Loss of vision have been related to industrial thallium exposures. No information is available which addresses the carcinogenic potential of thallium.

References:

Goyer, R.A., 1991. Toxic Effects of Metals. In: Casarett and Doull's Toxicology: The Basic Science of Poisons, 3rd edition. Eds. C.D. Klaassen, M.O. Amdur and J. Doull. Macmillan Publishing Co. N.Y.

Tweig, M., 1990. Thallium. In: Poisoning and Drug Overdose. Ed. K.R. Olson. Appleton & Lange, CT. pps. 276-7.

Trichloroethene. Trichloroethene is a man-made chlorinated solvent that is used extensively in industry as a metal degreasing agent. Trichloroethene is also used in dry cleaning and as a solvent in paints and adhesives.

Several human deaths and acute neurotoxic effects have been attributed to oral and inhalation exposure to trichloroethene. In animals, oral and inhalation exposure to trichloroethene have produce neurotoxic effects, including behavioral changes, and renal toxicity. Additionally, inhalation and oral exposures to trichloroethene in animals have produced lung, liver, and testicular cancers. Epidemiological data in humans is insufficient to conclude whether trichloroethene is a human carcinogen. However, studies on trichloroethene metabolism suggest that it is metabolized similarly
in humans and laboratory animals. Therefore, the USEPA has placed trichloroethene in weight-of-evidence group B2, probable human carcinogen.

References:

MADEP, 1992. "Risk Assessment Shortform Residential Exposure Scenario, Version 1.6"; Policy #WSC/ORS-142-92; Office of Research and Standards and the Bureau of Waste Site Cleanup, Boston, MA; September 1992.

TABLE G-10

DIRECT CONTACT WITH AND INCIDENTAL INGESTION OF SURFACE SOIL
ADULT TRESPASSER
NAS WHITING FIELD
MILTON, FLORIDA
SITE 15

PARAMETER	SYMBOL	VALUE	UNITS	SOURCE
CONCENTRATION SOIL	CS	chemical-specific	chemical-specific	
INGESTION RATE	IR	100	mg/day	USEPA, 1991
FRACTION INGESTED	FI	100%	unitless	USEPA, 1995
ADHERENCE FACTOR	AF	1	mg/cm^2-event	USEPA, 1995
ABSORPTION FRACTION	ABS_d	chemical specific	unitless	USEPA, 1995
SURFACE AREA EXPOSED	SA	5,750	cm^2	USEPA, 1992
DOSE ABSORBED PER EVENT	DAevent	chemical specific	mg/cm^2-event	USEPA, 1992
CONVERSION FACTOR	CF	1.00E-06	kg/mg	inorganics
	CF	1.00E-09	kg/ug	organics
BODY WEIGHT	BW	70	kg	USEPA, 1991
EXPOSURE FREQUENCY	EF	45	days/year [1]	Assumption
EXPOSURE DURATION	ED	20	years	Assumption
AVERAGING TIME				
CANCER	AT	70	years	USEPA, 1991
NONCANCER	AT	20	years	Assumption

[1] Units for exposure frequency are events/year in the calculation of the dermally absorbed dose.

USEPA, 1991. Human Health Evaluation Manual, Supplemental Guidance: "Standard Default Exposure Factors"; OSWER Directive 9285.6-03.

USEPA, 1992. Dermal Exposure Assessment: Principles and Applications; EPA/600/8-91/011B; 1/92.

USEPA, 1995. Supplemental Guidance to RAGS : Region IV, Human Health Risk Assessment Bulletin No. 3.

EQUATIONS

CANCER RISK = INTAKE (mg/kg-day) x CANCER SLOPE FACTOR $(mg/kg\text{-}day)^{-1}$

HAZARD QUOTIENT = INTAKE (mg/kg-day) / REFERENCE DOSE (mg/kg-day)

$$INTAKE_{-INGESTION} = \frac{CS \times IR \times FI \times CF \times EF \times ED}{BW \times AT \times 365\ days/yr}$$

$$INTAKE_{-DERMAL} = \frac{DAevent \times SA \times EF \times ED}{BW \times AT \times 365\ days/yr}$$

Where:

$DAevent = AF \times ABS_d \times CF$

Note: For noncarcinogenic effects: AT = ED

TABLE G-10

DIRECT CONTACT WITH AND INCIDENTAL INGESTION OF SURFACE SOIL
ADULT TRESPASSER
NAS WHITING FIELD
MILTON, FLORIDA
SITE 15

CARCINOGENIC EFFECTS

COMPOUND	INORGANIC OR ORGANIC I/O	SOIL CONCENTRATION	UNITS	INTAKE INGESTION (mg/kg-day)	ORAL CSF (mg/kg-day)$^{-1}$	CANCER RISK INGESTION	DERMAL ABS [1]	INTAKE DERMAL (mg/kg-day)	DERMAL CSF [2] (mg/kg-day)$^{-1}$	CANCER RISK DERMAL	TOTAL CANCER RISK
Arsenic	I	1.9	mg/kg	9.6E-08	1.5E+00	1.4E-07	0.001	5.5E-09	1.5E+00	8.2E-09	1.5E-07
SUMMARY CANCER RISK						1E-07				8E-09	2E-07

[1] USEPA Region IV guidance specifies absorption factors of 1% for organics and 0.1% for inorganics (November 1995).
[2] Calculated from oral CSFs.

NONCARCINOGENIC EFFECTS

COMPOUND	INORGANIC OR ORGANIC I/O	SOIL CONCENTRATION	UNITS	INTAKE INGESTION (mg/kg-day)	ORAL RfD (mg/kg-day)	HAZARD QUOTIENT INGESTION	DERMAL ABS [1]	INTAKE DERMAL (mg/kg-day)	DERMAL RfD [2] (mg/kg-day)	HAZARD QUOTIENT DERMAL	TOTAL HAZARD QUOTIENT
Di-n-butylphthalate	O	369	ug/kg	6.5E-08	1.0E-01	6.5E-07	0.01	3.7E-08	1.0E-01	3.7E-07	1.0E-06
Arsenic	I	1.9	mg/kg	3.3E-07	3.0E-04	1.1E-03	0.001	1.9E-08	2.9E-04	6.6E-05	1.2E-03
Iron	I	5060	mg/kg	8.9E-04	3.0E-01	3.0E-03	0.001	5.1E-05	6.0E-03	8.5E-03	1.2E-02
SUMMARY HAZARD INDEX						0.004				0.01	0.01

[1] USEPA Region IV guidance specifies absorption factors of 1% for organics and 0.1% for inorganics (November 1995).
[2] Calculated from oral RfDs.

TABLE G-11

INHALATION OF PARTICULATES - SURFACE SOIL
ADULT TRESPASSER
NAS WHITING FIELD
MILTON, FLORIDA
SITE 15

EXPOSURE PARAMETERS

PARAMETER	SYMBOL	VALUE	UNITS	SOURCE
SOIL CONCENTRATION	C	chemical-specific	chemical-specific	
PART. EMISSION FACTOR	PEF	1.24E+09	m^3/kg	default [1]
CONCENTRATION AIR	CA	chemical-specific	mg/m^3	
INHALATION RATE	IR	0.833	$m^3/hour$	USEPA, 1995
BODY WEIGHT	BW	70	kg	USEPA, 1991
EXPOSURE TIME	ET	4	hours/day	Assumption
EXPOSURE FREQUENCY	EF	45	days/year	Assumption
EXPOSURE DURATION	ED	20	years	Assumption
CONVERSION FACTOR	CF	0.001	mg/ug	Organics only
AVERAGING TIME				
CANCER	AT	70	years	USEPA, 1991
NONCANCER	AT	20	years	USEPA, 1991

[1] Florida Soil Clean-Up Goal Variable. FDEP, 1995.
USEPA, 1991. Human Health Evaluation Manual, Supplemental Guidance: "Standard Default Exposure Factors"; OSWER Directive 9285.6-03.
USEPA, 1995. Supplemental Guidance to RAGS : Region IV, Human Health Risk Assessment Bulletin No. 3.

EQUATIONS

CANCER RISK = INTAKE (mg/kg-day) x INHALATION CANCER SLOPE FACTOR $(mg/kg\text{-}day)^{-1}$

HAZARD QUOTIENT = INTAKE (mg/kg-day) / INHALATION REFERENCE DOSE (mg/kg-day)

$$\text{INTAKE} = \frac{CA \times IR \times ET \times EF \times ED}{BW \times AT \times 365\ days/yr}$$

Where:

CA = C x CF x (1/PEF)

Note: For noncarcinogenic effects, AT = ED

TABLE G-11

INHALATION OF PARTICULATES - SURFACE SOIL
ADULT TRESPASSER
NAS WHITING FIELD
MILTON, FLORIDA
SITE 15

CARCINOGENIC EFFECTS

COMPOUND	INORGANIC OR ORGANIC I/O	SOIL CONCENTRATION	UNITS	AIR CONCENTRATION (mg/m³)	INTAKE (mg/kg-day)	INHALATION CSF (mg/kg-day)$^{-1}$	CANCER RISK
Arsenic	I	1.9	mg/kg	1.53E-09	2.6E-12	1.5E+01	3.9E-11
						SUMMARY CANCER RISK	4E-11

NONCARCINOGENIC EFFECTS

COMPOUND	INORGANIC OR ORGANIC I/O	SOIL CONCENTRATION	UNITS	AIR CONCENTRATION (mg/m³)	INTAKE (mg/kg-day)	INHALATION RfD (mg/kg-day)	HAZARD QUOTIENT
Di-n-butylphthalate	O	369	ug/kg	2.98E-10	1.7E-12	ND	
Arsenic	I	1.9	mg/kg	1.53E-09	9.0E-12	ND	
Iron	I	5060	mg/kg	4.08E-06	2.4E-08	ND	
						SUMMARY HAZARD INDEX	0E+00

TABLE G-12

DIRECT CONTACT WITH AND INCIDENTAL INGESTION OF SURFACE SOIL
ADOLESCENT TRESPASSER
NAS WHITING FIELD
MILTON, FLORIDA
SITE 15

EXPOSURE PARAMETERS

PARAMETER	SYMBOL	VALUE	UNITS	SOURCE
CONCENTRATION SOIL	CS	chemical-specific	chemical-specific	
INGESTION RATE	IR	100	mg/day	USEPA, 1991
FRACTION INGESTED	FI	100%	unitless	Assumption
ADHERENCE FACTOR	AF	1	mg/cm²-event	USEPA, 1995
AGE-SPECIFIC SURFACE AREA	SA_i	age-specific	cm²	USEPA, 1989
ABSORPTION FRACTION	ABS_d	chemical-specific	unitless	USEPA, 1995
CONVERSION FACTOR	CF	1.00E-06	kg/mg	Inorganics
	CF	1.00E-09	kg/mg	Organics
BODY WEIGHT	BW	45	kg	USEPA, 1995
AGE-SPECIFIC BODY WEIGHT	BW_i	age-specific	kg	USEPA, 1989
EXPOSURE FREQUENCY	EF	45	days/year [1]	Assumption
EXPOSURE DURATION	ED	10	years	USEPA, 1995
AGE-SPECIFIC EXPOSURE DURATION	ED_i	age-specific	years	Assumption
AGE-WEIGHTED SURFACE AREA [2]	$SA_{soil/adj}$	1013	cm²-year/kg	Per USEPA, 1992
DOSE ABSORBED PER EVENT	DA_{event}	chemical-specific	mg/cm²-event	Per USEPA, 1992
AVERAGING TIME				
CANCER	AT	70	years	USEPA, 1991
NONCANCER	AT	10	years	USEPA, 1995

[1] Units for exposure frequency are in events/year in the calculation of the dermally absorbed dose.
[2] In estimating the dermally absorbed dose for children age 7 through 16, the time-weighted, bodyweight normalized surface area exposed is calculated from surface area, exposure duration, and body weight for each of 10 age periods, age 7 through 16, per USEPA, 1992.

USEPA, 1989. Exposure Factors Handbook;EPA/600/8-89/043; May 1989.
USEPA, 1991. Human Health Evaluation Manual, Supplemental Guidance: "Standard Default Exposure Factors"; OSWER Directive 9285.6-03.
USEPA, 1992. Dermal Exposure Assessment: Principles and Applications; EPA/600/8-91/011B; January 1992.
USEPA, 1995. Supplemental Guidance to RAGS: Region 4 Bulletins, Bulletin No. 3, November 1995.

EQUATIONS

CANCER RISK = INTAKE (mg/kg-day) x CANCER SLOPE FACTOR $(mg/kg\text{-}day)^{-1}$

HAZARD QUOTIENT = INTAKE (mg/kg-day) / REFERENCE DOSE (mg/kg-day)

$$INTAKE_{INGESTION} = \frac{CS \times IR \times FI \times CF \times EF \times ED}{BW \times AT \times 365\ days/yr}$$

$$INTAKE_{DERMAL} = AT \times 365\ days/year) \times SA_{soil/adj}$$

Where:

$SA_{soil/adj}$ = SUM $(SA_i \times ED_i / BW_i)$

DA_{event} = CS x AF x ABS_d x CF

Note: For noncarcinogenic effects: AT = ED.

TABLE G-12

DIRECT CONTACT WITH AND INCIDENTAL INGESTION OF SURFACE SOIL
ADOLESCENT TRESPASSER
NAS WHITING FIELD
MILTON, FLORIDA
SITE 15

CARCINOGENIC EFFECTS

COMPOUND	INORGANIC OR ORGANIC I/O	SOIL CONCENTRATION	UNITS	INTAKE INGESTION (mg/kg-day)	ORAL CSF (mg/kg-day)$^{-1}$	CANCER RISK INGESTION	DERMAL ABS [1]	INTAKE DERMAL (mg/kg-day)	DERMAL CSF [2] (mg/kg-day)$^{-1}$	CANCER RISK DERMAL	TOTAL CANCER RISK
Arsenic	I	1.9	mg/kg	7.4E-08	1.5E+00	1.1E-07	0.001	3.4E-09	1.5E+00	5.1E-09	1.2E-07
SUMMARY CANCER RISK						2E-06				7E-08	2E-06

[1] USEPA Region IV guidance specifies absorption factors of 1% for organics and 0.1% for inorganics (November 1995).
[2] Calculated from oral CSFs.

NONCARCINOGENIC EFFECTS

COMPOUND	INORGANIC OR ORGANIC I/O	SOIL CONCENTRATION	UNITS	INTAKE INGESTION (mg/kg-day)	ORAL RfD (mg/kg-day)	HAZARD QUOTIENT INGESTION	DERMAL ABS [1]	INTAKE DERMAL (mg/kg-day)	DERMAL RfD [2] (mg/kg-day)	HAZARD QUOTIENT DERMAL	TOTAL HAZARD QUOTIENT
Di-n-butylphthalate	O	369	ug/kg	1.0E-07	1.0E-01	1.0E-06	0.01	4.6E-08	1.0E-01	4.6E-07	1.5E-06
Arsenic	I	1.9	mg/kg	5.2E-07	3.0E-04	1.7E-03	0.001	2.4E-08	2.9E-04	8.2E-05	1.8E-03
Iron	I	5060	mg/kg	1.4E-03	3.0E-01	4.6E-03	0.001	6.3E-05	6.0E-03	1.1E-02	1.5E-02
SUMMARY HAZARD INDEX						0.006				0.01	0.02

[1] USEPA Region IV guidance specifies absorption factors of 1% for organics and 0.1% for inorganics (November 1995).
[2] Calculated from oral RfDs.

TABLE G-13

INHALATION OF PARTICULATES - SURFACE SOIL
ADOLESCENT TRESPASSER
NAS WHITING FIELD
MILTON, FLORIDA
SITE 15

EXPOSURE PARAMETERS

PARAMETER	SYMBOL	VALUE	UNITS	SOURCE
SOIL CONCENTRATION	C	chemical-specific	chemical-specific	
PART. EMISSION FACTOR	PEF	1.24E+09	m^3/kg	default [1]
CONCENTRATION AIR	CA	chemical-specific	mg/m^3	
INHALATION RATE	IR	0.625	$m^3/hour$	USEPA, 1995
BODY WEIGHT	BW	45	kg	USEPA, 1995
EXPOSURE TIME	ET	4	hours/day	Assumption
EXPOSURE FREQUENCY	EF	45	days/year	Assumption
EXPOSURE DURATION	ED	10	years	USEPA, 1995
CONVERSION FACTOR	CF	0.001	mg/ug	Organics only
AVERAGING TIME				
CANCER	AT	70	years	USEPA, 1991
NONCANCER	AT	10	years	USEPA, 1995

[1] Florida Soil Clean-Up Goal Variable. FDEP, 1995.
USEPA, 1991. Human Health Evaluation Manual, Supplemental Guidance: "Standard Default Exposure Factors"; OSWER Directive 9285.6-03.
USEPA 1995. Supplemental Guidance to RAGS, Region 4 Bulletins, Bulletin No. 3, November 1995.

EQUATIONS

CANCER RISK = INTAKE (mg/kg-day) x INHALATION CANCER SLOPE FACTOR $(mg/kg\text{-}day)^{-1}$

HAZARD QUOTIENT = INTAKE (mg/kg-day) / INHALATION REFERENCE DOSE (mg/kg-day)

$$\text{INTAKE} = \frac{CA \times IR \times ET \times EF \times ED}{BW \times AT \times 365\ days/yr}$$

Where:

CA = C x CF x (1/PEF)

Note: For noncarcinogenic effects: AT = ED

TABLE G-13

INHALATION OF PARTICULATES - SURFACE SOIL
ADOLESCENT TRESPASSER
NAS WHITING FIELD
MILTON, FLORIDA
SITE 15

CARCINOGENIC EFFECTS

COMPOUND	INORGANIC OR ORGANIC I/O	SOIL CONCENTRATION	UNITS	AIR CONCENTRATION (mg/m³)	INTAKE (mg/kg-day)	INHALATION CSF (mg/kg-day)^-1	CANCER RISK
Arsenic	I	1.9	mg/kg	1.53E-09	1.5E-12	1.5E+01	2.2E-11
						SUMMARY CANCER RISK	2E-11

NONCARCINOGENIC EFFECTS

COMPOUND	INORGANIC OR ORGANIC I/O	SOIL CONCENTRATION	UNITS	AIR CONCENTRATION (mg/m³)	INTAKE (mg/kg-day)	INHALATION RfD (mg/kg-day)	HAZARD QUOTIENT
Di-n-butylphthalate	O	369	ug/kg	2.98E-10	2.0E-12	ND	
Arsenic	I	1.9	mg/kg	1.53E-09	1.0E-11	ND	
Iron	I	5060	mg/kg	4.08E-06	2.8E-08	ND	
						SUMMARY HAZARD INDEX	0E+00

TABLE G-14

DIRECT CONTACT WITH AND INCIDENTAL INGESTION OF SURFACE SOIL
ADULT RESIDENT
NAS WHITING FIELD
MILTON, FLORIDA
SITE 15

EXPOSURE PARAMETERS

PARAMETER	SYMBOL	VALUE	UNITS	SOURCE
CONCENTRATION SOIL	CS	chemical-specific	chemical-specific	
INGESTION RATE	IR	100	mg/day	USEPA, 1995
FRACTION INGESTED	FI	100%	unitless	USEPA, 1995
ADHERENCE FACTOR	AF	1	mg/cm^2-event	USEPA, 1995
ABSORPTION FRACTION	ABS_d	chemical-specific	unitless	USEPA, 1995
SURFACE AREA EXPOSED	SA	5,750	cm^2	USEPA, 1992
DOSE ABSORBED PER EVENT	DA_{event}	chemical-specific	mg/cm^2-event	USEPA, 1992
CONVERSION FACTOR	CF	1.00E-09	kg/ug	Organic conversion
CONVERSION FACTOR	CF	1.00E-06	kg/mg	Inorganic conversion
BODY WEIGHT	BW	70	kg	USEPA, 1991
EXPOSURE FREQUENCY	EF	350	days/year [1]	Assumption
EXPOSURE DURATION	ED	24	years	USEPA, 1995
AVERAGING TIME				
CANCER	AT	70	years	USEPA, 1991
NONCANCER	AT	24	years	USEPA, 1995

[1] Units for exposure frequency are events/year in the calculation of the dermally absorbed dose.

USEPA, 1991. Human Health Evaluation Manual, Supplemental Guidance: "Standard Default Exposure Factors"; OSWER Directive 9285.6-03.

USEPA, 1992. Dermal Exposure Assessment: Principles and Applications; EPA/600/8-91/011B; January 1992.

USEPA, 1995. Supplemental Guidance to RAGS : Region IV, Human Health Risk Assessment Bulletin No. 3.

EQUATIONS

CANCER RISK = INTAKE (mg/kg-day) x CANCER SLOPE FACTOR $(mg/kg\text{-}day)^{-1}$

HAZARD QUOTIENT = INTAKE (mg/kg-day) / REFERENCE DOSE (mg/kg-day)

$$INTAKE_{-INGESTION} = \frac{CS \times IR \times FI \times CF \times EF \times ED}{BW \times AT \times 365\ days/yr}$$

$$INTAKE_{-DERMAL} = \frac{DA_{event} \times SA \times EF \times ED}{BW \times AT \times 365\ days/yr}$$

Where:

$$DA_{event} = CS \times AF \times ABS_d \times CF$$

Note: For noncarcinogenic effects, AT = ED.

TABLE G-14

DIRECT CONTACT WITH AND INCIDENTAL INGESTION OF SURFACE SOIL
ADULT RESIDENT
NAS WHITING FIELD
MILTON, FLORIDA
SITE 15

CARCINOGENIC EFFECTS

COMPOUND	INORGANIC OR ORGANIC I/O	SOIL CONCENTRATION	UNITS	INTAKE INGESTION (mg/kg-day)	ORAL CSF $(mg/kg\text{-}day)^{-1}$	CANCER RISK INGESTION	DERMAL ABS [1]	INTAKE DERMAL (mg/kg-day)	DERMAL CSF [2] $(mg/kg\text{-}day)^{-1}$	CANCER RISK DERMAL	TOTAL CANCER RISK
Arsenic	I	1.9	mg/kg	8.9E-07	1.5E+00	1.3E-06	0.001	5.1E-08	1.5E+00	7.7E-08	1.4E-06
SUMMARY CANCER RISK						1E-06				8E-08	1E-06

[1] USEPA Region IV guidance specifies absorption factors of 1% for organics and 0.1% for inorganics (November 1995).
[2] Calculated from oral CSFs.

NONCARCINOGENIC EFFECTS

COMPOUND	INORGANIC OR ORGANIC I/O	SOIL CONCENTRATION	UNITS	INTAKE INGESTION (mg/kg-day)	ORAL RfD (mg/kg-day)	HAZARD QUOTIENT INGESTION	DERMAL ABS [1]	INTAKE DERMAL (mg/kg-day)	DERMAL RfD [2] (mg/kg-day)	HAZARD QUOTIENT DERMAL	TOTAL HAZARD QUOTIENT
Di-n-butylphthalate	O	369	ug/kg	5.1E-07	1.0E-01	5.1E-06	0.01	2.9E-07	1.0E-01	2.9E-06	8.0E-06
Arsenic	I	1.9	mg/kg	2.6E-06	3.0E-04	8.7E-03	0.001	1.5E-07	2.9E-04	5.2E-04	9.2E-03
Iron	I	5060	mg/kg	6.9E-03	3.0E-01	2.3E-02	0.001	4.0E-04	6.0E-03	6.6E-02	9.0E-02
SUMMARY HAZARD INDEX						0.03				0.07	0.1

[1] USEPA Region IV guidance specifies absorption factors of 1% for organics and 0.1% for inorganics (November, 1995).
[2] Calculated from oral RfDs.

TABLE G-15

INHALATION OF PARTICULATES - SURFACE SOIL
ADULT RESIDENT
NAS WHITING FIELD
MILTON, FLORIDA
SITE 15

EXPOSURE PARAMETERS

PARAMETER	SYMBOL	VALUE	UNITS	SOURCE
SOIL CONCENTRATION	C	chemical-specific	chemical-specific	
PART. EMISSION FACTOR	PEF	1.24E+09	m^3/kg	default [1]
CONCENTRATION AIR	CA	chemical-specific	mg/m^3	
INHALATION RATE	IR	0.833	$m^3/hour$	USEPA, 1995
BODY WEIGHT	BW	70	kg	USEPA, 1991
EXPOSURE TIME	ET	16	hours/day	Assumption
EXPOSURE FREQUENCY	EF	350	days/year	USEPA, 1995
EXPOSURE DURATION	ED	24	years	USEPA, 1995
CONVERSION FACTOR	CF	0.001	mg/ug	Organics only
AVERAGING TIME				
CANCER	AT	70	years	USEPA, 1991
NONCANCER	AT	24	years	USEPA, 1995

[1] Florida Soil Clean-Up Goal Variable. FDEP, 1995.
USEPA, 1991. Human Health Evaluation Manual, Supplemental Guidance: "Standard Default Exposure Factors"; OSWER Directive 9285.6-03.
USEPA, 1995. Supplemental Guidance to RAGS : Region IV, Human Health Risk Assessment Bulletin No. 3.

EQUATIONS

CANCER RISK = INTAKE (mg/kg-day) x INHALATION CANCER SLOPE FACTOR $(mg/kg\text{-}day)^{-1}$

HAZARD QUOTIENT = INTAKE (mg/kg-day) / INHALATION REFERENCE DOSE (mg/kg-day)

$$\text{INTAKE} = \frac{CA \times IR \times ET \times EF \times ED}{BW \times AT \times 365\ days/yr}$$

Where:

CA = C x CF x (1/PEF)

Note:

For noncarcinogenic effects: AT = ED

TABLE G-15

INHALATION OF PARTICULATES - SURFACE SOIL
ADULT RESIDENT
NAS WHITING FIELD
MILTON, FLORIDA
SITE 15

CARCINOGENIC EFFECTS

COMPOUND	INORGANIC OR ORGANIC I/O	SOIL CONCENTRATION	UNITS	AIR CONCENTRATION (mg/m³)	INTAKE (mg/kg-day)	INHALATION CSF (mg/kg-day)-1	CANCER RISK
Arsenic	I	1.9	mg/kg	1.53E-09	9.6E-11	1.5E+01	**1.4E-09**
						SUMMARY CANCER RISK	**1E-09**

NONCARCINOGENIC EFFECTS

COMPOUND	INORGANIC OR ORGANIC I/O	SOIL CONCENTRATION	UNITS	AIR CONCENTRATION (mg/m³)	INTAKE (mg/kg-day)	INHALATION RfD (mg/kg-day)	HAZARD QUOTIENT
Di-n-butylphthalate	O	369	ug/kg	2.98E-10	5.4E-11	ND	
Arsenic	I	1.9	mg/kg	1.53E-09	2.8E-10	ND	
Iron	I	5060	mg/kg	4.08E-06	7.5E-07	ND	
						SUMMARY HAZARD INDEX	**0E+00**

TABLE G-16

DIRECT CONTACT WITH AND INCIDENTAL INGESTION OF SURFACE SOIL
CHILD RESIDENT
NAS WHITING FIELD
MILTON, FLORIDA
SITE 15

EXPOSURE PARAMETERS

PARAMETER	SYMBOL	VALUE	UNITS	SOURCE
CONCENTRATION SOIL	CS	chemical-specific	chemical-specific	
INGESTION RATE	IR	200	mg/day	USEPA, 1995
FRACTION INGESTED	FI	100%	unitless	USEPA, 1995
ADHERENCE FACTOR	AF	1	mg/cm^2-event	USEPA, 1995
AGE-SPECIFIC SURFACE AREA	SA	age-specific	cm^2	USEPA, 1989
ABSORPTION FRACTION	ABS	chemical-specific	unitless	USEPA, 1995
CONVERSION FACTOR	CF	1.00E-06	kg/mg	Inorganic conversion
CONVERSION FACTOR	CF	1.00E-09	kg/ug	Organic conversion
BODY WEIGHT	BW	15	kg	USEPA, 1991
AGE-SPECIFIC BODY WEIGHT	BW	age-specific	kg	USEPA, 1989
EXPOSURE FREQUENCY	EF	350	days/year [1]	USEPA, 1995
EXPOSURE DURATION	ED	6	years	USEPA, 1995
AGE-SPECIFIC EXPOSURE DURATION	ED	age-specific	years	Assumption
AGE-WEIGHTED SURFACE AREA [2]	$SA_{soil/adj}$	766	cm^2-year/kg	USEPA, 1992
DOSE ABSORBED PER EVENT	DA_{event}	chemical-specific	mg/cm^2-event	USEPA, 1992
AVERAGING TIME				
CANCER	AT	70	years	USEPA, 1991
NONCANCER	AT	6	years	USEPA, 1995

[1] Units for exposure frequency are in events/year in the calculation of the dermally absorbed dose.

[2] In estimating the dermally absorbed dose for children age 1 through 6, the time weighted, body-weight normalized surface area exposed is calculated from surface area, exposure duration, and body weight for each of 6 age periods, age 1 through 6, per USEPA, 1992.

USEPA, 1989. Exposure Factors Handbook:EPA/600/8-89/043; May 1989.
USEPA, 1991. Human Health Evaluation Manual, Supplemental Guidance: "Standard Default Exposure Factors"; OSWER Directive 9285.6-03.
USEPA, 1992. Dermal Exposure Assessment: Principles and Applications: EPA/600/8-91/011B; January 1992.
USEPA, 1995. Supplemental Guidance to RAGS : Region IV, Human Health Risk Assessment Bulletin No. 3.

EQUATIONS

CANCER RISK = INTAKE (mg/kg-day) x CANCER SLOPE FACTOR ($mg/kg\text{-}day^{-1}$)

HAZARD QUOTIENT = INTAKE (mg/kg-day) / REFERENCE DOSE (mg/kg-day)

$$INTAKE_{-INGESTION} = \frac{CS \times IR \times FI \times CF \times EF \times ED}{BW \times AT \times 365\ days/yr}$$

$$INTAKE_{-DERMAL} = (DA_{event} \times EF / AT \times 365\ days/year) \times SA_{soil/adj}$$

Where:

$SA_{soil/adj}$ = SUM (SA x ED / BW)

DA_{event} = CS x AF x ABS x CF

Note: For noncarcinogenic effects, AT = ED.

TABLE G-16

DIRECT CONTACT WITH AND INCIDENTAL INGESTION OF SURFACE SOIL
CHILD RESIDENT
NAS WHITING FIELD
MILTON, FLORIDA
SITE 15

CARCINOGENIC EFFECTS

COMPOUND	INORGANIC OR ORGANIC I/O	SOIL CONCENTRATION	UNITS	INTAKE INGESTION (mg/kg-day)	ORAL CSF $(mg/kg\text{-}day)^{-1}$	CANCER RISK INGESTION	DERMAL ABS [1]	INTAKE DERMAL (mg/kg-day)	DERMAL CSF [2] $(mg/kg\text{-}day)^{-1}$	CANCER RISK DERMAL	TOTAL CANCER RISK
Arsenic	I	1.9	mg/kg	2.1E-06	1.5E+00	3.1E-06	0.001	2.0E-08	1.5E+00	3.0E-08	3.2E-06
					SUMMARY CANCER RISK	3E-06				3E-08	3E-06

[1] USEPA Region IV guidance specifies absorption factors of 1% for organics and 0.1% for inorganics (November 1995).
[2] Calculated from oral CSFs.

NONCARCINOGENIC EFFECTS

COMPOUND	INORGANIC OR ORGANIC I/O	SOIL CONCENTRATION	UNITS	INTAKE INGESTION (mg/kg-day)	ORAL RfD (mg/kg-day)	HAZARD QUOTIENT INGESTION	DERMAL ABS [1]	INTAKE DERMAL (mg/kg-day)	DERMAL RfD [2] (mg/kg-day)	HAZARD QUOTIENT DERMAL	TOTAL HAZARD QUOTIENT
Di-n-butylphthalate	O	369	ug/kg	4.7E-06	1.0E-01	4.7E-05	0.01	4.5E-07	1.0E-01	4.5E-06	5.2E-05
Arsenic	I	1.9	mg/kg	2.4E-05	3.0E-04	8.1E-02	0.001	2.3E-07	2.9E-04	8.0E-04	8.2E-02
Iron	I	5060	mg/kg	6.5E-02	3.0E-01	2.2E-01	0.001	6.2E-04	6.0E-03	1.0E-01	3.2E-01
					SUMMARY HAZARD INDEX	0.3				0.1	0.4

[1] USEPA Region IV guidance specifies absorption factors of 1% for organics and 0.1% for inorganics (November 1995).
[2] Calculated from oral RfDs.

TABLE G-17

INHALATION OF PARTICULATES - SURFACE SOIL
CHILD RESIDENT
NAS WHITING FIELD
MILTON, FLORIDA
SITE 15

EXPOSURE PARAMETERS

PARAMETER	SYMBOL	VALUE	UNITS	SOURCE
SOIL CONCENTRATION	C	chemical-specific	chemical-specific	
PART. EMISSION FACTOR	PEF	1.24E+09	m^3/kg	default [1]
CONCENTRATION IN AIR	CA	chemical-specific	mg/m^3	
INHALATION RATE	IR	0.625	$m^3/hour$	USEPA, 1995
BODY WEIGHT	BW	15	kg	USEPA, 1991
EXPOSURE TIME	ET	24	hours/day	Assumption
EXPOSURE FREQUENCY	EF	350	days/year	USEPA, 1991
EXPOSURE DURATION	ED	6	years	USEPA, 1991
CONVERSION FACTOR	CF	0.001	mg/ug	Organics only
AVERAGING TIME				
CANCER	AT	70	years	USEPA, 1991
NONCANCER	AT	6	years	USEPA, 1991

[1] Florida Soil Clean-Up Goal Variable. FDEP, 1995.
USEPA, 1991. Human Health Evaluation Manual, Supplemental Guidance: "Standard Default Exposure Factors"; OSWER Directive 9285.6-03.
USEPA, 1995. Supplemental Guidance to RAGS: Region 4 Bulletins, Bulletin No. 3, November 1995.

EQUATIONS

CANCER RISK = INTAKE (mg/kg-day) x INHALATION CANCER SLOPE FACTOR $(mg/kg\text{-}day)^{-1}$

HAZARD QUOTIENT = INTAKE (mg/kg-day) / INHALATION REFERENCE DOSE (mg/kg-day)

$$\text{INTAKE} = \frac{CA \times IR \times ET \times EF \times ED}{BW \times AT \times 365\ days/yr}$$

Where:

CA = C x CF x (1/PEF)

Note:

For noncarcinogenic effects: AT = ED

TABLE G-17

INHALATION OF PARTICULATES - SURFACE SOIL
CHILD RESIDENT
NAS WHITING FIELD
MILTON, FLORIDA
SITE 15

CARCINOGENIC EFFECTS

COMPOUND	INORGANIC OR ORGANIC I/O	SOIL CONCENTRATION	UNITS	AIR CONCENTRATION (mg/m³)	INTAKE (mg/kg-day)	INHALATION CSF (mg/kg-day)-1	CANCER RISK
Arsenic	I	1.9	mg/kg	1.53E-09	1.3E-10	1.5E+01	**1.9E-09**
						SUMMARY CANCER RISK	**2E-09**

NONCARCINOGENIC EFFECTS

COMPOUND	INORGANIC OR ORGANIC I/O	SOIL CONCENTRATION	UNITS	AIR CONCENTRATION (mg/m³)	INTAKE (mg/kg-day)	INHALATION RfD (mg/kg-day)	HAZARD QUOTIENT
Di-n-butylphthalate	O	369	ug/kg	2.98E-10	2.9E-10	ND	
Arsenic	I	1.9	mg/kg	1.53E-09	1.5E-09	ND	
Iron	I	5060	mg/kg	4.08E-06	3.9E-06	ND	
						SUMMARY HAZARD INDEX	**0E+00**

TABLE G-18

DIRECT CONTACT WITH AND INCIDENTAL INGESTION OF SURFACE SOIL
SITE MAINTENANCE WORKER
NAS WHITING FIELD
MILTON, FLORIDA
SITE 15

EXPOSURE PARAMETERS

PARAMETER	SYMBOL	VALUE	UNITS	SOURCE
CONCENTRATION SOIL	CS	chemical-specific	chemical-specific	
INGESTION RATE	IR	50	mg/day	USEPA, 1995
FRACTION INGESTED	FI	100%	unitless	Assumption
ADHERENCE FACTOR	AF	1	mg/cm^2-event	USEPA, 1995
ABSORPTION FRACTION	ABS	chemical-specific	unitless	Assumption
SURFACE AREA EXPOSED	SA	5,750	cm^2	USEPA, 1992
DOSE ABSORBED PER EVENT	DA_{event}	chemical-specific	mg/cm^2-event	USEPA, 1992
CONVERSION FACTOR	CF	1.00E-09	kg/ug	Organic conversion
CONVERSION FACTOR	CF	1.00E-06	kg/mg	Inorganic conversion
BODY WEIGHT	BW	70	kg	USEPA, 1991
EXPOSURE FREQUENCY	EF	30	days/year [1]	Assumption
EXPOSURE DURATION	ED	25	years	USEPA, 1995
AVERAGING TIME				
CANCER	AT	70	years	USEPA, 1991
NONCANCER	AT	25	years	USEPA, 1995

[1] Units for exposure frequency are events/year in the calculation of the dermally absorbed dose.
USEPA, 1991. Human Health Evaluation Manual, Supplemental Guidance: "Standard Default Exposure Factors"; OSWER Directive 9285.6-03.
USEPA, 1992. Dermal Exposure Assessment: Principles and Applications; EPA/600/8-91/011B; 1/92.
USEPA, 1995. Supplemental Guidance to RAGS : Region IV, Human Health Risk Assessment Bulletin No. 3.

EQUATIONS

CANCER RISK = INTAKE (mg/kg-day) x CANCER SLOPE FACTOR $(mg/kg\text{-}day)^{-1}$

HAZARD QUOTIENT = INTAKE (mg/kg-day) / REFERENCE DOSE (mg/kg-day)

$$INTAKE_{INGESTION} = \frac{CS \times IR \times FI \times CF \times EF \times ED}{BW \times AT \times 365\ days/yr}$$

$$INTAKE_{DERMAL} = \frac{DA_{event} \times SA \times EF \times ED}{BW \times AT \times 365\ days/yr}$$

Where:

DA_{event} = CS x AF x ABS x CF

Note: For noncarcinogenic effects, AT = ED

TABLE G-18

DIRECT CONTACT WITH AND INCIDENTAL INGESTION OF SURFACE SOIL
SITE MAINTENANCE WORKER
NAS WHITING FIELD
MILTON, FLORIDA
SITE 15

CARCINOGENIC EFFECTS

COMPOUND	INORGANIC OR ORGANIC I/O	SOIL CONCENTRATION	UNITS	INTAKE INGESTION (mg/kg-day)	ORAL CSF (mg/kg-day)$^{-1}$	CANCER RISK INGESTION	DERMAL ABS [1]	INTAKE DERMAL (mg/kg-day)	DERMAL CSF [2] (mg/kg-day)$^{-1}$	CANCER RISK DERMAL	TOTAL CANCER RISK
Arsenic	I	1.9	mg/kg	4.0E-08	1.5E+00	6.0E-08	0.001	4.6E-09	1.5E+00	6.9E-09	6.7E-08
SUMMARY CANCER RISK						6E-08				7E-09	7E-08

[1] USEPA Region IV guidance specifies absorption factors of 1% for organics and 0.1% for inorganics (November 1995).
[2] Calculated from oral CSFs.

NONCARCINOGENIC EFFECTS

COMPOUND	INORGANIC OR ORGANIC I/O	SOIL CONCENTRATION	UNITS	INTAKE INGESTION (mg/kg-day)	ORAL RfD (mg/kg-day)	HAZARD QUOTIENT INGESTION	DERMAL ABS [1]	INTAKE DERMAL (mg/kg-day)	DERMAL RfD [2] (mg/kg-day)	HAZARD QUOTIENT DERMAL	TOTAL HAZARD QUOTIENT
Di-n-butylphthalate	O	369	ug/kg	2.2E-08	1.0E-01	2.2E-07	0.01	2.5E-08	1.0E-01	2.5E-07	4.7E-07
Arsenic	I	1.9	mg/kg	1.1E-07	3.0E-04	3.7E-04	0.001	1.3E-08	2.9E-04	4.4E-05	4.2E-04
Iron	I	5060	mg/kg	3.0E-04	3.0E-01	9.9E-04	0.001	3.4E-05	6.0E-03	5.7E-03	6.7E-03
SUMMARY HAZARD INDEX						0.001				0.006	0.007

[1] USEPA Region IV guidance specifies absorption factors of 1% for organics and 0.1% for inorganics (November 1995).
[2] Calculated from oral RfDs.

TABLE G-19

INHALATION OF PARTICULATES - SURFACE SOIL
SITE MAINTENANCE WORKER
NAS WHITING FIELD
MILTON, FLORIDA
SITE 15

EXPOSURE PARAMETERS

PARAMETER	SYMBOL	VALUE	UNITS	SOURCE
SOIL CONCENTRATION	C	chemical-specific	chemical-specific	
PART. EMISSION FACTOR	PEF	1.24E+09	m^3/kg	default [1]
CONCENTRATION AIR	CA	chemical-specific	mg/m^3	
INHALATION RATE	IR	2.5	$m^3/hour$	USEPA, 1995
BODY WEIGHT	BW	70	kg	USEPA, 1991
EXPOSURE TIME	ET	8	hours/day	Assumption
EXPOSURE FREQUENCY	EF	30	days/year	Assumption
EXPOSURE DURATION	ED	25	years	USEPA, 1995
CONVERSION FACTOR	CF	0.001	mg/ug	Organics only
AVERAGING TIME				
CANCER	AT	70	years	USEPA, 1991
NONCANCER	AT	25	years	USEPA, 1995

[1] Florida Soil Clean-Up Goal Variable. FDEP, 1995.
USEPA, 1991. Human Health Evaluation Manual, Supplemental Guidance:
"Standard Default Exposure Factors"; OSWER Directive 9285.6-03.
USEPA, 1995. Supplemental Guidance to RAGS: Region 4 Bulletins. Bulletin No. 3, November 1995.

EQUATIONS

CANCER RISK = INTAKE (mg/kg-day) x INHALATION CANCER SLOPE FACTOR $(mg/kg\text{-}day)^{-1}$

HAZARD QUOTIENT = INTAKE (mg/kg-day) / INHALATION REFERENCE DOSE (mg/kg-day)

$$INTAKE = \frac{CA \times IR \times ET \times EF \times ED}{BW \times AT \times 365\ days/yr}$$

Where:

CA = C x CF x (1/PEF)

Note: For noncarcinogenic effects, AT = ED

TABLE G-19

INHALATION OF PARTICULATES - SURFACE SOIL
SITE MAINTENANCE WORKER
NAS WHITING FIELD
MILTON, FLORIDA
SITE 15

CARCINOGENIC EFFECTS

COMPOUND	INORGANIC OR ORGANIC I/O	SOIL CONCENTRATION	UNITS	AIR CONCENTRATION (mg/m³)	INTAKE (mg/kg-day)	INHALATION CSF (mg/kg-day)^-1	CANCER RISK
Arsenic	I	1.9	mg/kg	1.53E-09	1.3E-11	1.5E+01	1.9E-10
					SUMMARY CANCER RISK		2E-10

NONCARCINOGENIC EFFECTS

COMPOUND	INORGANIC OR ORGANIC I/O	SOIL CONCENTRATION	UNITS	AIR CONCENTRATION (mg/m³)	INTAKE (mg/kg-day)	INHALATION RfD (mg/kg-day)	HAZARD QUOTIENT
Di-n-butylphthalate	O	369	ug/kg	2.98E-10	7.0E-12	ND	
Arsenic	I	1.9	mg/kg	1.53E-09	3.6E-11	ND	
Iron	I	5060	mg/kg	4.08E-06	9.6E-08	ND	
					SUMMARY HAZARD INDEX		0E+00

TABLE G-20

DIRECT CONTACT WITH AND INCIDENTAL INGESTION OF SURFACE SOIL
OCCUPATIONAL WORKER
NAS WHITING FIELD
MILTON, FLORIDA
SITE 15

EXPOSURE PARAMETERS

PARAMETER	SYMBOL	VALUE	UNITS	SOURCE
CONCENTRATION SOIL	CS	chemical-specific	chemical-specific	
INGESTION RATE	IR	50	mg/day	USEPA, 1995
FRACTION INGESTED	FI	100%	unitless	Assumption
ADHERENCE FACTOR	AF	1	mg/cm^2-event	USEPA, 1992
ABSORPTION FRACTION	ABS	chemical-specific	unitless	Assumption
SURFACE AREA EXPOSED	SA	2,300	cm^2	USEPA, 1992
DOSE ABSORBED PER EVENT	DA_{event}	chemical-specific	mg/cm^2-event	USEPA, 1995
CONVERSION FACTOR	CF	1.00E-09	kg/ug	Organic conversion
CONVERSION FACTOR	CF	1.00E-06	kg/mg	Inorganic conversion
BODY WEIGHT	BW	70	kg	USEPA, 1991
EXPOSURE FREQUENCY	EF	250	days/year [1]	USEPA, 1995
EXPOSURE DURATION	ED	25	years	USEPA, 1995
AVERAGING TIME				
CANCER	AT	70	years	USEPA, 1991
NONCANCER	AT	25	years	USEPA, 1995

[1] Units for exposure frequency are events/year in the calculation of the dermally absorbed dose.

USEPA, 1991. Human Health Evaluation Manual, Supplemental Guidance: "Standard Default Exposure Factors"; OSWER Directive 9285.6-03.

USEPA, 1992. Dermal Exposure Assessment: Principles and Applications; EPA/600/8-91/011B; 1/92.

USEPA, 1995. Supplemental Guidance to RAGS : Region IV, Human Health Risk Assessment Bulletin No. 3.

EQUATIONS

CANCER RISK = INTAKE (mg/kg-day) x CANCER SLOPE FACTOR $(mg/kg\text{-}day)^{-1}$

HAZARD QUOTIENT = INTAKE (mg/kg-day) / REFERENCE DOSE (mg/kg-day)

$$INTAKE_{-INGESTION} = \frac{CS \times IR \times FI \times CF \times EF \times ED}{BW \times AT \times 365\ days/yr}$$

$$INTAKE_{-DERMAL} = \frac{DA_{event} \times SA \times EF \times ED}{BW \times AT \times 365\ days/yr}$$

Where:

DA_{event} = CS x AF x ABS x CF

Note: For noncarcinogenic effects, AT = ED

TABLE G-20

DIRECT CONTACT WITH AND INCIDENTAL INGESTION OF SURFACE SOIL
OCCUPATIONAL WORKER
NAS WHITING FIELD
MILTON, FLORIDA
SITE 15

CARCINOGENIC EFFECTS

COMPOUND	INORGANIC OR ORGANIC I/O	SOIL CONCENTRATION	UNITS	INTAKE INGESTION (mg/kg-day)	ORAL CSF $(mg/kg\text{-}day)^{-1}$	CANCER RISK INGESTION	DERMAL ABS [1]	INTAKE DERMAL (mg/kg-day)	DERMAL CSF [2] $(mg/kg\text{-}day)^{-1}$	CANCER RISK DERMAL	TOTAL CANCER RISK
Arsenic	I	1.9	mg/kg	3.3E-07	1.5E+00	5.0E-07	0.001	1.5E-08	1.5E+00	2.3E-08	5.2E-07
SUMMARY CANCER RISK						5E-07				2E-08	5E-07

[1] USEPA Region IV guidance specifies absorption factors of 1% for organics and 0.1% for inorganics (November 1995).
[2] Calculated from oral CSFs.

NONCARCINOGENIC EFFECTS

COMPOUND	INORGANIC OR ORGANIC I/O	SOIL CONCENTRATION	UNITS	INTAKE INGESTION (mg/kg-day)	ORAL RfD (mg/kg-day)	HAZARD QUOTIENT INGESTION	DERMAL ABS [1]	INTAKE DERMAL (mg/kg-day)	DERMAL RfD [2] (mg/kg-day)	HAZARD QUOTIENT DERMAL	TOTAL HAZARD QUOTIENT
Di-n-butylphthalate	O	369	ug/kg	1.8E-07	1.0E-01	1.8E-06	0.01	8.3E-08	1.0E-01	8.3E-07	2.6E-06
Arsenic	I	1.9	mg/kg	9.3E-07	3.0E-04	3.1E-03	0.001	4.3E-08	2.9E-04	1.5E-04	3.2E-03
Iron	I	5060	mg/kg	2.5E-03	4.0E-02	6.2E-02	0.001	1.1E-04	4.0E-02	2.8E-03	6.5E-02
SUMMARY HAZARD INDEX						0.06				0.003	0.07

[1] USEPA Region IV guidance specifies absorption factors of 1% for organics and 0.1% for inorganics (November 1995).
[2] Calculated from oral RfDs.

TABLE G-21

INHALATION OF PARTICULATES - SURFACE SOIL
OCCUPATIONAL WORKER
NAS WHITING FIELD
MILTON, FLORIDA
SITE 15

EXPOSURE PARAMETERS

PARAMETER	SYMBOL	VALUE	UNITS	SOURCE
SOIL CONCENTRATION	C	chemical-specific	chemical-specific	
PART. EMISSION FACTOR	PEF	1.24E+09	m^3/kg	default [1]
CONCENTRATION AIR	CA	chemical-specific	mg/m^3	
INHALATION RATE	IR	0.833	$m^3/hour$	USEPA, 1995
BODY WEIGHT	BW	70	kg	USEPA, 1991
EXPOSURE TIME	ET	8	hours/day	Assumption
EXPOSURE FREQUENCY	EF	250	days/year	Assumption
EXPOSURE DURATION	ED	25	years	USEPA, 1995
CONVERSION FACTOR	CF	0.001	mg/ug	Organics only
AVERAGING TIME				
CANCER	AT	70	years	USEPA, 1991
NONCANCER	AT	25	years	USEPA, 1995

[1] Florida Soil Clean-Up Goal Variable. FDEP. 1995.
USEPA, 1991. Human Health Evaluation Manual, Supplemental Guidance:
"Standard Default Exposure Factors"; OSWER Directive 9285.6-03.
USEPA. 1995. Supplemental Guidance to RAGS: Region 4 Bulletins, Bulletin No. 3, November 1995.

EQUATIONS

CANCER RISK = INTAKE (mg/kg-day) x INHALATION CANCER SLOPE FACTOR $(mg/kg\text{-}day)^{-1}$

HAZARD QUOTIENT = INTAKE (mg/kg-day) / INHALATION REFERENCE DOSE (mg/kg-day)

$$\text{INTAKE} = \frac{CA \times IR \times ET \times EF \times ED}{BW \times AT \times 365\ days/yr}$$

Where:

CA = C x CF x (1/PEF)

Note: For noncarcinogenic effects, AT = ED.

TABLE G-21

INHALATION OF PARTICULATES - SURFACE SOIL
OCCUPATIONAL WORKER
NAS WHITING FIELD
MILTON, FLORIDA
SITE 15

CARCINOGENIC EFFECTS

COMPOUND	INORGANIC OR ORGANIC I/O	SOIL CONCENTRATION	UNITS	AIR CONCENTRATION (mg/m³)	INTAKE (mg/kg-day)	INHALATION CSF (mg/kg-day)^-1	CANCER RISK
Arsenic	I	1.9	mg/kg	1.53E-09	3.6E-11	1.5E+01	5.4E-10
						SUMMARY CANCER RISK	5E-10

NONCARCINOGENIC EFFECTS

COMPOUND	INORGANIC OR ORGANIC I/O	SOIL CONCENTRATION	UNITS	AIR CONCENTRATION (mg/m³)	INTAKE (mg/kg-day)	INHALATION RfD (mg/kg-day)	HAZARD QUOTIENT
Di-n-butylphthalate	O	369	ug/kg	2.98E-10	1.9E-11	ND	
Arsenic	I	1.9	mg/kg	1.53E-09	1.0E-10	ND	
Iron	I	5060	mg/kg	4.08E-06	2.7E-07	ND	
						SUMMARY HAZARD INDEX	0E+00

TABLE G-22

DIRECT CONTACT WITH AND INCIDENTAL INGESTION OF SURFACE SOIL
EXCAVATION WORKER
NAS WHITING FIELD
MILTON, FLORIDA
SITE 15

EXPOSURE PARAMETERS

PARAMETER	SYMBOL	VALUE	UNITS	SOURCE
CONCENTRATION SOIL	CS	chemical-specific	chemical-specific	
INGESTION RATE	IR	480	mg/day	USEPA, 1995
FRACTION INGESTED	FI	100%	unitless	Assumption
ADHERENCE FACTOR	AF	1	mg/cm^2-event	USEPA, 1995
ABSORPTION FRACTION	ABS	chemical-specific	unitless	USEPA, 1995
SURFACE AREA EXPOSED	SA	5,750	cm^2	USEPA, 1992
DOSE ABSORBED PER EVENT	DA_{event}	chemical-specific	mg/cm^2-event	USEPA, 1992
CONVERSION FACTOR	CF	1.00E-09	kg/ug	Organic conversion
CONVERSION FACTOR	CF	1.00E-06	kg/mg	Inorganic conversion
BODY WEIGHT	BW	70	kg	USEPA, 1991
EXPOSURE FREQUENCY	EF	30	days/year [1]	Assumption
EXPOSURE DURATION	ED	1	years	USEPA, 1991
AVERAGING TIME				
CANCER	AT	70	years	USEPA, 1991
NONCANCER	AT	1	years	USEPA, 1991

[1] Units for exposure frequency are events/year in the calculation of the dermally absorbed dose.
USEPA, 1991. Human Health Evaluation Manual, Supplemental Guidance: "Standard Default Exposure Factors"; OSWER Directive 9285.6-03.
USEPA, 1992. Dermal Exposure Assessment: Principles and Applications; EPA/600/8-91/011B; 1/92.
USEPA, 1995. Supplemental Guidance to RAGS : Region IV, Human Health Risk Assessment Bulletin No. 3.

EQUATIONS

CANCER RISK = INTAKE (mg/kg-day) x CANCER SLOPE FACTOR $(mg/kg\text{-}day)^{-1}$

HAZARD QUOTIENT = INTAKE (mg/kg-day) / REFERENCE DOSE (mg/kg-day)

$$INTAKE_{-INGESTION} = \frac{CS \times IR \times FI \times CF \times EF \times ED}{BW \times AT \times 365\ days/yr}$$

$$INTAKE_{-DERMAL} = \frac{DAevent \times SA \times EF \times ED}{BW \times AT \times 365\ days/yr}$$

Where:

DA_{event} = CS x AF x ABS x CF

Note: For noncarcinogenic effects, AT = ED

TABLE G-22

DIRECT CONTACT WITH AND INCIDENTAL INGESTION OF SURFACE SOIL
EXCAVATION WORKER
NAS WHITING FIELD
MILTON, FLORIDA
SITE 15

CARCINOGENIC EFFECTS

COMPOUND	INORGANIC OR ORGANIC I/O	SOIL CONCENTRATION	UNITS	INTAKE INGESTION (mg/kg-day)	ORAL CSF (mg/kg-day)$^{-1}$	CANCER RISK INGESTION	DERMAL ABS [1]	INTAKE DERMAL (mg/kg-day)	DERMAL CSF [2] (mg/kg-day)$^{-1}$	CANCER RISK DERMAL	TOTAL CANCER RISK
Arsenic	I	1.9	mg/kg	1.5E-08	1.5	2.3E-08	0.001	1.8E-10	1.5	2.7E-10	2.3E-08
SUMMARY CANCER RISK						3E-08				4E-10	3E-08

[1] USEPA Region IV guidance specifies absorption factors of 1% for organics and 0.1% for inorganics (November 1995).
[2] Calculated from oral CSFs.

NONCARCINOGENIC EFFECTS

COMPOUND	INORGANIC OR ORGANIC I/O	SOIL CONCENTRATION	UNITS	INTAKE INGESTION (mg/kg-day)	ORAL RfD [1] (mg/kg-day)	HAZARD QUOTIENT INGESTION	DERMAL ABS [2]	INTAKE DERMAL (mg/kg-day)	DERMAL RfD [3] (mg/kg-day)	HAZARD QUOTIENT DERMAL	TOTAL HAZARD QUOTIENT
Di-n-butylphthalate	O	369	ug/kg	2.1E-07	1.0E-01	2.1E-06	0.01	2.5E-08	1.0E-01	2.5E-07	2.3E-06
Arsenic	I	1.9	mg/kg	1.1E-06	3.0E-04	3.6E-03	0.001	1.3E-08	2.9E-04	4.4E-05	3.6E-03
Iron	I	5060	mg/kg	2.9E-03	3.0E-01	9.5E-03	0.001	3.4E-05	6.0E-03	5.7E-03	1.5E-02
SUMMARY HAZARD INDEX						0.01				0.01	0.02

[1] Subchronic Rfd values were used for the excavation worker due to short exposure scenario.
[2] USEPA Region IV guidance specifies absorption factors of 1% for organics and 0.1% for inorganics (USEPA, 1995).
[3] Calculated from oral RfDs.

TABLE G-23

INHALATION OF PARTICULATES - SURFACE SOIL
EXCAVATION WORKER
NAS WHITING FIELD
MILTON, FLORIDA
SITE 15

EXPOSURE PARAMETERS

PARAMETER	SYMBOL	VALUE	UNITS	SOURCE
SOIL CONCENTRATION	C	chemical-specific	chemical-specific	
PART. EMISSION FACTOR	PEF	1.24E+09	m^3/kg	default [1]
CONCENTRATION AIR	CA	chemical-specific	mg/m^3	
INHALATION RATE	IR	2.5	$m^3/hour$	USEPA, 1995
BODY WEIGHT	BW	70	kg	USEPA, 1991
EXPOSURE TIME	ET	8	hours/day	Assumption
EXPOSURE FREQUENCY	EF	30	days/year	Assumption
EXPOSURE DURATION	ED	1	years	Assumption
CONVERSION FACTOR	CF	0.001	mg/ug	Organics only
AVERAGING TIME				
CANCER	AT	70	years	USEPA, 1991
NONCANCER	AT	1	years	USEPA, 1991

[1] Florida Soil Clean-Up Goal Variable. FDEP, 1995.
USEPA, 1991. Human Health Evaluation Manual, Supplemental Guidance:
Standard Default Exposure Factors; OSWER Directive 9285.6-03.
USEPA, 1995. Supplemental Guidance to RAGS : Region IV, Human Health Risk Assessment Bulletin No. 3.

EQUATIONS

CANCER RISK = INTAKE (mg/kg-day) x INHALATION CANCER SLOPE FACTOR $(mg/kg\text{-}day)^{-1}$

HAZARD QUOTIENT = INTAKE (mg/kg-day) / INHALATION REFERENCE DOSE (mg/kg-day)

$$\text{INTAKE} = \frac{CA \times IR \times ET \times EF \times ED}{BW \times AT \times 365\ days/yr}$$

Where:

CA = C x CF x (1/PEF)

Note: For noncarcinogens, AT = ED.

TABLE G-23

INHALATION OF PARTICULATES - SURFACE SOIL
EXCAVATION WORKER
NAS WHITING FIELD
MILTON, FLORIDA
SITE 15

CARCINOGENIC EFFECTS

COMPOUND	INORGANIC OR ORGANIC I/O	SOIL CONCENTRATION	UNITS	AIR CONCENTRATION (mg/m³)	INTAKE (mg/kg-day)	INHALATION CSF (mg/kg-day)^-1	CANCER RISK
Arsenic	I	1.9	mg/kg	1.53E-09	5.1E-13	1.5E+01	7.7E-12
					SUMMARY CANCER RISK		8E-12

NONCARCINOGENIC EFFECTS

COMPOUND	INORGANIC OR ORGANIC I/O	SOIL CONCENTRATION	UNITS	AIR CONCENTRATION (mg/m³)	INTAKE (mg/kg-day)	INHALATION RfD (mg/kg-day)	HAZARD QUOTIENT
Di-n-butylphthalate	O	369	ug/kg	2.98E-10	7.0E-12	ND	
Arsenic	I	1.9	mg/kg	1.53E-09	3.6E-11	ND	
Iron	I	5060	mg/kg	4.08E-06	9.6E-08	ND	
					SUMMARY HAZARD INDEX		0E+00

TABLE G-24

INGESTION OF GROUNDWATER AS DRINKING WATER (UNFILTERED SAMPLES)
ADULT RESIDENT
SITE 11
MILTON, FLORIDA

EXPOSURE PARAMETERS

PARAMETER	SYMBOL	VALUE	UNITS	SOURCE
CONCENTRATION WATER	CW	chemical-specific	ug/liter	
INGESTION RATE	IR	2	liters/day	USEPA, 1995
BODY WEIGHT	BW	70	kg	USEPA, 1991
CONVERSION FACTOR	CF	0.001	mg/ug	
EXPOSURE FREQUENCY	EF	350	days/year	USEPA, 1995
EXPOSURE DURATION	ED	24	years	USEPA, 1995
AVERAGING TIME				
CANCER	AT	70	years	USEPA, 1991
NONCANCER	AT	24	years	USEPA, 1991

USEPA, 1991. Human Health Evaluation Manual, Supplemental Guidance:
"Standard Default Exposure Factors"; OSWER Directive 9285.6-03.
USEPA, 1995. Region IV Supplemental Gudance to RAGS, Bulletin No. 3, November.

CANCER RISK = INTAKE (mg/kg-day) x CANCER SLOPE FACTOR (mg/kg-day)-1

HAZARD QUOTIENT = INTAKE (mg/kg-day) / REFERENCE DOSE (mg/kg-day)

$$\text{INTAKE} = \frac{\text{CW x IR x EF x ED x CF}}{\text{BW x AT x 365 days/year}}$$

Note: For noncarcinogenic effects, AT = ED.

TABLE G-24

INGESTION OF GROUNDWATER AS DRINKING WATER (UNFILTERED SAMPLES)
ADULT RESIDENT
SITE 11
MILTON, FLORIDA

CARCINOGENIC EFFECTS

COMPOUND	WATER CONCENTRATION	UNITS	INTAKE INGESTION (mg/kg-day)	CANCER SLOPE FACTOR (mg/kg-day)^-1	CANCER RISK INGESTION
1,1-Dichloroethene	5.2	UG/LITER	4.9E-05	6.0E-01	2.9E-05
Benzene	10.8	UG/LITER	1.0E-04	2.9E-02	2.9E-06
Trichloroethene	22.7	UG/LITER	2.1E-04	1.1E-02	2.3E-06
1,4-Dichlorbenzene	5.3	UG/LITER	5.0E-05	2.4E-02	1.2E-06
4,4'-DDT	0.06	UG/LITER	5.6E-07	3.4E-01	1.9E-07
bis(2-Ethylhexyl)phthalate	3.9	UG/LITER	3.7E-05	1.4E-02	5.1E-07
Arsenic	5.2	UG/LITER	4.9E-05	1.5E+00	7.3E-05
			TOTAL CANCER RISK		1E-04

NONCARCINOGENIC EFFECTS

COMPOUND	WATER CONCENTRATION	UNITS	INTAKE INGESTION (mg/kg-day)	REFERENCE DOSE (mg/kg-day)	HAZARD QUOTIENT INGESTION
1,1-Dichloroethene	5.2	UG/LITER	1.4E-04	9.0E-03	1.6E-02
1,2-Dichloroethene (total)	5.2	UG/LITER	1.4E-04	1.0E-02	1.4E-02
Benzene	10.8	UG/LITER	3.0E-04	9.0E-03	3.3E-02
Chlorobenzene	5.7	UG/LITER	1.6E-04	9.0E-03	1.7E-02
Trichloroethene	22.7	UG/LITER	6.2E-04	ND	
1,4-Dichlorobenzene	5.3	UG/LITER	1.5E-04	ND	
bis(2-Ethylhexyl)phthalate	3.9	UG/LITER	1.1E-04	2.0E-02	5.3E-03
4,4-DDT	0.06	UG/LITER	1.6E-06	5.0E-04	3.3E-03
Aluminum	202	UG/LITER	5.5E-03	1.0E+00	5.5E-03
Antimony	25.6	UG/LITER	7.0E-04	4.0E-04	1.8E+00
Arsenic	5.2	UG/LITER	1.4E-04	3.0E-04	4.7E-01
Iron	2723	UG/LITER	7.5E-02	3.0E-01	2.5E-01
Manganese	59.2	UG/LITER	1.6E-03	4.7E-02	3.5E-02
Thallium	2.95	UG/LITER	8.1E-05	8.0E-05	1.0E+00
			TOTAL HAZARD INDEX		4

ND = no data available.

TABLE G-25

INGESTION OF GROUNDWATER AS DRINKING WATER (UNFILTERED SAMPLES) IN CAPTURE ZONE
CHILD RESIDENT
SITE 15
MILTON, FLORDIA

EXPOSURE PARAMETERS

PARAMETER	SYMBOL	VALUE	UNITS	SOURCE
CONCENTRATION WATER	CW	chemical-specific	ug/liter	
INGESTION RATE	IR	1	liters/day	USEPA, 1995
BODY WEIGHT	BW	15	kg	USEPA, 1991
CONVERSION FACTOR	CF	0.001	mg/ug	
EXPOSURE FREQUENCY	EF	350	days/year	USEPA, 1995
EXPOSURE DURATION	ED	6	years	USEPA, 1995
AVERAGING TIME				
CANCER	AT	70	years	USEPA, 1991
NONCANCER	AT	6	years	USEPA, 1991

USEPA, 1991. Human Health Evaluation Manual, Supplemental Guidance: "Standard Default Exposure Factors"; OSWER Directive 9285.6-03.
USEPA, 1995. Region IV Supplemental Gudance to RAGS, Bulletin No. 3, November.

CANCER RISK = INTAKE (mg/kg-day) x CANCER SLOPE FACTOR (mg/kg-day)-1

HAZARD QUOTIENT = INTAKE (mg/kg-day) / REFERENCE DOSE (mg/kg-day)

$$\text{INTAKE} = \frac{\text{CW x IR x EF x ED x CF}}{\text{BW x AT x 365 days/year}}$$

Note: For noncarcinogenic effects, AT = ED.

TABLE G-25

INGESTION OF GROUNDWATER AS DRINKING WATER (UNFILTERED SAMPLES) IN CAPTURE ZONE
CHILD RESIDENT
SITE 15
MILTON, FLORDIA

CARCINOGENIC EFFECTS

COMPOUND	WATER CONCENTRATION	UNITS	INTAKE INGESTION (mg/kg-day)	CANCER SLOPE FACTOR (mg/kg-day)^-1	CANCER RISK INGESTION
1,1-Dichloroethene	5.2	UG/LITER	2.8E-05	6.0E-01	1.7E-05
Benzene	10.8	UG/LITER	5.9E-05	2.9E-02	1.7E-06
Trichloroethene	22.7	UG/LITER	1.2E-04	1.1E-02	1.4E-06
4,4-DDT	0.06	UG/LITER	3.3E-07	3.4E-01	1.1E-07
1,4-Dichlorobenzene	5.3	UG/LITER	2.9E-05	2.4E-02	7.0E-07
bis(2-Ethylhexyl)phthalate	3.9	UG/LITER	2.1E-05	1.4E-02	3.0E-07
Arsenic	5.2	UG/LITER	2.8E-05	1.5E+00	4.3E-05
				TOTAL CANCER RISK	6E-05

NONCARCINOGENIC EFFECTS

COMPOUND	WATER CONCENTRATION	UNITS	INTAKE INGESTION (mg/kg-day)	REFERENCE DOSE (mg/kg-day)	HAZARD QUOTIENT INGESTION
1,1-Dichloroethene	5.2	UG/LITER	3.3E-04	9.0E-03	3.7E-02
1,2-Dichloroethene (total)	5.2	UG/LITER	3.3E-04	1.0E-02	3.3E-02
Benzene	10.8	UG/LITER	6.9E-04	9.0E-03	7.7E-02
Chlorobenzene	5.7	UG/LITER	3.6E-04	9.0E-03	4.0E-02
Trichloroethene	22.7	UG/LITER	1.5E-03	ND	
1,4-Dichlorobenzene	5.3	UG/LITER	3.4E-04	ND	
bis(2-Ethylhexyl)phthalate	3.9	UG/LITER	2.5E-04	2.0E-02	1.2E-02
4,4-DDT	0.06	UG/LITER	3.8E-06	5.0E-04	7.7E-03
Aluminum	202	UG/LITER	1.3E-02	1.0E+00	1.3E-02
Antimony	25.6	UG/LITER	1.6E-03	4.0E-04	4.1E+00
Arsenic	5.2	UG/LITER	3.3E-04	3.0E-04	1.1E+00
Iron	2723	UG/LITER	1.7E-01	3.0E-01	5.8E-01
Manganese	59.2	UG/LITER	3.8E-03	4.7E-02	8.1E-02
Thallium	2.95	UG/LITER	1.9E-04	8.0E-05	2.4E+00
				TOTAL HAZARD INDEX	8

TABLE G-26

INHALATION EXPOSURE TO VOCs WHILE SHOWERING
ADULT RESIDENT
SITE 15
MILTON, FLORDIA

EXPOSURE PARAMETERS

PARAMETER	SYMBOL	VALUE	UNITS	SOURCE
CONCENTRATION SHOWER AIR	CA [1]	chemical-s	ug/m^3	Modeled
CONVERSION FACTOR 1	CF_1	24	hours/day	
EXPOSURE TIME SHOWER	ET	0.2	hours/day	USEPA, 1989
EXPOSURE FREQUENCY	EF	350	days/year	USEPA, 1991
EXPOSURE DURATION	ED	24	years	USEPA, 1991
CONVERSION FACTOR 2	CF_2	365	days/year	
AVERAGING TIME CANCER	AT	70	years	USEPA, 1989
AVERAGING TIME NONCANCER	AT	24	years	USEPA, 1989

[1] Calculated via model by Foster and Chrostowski, Air Pollution Control Association Annual Meeting, 1987.
USEPA, 1989. Risk Assessment Guidance for Superfund Volume I: Human Health Evaluation Manual, (Part A) EPA/540/1-89/002; December 1989.
USEPA, 1991. Human Health Evaluation Manual, Supplemental Guidance: "Standard Default Exposure Assumptions".

EQUATIONS

CANCER RISK = AVG. CONC. (ug/m^3) * CANCER UNIT RISK (ug/m^3)$^{-1}$

HAZARD QUOTIENT = AVG.CONC.(ug/m^3)/REF. CONC. (ug/m^3)

$$\text{AVG. CONC.} = \frac{CA_{air} * EF * ET * ED}{AT * CF1 * CF2}$$

TABLE G-26

INHALATION EXPOSURE TO VOCs WHILE SHOWERING
ADULT RESIDENT
SITE 15
MILTON, FLORDIA

CARCINOGENIC EFFECTS

COMPOUND	VOLATILE OR NON-VOLATILE? V/NV	SHOWER AIR CONCENTRATION (ug/m^3)	AVERAGE AIR CONCENTRATION LIFETIME (ug/m^3)	INHALATION CANCER UNIT RISK $(ug/m^3)^{-1}$	CANCER RISK
1,1-Dichloroethene	V	26.19	7.2E-02	5.0E-05	3.6E-06
Benzene	V	57.86	1.6E-01	8.3E-06	1.3E-06
Trichloroethene	V	99.73	2.7E-01	2.0E-06	5.5E-07
1,4-Dichlorobenzene	NV	NA	NA	ND	NA
4,4'-DDT	NV	NA	NA	ND	NA
bis(2-Ehtylhexyl)phthalate	NV	NA	NA	ND	NA
Arsenic	NV	NA	NA	4.3E-03	NA
				SUMMARY CANCER RISK	5E-06

NA = not applicable. This analyte is not volatile and has therefore not been evaluated via this volatilization model.

TABLE G-26

INHALATION EXPOSURE TO VOCs WHILE SHOWERING
ADULT RESIDENT
SITE 15
MILTON, FLORDIA

NONCARCINOGENIC EFFECTS

COMPOUND	VOLATILE OR NON-VOLATILE? V/NV	SHOWER AIR CONCENTRATION (ug/m^3)	AVERAGE AIR CONCENTRATION FOR TIME PERIOD (ug/m^3)	CHRONIC INHALATION RfC [1] (ug/m^3)	HAZARD QUOTIENT
1,1-Dichloroethene	V	26.19	2.1E-01	ND	
1,2-Dichloroethene (total)	V	25.69	2.1E-01	ND	
Benzene	V	57.86	4.6E-01	ND	
Chlorobenzene	V	26.01	2.1E-01	2.0E+01	1.0E-02
Trichloroethene	V	99.73	8.0E-01	ND	
4,4'-DDT	NV	ND	NA	8.0E-01	
1,4-Dichlorobenzene	NV	ND	NA	ND	
bis(2-Ethylhexyl)phthalate	NV	ND	NA	ND	
Aluminum	NV	ND	NA	ND	
Antimony	NV	ND	NA	ND	
Arsenic	NV	ND	NA	ND	
Iron	NV	ND	NA	ND	
Manganese	NV	ND	NA	5.0E-05	
Thallium	NV	ND	NA	ND	
			SUMMARY HAZARD INDEX		0.01

[1] RfC is the Reference Concentration published by USEPA.
ND = no data available.
NA = not applicable. The analyte is not volatile and has therefore not been evaluated via this volatilization model.

TABLE G-27

CONCENTRATION OF VOCs WHILE SHOWERING
ADULT RESIDENT
SITE 15
MILTON, FLORDIA

EMPIRICAL CONSTANTS

CONSTANT	SYMBOL	VALUE	UNIT	SOURCE
Liquid-film mass transfer for CO_2	K_l (CO_2)	20	cm/hr	Calculated
Gas-film mass transfer for water	K_g (H_2O)	3000	cm/hr	Calculated
Molar gas constant x Temperature	RT	0.024	atm-m³/mole	
Reference temperature	T_1	293	K	
Temperature of shower water	T_s	318	K	Assumption
Viscosity of water at shower temperature	u_s	0.6178	cp	Calculated
Viscosity of water at reference temperature	u_1	0.65	cp	Calculated
Shower droplet free-fall time	t_s	1.5	sec	Assumption
Droplet diameter	d	1	mm	Foster & Chrostowski, 1987
Flow rate in shower	FR	20	l/min	Assumption
Volume of shower area	SV	12	m³	Assumption
Air exchange rate	R	0.03	min^{-1}	Calculated
Time in shower	D_s	12	min	USEPA, 1989
Time at which concentration is being calculated	t	12	min	Assumption

Foster, S.A. and Chrostowski, P.C., 1987. Inhalation Exposures to Volatile Organic Contaminants in the Shower.
USEPA, 1989. Exposure Factors Handbook; EPA/600/8-89/043, May 1989.
All equations and definitions of terms are presented in the Appendix to this report, Calculation of Air Concentration Using the Shower Model.

TABLE G-27

CONCENTRATION OF VOCs WHILE SHOWERING
ADULT RESIDENT
SITE 15
MILTON, FLORDIA

SHOWER CONCENTRATIONS

COMPOUND	C_w (ug/l)	MW (g/mol)	H (atm-m³/mol)	k_l (cm/hr)	k_g (cm/hr)	K_L (cm/hr)	K_{al} (cm/hr)	C_{wd} (µg/l)	S (µg/m³-min)	$C_{(voc)}$ (µg/m³)
1,1-Dichloroethene	5.2	97.0	0.026	1.3E+01	1.3E+03	1.3E+01	1.4E+01	1.6E+00	2.6E+00	**2.6E+01**
1,2-Dichloroethene (total)	5.2	97.0	0.00758	1.3E+01	1.3E+03	1.3E+01	1.4E+01	1.5E+00	2.5E+00	**2.6E+01**
Benzene	10.8	78.0	0.0056	1.5E+01	1.4E+03	1.4E+01	1.5E+01	3.4E+00	5.7E+00	**5.8E+01**
Chlorobenzene	5.7	110.0	0.0038	1.3E+01	1.2E+03	1.2E+01	1.3E+01	1.5E+00	2.6E+00	**2.6E+01**
Trichloroethene	22.7	130.0	0.01	1.2E+01	1.1E+03	1.1E+01	1.2E+01	5.9E+00	9.9E+00	**1.0E+02**

C_w = Concentration in groundwater
MW = Molecular weight
H = Henry's Law constant
k_l = Chemical-specific mass-transfer coefficient
k_g = Chemical-specific gas mass-transfer coefficient
K_L = Mass transfer coefficient
K_{al} = Temperature correction of mass transfer coefficient
C_{wd} = Analyte concentration in water droplet
S = Release rate of analyte to air
$C_{(voc)}$ = Analyte concentration in bathroom air at time t.

$$C_{(voc)} = (S/R) \times (e^{(RDs)}-1) \times e^{(-Rt)}$$

TABLE G-28

DIRECT CONTACT WITH AND INCIDENTAL INGESTION OF SURFACE SOIL (CENTRAL TENDENCY)
ADULT TRESPASSER
NAS WHITING FIELD
MILTON, FLORIDA
SITE 15

PARAMETER	SYMBOL	VALUE	UNITS	SOURCE
CONCENTRATION SOIL	CS	chemical-specific	chemical-specific	
INGESTION RATE	IR	50	mg/day	USEPA, 1996
FRACTION INGESTED	FI	100%	unitless	USEPA, 1995
ADHERENCE FACTOR	AF	0.2	mg/cm^2-event	USEPA, 1992
ABSORPTION FRACTION	ABS_d	chemical specific	unitless	USEPA, 1995
SURFACE AREA EXPOSED	SA	5,000	cm^2	USEPA, 1992
DOSE ABSORBED PER EVENT	DAevent	chemical specific	mg/cm^2-event	USEPA, 1992
CONVERSION FACTOR	CF	1.00E-06	kg/mg	Inorganic conversion
	CF	1.00E-09	kg/ug	Organic conversion
BODY WEIGHT	BW	70	kg	USEPA, 1991
EXPOSURE FREQUENCY	EF	45	days/year	USEPA, 1992
EXPOSURE DURATION	ED	7	years	USEPA, 1992
AVERAGING TIME				
CANCER	AT	70	years	USEPA, 1991
NONCANCER	AT	7	years	USEPA, 1992

USEPA, 1991. Human Health Evaluation Manual, Supplemental Guidance: "Standard Default Exposure Factors"; OSWER Directive 9285.6-03.
USEPA, 1992. Region 6 Memorandum: Central Tendency and RME Exposure Parameters.
USEPA, 1995. Supplemental Guidance to RAGS : Region IV, Human Health Risk Assessment Bulletin No. 3.
USEPA, 1996. Exposure Factors Handbook, 1996.

EQUATIONS

CANCER RISK = INTAKE (mg/kg-day) x CANCER SLOPE FACTOR $(mg/kg\text{-}day)^{-1}$

HAZARD QUOTIENT = INTAKE (mg/kg-day) / REFERENCE DOSE (mg/kg-day)

$$INTAKE_{-INGESTION} = \frac{CS \times IR \times FI \times CF \times EF \times ED}{BW \times AT \times 365\ days/yr}$$

$$INTAKE_{-DERMAL} = \frac{DAevent \times SA \times EF \times ED}{BW \times AT \times 365\ days/yr}$$

Where:

$DAevent = AF \times ABS_d \times CF$

Note: For noncarcinogenic effects: AT = ED

TABLE G-28

DIRECT CONTACT WITH AND INCIDENTAL INGESTION OF SURFACE SOIL (CENTRAL TENDENCY)
ADULT TRESPASSER
NAS WHITING FIELD
MILTON, FLORIDA
SITE 15

CARCINOGENIC EFFECTS

COMPOUND	INORGANIC OR ORGANIC I/O	SOIL CONCENTRATION	UNITS	INTAKE INGESTION (mg/kg-day)	ORAL CSF $(mg/kg\text{-}day)^{-1}$	CANCER RISK INGESTION	DERMAL ABS [1]	INTAKE DERMAL (mg/kg-day)	DERMAL CSF [2] $(mg/kg\text{-}day)^{-1}$	CANCER RISK DERMAL	TOTAL CANCER RISK
Arsenic	I	1.9	mg/kg	1.7E-08	1.5E+00	2.5E-08	0.001	3.3E-10	1.5E+00	5.0E-10	2.6E-08
SUMMARY CANCER RISK						3E-08				5E-10	3E-08

[1] USEPA Region IV guidance specifies absorption factors of 1% for organics and 0.1% for inorganics (November 1995).
[2] Calculated from oral CSFs.

NONCARCINOGENIC EFFECTS

COMPOUND	INORGANIC OR ORGANIC I/O	SOIL CONCENTRATION	UNITS	INTAKE INGESTION (mg/kg-day)	ORAL RfD (mg/kg-day)	HAZARD QUOTIENT INGESTION	DERMAL ABS [1]	INTAKE DERMAL (mg/kg-day)	DERMAL RfD [2] (mg/kg-day)	HAZARD QUOTIENT DERMAL	TOTAL HAZARD QUOTIENT
Arsenic	I	1.9	mg/kg	1.7E-07	3.0E-04	5.6E-04	0.001	3.3E-09	2.9E-04	1.2E-05	5.7E-04
Iron	I	5060	mg/kg	4.5E-04	3.0E-01	1.5E-03	0.001	8.9E-06	6.0E-03	1.5E-03	3.0E-03
SUMMARY HAZARD INDEX						0.002				0.001	0.004

[1] USEPA Region IV guidance specifies absorption factors of 1% for organics and 0.1% for inorganics (November 1995).
[2] Calculated from oral RfDs.

TABLE G-29

DIRECT CONTACT WITH AND INCIDENTAL INGESTION OF SURFACE SOIL (CENTRAL TENDENCY)
ADOLESCENT TRESPASSER
NAS WHITING FIELD
MILTON, FLORIDA
SITE 15

EXPOSURE PARAMETERS

PARAMETER	SYMBOL	VALUE	UNITS	SOURCE
CONCENTRATION SOIL	CS	chemical-specific	chemical-specific	
INGESTION RATE	IR	50	mg/day	USEPA, 1996
FRACTION INGESTED	FI	100%	unitless	USEPA, 1995
ADHERENCE FACTOR	AF	0.2	mg/cm²-event	USEPA, 1992
AGE-SPECIFIC SURFACE AREA	SA_i	age-specific	cm²	USEPA, 1989
ABSORPTION FRACTION	ABS_d	chemical-specific	unitless	USEPA, 1995
CONVERSION FACTOR	CF	1.00E-06	kg/mg	Inorganic conversion
	CF	1.00E-09	kg/mg	Organic conversion
BODY WEIGHT	BW	45	kg	USEPA, 1991
AGE-SPECIFIC BODY WEIGHT	BW_i	age-specific	kg	USEPA, 1989
EXPOSURE FREQUENCY	EF	45	days/year [1]	USEPA, 1996
EXPOSURE DURATION	ED	2	years	USEPA, 1992
AGE-SPECIFIC EXPOSURE DURATION	ED_i	age-specific	years	Assumption
AGE-WEIGHTED SURFACE AREA [2]	$SA_{soil\ adj}$	821	cm²-year/kg	GIR -Table C-5-5; USEPA, 1992
DOSE ABSORBED PER EVENT	DA_{event}	chemical-specific	mg/cm²-event	USEPA, 1992
AVERAGING TIME				
CANCER	AT	70	years	USEPA, 1991
NONCANCER	AT	2	years	USEPA, 1992

[1] Units for exposure frequency are in events/year in the calculation of the dermally absorbed dose.
[2] In estimating the dermally absorbed dose for children age 7 through 16, the time weighted, bodyweight normalized surface area exposed is

USEPA, 1989. Exposure Factors Handbook;EPA/600/8-89/043; May 1989.
USEPA, 1991. Human Health Evaluation Manual, Supplemental Guidance: "Standard Default Exposure Factors"; OSWER Directive 9285.6-03.
USEPA, 1992. Region 6 Memorandum: Central Tendency and RME Exposure Parameters.
USEPA, 1995. Supplemental Guidance to RAGS: Region 4 Bulletins, Bulletin No. 3, November 1995.
USEPA, 1996. Exposure Factors Handbook 1996.

EQUATIONS

CANCER RISK = INTAKE (mg/kg-day) x CANCER SLOPE FACTOR $(mg/kg\text{-}day)^{-1}$

HAZARD QUOTIENT = INTAKE (mg/kg-day) / REFERENCE DOSE (mg/kg-day)

$$INTAKE_{-INGESTION} = \frac{CS \times IR \times FI \times CF \times EF \times ED}{BW \times AT \times 365\ days/yr}$$

$$INTAKE_{-DERMAL} = AT \times 365\ days/year) \times SA_{soil/adj}$$

Where:

$SA_{soil/adj}$ = SUM $(SA_i \times ED_i / BW_i)$

DA_{event} = CS x AF x ABS_d x CF

Note: For noncarcinogenic effects: AT = ED.

TABLE G-29

DIRECT CONTACT WITH AND INCIDENTAL INGESTION OF SURFACE SOIL (CENTRAL TENDENCY)
ADOLESCENT TRESPASSER
NAS WHITING FIELD
MILTON, FLORIDA
SITE 15

CARCINOGENIC EFFECTS

COMPOUND	INORGANIC OR ORGANIC I/O	SOIL CONCENTRATION	UNITS	INTAKE INGESTION (mg/kg-day)	ORAL CSF $(mg/kg\text{-}day)^{-1}$	CANCER RISK INGESTION	DERMAL ABS [1]	INTAKE DERMAL (mg/kg-day)	DERMAL CSF [2] $(mg/kg\text{-}day)^{-1}$	CANCER RISK DERMAL	TOTAL CANCER RISK
Arsenic	I	1.9	mg/kg	7.4E-09	1.5E+00	1.1E-08	0.001	5.5E-10	1.5E+00	8.2E-10	1.2E-08
				SUMMARY CANCER RISK		1E-08				8E-10	1E-08

[1] USEPA Region IV guidance specifies absorption factors of 1% for organics and 0.1% for inorganics (November 1995).
[2] Calculated from oral CSFs.

NONCARCINOGENIC EFFECTS

COMPOUND	INORGANIC OR ORGANIC I/O	SOIL CONCENTRATION	UNITS	INTAKE INGESTION (mg/kg-day)	ORAL RfD (mg/kg-day)	HAZARD QUOTIENT INGESTION	DERMAL ABS [1]	INTAKE DERMAL (mg/kg-day)	DERMAL RfD [2] (mg/kg-day)	HAZARD QUOTIENT DERMAL	TOTAL HAZARD QUOTIENT
Arsenic	I	1.9	mg/kg	2.6E-07	3.0E-04	8.7E-04	0.001	1.9E-08	2.9E-04	6.6E-05	9.3E-04
Iron	I	5060	mg/kg	6.9E-04	3.0E-01	2.3E-03	0.001	5.1E-05	6.0E-03	8.5E-03	1.1E-02
				SUMMARY HAZARD INDEX		0.003				0.01	0.01

[1] USEPA Region IV guidance specifies absorption factors of 1% for organics and 0.1% for inorganics (November 1995).
[2] Calculated from oral RfDs.

TABLE G-30

DIRECT CONTACT WITH AND INCIDENTAL INGESTION OF SURFACE SOIL (CENTRAL TENDENCY)
ADULT RESIDENT
NAS WHITING FIELD
MILTON, FLORIDA
SITE 15

EXPOSURE PARAMETERS

PARAMETER	SYMBOL	VALUE	UNITS	SOURCE
CONCENTRATION SOIL	CS	chemical-specific	chemical-specific	
INGESTION RATE	IR	50	mg/day	USEPA, 1996
FRACTION INGESTED	FI	100%	unitless	USEPA, 1995
ADHERENCE FACTOR	AF	0.2	mg/cm²-event	USEPA, 1992
ABSORPTION FRACTION	ABS_d	chemical-specific	unitless	USEPA, 1995
SURFACE AREA EXPOSED	SA	5,000	cm²	USEPA, 1992
DOSE ABSORBED PER EVENT	DA_{event}	chemical-specific	mg/cm²-event	USEPA, 1992
CONVERSION FACTOR	CF	1.00E-09	kg/ug	Organic conversion
CONVERSION FACTOR	CF	1.00E-06	kg/mg	Inorganic conversion
BODY WEIGHT	BW	70	kg	USEPA, 1991
EXPOSURE FREQUENCY	EF	350	days/year [1]	USEPA, 1992
EXPOSURE DURATION	ED	7	years	USEPA, 1992
AVERAGING TIME				
CANCER	AT	70	years	USEPA, 1991
NONCANCER	AT	7	years	USEPA, 1992

USEPA, 1991. Human Health Evaluation Manual, Supplemental Guidance: "Standard Default Exposure Factors"; OSWER Directive 9285.6-03.

USEPA, 1992. Region 6 Memorandum: Central Tendency and RME Exposure Parameters.

USEPA, 1995. Supplemental Guidance to RAGS : Region IV, Human Health Risk Assessment Bulletin No. 3.

USEPA, 1996. Exposure Factors Handbook, 1996.

EQUATIONS

CANCER RISK = INTAKE (mg/kg-day) x CANCER SLOPE FACTOR $(mg/kg\text{-}day)^{-1}$

HAZARD QUOTIENT = INTAKE (mg/kg-day) / REFERENCE DOSE (mg/kg-day)

$$INTAKE_{-INGESTION} = \frac{CS \times IR \times FI \times CF \times EF \times ED}{BW \times AT \times 365\ days/yr}$$

$$INTAKE_{-DERMAL} = \frac{DA_{event} \times SA \times EF \times ED}{BW \times AT \times 365\ days/yr}$$

Where:

$$DA_{event} = CS \times AF \times ABS_d \times CF$$

Note: For noncarcinogenic effects, AT = ED.

TABLE G-30

DIRECT CONTACT WITH AND INCIDENTAL INGESTION OF SURFACE SOIL (CENTRAL TENDENCY)
ADULT RESIDENT
NAS WHITING FIELD
MILTON, FLORIDA
SITE 15

CARCINOGENIC EFFECTS

COMPOUND	INORGANIC OR ORGANIC I/O	SOIL CONCENTRATION	UNITS	INTAKE INGESTION (mg/kg-day)	ORAL CSF (mg/kg-day)$^{-1}$	CANCER RISK INGESTION	DERMAL ABS [1]	INTAKE DERMAL (mg/kg-day)	DERMAL CSF [2] (mg/kg-day)$^{-1}$	CANCER RISK DERMAL	TOTAL CANCER RISK
Arsenic	I	1.9	mg/kg	1.3E-07	1.5E+00	2.0E-07	0.001	2.6E-09	1.5E+00	3.9E-09	2.0E-07
SUMMARY CANCER RISK						2E-07				4E-09	2E-07

[1] USEPA Region IV guidance specifies absorption factors of 1% for organics and 0.1% for inorganics (November 1995).
[2] Calculated from oral CSFs.

NONCARCINOGENIC EFFECTS

COMPOUND	INORGANIC OR ORGANIC I/O	SOIL CONCENTRATION	UNITS	INTAKE INGESTION (mg/kg-day)	ORAL RfD (mg/kg-day)	HAZARD QUOTIENT INGESTION	DERMAL ABS [1]	INTAKE DERMAL (mg/kg-day)	DERMAL RfD [2] (mg/kg-day)	HAZARD QUOTIENT DERMAL	TOTAL HAZARD QUOTIENT
Arsenic	I	1.9	mg/kg	1.3E-06	3.0E-04	4.3E-03	0.001	2.6E-08	2.9E-04	9.0E-05	4.4E-03
Iron	I	5060	mg/kg	3.5E-03	3.0E-01	1.2E-02	0.001	6.9E-05	6.0E-03	1.2E-02	2.3E-02
SUMMARY HAZARD INDEX						0.02				0.01	0.03

[1] USEPA Region IV guidance specifies absorption factors of 1% for organics and 0.1% for inorganics (November, 1995).
[2] Calculated from oral RfDs.

TABLE G-31

DIRECT CONTACT WITH AND INCIDENTAL INGESTION OF SURFACE SOIL (CENTRAL TENDENCY)
CHILD RESIDENT
NAS WHITING FIELD
MILTON, FLORIDA
SITE 15

EXPOSURE PARAMETERS

PARAMETER	SYMBOL	VALUE	UNITS	SOURCE
CONCENTRATION SOIL	CS	chemical-specific	chemical-specific	
INGESTION RATE	IR	100	mg/day	USEPA, 1995
FRACTION INGESTED	FI	100%	unitless	USEPA, 1995
ADHERENCE FACTOR	AF	0.2	mg/cm^2-event	USEPA, 1995
AGE-SPECIFIC SURFACE AREA	SA	age-specific	cm^2	USEPA, 1989
ABSORPTION FRACTION	ABS	chemical-specific	unitless	USEPA, 1995
CONVERSION FACTOR	CF	1.00E-06	kg/mg	Inorganic conversion
CONVERSION FACTOR	CF	1.00E-09	kg/ug	Organic conversion
BODY WEIGHT	BW	15	kg	USEPA, 1991
AGE-SPECIFIC BODY WEIGHT	BW	age-specific	kg	USEPA, 1989
EXPOSURE FREQUENCY	EF	350	days/year [1]	USEPA, 1995
EXPOSURE DURATION	ED	2	years	USEPA, 1995
AGE-SPECIFIC EXPOSURE DURATION	ED	age-specific	years	Assumption
AGE-WEIGHTED SURFACE AREA [2]	$SA_{soil/adj}$	766	cm^2-year/kg	USEPA, 1992
DOSE ABSORBED PER EVENT	DA_{event}	chemical-specific	mg/cm^2-event	USEPA, 1992
AVERAGING TIME				
CANCER	AT	70	years	USEPA, 1991
NONCANCER	AT	2	years	USEPA, 1995

[1] Air Force meterological data summary for Eglin AFB (close proximity to Milton) states that there is 0.01 inches of rain for 110 days per year. Exposure frequency assumes half of the rainy days require indoor restriction.

[2] In estimating the dermally absorbed dose for children age1 through 6, the time-weighted, bodyweight normalized surface area exposed is calculated from surface area, exposure duration, and body weight for each of 6 age periods, age 1 through 6, per USEPA, 1992.

USEPA, 1989. Exposure Factors Handbook;EPA/600/8-89/043; May 1989.

USEPA, 1991. Human Health Evaluation Manual, Supplemental Guidance: "Standard Default Exposure Factors"; OSWER Directive 9285.6-03.

USEPA, 1995. Supplemental Guidance to RAGS : Region IV, Human Health Risk Assessment Bulletin No. 3.

USEPA, 1996. Exposure Factors Handbook; 1996.

EQUATIONS

CANCER RISK = INTAKE (mg/kg-day) x CANCER SLOPE FACTOR $(mg/kg\text{-}day)^{-1}$

HAZARD QUOTIENT = INTAKE (mg/kg-day) / REFERENCE DOSE (mg/kg-day)

$$INTAKE_{-INGESTION} = \frac{CS \times IR \times FI \times CF \times EF \times ED}{BW \times AT \times 365\ days/yr}$$

$$INTAKE_{-DERMAL} = (DA_{event} \times EF / AT \times 365\ days/year) \times SA_{soil/adj}$$

Where:

$SA_{soil/adj}$ = SUM (SA x ED / BW)

DA_{event} = CS x AF x ABS x CF

Note: For noncarcinogenic effects, AT = ED.

TABLE G-31

DIRECT CONTACT WITH AND INCIDENTAL INGESTION OF SURFACE SOIL (CENTRAL TENDENCY)
CHILD RESIDENT
NAS WHITING FIELD
MILTON, FLORIDA
SITE 15

CARCINOGENIC EFFECTS

COMPOUND	INORGANIC OR ORGANIC I/O	SOIL CONCENTRATION	UNITS	INTAKE INGESTION (mg/kg-day)	ORAL CSF (mg/kg-day)$^{-1}$	CANCER RISK INGESTION	DERMAL ABS [1]	INTAKE DERMAL (mg/kg-day)	DERMAL CSF [2] (mg/kg-day)$^{-1}$	CANCER RISK DERMAL	TOTAL CANCER RISK
Arsenic	I	1.9	mg/kg	3.5E-07	1.5E+00	5.2E-07	0.001	4.0E-09	1.5E+00	6.0E-09	5.3E-07
				SUMMARY CANCER RISK		5E-07				6E-09	5E-07

[1] USEPA Region IV guidance specifies absorption factors of 1% for organics and 0.1% for inorganics (November 1995).
[2] Calculated from oral CSFs.

NONCARCINOGENIC EFFECTS

COMPOUND	INORGANIC OR ORGANIC I/O	SOIL CONCENTRATION	UNITS	INTAKE INGESTION (mg/kg-day)	ORAL RfD (mg/kg-day)	HAZARD QUOTIENT INGESTION	DERMAL ABS [1]	INTAKE DERMAL (mg/kg-day)	DERMAL RfD [2] (mg/kg-day)	HAZARD QUOTIENT DERMAL	TOTAL HAZARD QUOTIENT
Arsenic	I	1.9	mg/kg	1.2E-05	3.0E-04	4.0E-02	0.001	1.4E-07	2.9E-04	4.8E-04	4.1E-02
Iron	I	5060	mg/kg	3.2E-02	3.0E-01	1.1E-01	0.001	3.7E-04	6.0E-03	6.2E-02	1.7E-01
				SUMMARY HAZARD INDEX		0.1				0.1	0.2

[1] USEPA Region IV guidance specifies absorption factors of 1% for organics and 0.1% for inorganics (November 1995).
[2] Calculated from oral RfDs.

TABLE G-32

INGESTION OF GROUNDWATER AS DRINKING WATER (UNFILTERED SAMPLES) (CENTRAL TENDENCY)
ADULT RESIDENT
SITE 11
MILTON, FLORIDA

EXPOSURE PARAMETERS

PARAMETER	SYMBOL	VALUE	UNITS	SOURCE
CONCENTRATION WATER	CW	chemical-specific	ug/liter	
INGESTION RATE	IR	1.4	liters/day	USEPA, 1992
BODY WEIGHT	BW	70	kg	USEPA, 1991
CONVERSION FACTOR	CF	0.001	mg/ug	
EXPOSURE FREQUENCY	EF	350	days/year	USEPA, 1992
EXPOSURE DURATION	ED	7	years	USEPA, 1992
AVERAGING TIME				
CANCER	AT	70	years	USEPA, 1991
NONCANCER	AT	7	years	USEPA, 1991

USEPA, 1991. Human Health Evaluation Manual, Supplemental Guidance:
"Standard Default Exposure Factors"; OSWER Directive 9285.6-03.
USEPA, 1992. Region 6 Memorandum: Central Tendency and RME Exposure Parameters.

CANCER RISK = INTAKE (mg/kg-day) x CANCER SLOPE FACTOR (mg/kg-day)-1

HAZARD QUOTIENT = INTAKE (mg/kg-day) / REFERENCE DOSE (mg/kg-day)

$$\text{INTAKE} = \frac{\text{CW x IR x EF x ED x CF}}{\text{BW x AT x 365 days/year}}$$

Note: For noncarcinogenic effects, AT = ED.

TABLE G-32

INGESTION OF GROUNDWATER AS DRINKING WATER (UNFILTERED SAMPLES) (CENTRAL TENDENCY)
ADULT RESIDENT
SITE 11
MILTON, FLORIDA

CARCINOGENIC EFFECTS

COMPOUND	WATER CONCENTRATION	UNITS	INTAKE INGESTION (mg/kg-day)	CANCER SLOPE FACTOR (mg/kg-day)^-1	CANCER RISK INGESTION
1,1-Dichloroethene	5.2	UG/LITER	1.0E-05	6.0E-01	6.0E-06
Benzene	10.8	UG/LITER	2.1E-05	2.9E-02	6.0E-07
Trichloroethene	22.7	UG/LITER	4.4E-05	1.1E-02	4.8E-07
1,4-Dichlorbenzene	5.3	UG/LITER	1.0E-05	2.4E-02	2.4E-07
4,4'-DDT	0.06	UG/LITER	1.2E-07	3.4E-01	3.9E-08
bis(2-Ethylhexyl)phthalate	3.9	UG/LITER	7.5E-06	1.4E-02	1.0E-07
Arsenic	5.2	UG/LITER	1.0E-05	1.5E+00	1.5E-05
				TOTAL CANCER RISK	2E-05

NONCARCINOGENIC EFFECTS

COMPOUND	WATER CONCENTRATION	UNITS	INTAKE INGESTION (mg/kg-day)	REFERENCE DOSE (mg/kg-day)	HAZARD QUOTIENT INGESTION
1,1-Dichloroethene	5.2	UG/LITER	1.0E-04	9.0E-03	1.1E-02
1,2-Dichloroethene (total)	5.2	UG/LITER	1.0E-04	9.0E-03	1.1E-02
Benzene	10.8	UG/LITER	2.1E-04	3.0E-04	6.9E-01
Chlorobenzene	5.7	UG/LITER	1.1E-04	2.0E-02	5.5E-03
Trichloroethene	22.7	UG/LITER	4.4E-04	6.0E-03	7.3E-02
1,4-Dichlorobenzene	5.3	UG/LITER	1.0E-04	ND	
bis(2-Ethylhexyl)phthalate	3.9	UG/LITER	7.5E-05	2.0E-02	3.7E-03
4,4-DDT	0.06	UG/LITER	1.2E-06	5.0E-04	2.3E-03
Aluminum	202	UG/LITER	3.9E-03	1.0E+00	3.9E-03
Arsenic	5.2	UG/LITER	1.0E-04	3.0E-04	3.3E-01
Iron	2723	UG/LITER	5.2E-02	3.0E-01	1.7E-01
Manganese	59.2	UG/LITER	1.1E-03	4.7E-02	2.4E-02
Thallium	2.95	UG/LITER	5.7E-05	8.0E-05	7.1E-01
				TOTAL HAZARD INDEX	2

ND = no data available.

TABLE G-33

INGESTION OF GROUNDWATER AS DRINKING WATER (UNFILTERED SAMPLES) (CENTRAL TENDENCY)
CHILD RESIDENT
SITE 15
MILTON, FLORDIA

EXPOSURE PARAMETERS

PARAMETER	SYMBOL	VALUE	UNITS	SOURCE
CONCENTRATION WATER	CW	chemical-specific	ug/liter	
INGESTION RATE	IR	0.7	liters/day	USEPA, 1992
BODY WEIGHT	BW	15	kg	USEPA, 1991
CONVERSION FACTOR	CF	0.001	mg/ug	
EXPOSURE FREQUENCY	EF	350	days/year	USEPA, 1992
EXPOSURE DURATION	ED	2	years	USEPA, 1992
AVERAGING TIME				
CANCER	AT	70	years	USEPA, 1991
NONCANCER	AT	2	years	USEPA, 1991

USEPA, 1991. Human Health Evaluation Manual, Supplemental Guidance:
"Standard Default Exposure Factors"; OSWER Directive 9285.6-03.
USEPA, 1992. Region 6 Memorandum: Central Tendency and RME Exposure Parameters.

CANCER RISK = INTAKE (mg/kg-day) x CANCER SLOPE FACTOR (mg/kg-day)-1

HAZARD QUOTIENT = INTAKE (mg/kg-day) / REFERENCE DOSE (mg/kg-day)

$$\text{INTAKE} = \frac{\text{CW x IR x EF x ED x CF}}{\text{BW x AT x 365 days/year}}$$

Note: For noncarcinogenic effects, AT = ED.

TABLE G-33

INGESTION OF GROUNDWATER AS DRINKING WATER (UNFILTERED SAMPLES) (CENTRAL TENDENCY)
CHILD RESIDENT
SITE 15
MILTON, FLORDIA

CARCINOGENIC EFFECTS

COMPOUND	WATER CONCENTRATION	UNITS	INTAKE INGESTION (mg/kg-day)	CANCER SLOPE FACTOR (mg/kg-day)^-1	CANCER RISK INGESTION
1,1-Dichloroethene	5.2	UG/LITER	6.6E-06	6.0E-01	4.0E-06
Benzene	10.8	UG/LITER	1.4E-05	2.9E-02	4.0E-07
Trichloroethene	22.7	UG/LITER	2.9E-05	1.1E-02	3.2E-07
4,4-DDT	0.06	UG/LITER	7.7E-08	3.4E-01	2.6E-08
1,4-Dichlorobenzene	5.3	UG/LITER	6.8E-06	2.4E-02	1.6E-07
bis(2-Ethylhexyl)phthalate	3.9	UG/LITER	5.0E-06	1.4E-02	7.0E-08
Arsenic	5.2	UG/LITER	6.6E-06	1.5E+00	1.0E-05
				TOTAL CANCER RISK	1E-05

NONCARCINOGENIC EFFECTS

COMPOUND	WATER CONCENTRATION	UNITS	INTAKE INGESTION (mg/kg-day)	REFERENCE DOSE (mg/kg-day)	HAZARD QUOTIENT INGESTION
1,1-Dichlorethene	5.2	UG/LITER	2.3E-04	9.0E-03	2.6E-02
1,2-Dichloroethene (total)	5.2	UG/LITER	2.3E-04	9.0E-03	2.6E-02
Benzene	10.8	UG/LITER	4.8E-04	3.0E-04	1.6E+00
Chlorobenzene	5.7	UG/LITER	2.6E-04	2.0E-02	1.3E-02
Trichloroethene	22.7	UG/LITER	1.0E-03	6.0E-03	1.7E-01
1,4-Dichlorobenzene	5.3	UG/LITER	2.4E-04	ND	
bis(2-Ethylhexyl)phthalate	3.9	UG/LITER	1.7E-04	2.0E-02	8.7E-03
4,4-DDT	0.06	UG/LITER	2.7E-06	5.0E-04	5.4E-03
Aluminum	202	UG/LITER	9.0E-03	1.0E+00	9.0E-03
Arsenic	5.2	UG/LITER	2.3E-04	3.0E-04	7.8E-01
Iron	2723	UG/LITER	1.2E-01	3.0E-01	4.1E-01
Manganese	59.2	UG/LITER	2.6E-03	4.7E-02	5.6E-02
Thallium	2.95	UG/LITER	1.3E-04	8.0E-05	1.7E+00
				TOTAL HAZARD INDEX	5

APPENDIX H

APPENDIX H

ECOLOGICAL RISK DATA

Table H - 1
Summary of Bioaccumulation Data

RI/RA Report, Site 15
NAS Whiting Field
Milton, Florida

Analyte	Bioaccumulation Factor [a]				
	Log K_{ow} [b]	Invertebrate [c]	Plant [d]	Mammal [e]	Bird [f]
VOLATILES [g]					
Acetone	-0.24	NA	NA	NA	NA
Methylene chloride	1.3	NA	NA	NA	NA
Xylenes (total)	3.2	NA	NA	NA	NA
SEMIVOLATILES					
Di-n-butylphthalate	5.2	5.0E-02	7.6E-03	2.4E-01	NA
bis(2-Ethylhexyl)phthalate	5.1	5.0E-02	8.7E-03	1.9E-01	NA
INORGANICS					
Cyanide	NA	0.0E+00 [h]	1.0E+00 [h]	0.0E+00 [h]	NA
Lead	NA	7.8E-02 [j]	0.0E+00 [k]	1.5E-02 [l]	NA
Silver	NA	1.5E-01 [m]	8.0E-02 [n]	1.5E-01 [l]	NA
Vanadium	NA	1.3E-01 [m]	1.1E-03 [n]	1.3E-01 [l]	NA

NOTES:

[a] Units for bioaccumulation factors (BAFs) are mg/kg (wet) tissue weight over mg/kg (dry) soil weight for invertebrates and plant. The BAF units for small mammals and small birds are mg/kg (wet) tissue weight over mg/kg (wet) food weight.

[b] Log K_{ow} values are from the Superfund Chemical Data Matrix (USEPA, 1993), unless otherwise noted. Average Log K_{ow} for classes of semivolatiles are presented in the second log K_{ow} column. When available, chemical class log K_{ow} averages are used instead of chemical specific log K_{ow} to calculate BAF values.

[c] The value is an average BAF for semivolatiles measured in earthworms (Beyer, 1990) , unless otherwise noted. Dry weight values were converted to wet weight assuming earthworm are 80% water ($BAF_{wet\ weight} = BAF_{dry\ weight}/ 0.2$).

[d] Plant BAF were calculated using the following equation presented by Travis and Arms (1988) unless otherwise noted: log (Plant Bioaccumulation Factor) = 1.588-0.578 (log K_{ow}). The calculated plant BAF value was converted from dry weight to wet weight by dividing the BAF by a factor of 0.2 (assuming 80% water content) ($BAF_{wet\ weight} = BAF_{dry\ weight}/ 0.2$).

[e] Mammalian BAFs were calculated using the following equation from Travis and Arms (1988), unless otherwise noted: log BTF (biotransfer factor) = Log K_{ow} - 7.6. To convert from BTF to BAF, the calculated log BTF is first transformed to base 10 than multiplied by the average ingestion rates for nonlactating and lactating test animals (12 kg/day). BAFs are converted from dry to wet feed weight by dividing the BAF by a factor of 0.2 ($BAF_{wet\ weight}$ = BTF *12 mg/day/0.2). There is an uncertainty involved in using this equation for PAHs because the study by Travis and Arms (1988) did not use PAHs in the regression analysis.

[f] Bioaccumulation data are generally lacking for birds. Therefore, there is uncertainty associated with estimating body dose for birds without considering what chemicals may have bioacumulated in prey-item tissue.

[g] VOCs with low Kow values <3.5 do not bioaccumulate into animal tissue. Therefore it is assumed that tansfer of VOCs from food items to animal tissue does not occur.

[h] Cyanide has not shown to bioaccumulate in any organism.

[i] Cyanide is naturally occuring in some plants; the extent to which it is taken up fromsoil is unknown and therefore a BAF of 1 is assumed.

[j] Geometric mean of BAF values (wet weight/dry weights) for worms and woodlice (USEPA, 1985b). Wet weight tissue concentrations calculated assuming 80% body water content.

[k] Lead does not accumulate inplant tissue; therefore, a BAF of zero was assigned.

[l] Value derived from biotransfer fctors (BTFs),presented in Baes et.al (1984) for uptake into cattle. BTF converted to BAF by multiplying by food ingestion rate of 50 kg/day wet weight.

[m] Prey-specific value not available; value shown is small mammal BAF for this chemical.

[n] Value from Baes et al. (1984) for leafy portions of plants multiplied by 0.2 to represent 80% water composition of plants.

Table H - 1
Summary of Bioaccumulation Data

RI/RA Report, Site 15
NAS Whiting Field
Milton, Florida

[o] BCF for earthworms from Diercxens et al. (1985).

[p] Median of values reported fromLevine et al. (1989).

[q] Value calculated for di-n-butylphthalate used as a surrogate.

Notes:

Log Kow = Logarithm transformation of the octanol/water partitioning coefficient.

NA = Not available.

BAF = bioaccumulation factor.

mg/kg = milligrams per kilogram.

BTF = biotransfer factor.

PAH = polynuclear aromatic hydrocarbons.

> = greater than.

< = less than.

% = percent.

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Milton, Florida

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Table H-2
Ingestion Toxicity Information for Wildlife

RI/FS Report, Site 15
NAS Whiting Field
Milton, Florida

Chemical	Test Species	Test Type	Duration	Effect	Oral LD50	Lethal RTV mg/kgBW-day LOAEL	Lethal RTV mg/kgBW-day RTV [a]	Sublethal RTV mg/kgBW-day LOAEL	Sublethal RTV mg/kgBW-day NOAEL	Sublethal RTV mg/kgBW-day RTV [a]	Reference
VOLATILE ORGANIC COMPOUNDS											
Acetone	Rat	Oral	NR	Reproductive effects				273,000		27,300	RTECS, 1993
	Rat	Oral LD_{50}	NR	Mortality	5,800						RTECS, 1993
	Rat	Oral LD_{50}		Mortality	9,750						Sax, 1984
	Mouse	Oral LD_{50}	NR	Mortality	3,000		600				RTECS, 1993
	Rabbit	Oral LD_{50}	NR	Mortality	5,340						RTECS, 1993
Methylene chloride	Rat	Oral LD_{50}	NR	Mortality	1,600		320				RTECS, 1994
	Dog	Oral LD_{50}	NR	Mortality	3,000						RTECS, 1994
	Rabbit	Oral LD_{50}	NR	Mortality	1,900						RTECS, 1994
	Rat	Oral (chronic)	2 years	Liver toxicity				52.6	5.9	5.9	IRIS, 1993
	Rat	Oral (subchronic)	3 months	Mortality, blood chemistry, histopathology					12.5		USEPA, 1984
Xylenes (total)	Rat	Oral LD_{50}	NR	Mortality	4,300		860				NIOSH, 1985
	Rat	Oral (chronic)	103 weeks	Hyperactivity, decreased BW, mortality				500	250	250	IRIS, 1993
	Japanese quail	Oral (acute)	5 days	Mortality		2,014	201				Hill, E.F., et al., 1986
SEMIVOLATILE ORGANIC COMPOUNDS											
Di-n-butylphthalate	Rat	Oral (subchronic)	48 days	Reproductive effects				125		12.5	ATSDR, 1989
	Rat	Oral (chronic)	1 year	Mortality		600	60				IRIS, 1993
bis(2-Ethylhexyl)phthalate	Rat	Oral LD_{50}	NR	Mortality	30,600						RTECS, 1993
	Rat	Oral	NR	Reproductive effects				7,140			RTECS, 1993
	Rat	Oral	NR	Reproductive effects				35		3.5	RTECS, 1993
	Rat	Oral	NR	Reproductive effects				6,000			RTECS, 1993
	Rat	Oral	NR	Reproductive effects				17,200			RTECS, 1993
	Rat	Oral	NR	Reproductive effects				10,000			RTECS, 1993
	Rat	Oral	NR	Reproductive effects				9,766			RTECS, 1993
	Mouse	Oral LD_{50}	NR	Mortality	30,000						RTECS, 1993
	Mouse	Oral	NR	Reproductive effects				78,880			RTECS, 1993
	Mouse	Oral	NR	Reproductive effects				4,200			RTECS, 1993
	Mouse	Oral	NR	Reproductive effects				50			RTECS, 1993
	Mouse	Oral	NR	Reproductive effects				1,000			RTECS, 1993
	Mouse	Oral	NR	Reproductive effects				2,040			RTECS, 1993
	Rabbit	Oral LD_{50}	NR	Mortality	34,000						RTECS, 1993
	Guinea pig	Oral LD_{50}	NR	Mortality	26,000						RTECS, 1993
	Guinea pig	Oral	NR	Reproductive effects				20,000			RTECS, 1993
	Mammal	Oral	NR	Reproductive effects				20,000			RTECS, 1993
	Mammal	Oral	NR	Reproductive effects				509,000			RTECS, 1993
	Mouse	Oral LD_{50}		Mortality	800		160				RTECS, 1993
	Mouse	Oral (subchronic)	13 weeks	Renal effects				125			RTECS, 1993
INORGANIC ANALYTES											
Cyanide	Rat	Oral (subchronic)	11.5 months	Increased thyroid weight, myelin degeneration				30			IRIS, 1993
	Mouse	Single oral dose	NR	Mortality	8.5		1.7				Armstrong Medical, 1987
	Young chickens	Oral	20 days	Decreased growth and food intake				11		1.1	Elzubeir, E.A., et al., 1988
	Pig	Oral	110 days	Thyroid hypofunction during pregnancy				11			Tewe, O.O., et al., 1981
	Hamsters	Oral	12 days	Decreased fetal weight and delayed ossification				11.9		1.1	Frakes, R.A., et al., 1986
	Mallard	Single oral dose	NR	Mortality in 6% of the population		1.1	0.11				Eisler, R., 1991
Lead	Rat	Oral	NR	Reproductive effects				790			RTECS, 1993
	Rat	Oral	NR	Reproductive effects				1,140			RTECS, 1993
	Rat	Oral	NR	Reproductive effects				520			RTECS, 1993
	Rat	Oral	NR	Reproductive effects				1,100			RTECS, 1993
	Calf	Oral LD_{50}	NR	Mortality	220						Eisler, 1988
	Rat	Oral (subchronic)	12-14 days	Decreased fetal body weight				2.5			McClain and Becker, 1972
	Mouse	Oral	NR	Reproductive effects				1,120			RTECS, 1993
	Mouse	Oral	NR	Reproductive effects				6,300			RTECS, 1993
	Mouse	Oral	NR	Reproductive effects				300			RTECS, 1993
	Mouse	Oral	NR	Reproductive effects				4,800			RTECS, 1993
	Domestic animal	Oral	NR	Reproductive effects				662			RTECS, 1993
	Mammal	Oral	NR	Reproductive effects				2,118			RTECS, 1993
	Kestrel	Diet	NR	Decreased egg laying fertility; decreased egg shell thickness					4.61 [b]	4.61	Eisler, 1988

Table II-2
Ingestion Toxicity Information for Wildlife

RI/FS Report, Site 15
NAS Whiting Field
Milton, Florida

Chemical	Test Species	Test Type	Duration	Effect	Lethal RTV mg/kgBW-day			Sublethal RTV mg/kgBW-day			Reference
					Oral LD50	LOAEL	RTV [a]	LOAEL	NOAEL	RTV [a]	
	Kestrel nestlings	Oral	10 days	Reduced growth and brain weight; abnormal development				125			Eisler, 1988
	Japanese quail	Oral LD_{50}	5 days	Mortality	24,752						Hill and Camardese, 1986
	Rat	Oral (chronic)	2 generations	Developmental effects					7	7	Kimmel et al., 1980 and Grant et al., 1980
	Guinea pig	Oral LD_{50}		Mortality	300		60				Sax, 1984
	Rock dove	Oral (chronic)	NS	Kidney pathology; learning deficiences				6.25			Anders et al., 1982 and Dietz et al., 1979
	Rock dove	Oral LD_{50}		Mortality	375		75				Kendall and Scanlon, 1985
Silver	Mouse	Intraperitoneal (acute)		Mortality	34		6.8				NIOSH, 1985
	Rat	Oral (chronic)	37 week	Weight gain				222.2			ATSDR, 1990a
	Mouse	Oral (chronic)	125 days	Hypoactivity				18.1		1.81	ATSDR, 1990a
Vanadium	Japanese quail	Oral LD_{50}	5 days	Mortality	96		19.2				Hill, E.F., et al., 1986
	Mouse	Gavage LD_{50}	One-time	Mortality	31		6.2				ATSDR, 1900b
	Rat	Oral (subchronic)	2 months	Hypertension				15			Susic, D., et al., 1986
	Rat	Oral (subchronic)	35 days	Developmental effects					8.4	8.4	Domingo, J.L., et al., 1986
	Chicken	Oral (subchronic)	Decrease in egg-laying					11		1.1	Berg, L.R., et al., 1963

Notes:
LD_{50} = Dose resulting in 50% mortality in test population
BW = Body weight
LOAEL = Lowest Observed Adverse Effect Level
NOAEL = No Observed Adverse Effect Level
NR = Not reported
[a] Selected RTVs are boxed. Lethal and sublethal RTVs are chosen based on the data hierarchy discussed in Section 7.5.1.
[b] Converted to dose per kilogram body weight by multiplying by ingestion and dividing by body weight. Body weights for birds obtained from Dunning, 1984.
Ingestion rates were calculated using the following regression equation (for all birds) from USEPA, 1993b: Food Ingestion (kg/day) = 0.00582 * Body Weight$^{0.651}$ (kg). Ingestion rates for the chicken from NRC, 1984 (pg. 13).

Table H-3
RTVs Selected for Ecological Risk Assessment [a]
Units (mg/kgBW/day)

RI/FS Report, Site 15
NAS Whiting Field
Milton, Florida

Compound	Small Mammal [b]		Small Bird [c]		Predatory Mammal [d]		Predatory Bird [e]	
	Lethal	Sublethal	Lethal	Sublethal	Lethal	Sublethal	Lethal	Sublethal
Volatile Organic Compounds								
Acetone	600	27,300			600	27,300		
Methylene chloride	320	5.9			320	5.9		
Xylenes	860	250	201		860	250	201	
Semivolatile Organic Compounds								
Di-n-butylphthalate	60	12.5			60	12.5		
bis(2-Ethylhexyl)phthalate	160	3.5			160	3.5		
Inorganic Compounds								
Cyanide	1.7	1.1	0.11	1.1	1.7	1.1	0.11	1.1
Lead	60	7	75	4.61	60	7	75	4.61
Silver	6.8	1.81			6.8	1.81		
Vanadium	6.2	8.4	19.2	1.1	6.2	8.4	19.2	1.1
~~Zinc~~	~~502~~	~~20~~			~~502~~	~~20~~		

Notes:
[a] Lethal and sublethal RTVs correspond to the boxed values presented in Table H-2.
[b] These RTVs represent chemical concentrations that are not anticipated to result in adverse effects for the cotton mouse or the short tailed shrew.
[c] These RTVs represent chemical concentrations that are not anticipated to result in adverse effects for the eastern meadowlark.
[d] These RTVs represent chemical concentrations that are not anticipated to result in adverse effects for the red fox. When no data were available, the small mammal values were used as a surrogate.
[e] These RTVs represent chemical concentrations that are not anticipated to result in adverse effects for the red-tailed hawk. When no data were available, the small bird values were used as a surrogate.

Table H-4
Summary of Toxicity Data for Plant Receptors

RI/FS Report, Site 15
NAS Whiting Field
Milton, Florida

Chemical	Reference	RTV in soil [a] (mg/kg)
VOLATILE ORGANICS		
Acetone		NA
Methylene chloride	Hulzebos *et al.*, 1993 [b]	>1,000 [c]
Xylenes (total)	Hulzebos *et al.*, 1993 [b]	>1,000 [c]
SEMI-VOLATILE ORGANICS		
Di-n-butylphthalate	Will and Suter, 1994	200
bis(2-Ethylhexyl)phthalate	Hulzebos *et al.*, 1993 [b]	>1,000
INORGANICS		
Cyanide		NA
Lead	Will and Suter, 1994	50
Silver	Will and Suter, 1994	2
Vanadium	Will and Suter, 1994	2
~~Zinc~~	~~Will and Suter, 1994~~	~~50~~

Notes:
[a] RTVs in soil are equal to chemical concentrations in soil that are not expected to result in adverse effects to plants.
[b] Values represent 14-day growth EC_{50}s for *Lactuca sativa* in soil, or 16- to 21-day growth EC_{50} for *L. sativa* in solution.
[c] Value for tetrachloroethylene used as a surrogate.
[d] Value for di-n-butylphthalate used as a surrogate.

NA = Not Available

Table H-5
Summary of Toxicity Data for Terrestrial Invertebrates

RI/FS Report, Site 15
NAS Whiting Field
Milton, Florida

Chemical	Test Type	Test Duration	Test Species	Chemical Concentration (mg/kg)	Effect	RTV (mg/kg)	Reference
VOLATILE ORGANIC COMPOUNDS							
Acetone	NA	NA	NA	NA	NA	NA	NA
Methylene chloride	Soil Test	14 day	*E. foetida*	740	LC_{50}	150 [a]	Neuhauser et al., 1985.
Xylenes (total)	Soil Test	14 day	*E. foetida*	160	LC_{50}	21 [a]	Neuhauser et al., 1985.
SEMIVOLATILE ORGANIC COMPOUNDS							
Di-n-butylphthalate	Soil Test	14 day	4 test species	2,390	LC_{50}	478 [b]	Neuhauser et al., 1985.
bis(2-Ethylhexyl)phthalate	Soil Test	14 day	4 test species	2,390	LC_{50}	478 [b]	Neuhauser et al., 1986.
INORGANIC ANALYTES							
Cyanide	NA	NA	NA	NA	NA	NA	NA
Lead	Soil Test	20 week	*E. foetida*	5,000 [d]	Decrease in cocoon production		Malecki et al., 1982
Lead	Soil Test	2 week	*E. foetida*	5,941	LC_{50}	1,190 [c]	Neuhauser et al., 1985
Silver	NA	NA	NA	NA	NA	NA	NA
Vanadium	NA	NA	NA	NA	NA	NA	NA
Zinc	Soil Test	20 week	*E. foetida*	5,000 [d]	Decrease in cocoon production		Malecki et al., 1982
Zinc	Soil Test	2 week	*E. foetida*	662	LC_{50}	130 [c]	Neuhauser et al., 1985

NOTES:

[a] Equal to the lowest LC_{50} in each chemical class, multiplied by a safety factor of 0.2, as described in text. Value for 2-chloroethyl vinyl ether used for all chlorinated volatiles.

[b] Mean of LC_{50}s for four test species (*A. tuberculata, E. foetida, E. eugeniae*, and *P. excavatus*) from artificial soil tests; values used for a whole chemical class are multiplied by a factor of 0.2 (Neuhauser et al., 1986). Value for dimethylphthalate used for phthalates.

[c] Conservative factor of 0.2 applied to endpoint; resultant value should be protective of 99.9% of the exposed population from acute effects (USEPA, 1986a).

[d] Acetate salt

NA = Not available

Table H-6
Exposure Parameters and Assumptions for Terrestrial Receptors [a]
Site 15
Remedial Investigation and Feasibility Study, Site 15
Naval Air Station Whiting Field, Milton, Florida

Representative Wildlife Species		Percent Prey in Diet: Inverts	Plants	Small Mammals	Small Birds	Soil	Home Range (acres)	ED [b]	Site Foraging Frequency [c]	Food Ingestion Rate (kg/day)	Body Weight (kg)
Cotton mouse	(Small herb. mammal)	10%	88%	0%	0%	2%	0.147	1	1.00E+00	0.0029	0.021
Short-tailed shrew	(Small omn. mammal)	78%	12%	0%	0%	10%	0.96	1	1.00E+00	0.0024	0.017
Eastern meadowlark	(Small herb. bird)	75%	20%	0%	0%	5%	5	1	1.00E+00	0.0119	0.087
Red fox	(Predatory mammal)	20%	10%	57%	10%	3%	250	1	8.40E-02	0.24	4.69
Red-tailed hawk	(Predatory bird)	0%	0%	70%	27%	3%	800	1	1.00E+00	0.113	1.02

NOTES:

SITE AREA: 21.0 acres

[a] Documentation of exposure parameters presented in: Table 7-6

[b] ED = Exposure Duration (percentage of year receptor is expected to be found at study area). ED is assumed to be 1 for this risk assessment.

[c] SFF = Site Foraging Frequency (calculated by dividing site area by receptor home range (cannot exceed 1.0)). SFF is assumed to be 1 for lethal exposure scenario.

Table H-7
Estimated Chronic Exposure to Terrestrial Receptors from Ingestion of Reasonable Maximum Exposure Concentrations of ECPCs in Food and Surface Soil
Site 15
Remedial Investigation and Feasibility Study, Site 15
Naval Air Station Whiting Field, Milton, Florida

EXPOSURE CONCENTRATION DATA		ESTIMATED CONTAMINANT CONCENTRATIONS IN PRIMARY FOOD ITEMS				BAF VALUES FOR OTHER FOOD ITEMS	
ANALYTE	REASONABLE MAXIMUM EXPOSURE CONCENTRATION (mg/kg)	Invert BAF [a]	Concentration in Invertebrate Tissue [b] (mg/kg)	Plant BAF [a]	Concentration in Plant Tissue [c] (mg/kg)	Small Mammal BAF [a]	Small Bird BAF [a]
Acetone	6.2E-03	NA	0.0E+00	NA	0.0E+00	NA	NA
Methylene chloride	5.6E-03	NA	0.0E+00	NA	0.0E+00	NA	NA
Xylenes	4.0E-03	NA	0.0E+00	NA	0.0E+00	NA	NA
Di-n-butylphthalate	3.7E-01	5.0E-02	1.8E-02	6.7E-03	2.5E-03	3.0E-01	NA
bis(2-ethylhexyl)phthalate	2.4E-01	5.0E-02	1.2E-02	6.7E-03	1.6E-03	3.0E-01	NA
Cyanide	2.5E-01	0.0E+00	0.0E+00	1.0E+00	2.5E-01	0.0E+00	NA
Lead	7.3E+00	7.8E-02	5.7E-01	0.0E+00	0.0E+00	1.5E-02	NA
Silver	1.2E+00	1.5E-01	1.8E-01	8.0E-02	9.6E-02	1.5E-01	NA
Vanadium	1.3E+01	1.3E-01	1.7E+00	1.1E-03	1.5E-02	1.3E-01	NA
~~Zinc~~	~~6.3E+00~~	~~1.8E+00~~	~~1.1E+01~~	~~6.1E-01~~	~~3.8E+00~~	~~2.1E+00~~	~~NA~~

ECPC = Ecological Chemical of Potential Concern
RME = Reasonable Maximum Exposure
[a] Bioaccumulation data presented in: Appendix H, Table H-1
[b] ECPC concentrations in invertebrate tissue equals the invertebrate BAF multiplied by the RME soil concentration of the contaminant.
[c] ECPC concentrations in plant tissue equals the plant BAF multiplied by the RME soil concentration of the contaminant.

Table H-7
Estimated Chronic Exposure to Terrestrial Receptors from Ingestion of Reasonable Maximum Exposure Concentrations of ECPCs in Food and Surface Soil
Site 15
Remedial Investigation and Feasibility Study, Site 15
Naval Air Station Whiting Field, Milton, Florida

POTENTIAL DIETARY EXPOSURE (mg/kgBW/day) [d]

ANALYTE	*Cotton mouse*	*Short-tailed shrew*	*Eastern meadowlark*	*Red fox*	*Red-tailed hawk*
Acetone	1.7E-05	8.8E-05	4.2E-05	1.9E-04	1.9E-04
Methylene chloride	1.5E-05	7.9E-05	3.8E-05	1.7E-04	1.7E-04
Xylenes	1.1E-05	5.6E-05	2.7E-05	1.2E-04	1.2E-04
Di-n-butylphthalate	1.6E-03	7.3E-03	4.5E-03	1.6E-02	1.3E-02
bis(2-ethylhexyl)phthalate	1.0E-03	4.7E-03	2.9E-03	1.0E-02	8.4E-03
Cyanide	3.1E-02	7.8E-03	8.5E-03	3.3E-02	7.5E-03
Lead	2.8E-02	1.7E-01	1.1E-01	3.3E-01	2.2E-01
Silver	1.7E-02	3.8E-02	2.9E-02	8.7E-02	4.4E-02
Vanadium	6.2E-02	3.8E-01	2.7E-01	7.6E-01	4.3E-01
~~Zinc~~	~~6.4E-01~~	~~1.4E+00~~	~~1.3E+00~~	~~5.6E+00~~	~~4.4E+00~~

[d] Calculated by summing the products of individual prey type concentrations and percent in diet, multiplying by the ingestion rate, and dividing by body weight.

Table H-8
Risk from Potential Lethal Effects for Terrestrial Receptors from Reasonable Maximum Exposure Concentrations of ECPCs in Food and Surface Soil
Site 15
Remedial Investigation and Feasibility Study, Site 15
Naval Air Station Whiting Field, Milton, Florida

ANALYTE	Cotton mouse			Short-tailed shrew			Eastern meadowlark		
	PDE	RTV	HQ	PDE	RTV	HQ	PDE	RTV	HQ
Acetone	1.7E-05	6.0E+02	2.9E-08	8.8E-05	6.0E+02	1.5E-07	4.2E-05		0.0E+00
Methylene chloride	1.5E-05	3.2E+02	4.8E-08	7.9E-05	3.2E+02	2.5E-07	3.8E-05		0.0E+00
Xylenes	1.1E-05	8.6E+02	1.3E-08	5.6E-05	8.6E+02	6.6E-08	2.7E-05	2.0E+02	1.4E-07
Di-n-butylphthalate	1.6E-03	6.0E+01	2.6E-05	7.3E-03	6.0E+01	1.2E-04	4.5E-03		0.0E+00
bis(2-ethylhexyl)phthalate	1.0E-03	1.6E+02	6.4E-06	4.7E-03	1.6E+02	3.0E-05	2.9E-03		0.0E+00
Cyanide	3.1E-02	1.7E+00	1.8E-02	7.8E-03	1.7E+00	4.6E-03	8.5E-03	1.1E-01	7.8E-02
Lead	2.8E-02	6.0E+01	4.7E-04	1.7E-01	6.0E+01	2.8E-03	1.1E-01	7.5E+01	1.4E-03
Silver	1.7E-02	6.8E+00	2.6E-03	3.8E-02	6.8E+00	5.6E-03	2.9E-02		0.0E+00
Vanadium	6.2E-02	6.2E+00	1.0E-02	3.8E-01	6.2E+00	6.1E-02	2.7E-01	1.9E+01	1.4E-02
~~Zinc~~	~~6.4E-01~~	~~5.0E+02~~	~~1.3E-03~~	~~1.4E+00~~	~~5.0E+02~~	~~2.8E-03~~	~~1.3E+00~~		~~0.0E+00~~
SUMMARY HAZARD INDEX			3.2E-02 ~~3.1E-02~~			7.4E-02 ~~7.7E-02~~			9.3E-02

PDE = Potential Dietary Exposure (mg/kgBW/day) RTV = Reference Toxicity Value (mg/kgBW/day) HQ = Hazard Quotient (calculated by dividing PDE by RTV)

Table H-9
Risk from Potential Sublethal Effects for Terrestrial Receptors from Reasonable Maximum Exposure Concentrations of ECPCs in Food and Surface Soil
Site 15
Remedial Investigation and Feasibility Study, Site 15
Naval Air Station Whiting Field, Milton, Florida

ANALYTE	Cotton mouse			Short-tailed shrew			Eastern meadowlark		
	PDE	RTV	HQ	PDE	RTV	HQ	PDE	RTV	HQ
Acetone	1.7E-05	2.7E+04	6.3E-10	8.8E-05	2.7E+04	3.2E-09	4.2E-05		0.0E+00
Methylene chloride	1.5E-05	5.9E+00	2.6E-06	7.9E-05	5.9E+00	1.3E-05	3.8E-05		0.0E+00
Xylenes	1.1E-05	2.5E+02	4.4E-08	5.6E-05	2.5E+02	2.3E-07	2.7E-05		0.0E+00
Di-n-butylphthalate	1.6E-03	1.3E+01	1.3E-04	7.3E-03	1.3E+01	5.8E-04	4.5E-03		0.0E+00
bis(2-ethylhexyl)phthalate	1.0E-03	3.5E+00	2.9E-04	4.7E-03	3.5E+00	1.4E-03	2.9E-03		0.0E+00
Cyanide	3.1E-02	1.1E+00	2.8E-02	7.8E-03	1.1E+00	7.1E-03	8.5E-03	1.1E+00	7.8E-03
Lead	2.8E-02	7.0E+00	4.0E-03	1.7E-01	7.0E+00	2.4E-02	1.1E-01	4.6E+00	2.4E-02
Silver	1.7E-02	1.8E+00	9.6E-03	3.8E-02	1.8E+00	2.1E-02	2.9E-02		0.0E+00
Vanadium	6.2E-02	8.4E+00	7.4E-03	3.8E-01	8.4E+00	4.5E-02	2.7E-01	1.1E+00	2.4E-01
~~Zinc~~	~~6.4E-01~~	~~2.0E+01~~	~~3.2E-02~~	~~1.4E+00~~	~~2.0E+01~~	~~7.0E-02~~	~~1.3E+00~~		~~0.0E+00~~
SUMMARY HAZARD INDEX			5.0E-02 ~~8.2E-02~~			1.0E-01 ~~1.7E-01~~			2.8E-01

PDE = Potential Dietary Exposure (mg/kgBW/day) RTV = Reference Toxicity Value (mg/kgBW/day) HQ = Hazard Quotient (calculated by dividing PDE by RTV)

Table H-8
Risk from Potential Lethal Effects for Terrestrial Receptors from Reasonable Maximum Exposure Concentrations of ECPCs in Food and Surface Soil
Site 15
Remedial Investigation and Feasibility Study, Site 15
Naval Air Station Whiting Field, Milton, Florida

ANALYTE	Red fox			Red-tailed hawk		
	PDE	RTV	HQ	PDE	RTV	HQ
Acetone	1.9E-04	6.0E+02	3.1E-07	1.9E-04		0.0E+00
Methylene chloride	1.7E-04	3.2E+02	5.3E-07	1.7E-04		0.0E+00
Xylenes	1.2E-04	8.6E+02	1.4E-07	1.2E-04	2.0E+02	6.0E-07
Di-n-butylphthalate	1.6E-02	6.0E+01	2.7E-04	1.3E-02		0.0E+00
bis(2-ethylhexyl)phthalate	1.0E-02	1.6E+02	6.5E-05	8.4E-03		0.0E+00
Cyanide	3.3E-02	1.7E+00	1.9E-02	7.5E-03	1.1E-01	6.8E-02
Lead	3.3E-01	6.0E+01	5.6E-03	2.2E-01	7.5E+01	2.9E-03
Silver	8.7E-02	6.8E+00	1.3E-02	4.4E-02		0.0E+00
Vanadium	7.6E-01	6.2E+00	1.2E-01	4.3E-01	1.9E+01	2.3E-02
~~Zinc~~	~~5.6E+00~~	~~5.0E+02~~	~~1.1E-02~~	~~4.4E+00~~		~~0.0E+00~~
SUMMARY HAZARD INDEX			1.6E-01 ~~1.7E-01~~			9.4E-02

PDE = Potential Dietary Exposure (mg/kgBW/day) RTV = Reference Toxicity Value (mg/kgBW/day) HQ = Hazard Quotient (calculated by dividing PDE by RTV)

Table H-9
Risk from Potential Sublethal Effects for Terrestrial Receptors from Reasonable Maximum Exposure Concentrations of ECPCs in Food and Surface Soil
Site 15
Remedial Investigation and Feasibility Study, Site 15
Naval Air Station Whiting Field, Milton, Florida

ANALYTE	*Red fox*			*Red-tailed hawk*		
	PDE	RTV	HQ	PDE	RTV	HQ
Acetone	1.9E-04	2.7E+04	6.8E-09	1.9E-04		0.0E+00
Methylene chloride	1.7E-04	5.9E+00	2.8E-05	1.7E-04		0.0E+00
Xylenes	1.2E-04	2.5E+02	4.8E-07	1.2E-04		0.0E+00
Di-n-butylphthalate	1.6E-02	1.3E+01	1.3E-03	1.3E-02		0.0E+00
bis(2-ethylhexyl)phthalate	1.0E-02	3.5E+00	3.0E-03	8.4E-03		0.0E+00
Cyanide	3.3E-02	1.1E+00	3.0E-02	7.5E-03	1.1E+00	6.8E-03
Lead	3.3E-01	7.0E+00	4.8E-02	2.2E-01	4.6E+00	4.8E-02
Silver	8.7E-02	1.8E+00	4.8E-02	4.4E-02		0.0E+00
Vanadium	7.6E-01	8.4E+00	9.1E-02	4.3E-01	1.1E+00	3.9E-01
~~Zinc~~	~~5.6E+00~~	~~2.0E+01~~	~~2.8E-01~~	~~4.4E+00~~		~~0.0E+00~~
SUMMARY HAZARD INDEX			2.2E-01 ~~5.0E-01~~			4.5E-01

PDE = Potential Dietary Exposure (mg/kgBW/day) RTV = Reference Toxicity Value (mg/kgBW/day) HQ = Hazard Quotient (calculated by dividing PDE by RTV)

Appendix H Reference List
Site 15
NAS Whiting Field, Milton, Florida

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APPENDIX I

APPENDIX I

AQUIRE DATA

Table I-1
AQUIRE Freshwater Toxicity Information (µg/L)
Site 15

Remedial Investigation
NAS Whiting Field
Milton, Florida

Chemical Name	Species	Age	Exposure	Effect	Effect Concentration		AQUIRE Reference Number	Year of Publication
					Lethal	Sublethal		
Volatile Organics								
Acetone	Aedes aegypti;Mosquito	3rd INST-AR	48 H	LC_{50}	15,000,000		310574	83
	Ambystoma mexicanum;Salamander	3-4 WK	48 H	LC_{50}	20,000,000		219740	80
	Asellus aquaticus;Aquatic sowbug	NR	48 H	LC_{50}	7,550,000		315788	83
	Chironomus thummi;Midge	NR	48 H	LC_{50}	13,000,000		315788	83
	Chlorella pyrenoidosa;Green algae	LOG PHASE	48 H	GRO		3,400,000	310574	83
	Cipangopaludina malleata;Mud snail	NR	48 H	LC_{50}	48,000,000		219158	72
	Cloeon dipterum;Mayfly	NR	48 H	LC_{50}	7,600,000		315788	83
	Corixa punctata;Water boatman	NR	48 H	LC_{50}	5,000,000		315788	83
	Culex pipiens;Mosquito	3rd INST-AR	48 H	LC_{50}	17,000,000		310574	83
	Culex restuans;White dotted mosquito	3rd INST-AR	18 H	LC_{50}	6,190,000		212192	81
	Daphnia magna;Water flea	¾24 H	28 D	MOR	1,100,000		310694	83
	Daphnia magna;Water flea	¾24 H	28 D	MOR	4,300,000		310694	83
	Daphnia magna;Water flea	¾24 H	7 D	MOR	2,200,000		310694	83
	Daphnia magna;Water flea	¾24 H	14 D	MOR	4,300,000		310694	83
	Daphnia magna;Water flea	¾24 H	28 D	MOR	550,000		310694	83
	Daphnia magna;Water flea	¾24 H	7 D	MOR	550,000		310694	83
	Daphnia magna;Water flea	¾24 H	14 D	MOR	550,000		310694	83
	Daphnia magna;Water flea	¾24 H	21 D	MOR	550,000		310694	83
	Daphnia magna;Water flea	8 H	0.25 H	LOC		9,280,000	212171	44
	Daphnia magna;Water flea	¾24 H	7 D	LET	8,700,000		310694	83
	Daphnia magna;Water flea	¾24 H	21 D	MOR	1,100,000		310694	83
	Daphnia magna;Water flea	¾24 H	14 D	MOR	1,100,000		310694	83
	Daphnia magna;Water flea	¾24 H	28 D	MOR	2,200,000		310694	83
	Daphnia magna;Water flea	¾24 H	7 D	MOR	1,100,000		310694	83
	Daphnia magna;Water flea	¾24 H	14 D	MOR	2,200,000		310694	83
	Daphnia magna;Water flea	¾24 H	28 D	REP		4,300,000	310694	83
	Daphnia magna;Water flea	¾24 H	21 D	MOR	4,300,000		310694	83
	Daphnia magna;Water flea	¾ 24 H	48 H	LC_{50}	31,000,000		310694	83
	Daphnia magna;Water flea	¾ 24 H	24 H	LC_{50}	35,000,000		310694	83
	Daphnia magna;Water flea	¾24 H	21 D	MOR	2,200,000		310694	83
	Daphnia magna;Water flea	<24 H	48 H	EC_{50}IM		13,500,000	212193	80
	Daphnia magna;Water flea	¾24 H	28 D	REP		1,100,000	310694	83
	Daphnia magna;Water flea	¾24 H	7 D	MOR	4,300,000		310694	83
	Daphnia pulex;Water flea	<24 H	18 H	LC_{50}	1,220,000		212192	81
	Dugesia lugubris;Turbellarian	NR	48 H	LC_{50}	7,500,000		315788	83
	Erpobdella octoculata;Leech	NR	48 H	LC_{50}	7,000,000		315788	83
	Gambusia affinis;Mosquitofish	ADULT FEMALE	96 H	LC_{50}	13,000,000		210508	57
	Gambusia affinis;Mosquitofish	ADULT FEMALE	24 H	LC_{50}	13,500,000		210508	57
	Gambusia affinis;Mosquitofish	ADULT FEMALE	48 H	LC_{50}	13,000,000		210508	57
	Gammarus pulex;Scud	NR	48 H	LC_{50}	6,000,000		315788	83
	Hydra oligactis;Hydra	NR	48 H	LC_{50}	13,500,000		315788	83
	Hydra oligactis;Hydra	BUD-LESS	48 H	LC_{50}	13,500,000		310574	83
	Indoplanorbis exustus;Snail	NR	48 H	LC_{50}	35,000,000		219158	72
	Ischnura elegans;Dragonfly	NR	48 H	LC_{50}	6,400,000		315788	83
	Lepomis macrochirus;Bluegill	5.3-7.2cm 3.5-3.9 g	96 H	LC_{50}	8,300,000		212406	68
	Lepomis macrochirus;Bluegill	NR	96 H	LC_{50}	8,300,000		210949	68
	Lymnaea stagnalis;Great pond snail	3-4 WK	48 H	LC_{50}	7,000,000		310574	83
	Lymnaea stagnalis;Great pond snail	NR	48 H	LC_{50}	7,000,000		315788	83
Acetone (cont.)	Nemoura cinerea;Stonefly	NR	48 H	LC_{50}	10,300,000		315788	83

Table I-1
AQUIRE Freshwater Toxicity Information (µg/L)
Site 15

Remedial Investigation
NAS Whiting Field
Milton, Florida

Chemical Name	Species	Age	Exposure	Effect	Effect Concentration		AQUIRE Reference Number	Year of Publication
					Lethal	Sublethal		
	Oncorhynchus mykiss;Rainbow trout	5-8 WK	48 H	LC_{50}	7,400,000		310574	83
	Oncorhynchus mykiss;Rainbow trout	10.0cm 10.2 g	6 H	LET	12,500,000		210991	78
	Oncorhynchus mykiss;Rainbow trout	1.0 g	96 H	LC_{50}	5,540,000		210666	80
	Oncorhynchus mykiss;Rainbow trout	9.4 cm 10.8 g	24 H	LC_{50}	6,100,000		210991	78
	Oryzias latipes;Medaka, high-eyes	4-5 WK	48 H	LC_{50}	14,300,000		310574	83
	Palaemonetes kadiakensis;Grass shrimp, freshwater prawn	JUV-ENILE	18 H	LC_{50}	2,610,000		212192	81
	Physa acuta;Bladder snail	NR	48 H	LC_{50}	35,000,000		219158	72
	Pimephales promelas;Fathead minnow	28 D	96 H	LC_{50}	7,280,000		312448	84
	Pimephales promelas;Fathead minnow	0.12 g	96 H	LC_{50}	7,310,000		310183	83
	Pimephales promelas;Fathead minnow	33 D	96 H	LC_{50}	8,120,000		312448	84
	Pimephales promelas;Fathead minnow	32 D	96 H	LC_{50}	6,210,000		312448	84
	Pimephales promelas;Fathead minnow	3-4 WK	48 H	LC_{50}	15,000,000		310574	83
	Pimephales promelas;Fathead minnow	0.12 g	96 H	LC_{50}	8,140,000		310183	83
	Rasbora heteromorpha;Harlequinfish, red rasbora	1.3-3 cm	48 H	LC_{50}	4,000,000		210542	69
	Rasbora heteromorpha;Harlequinfish, red rasbora	1.3-3 cm	24 H	LC_{50}	5,700,000		210542	69
	Scenedesmus pannonicus;Green algae	LOG PHASE	48 H	GRO		4,740,000	310574	83
	Selenastrum capricornutum;Green algae	LOG PHASE	96 H	GRO		7,000,000	310574	83
	Semisulcospira libertina;Marsh snail	NR	48 H	LC_{50}	35,000,000		219158	72
	Tubificidae;Oligochaete family	NR	48 H	LC_{50}	15,000,000		315788	83
	Xenopus laevis;Clawed toad	3-4 WK	48 H	LC_{50}	24,000,000		219740	80
Benzene	Ambystoma gracile; Salamander	EMBRYO TO NEWLY HAT LARVAE	NR	LC_{50}	3,970 to 12,120			82
	Ambystoma gracile; Salamander	EMBRYO TO LARVAE	NR	LC_{50}	5,210			82
	Ambystoma mexicanum; Salamander	3-4 WK	48 H	LC_{50}	370,000			80
	Rana pipiens; Leopard frog	EMBRYO TO NEWLY HAT LARVAE	NR	LC_{50}	2,180 to 10,080			82
	Rana pipiens; Leopard frog	EMBRYO TO LARVAE	NR	LC_{50}	3,660			82
	Xenopus laevis; Clawed toad	3-4 WK	48 H	LC_{50}	190,000			80
	Xenopus laevis; Clawed toad	3-4 WK	48 H	LC_{50}	190,000			87
1,1,2-Trichloroethylene	Aedes aegypti, mosquito	3RD INSTAR	48 H	LC_{50}	48,000			83
	Ambystoma mexicanum, salamander	3-4 WK	48 H	LC_{50}	48,000			80
	Asellus aquaticus, sowbug	NR	48 H	LC_{50}	30,000			83
	Brachydanio rerio, zebrafish	NR	48 H	LC_{50}	60,000			79
	Chironomus thummi, midge	NR	48 H	LC_{50}	64,000			83
	Cloeon dipterum, mayfly	NR	48 H	LC_{50}	42,000			83
	Corixa punctata, water boatman	NR	48 H	LC_{50}	110,000			83
	Culex pipiens, mosquito	3RD INSTAR	48 H	LC_{50}	55,000			83
	Daphnia magna, water flea	<=24 H	48 H	LC_{50}	18,000			80
	Daphnia magna, water flea	NR	3 D	ABD	25,000			84
	Daphnia magna, water flea	24 H	24 H	LC_{50}	1,000,000			77
	Daphnia magna, water flea	NR	24 H	leth	110,000			84
	Daphnia magna, water flea	NR	24 H	EC_{50}	1,313,000			82
	Daphnia magna, water flea	<=24 H	24 H	LC_{50}	22,000			80
	Daphnia magna, water flea	<=24 H	48 H		2,200			80
	Dugesia lugubris, flatworm	NR	48 H	LC_{50}	42,000			83
	Erpobdella octoculata, leech	NR	48 H	LC_{50}	75,000			83
	Gammarus pulex, scud	NR	48 H	LC_{50}	24,000			83
	Hydra oligactis, hydra	BUDLESS	48 H	LC_{50}	75,000			83
1,1,2-Trichloroethylene (cont.)	Hydra oligactis, hydra	NR	48 H	LC_{50}	75,000			83
	Ischnura elegans, dragonfly	NR	48 H	LC_{50}	49,000			83

Table I-1
AQUIRE Freshwater Toxicity Information (µg/L)
Site 15

Remedial Investigation
NAS Whiting Field
Milton, Florida

Chemical Name	Species	Age	Exposure	Effect	Effect Concentration		AQUIRE Reference Number	Year of Publication
					Lethal	Sublethal		
	Lepomis macrochirus, bluegill	JUVENILE 75 D, 2.2 CM	1 H	RES	100			90
	Lepomis macrochirus, bluegill	JUVENILE, 0.32-1.2 G	96 H	LC_{50}	45,000			81
	Lepomis macrochirus, bluegill	JUVENILE, 0.32-1.2 G	24 H	LC_{50}	68,000 to 100,000			81
	Lymnaea stagnalis, great pond snail	3-4 WK	48 H	LC_{50}	56,000			83
	Lymnaea stagnalis, great pond snail	NR	48 H	LC_{50}	56,000			83
	Moina macrocopa, water flea	5 D	3 H	LC_{50}	2,300			86
	Nemoura cinerea, stonefly	NR	48 H	LC_{50}	70,000			83
	Oncorhynchus mykiss, rainbow trout	NR	24 H	RES	5,000			79
	Oncorhynchus mykiss, rainbow trout	5-8 WK	48 H	LC_{50}	42,000			83
	Oryzias latipes, medaka	3 CM, 0.3 G	48 H	LC_{50}	1,900			86
	Oryzias latipes, medaka	4-5 WK	48 H	LC_{50}	270,000			83
	Pimephales promelas, fathead minnow	1.04 G, 49.0 MM	48 H	IMM	22,700			78
	Pimephales promelas, fathead minnow	31 D	96 H	LC_{50}	44,100			85
	Pimephales promelas, fathead minnow	30-35 D	24 H	LC_{50}	58,800			83
	Pimephales promelas, fathead minnow	3-4 WK	48 H	LC_{50}	47,000			83
	Pimephales promelas, fathead minnow	1.04 G, 49.0 MM	96 H	IMM	21,900			78
	Pimephales promelas, fathead minnow	30-35 D	48 H	LC_{50}	57,900			83
	Pimephales promelas, fathead minnow	1.04 G, 49.0 MM	72 H	IMM	22,200			78
	Pimephales promelas, fathead minnow	1.04 G, 49.0 MM	24 H	LC_{50}	52,400			78
	Pimephales promelas, fathead minnow	30-35 D	96 H	LC_{50}	45,000			83
	Pimephales promelas, fathead minnow	1.04 G, 49.0 MM	24 H	IMM	23,000			78
	Pimephales promelas, fathead minnow	0.12 G	96 H	LC_{50}	44,100			83
	Pimephales promelas, fathead minnow	30-35 D	72 H	LC_{50}	55,400			83
	Pimephales promelas, fathead minnow	1.04 G, 49.0 MM	96 H	LC_{50}	66,800			78
	Pimephales promelas, fathead minnow	1.04 G, 49.0 MM	96 H	LC_{50}	40,700			78
	Pimephales promelas, fathead minnow	1.04 G, 49.0 MM	72 H	LC_{50}	39,000			78
	Pimephales promelas, fathead minnow	1.04 G, 49.0 MM	48 H	LC_{50}	53,300			78
	Scenedesmus abundans, green algae	10E4 CELLS/ML	96 H	GRO	450,000			85
	Selenastrum capricornutum, green algae	LOG PHASE	96 H	PGR	175,000			83
	Tubificidae, tubificidae	NR	48 H	LC_{50}	132,000			83
	Xenopus laevis, clawed toad	3-4 WK	48 H	LC_{50}	45,000			80
Xylene	Brachionus calyciflorus; Rotifer	NEONATE	24 H	LC_{50}	253,000		219385	91
	Brachionus calyciflorus; Rotifer	NEWLY, HATCHED, NEONATES	2 D	REP		20,000	213963	92
	Brachionus calyciflorus; Rotifer	NEWLY, HATCHED, NEONATES	2 D	EC_{50} REP		99,000	213963	92
	Brachionus calyciflorus; Rotifer	NEONATE	24 H	LC_{50}	252,700		216002	92
	Brachionus calyciflorus; Rotifer	NEWLY, HATCHED, NEONATES	2 D	LC_{50}	253,000		213963	92
	Brachionus calyciflorus; Rotifer	NEWLY, HATCHED, NEONATES	2 D	REP		40,000	213963	92
	Brachydanio rerio; Zebra danio, zebrafish	NR	48 H	LC_{50}	20,000		215938	79
	Carassius auratus; Goldfish	3.8-6.4 CM, 1-2 G	48 H	LC_{50}	36,810		210728	66
	Carassius auratus; Goldfish	3.8-6.4 CM, 1-2 G	96 H	LC_{50}	36,810		210728	66
	Carassius auratus; Goldfish	20-80 G, 1-1.5 YR, 13-20 CM	48 H	LC_{50}	25,100		210416	76
	Carassius auratus; Goldfish	3.8-6.4 CM, 1-2 G	24 H	LC_{50}	36,810		210728	66
	Carassius auratus; Goldfish	20-80 G, 1-1.5 YR, 13-20 CM	24 H	LC_{50}	30,550		210416	76
	Carassius auratus; Goldfish	20-80 G, 1-1.5 YR, 13-20 CM	72 H	LC_{50}	20,720		210416	76
	Carassius auratus; Goldfish	20-80 G, 1-1.5 YR, 13-20 CM	96 H	LC_{50}	16,940		210416	76
	Cyprinus carpio; Common, mirror, colored, carp	4-5 CM	24 H	LC_{50}	1,080,000		212077	75
Xylene (cont.)	Cyprinus carpio; Common, mirror, colored, carp	4-5 CM	48 H	LC_{50}	950,000		212077	75
	Cyprinus carpio; Common, mirror, colored, carp	4-5 CM	96 H	LC_{50}	780,000		212077	75
	Daphnia magna; Water flea	24 H	24 H	LC_{50}	150,000		215718	77

Table I-1
AQUIRE Freshwater Toxicity Information (µg/L)
Site 15

Remedial Investigation
NAS Whiting Field
Milton, Florida

Chemical Name	Species	Age	Exposure	Effect	Effect Concentration		AQUIRE Reference Number	Year of Publication
					Lethal	Sublethal		
	Daphnia magna; Water flea	NR	24 H	LC_{50} (Calc)	> 100000 to < 1000000		210915	65
	Diaptomus forbesi; Calanoid copepod	NR	96 H	LC_{50}	99,500		311282	83
	Gammarus lacustris; Scud	2 MO	96 H	LC_{50}	350		210885	69
	Gammarus lacustris; Scud	2 MO	24 H	LC_{50}	800		210885	69
	Gammarus lacustris; Scud	2 MO	48 H	LC_{50}	600		210885	69
	Lepomis macrochirus; Bluegill	3.8-6.4 CM, 1-2 G	48 H	LC_{50}	24,000		210728	66
	Lepomis macrochirus; Bluegill	JUVENILE, 3.65 CM, 0.90 G	48 H	LC_{50}	16,500		217398	85
	Lepomis macrochirus; Bluegill	JUVENILE, 3.65 CM, 0.90 G	16 H	LC_{50}	11,000		217398	85
	Lepomis macrochirus; Bluegill	JUVENILE, 3.65 CM, 0.90 G	24 H	LC_{50}	10,400		217398	85
	Lepomis macrochirus; Bluegill	JUVENILE, 3.65 CM, 0.90 G	4 H	LC_{50}	15,900		217398	85
	Lepomis macrochirus; Bluegill	JUVENILE, 3.65 CM, 0.90 G	96 H	LC_{50}	24,500		217398	85
	Lepomis macrochirus; Bluegill	JUVENILE, 3.65 CM, 0.90 G	1 H	LC_{50}	30,500		217398	85
	Lepomis macrochirus; Bluegill	0.9 G	96 H	LC_{50}	13,500		210666	80
	Lepomis macrochirus; Bluegill	3.8-6.4 CM, 1-2 G	24 H	LC_{50}	24,000		210728	66
	Lepomis macrochirus; Bluegill	JUVENILE, 3.65 CM, 0.90 G	96 H	LC_{50}	15,700		217398	85
	Lepomis macrochirus; Bluegill	JUVENILE, 3.65 CM, 0.90 G	8 H	LC_{50}	13,600		217398	85
	Lepomis macrochirus; Bluegill	JUVENILE, 3.65 CM, 0.90 G	72 H	LC_{50}	25,600		217398	85
	Lepomis macrochirus; Bluegill	JUVENILE, 3.65 CM, 0.90 G	2 H	LC_{50}	19,900		217398	85
	Lepomis macrochirus; Bluegill	JUVENILE, 3.65 CM, 0.90 G	48 H	LC_{50}	25,600		217398	85
	Lepomis macrochirus; Bluegill	JUVENILE, 3.65 CM, 0.90 G	24 H	LC_{50}	16,800		217398	85
	Lepomis macrochirus; Bluegill	JUVENILE, 3.65 CM, 0.90 G	72 H	LC_{50}	16,500		217398	85
	Lepomis macrochirus; Bluegill	3.8-6.4 CM, 1-2 G	96 H	LC_{50}	20,870		210728	66
	Lepomis macrochirus; Bluegill	JUVENILE, 3.65 CM, 0.90 G	24 H	LC_{50}	25,600		217398	85
	Oncorhynchus mykiss; Rainbow trout, donaldson trout	0.9 G	24 H	LC_{50}	17,300		210676	77
	Oncorhynchus mykiss; Rainbow trout, donaldson trout	0.9 G	96 H	LC_{50}	17,300		210676	77
	Oncorhynchus mykiss; Rainbow trout, donaldson trout	200 G	56 D	MOR	Survival unaffected		210676	77
	Oncorhynchus mykiss, Rainbow trout, donaldson trout	FRY	96 H	AVO		100	215498	76
	Oncorhynchus mykiss; Rainbow trout, donaldson trout	200 G	2 H	LC_{50}	7,100		210676	77
	Oncorhynchus mykiss; Rainbow trout, donaldson trout	NR	24 H	RES		2,000	215938	79
	Oncorhynchus mykiss; Rainbow trout, donaldson trout	0.9 G	24 H	LC_{50}	13,500		210676	77
	Oncorhynchus mykiss; Rainbow trout, donaldson trout	200 G	2 H	LC_{100}	16,100		210676	77
	Oncorhynchus mykiss; Rainbow trout, donaldson trout	200 G	1.5 H	Severe flavor of fish		7,100	210676	77
	Oncorhynchus mykiss; Rainbow trout, donaldson trout	0.9 G	96 H	LC_{50}	13,500		210676	77
	Oncorhynchus mykiss; Rainbow trout, donaldson trout	0.6 G	96 H	LC_{50}	8,200		210666	80
	Pimephales promelas; Fathead minnow	JUVENILE, 4-8 WK, 1.1-3.1 CM	96 H	LC_{50}	42,000		210719	76
	Pimephales promelas; Fathead minnow	JUVENILE, 4-8 WK, 1.1-3.1 CM	24 H	LC_{50}	42,000		210719	76
	Pimephales promelas; Fathead minnow	JUVENILE, 4-8 WK, 1.1-3.1 CM	1 H	LC_{50}	46,000		210719	76
	Pimephales promelas; Fathead minnow	3.8-6.4 CM, 1-2 G	24 H	LC_{50}	28,770		210728	66
	Pimephales promelas; Fathead minnow	3.8-6.4 CM, 1-2 G	48 H	LC_{50}	28,770		210728	66
	Pimephales promelas; Fathead minnow	3.8-6.4 CM, 1-2 G	96 H	LC_{50}	28,770		210728	66
	Pimephales promelas; Fathead minnow	JUVENILE, 4-8 WK, 1.1-3.1 CM	72 H	LC_{50}	42,000		210719	76
	Pimephales promelas; Fathead minnow	JUVENILE, 4-8 WK, 1.1-3.1 CM	48 H	LC_{50}	42,000		210719	76
	Pimephales promelas; Fathead minnow	3.8-6.4 CM, 1-2 G	24 H	LC_{50}	28,770		210728	66
	Pimephales promelas; Fathead minnow	3.8-6.4 CM, 1-2 G	48 H	LC_{50}	27,710		210728	66
	Pimephales promelas; Fathead minnow	3.8-6.4 CM, 1-2 G	96 H	LC_{50}	26,700		210728	66
	Pimephales promelas; Fathead minnow	31 D, 18.4 MM, 0.077 G	96 H	LC_{50}	13,400		213217	90
Xylene (cont.)	Poecilia reticulata; Guppy	6 MO, 1.9-2.5 CM, 0.1-0.2 G	48 H	LC_{50}	34,730		210728	66
	Poecilia reticulata; Guppy	6 MO, 1.9-2.5 CM, 0.1-0.2 G	24 H	LC_{50}	34,730		210728	66
	Poecilia reticulata; Guppy	6 MO, 1.9-2.5 CM, 0.1-0.2 G	96 H	LC_{50}	34,730		210728	66

Table I-1
AQUIRE Freshwater Toxicity Information (µg/L)
Site 15

Remedial Investigation
NAS Whiting Field
Milton, Florida

Chemical Name	Species	Age	Exposure	Effect	Effect Concentration		AQUIRE Reference Number	Year of Publication
					Lethal	Sublethal		
Semivolatile Organics								
1,4-Dichlorobenzene	Brachydanio rerio; Zebra danio, zebrafish	FERTILIZED EGG	28 D	REP *		2,100	213279	90
	Brachydanio rerio; Zebra danio, zebrafish	FERTILIZED EGG	14 D	REP *		2,100	213279	90
	Brachydanio rerio; Zebra danio, zebrafish	FERTILIZED EGG	7 D	REP *		2,100	213279	90
	Brachydanio rerio; Zebra danio, zebrafish	FERTILIZED EGG	21 D	REP *		2,100	213279	90
	Brachydanio rerio; Zebra danio, zebrafish	NR	24 H	LC_{50}	4,200		310712	82
	Brachydanio rerio; Zebra danio, zebrafish	FERTILIZED EGG	28 D	LC_{50}	2,700		213279	90
	Brachydanio rerio; Zebra danio, zebrafish	NR	48 H	LC_{50}	4,250		315526	83
	Daphnia magna; Water flea	NR	24 H	EC_0		1,500	216628	88
	Daphnia magna; Water flea	NR	48 H	EC_{50}		700	216629	85
	Daphnia magna; Water flea	NR	24 H	EC_{50}		3,200	216628	88
	Daphnia magna; Water flea	NR	24 H	EC_{50}IM		1,600	315526	83
	Daphnia magna; Water flea	<= 24 H	24 H	EC_{50}IM		3,200	210847	89
	Daphnia magna; Water flea	NR	24 H	EC_{50}IM		1,600	310712	82
	Daphnia magna; Water flea	12 H	14 D	EC_{50}RE		930	315526	83
	Daphnia magna; Water flea	<24 H	48 H	LC_{50}	11,000		215184	80
	Daphnia magna; Water flea	<24 H	24 H	LC_{50}	42,000		215184	80
	Daphnia magna; Water flea	<24 H	48 H	MOR *	680		215184	80
	Daphnia magna; Water flea	<= 24 H	21 D	REP *		300	210847	89
	Daphnia magna; Water flea	NR	28 D	REP *		400	310712	82
	Lepomis macrochirus; Bluegill	JUVENILE, 0.32-1.2 G	24 H	LC_{50}	4,500		215590	81
	Lepomis macrochirus; Bluegill	JUVENILE, 0.32-1.2 G	96 H	LC_{50}	4,300		215590	81
	Oncorhynchus mykiss; Rainbow trout, donaldson trout	NR	48 H	LC_{50}	1,180		315526	83
	Oncorhynchus mykiss; Rainbow trout, donaldson trout	NR	24 H	LC_{50}	1,200		310712	82
	Oncorhynchus mykiss; Rainbow trout, donaldson trout	FER EGG TO 2 WK EATING ALEVINS	60 D	MOR *	1.8 to 122		310712	82
	Oncorhynchus mykiss; Rainbow trout, donaldson trout	5.3 CM, 2.1 G, FINGERLING	24 H	LC_{50}	1,370		310579	83
	Oncorhynchus mykiss; Rainbow trout, donaldson trout	5.3 CM, 2.1 G, FINGERLING	72 H	LC_{50}	1,240		310579	83
	Oncorhynchus mykiss; Rainbow trout, donaldson trout	2-3 CM ALEVINS	14 D	LC_{50}	800		310712	82
	Oncorhynchus mykiss; Rainbow trout, donaldson trout	5.3 CM, 2.1 G, FINGERLING	96 H	LC_{50}	1,120		310579	83
	Oncorhynchus mykiss; Rainbow trout, donaldson trout	5.3 CM, 2.1 G, FINGERLING	48 H	LC_{50}	1,240		310579	83
	Pimephales promelas; Fathead minnow	FRY, <24 H	7 D	GRO *		3,700	210257	88
	Pimephales promelas; Fathead minnow	FRY, <24 H	7 D	GRO *		2,200	210257	88
	Pimephales promelas; Fathead minnow	3.2-4.2 CM	96 H	LC_{50}	33,700		210875	79
	Pimephales promelas; Fathead minnow	NR	96 H	LC_{50}	34,500		215735	78
	Pimephales promelas; Fathead minnow	0.3-1 G	96 H	LC_{50}	30,000		212965	81
	Pimephales promelas; Fathead minnow	NR	96 H	LC_{50}	2,400		215735	78
	Pimephales promelas; Fathead minnow	30 D, 106-160 MG	96 H	LC_{50}	4,200		312124	87
	Pimephales promelas; Fathead minnow	JUVENILE, 30-35 D, 76.8 MG, 14.9 MM	96 H	LC_{50}	14,200		310432	83
	Pimephales promelas; Fathead minnow	3.2-4.2 CM	48 H	LC_{50}	35,400		210875	79
	Pimephales promelas; Fathead minnow	NR	24 H	LC_{50}	34,000		215735	78
	Pimephales promelas; Fathead minnow	FRY, 10-15 D, 11.6 MG, 9.5 MM	96 H	LC_{50}	3,600		310432	83
	Pimephales promelas; Fathead minnow	SUB-ADULT, 65-94 D, 391 MG, 28 MM	96 H	LC_{50}	11,700		310432	83
	Pimephales promelas; Fathead minnow	0.12 G	96 H	LC_{50}	4,000		310183	83
	Pimephales promelas; Fathead minnow	3.2-4.2 CM	24 H	LC_{50}	35,400		210875	79
	Pimephales promelas; Fathead minnow	NR	48 H	LC_{50}	34,000		215735	78
1,4-Dichlorobenzene (cont.)	Pimephales promelas; Fathead minnow	4-12 H, EMBRYO	32 D	MOR *	570		312124	87
	Pimephales promelas; Fathead minnow	FRY, <24 H	7 D	MOR *	3,700		210257	88
	Pimephales promelas; Fathead minnow	4-12 H, EMBRYO	32 D	MOR *	1,000		312124	87
	Poecilia reticulata; Guppy	2-3 MO	14 D	LC_{50} (Calc)	3,960		216354	81
	Scenedesmus subspicatus; Green algae	LOG GRO PHASE	48 H	EC_{50}BM *		28,000	212997	90

Table I-1
AQUIRE Freshwater Toxicity Information (µg/L)
Site 15

Remedial Investigation
NAS Whiting Field
Milton, Florida

Chemical Name	Species	Age	Exposure	Effect	Effect Concentration		AQUIRE Reference Number	Year of Publication
					Lethal	Sublethal		
	Scenedesmus subspicatus; Green algae	LOG GRO PHASE	48 H	EC_{50}GR		38,000	212997	90
	Selenastrum capricornutum; Green algae	NR	3 H	EC_{50}PS *		5,200	310712	82
	Selenastrum capricornutum; Green algae	NR	96 H	EC_{50}GR		1,600	310712	82
	Tanytarsus dissimilis; Midge	3RD OR 4TH INSTAR, 2.0-3.5 MM	24 H	LC_{50}	22,100		310579	83
	Tanytarsus dissimilis; Midge	3RD OR 4TH INSTAR, 2.0-3.5 MM	48 H	LC_{50}	13,000		310579	83
Bis(2-ethylhexyl)phthalate	Anacystis aeruginosa; Blue-green algae;	LOG-PHASE 500000 CELLS/ML	96 H	EC_{50}GR		>=320	215336	81
	Anacystis aeruginosa; Blue-green algae;	LOG-PHASE 500000 CELLS/ML	96 H	PGR *		>=320	215336	81
	Brachydanio rerio; Zebra danio, zebrafish;	4-5 WK	96 H	LC_{50}	>320		215390	84
	Brachydanio rerio; Zebra danio, zebrafish;	4-5 WK	96 H	MOR *	>=320		215390	84
	Brachydanio rerio; Zebra danio, zebrafish;	<4 H, EGGS	5 WK	DVP *		>=1000	215390	84
	Brachydanio rerio; Zebra danio, zebrafish;	1-2 D	96 H	MOR *	>=320		215390	84
	Brachydanio rerio; Zebra danio, zebrafish;	<4 H, EGGS	5 WK	GRO *		>=1000	215390	84
	Brachydanio rerio; Zebra danio, zebrafish;	1-2 D	96 H	BEH *		>=320	215390	84
	Brachydanio rerio; Zebra danio, zebrafish;	4-5 WK	96 H	BEH *		>=320	215390	84
	Brachydanio rerio; Zebra danio, zebrafish;	1-2 D	96 H	LC_{50}	>320		215390	84
	Brachydanio rerio; Zebra danio, zebrafish;	<4 H, EGGS	5 WK	MOR *	>=1000		215390	84
	Bufo woodhousei fowleri; Fowler's toad,	EMBRYO TO LARVA	to 8 D *	LC_{50}	3,880		216772	78
	Bufo woodhousei fowleri; Fowler's toad;	LARVA	96 H *	LC_{50}	3,880		216772	78
	Carassius auratus; Goldfish;	EMBRYO TO LARVA	96 H *	LC_{50}	6,180		216772	78
	Carassius auratus; Goldfish;	EGGS, 4 D POSTHATCH	96 H	LC_{50}	> 191000		210563	79
	Carassius auratus; Goldfish;	EGGS, 4 D POSTHATCH	96 H	LC_{50}	> 186000		210563	79
	Carassius auratus; Goldfish;	EGGS, 4 D POSTHATCH	8 D	LC_{50}	> 191000		210563	79
	Carassius auratus; Goldfish;	EGGS, 4 D POSTHATCH	8 D	LC_{50}	> 186000		210563	79
	Chironomus plumosus; Midge;	EGG	30 D	HAT *		560	217688	77
	Chironomus plumosus; Midge;	LARVAE	30 D	DVP *		560	217688	77
	Chlorella pyrenoidosa; Green algae;	LOG-PHASE 10000 CELLS/ML	96 H	EC_{50}GR		>320	215336	81
	Chlorella pyrenoidosa; Green algae;	LOG-PHASE 10000 CELLS/ML	96 H	PGR *		>=320	215336	81
	Daphnia magna; Water flea;	<24 H	24 H	LC_{50}	>68000		215184	80
	Daphnia magna; Water flea;	NR	21 D	REP *		10	210736	73
	Daphnia magna; Water flea;	< 24 H	21 D	MOR *	10		311061	82
	Daphnia magna; Water flea;	NR	21 D	REP *		2.5	210736	73
	Daphnia magna; Water flea;	< 24 H	21 D	MOR *	3.2		311061	82
	Daphnia magna; Water flea;	NR	21 D	REP *		3	210736	73
	Daphnia magna; Water flea;	< 24 H	48 H	LOC *		47	311061	82
	Daphnia magna; Water flea;	NR	21 D	REP *		30	210736	73
	Daphnia magna; Water flea;	<1 D	2 WK	MOR *	32		215336	81
	Daphnia magna; Water flea;	FIRST INSTAR, < 24 H	7 D	BIO *		811	312340	87
	Daphnia magna; Water flea;	FIRST INSTAR, < 24 H	7 D	MOR *	158		312340	87
	Daphnia magna; Water flea;	<1 D	3 WK	LC_{50}	>320		215336	81
	Daphnia magna; Water flea;	FIRST INSTAR, < 24 H	7 D	MOR *	811		312340	87
	Daphnia magna; Water flea;	<24 H	2 WK	REP *		320	215336	81
	Daphnia magna; Water flea;	NR	14 D	REP *		10	210736	73
	Daphnia magna; Water flea;	<24 H	48 H	LC_{50}	11,000		215184	80
Bis(2-ethylhexyl)phthalate (cont.)	Daphnia magna; Water flea;	NR	14 D	REP *		3	210736	73
	Daphnia magna; Water flea;	FIRST INSTAR, < 24 H	21 D	MOR *	158		312340	87
	Daphnia magna; Water flea;	NR	14 D	REP *		30	210736	73
	Daphnia magna; Water flea;	FIRST INSTAR, < 24 H	7 D	BIO *		158	312340	87
	Daphnia magna; Water flea;	< 24 H	21 D	MOR *	100		311061	82
	Daphnia magna; Water flea;	<1 D	3 WK	MOR *	>=320		215336	81

Table I-1
AQUIRE Freshwater Toxicity Information (µg/L)
Site 15

Remedial Investigation
NAS Whiting Field
Milton, Florida

Chemical Name	Species	Age	Exposure	Effect	Effect Concentration		AQUIRE Reference Number	Year of Publication
					Lethal	Sublethal		
	Daphnia magna; Water flea;	< 24 H	21 D	MOR *	32		311061	82
	Daphnia magna; Water flea;	<24 H	48 H	MOR *	1,100		215184	80
	Daphnia magna; Water flea;	<1 D	2 WK	LC_{50}	>320		215336	81
	Daphnia magna; Water flea;	<1 D	24 H	EC_{50}IM		>320	215336	81
	Daphnia magna; Water flea;	FIRST INSTAR, < 24 H	21 D	MOR *	811		312340	87
	Daphnia magna; Water flea;	1ST INSTAR, 24 H	21 D	REP		3	210732	73
	Daphnia magna; Water flea;	<1 D	2 WK	MOR *	>=320		215336	81
	Daphnia pulex; Water flea;	NEONATE, < 24 H	48 H	EC_{50}IM		133	312730	87
	Euglena gracilis; Flagellate euglenoid;	LOG-PHASE 10000 CELLS/ML	96 H	EC_{50}GR		>320	215336	81
	Euglena gracilis; Flagellate euglenoid;	LOG-PHASE 10000 CELLS/ML	96 H	PGR *		>=320	215336	81
	Gammarus pseudolimnaeus; Scud;	NR	96 H	LC_{50}	>32000		210732	73
	Gammarus pseudolimnaeus; Scud;	JUVENILE	96 H	LC_{50}	> 32000		210666	80
	Gammarus pulex; Scud;	>12 MM	10 D	LOC *		100	210079	91
	Gammarus pulex; Scud;	>12 MM	10 D	LOC *		500	210079	91
	Gasterosteus aculeatus; Three spine stickleback;	4-5 WK	48 H	LC_{50}	> 300		210823	89
	Gasterosteus aculeatus; Three spine stickleback;	4-5 WK	96 H	LC_{50}	> 300		210823	89
	Gasterosteus aculeatus; Three spine stickleback;	4-5 WK	24 H	LC_{50}	> 300		210823	89
	Gasterosteus aculeatus; Three spine stickleback;	EGGS, < 6 H	35 D	EC_{50}		> 320	210823	89
	Gasterosteus aculeatus; Three spine stickleback;	4-5 WK	24 H	EC_{50}		> 300	210823	89
	Gasterosteus aculeatus; Three spine stickleback;	EGGS, < 6 H	35 D	LC_{50}	> 320		210823	89
	Gasterosteus aculeatus; Three spine stickleback;	4-5 WK	72 H	LC_{50}	> 300		210823	89
	Gasterosteus aculeatus; Three spine stickleback;	4-5 WK	48 H	EC_{50}		> 300	210823	89
	Gasterosteus aculeatus; Three spine stickleback;	4-5 WK	72 H	EC_{50}		> 300	210823	89
	Gasterosteus aculeatus; Three spine stickleback;	4-5 WK	96 H	EC_{50}		> 300	210823	89
	Ictalurus punctatus; Channel catfish;	1.5 G	96 H	LC_{50}	> 100000		210666	80
	Ictalurus punctatus; Channel catfish;	EMBRYO TO LARVA	96 H *	LC_{50}	690		216772	78
	Jordanella floridae; Flagfish;	28-35 D	3 WK	MOR *	>=320		215336	81
	Jordanella floridae; Flagfish;	<36 H	4 WK	MOR *	>=320		215336	81
	Jordanella floridae; Flagfish;	<36 H	7 D	LC_{50}	>320		215336	81
	Jordanella floridae; Flagfish;	1-2 D	96 H	LC_{50}	>320		215336	81
	Jordanella floridae; Flagfish;	4-5 WK	96 H	BEH *		>=320	215336	81
	Jordanella floridae; Flagfish;	4-5 WK	96 H	LC_{50}	>320		215336	81
	Jordanella floridae; Flagfish;	1-2 D	48 H	LC_{50}	>320		215336	81
	Jordanella floridae; Flagfish;	<36 H	4 WK	GRO *		>=320	215336	81
	Jordanella floridae; Flagfish;	28-35 D	4 WK	MOR *	>=320		215336	81
	Jordanella floridae; Flagfish;	<36 H	4 WK	LC_{50}	>320		215336	81
	Jordanella floridae; Flagfish;	4-5 WK	48 H	LC_{50}	>320		215336	81
	Jordanella floridae; Flagfish;	1-2 D	96 H	BEH *		>=320	215336	81
	Jordanella floridae; Flagfish;	28-35 D	4 WK	GRO *		>=320	215336	81
	Jordanella floridae; Flagfish;	28-35 D	2 WK	MOR *	>=320		215336	81
	Jordanella floridae; Flagfish;	28-35 D	4 WK	REP *		>=320	215336	81
	Jordanella floridae; Flagfish;	28-35 D	1 WK	MOR *	>=320		215336	81
	Lepomis macrochirus; Bluegill;	0.32-1.2 G, JUVENILE	24 H	LC_{50}	>770000		215590	81
Bis(2-ethylhexyl)phthalate	Lepomis macrochirus; Bluegill;	0.32-1.2 G, JUVENILE	96 H	LC_{50}	>770000		215590	81
(cont.)	Lepomis macrochirus; Bluegill;	0.6 G	96 H	LC_{50}	> 100000		210666	80
	Lepomis macrochirus; Bluegill;	JUVENILE, 35 - 60 MM	0.7 H	AVO *		112,400	215272	80
	Micropterus salmoides; Largemouth bass;	EGGS, 4 D POSTHATCH	84 H	LC_{50}	32,100		210563	79
	Micropterus salmoides; Largemouth bass;	EMBRYO TO LARVA	96 H *	LC_{50}	32,900		216772	78
	Micropterus salmoides; Largemouth bass;	EMBRYO TO LARVA	96 H *	LC_{50}	42,100		216772	78
	Micropterus salmoides; Largemouth bass;	EGGS, 4 D POSTHATCH	7.5 D	LC_{50}	45,500		210563	79

Table I-1
AQUIRE Freshwater Toxicity Information (µg/L)
Site 15

Remedial Investigation
NAS Whiting Field
Milton, Florida

Chemical Name	Species	Age	Exposure	Effect	Effect Concentration		AQUIRE Reference Number	Year of Publication
					Lethal	Sublethal		
	Micropterus salmoides; Largemouth bass;	EGGS, 4 D POSTHATCH	7.5 D	LC_{50}	55,700		210563	79
	Micropterus salmoides; Largemouth bass;	EGGS, 4 D POSTHATCH	84 H	LC_{50}	65,500		210563	79
	Oncorhynchus kisutch; Coho salmon, silver salmon;	1.5 G	96 H	LC_{50}	> 100000		210666	80
	Oncorhynchus mykiss; Rainbow trout, donaldson trout;	EYED EGGS	12 D *	MOR *	54		217859	76
	Oncorhynchus mykiss; Rainbow trout, donaldson trout;	EYED EGGS	100 D	HAT *		54	217859	76
	Oncorhynchus mykiss; Rainbow trout, donaldson trout;	EYED EGGS	12 D *	MOR *	14		217859	76
	Oncorhynchus mykiss; Rainbow trout, donaldson trout;	EGGS, 4 D POSTHATCH	23 D	LC_{50}	154,000		210563	79
	Oncorhynchus mykiss; Rainbow trout, donaldson trout;	EYED EGGS	12 D *	MOR *	5		217859	76
	Oncorhynchus mykiss; Rainbow trout, donaldson trout;	EGGS, 4 D POSTHATCH	27 D	LC_{50}	149,200		210563	79
	Oncorhynchus mykiss; Rainbow trout, donaldson trout;	1.5 G	96 H	LC_{50}	> 100000		210666	80
	Oncorhynchus mykiss; Rainbow trout, donaldson trout;	EMBRYO TO LARVA	96 H *	LC_{50}	149,200		216772	78
	Oncorhynchus mykiss; Rainbow trout, donaldson trout;	EYED EGGS	24 D *	MOR *	14		217859	76
	Oncorhynchus mykiss; Rainbow trout, donaldson trout;	EYED EGG	90 D	VTE *		14	215109	77
	Oncorhynchus mykiss; Rainbow trout, donaldson trout;	EYED EGGS	24 D *	MOR *	5		217859	76
	Oncorhynchus mykiss; Rainbow trout, donaldson trout;	EYED EGGS	100 D	GRO *		62	217859	76
	Oncorhynchus mykiss; Rainbow trout, donaldson trout;	EYED EGGS	24 D *	MOR *	54		217859	76
	Oncorhynchus mykiss; Rainbow trout, donaldson trout;	EGGS, 4 D POSTHATCH	27 D	LC_{50}	139,500		210563	79
	Oncorhynchus mykiss; Rainbow trout, donaldson trout;	EYED EGGS	5 D *	MOR *	14		217859	76
	Oncorhynchus mykiss; Rainbow trout, donaldson trout;	EYED EGG	90 D	GRO *		54	215109	77
	Oncorhynchus mykiss; Rainbow trout, donaldson trout;	EYED EGGS	5 D *	MOR *	5		217859	76
	Oncorhynchus mykiss; Rainbow trout, donaldson trout;	EGGS, 4 D POSTHATCH	23 D	LC_{50}	139,100		210563	79
	Oncorhynchus mykiss; Rainbow trout, donaldson trout;	EYED EGG	90 D	VTE *		5	215109	77
	Oncorhynchus mykiss; Rainbow trout, donaldson trout;	EMBRYO TO LARVA	96 H *	LC_{50}	139,500		216772	78
	Oncorhynchus mykiss; Rainbow trout, donaldson trout;	EYED EGGS	5 D *	MOR *	54		217859	76
	Oryzias latipes; Medaka, high-eyes;	28-35 D	4 WK	GRO *		>=320	215336	81
	Oryzias latipes; Medaka, high-eyes;	28-35 D	4 WK	REP *		>=320	215336	81
	Oryzias latipes; Medaka, high-eyes;	1-2 D	96 H	BEH *		>=320	215336	81
	Oryzias latipes; Medaka, high-eyes;	4-5 WK	48 H	LC_{50}	>320		215336	81
	Oryzias latipes; Medaka, high-eyes;	28-35 D	1 WK	MOR *	>=320		215336	81
	Oryzias latipes; Medaka, high-eyes;	4-5 WK	96 H	BEH *		>=320	215336	81
	Oryzias latipes; Medaka, high-eyes;	28-35 D	3 WK	MOR *	>=320		215336	81
	Oryzias latipes; Medaka, high-eyes;	4-5 WK	96 H	LC_{50}	>320		215336	81
	Oryzias latipes; Medaka, high-eyes;	28-35 D	4 WK	LC_{50}	>320		215336	81
	Oryzias latipes; Medaka, high-eyes;	<36 H	4 WK	LC_{50}	>320		215336	81
	Oryzias latipes; Medaka, high-eyes;	1-2 D	96 H	LC_{50}	>320		215336	81
	Oryzias latipes; Medaka, high-eyes;	<36 H	4 WK	MOR *	>=320		215336	81
	Oryzias latipes; Medaka, high-eyes;	1-2 D	48 H	LC_{50}	>320		215336	81
	Oryzias latipes; Medaka, high-eyes;	28-35 D	2 WK	MOR *	>=320		215336	81
	Oryzias latipes; Medaka, high-eyes;	28-35 D	4 WK	MOR *	>=320		215336	81
	Oryzias latipes; Medaka, high-eyes;	<36 H	7 D	LC_{50}	>320		215336	81
	Pimephales promelas; Fathead minnow;	7.5 MO, 1.24 G	56 D	MOR *	62		217859	76
	Pimephales promelas; Fathead minnow;	7.5 MO, 1.24 G	56 D	GRO *		62	217859	76
Bis(2-ethylhexyl)phthalate	Pimephales promelas; Fathead minnow;	FRY, 10 D	127 D	GRO *		100	215109	77
(cont.)	Pimephales promelas; Fathead minnow;	FRY, 10 D	127 D	VTE *		11	215109	77
	Poecilia reticulata; Guppy;	21-28 D	2 WK	LC_{50}	>320		215336	81
	Poecilia reticulata; Guppy;	21-28 D	48 H	LC_{50}	>320		215336	81
	Poecilia reticulata; Guppy;	21-28 D	4 WK	LC_{50}	>320		215336	81
	Poecilia reticulata; Guppy;	21-28 D	1 WK	LC_{50}	>320		215336	81
	Rana arvalis; Moorfrog;	EGGS	3 WK	HAT		0.89 to 187.40	215904	87
	Rana pipiens; Leopard frog;	EMBRYO TO LARVA	to 8 D *	LC_{50}	4,440		216772	78

Table I-1
AQUIRE Freshwater Toxicity Information (µg/L)
Site 15

Remedial Investigation
NAS Whiting Field
Milton, Florida

Chemical Name	Species	Age	Exposure	Effect	Effect Concentration		AQUIRE Reference Number	Year of Publication
					Lethal	Sublethal		
	Rana pipiens; Leopard frog;	LARVA	96 H *	LC_{50}	4,440		216772	78
	Salvelinus fontinalis; Brook trout;	ADULT, 1.5 YR	150 D	GRO *		52	215109	77
	Salvelinus fontinalis; Brook trout;	ADULT, 1.5 YR	150 D	VTE *		3.7	215109	77
	Selenastrum capricornutum; Green algae;	LOG-PHASE 50000 CELLS/ML	96 H	EC_{50}GR		>320	215336	81
	Selenastrum capricornutum; Green algae;	LOG-PHASE 50000 CELLS/ML	96 H	PGR *		>=320	215336	81
	Stephanodiscus hantzschii; Diatom;	LOG-PHASE 10000 CELLS/ML	96 H	EC_{50}GR		>320	215336	81
	Stephanodiscus hantzschii; Diatom;	LOG-PHASE 10000 CELLS/ML	96 H	PGR *		>=320	215336	81
Pesticides								
4,4' DDT	Acartia sp; Calanoid copepod	MATURE	24 H	LC_{50}	28		212658	88
	Acroneuria pacifica; Stonefly	NAIADS	25 D	LC_{50}	76		212238	64
	Acroneuria pacifica; Stonefly	NAIAD; 2-2.5 CM	96 H	LC_{50}	320		210528	65
	Acroneuria pacifica; Stonefly	NAIADS	30 D	LC_{50}	72		212238	64
	Acroneuria pacifica; Stonefly	NAIADS	20 D	LC_{50}	84		212238	64
	Acroneuria pacifica; Stonefly	NAIAD, 2-2.5 CM	96 H	LC_{50}	320		212667	64
	Acroneuria pacifica; Stonefly	NAIADS	5 D	LC_{50}	2,150		212238	64
	Acroneuria pacifica; Stonefly	NAIADS	10 D	LC_{50}	440		212238	64
	Acroneuria pacifica; Stonefly	NAIAD, 2-2.5 CM	48 H	LC_{50}	2,200		212667	64
	Acroneuria pacifica; Stonefly	NAIADS	15 D	LC_{50}	240		212238	64
	Acroneuria pacifica; Stonefly	NAIAD, 2-2.5 CM	72 H	LC_{50}	320		212667	64
	Aedes aegypti; Mosquito	LARVAE, 2ND INSTAR	0.193 H	ET_{50} IMM		1,000	212929	54
	Aedes aegypti; Mosquito	4TH INSTAR LARVAE *	24 H	EC_{50} IMM		83	216867	93
	Aedes aegypti; Mosquito	LARVAE, 2ND INSTAR	1.93 H	ET_{50} IMM		10	212929	54
	Aedes aegypti; Mosquito	LARVAE	96 H	LC_{50}	1		216270	74
	Aedes aegypti; Mosquito	4TH INSTAR LARVAE *	24 H	EC_{50} IMM		22	216867	93
	Aedes aegypti; Mosquito	LARVAE, 2ND INSTAR	0.307 H	ET_{50} IMM		100	212929	54
	Aedes aegypti; Mosquito	LARVAE, 2ND INSTAR	0.14 H	ET_{50} IMM		10,000	212929	54
	Aedes cantans; Mosquito	LARVAE	24 H	LC_{50}	5		215162	79
	Aedes cantans; Mosquito	LARVAE	48 H	LC_{50}	4.2		215162	79
	Aedes cantans; Mosquito	YOUNG, 4TH INSTAR	72 H	LC_{100}	20		215162	79
	Aedes sp; Mosquito	NR	24 H	LETH	1 to 7		219269	72
	Alburnus albidus; Bleak	6 CM	48 H	LC_{50}	21,500		310309	72
	Alburnus alburnus; Bleak	8 CM	96 H	LC_{50}	80		215185	79
	Algae; Algae, phytoplankton, algal mat	NR	28 H	PSE		5	212223	72
	Algae; Algae, phytoplankton, algal mat	NR	to 10 H	EC_{50} PSE		100	218926	73
	Algae; Algae, phytoplankton, algal mat	NR	4 H	PSE		1,000	212188	63
	Algae; Algae, phytoplankton, algal mat	NR	10 H	EC_{50} PSE		100	218926	73
	Algae; Algae, phytoplankton, algal mat	NR	28 H	EC_{50} PSE		55	218926	73
	Amphidinium carterae; Dinoflagellate	10000 CELLS/ML	1 to 17 D	PGR		80	219047	72
	Anguilla rostrata; American eel	NR	1 H	ENZ		50,000	219110	72
	Anguilla rostrata; American eel	NR	1 H	PHY		50,000	219110	72
4,4' DDT (cont.)	Anguilla rostrata; American eel	56 MM, 0.18 G	24 H	LC_{50}	7		210628	70
	Anguilla rostrata; American eel	56 MM, 0.18 G	96 H	LC_{50}	4		210628	70
	Anguilla rostrata; American eel	56 MM, 0.18 G	48 H	LC_{50}	6		210628	70
	Anguilla rostrata; American eel	5 G	6 H	HEM, PHY		1,000	219110	72
	Anguilla vulgaris; Eel	MATURE	96 H	HEM, PHY		1	315978	83
	Anguilla vulgaris; Eel	MATURE	96 H	GRO		1	315978	83
	Anguilla vulgaris; Eel	MATURE	96 H	HEM, PHY		0.05	315978	83
	Anguilla vulgaris; Eel	MATURE	96 H	PHY		0.1	315978	83
	Anopheles sp; Mosquito	LARVAE, MIXED MICROFAUNA SPECI	2 D	POP		70	312237	83

Table I-1
AQUIRE Freshwater Toxicity Information (µg/L)
Site 15

Remedial Investigation
NAS Whiting Field
Milton, Florida

Chemical Name	Species	Age	Exposure	Effect	Effect Concentration		AQUIRE Reference Number	Year of Publication
					Lethal	Sublethal		
	Anopheles stephensi; Mosquito	4TH INSTAR LARVAE	24 H	LC_{50}	282		312464	84
	Anopheles stephensi; Mosquito	4TH INSTAR LARVAE	24 H	LC_{50}	175		312464	84
	Aplocheilus lineatus; Killifish	25-40 MM STD LENGTH	24 H	LC_{50}	148.9		311081	82
	Aplocheilus lineatus; Killifish	25-40 MM STD LENGTH	48 H	LC_{50}	122.8		311081	82
	Aplodinotus grunniens; Freshwater drum	3.3 G	96 H	LC_{50}	10		212009	66
	Aquatic community; Aquatic community	MICROCOSM	25 D	POP		10 to 500	213972	92
	Arctopsyche grandis; Caddisfly	LARVAE	96 H	LC_{50}	175		210528	65
	Artemia salina; Brine shrimp	5TH INSTAR	5 H	EC_{50} BEH		24	218105	58
	Artemia salina; Brine shrimp	ADULT	5 H	EC_{50} BEH		142	218105	58
	Artemia salina; Brine shrimp	3RD INSTAR	5 H	EC_{50} BEH		105	218105	58
	Artemia salina; Brine shrimp	9TH INSTAR	5 H	EC_{50} BEH		12	218105	58
	Artemia salina; Brine shrimp	7TH INSTAR	5 H	EC_{50} BEH		12	218105	58
	Artemia salina; Brine shrimp	DRIED EGG	48 H	HAT		10,000	216548	80
	Artemia salina; Brine shrimp	11TH INSTAR	5 H	EC_{50} BEH		28	218105	58
	Arthropoda; Arthropod phylum	NR	48 H	LETH	200		219237	72
	Asellus brevicaudus; Aquatic sowbug	MATURE	96 H	LC_{50}	4		210666	80
	Asellus brevicaudus; Aquatic sowbug	NR	96 H	LC_{50}	4		210887	72
	Asellus brevicaudus; Aquatic sowbug	NR	24 H	LC_{50}	8.7		210887	72
	Asplanchna brightwelli; Rotifer	<= 1 D	12 H	LC_{50}	2,218		312237	83
	Astacus astacus; European crayfish	MATURE, 80-90 MM, 22 G	96 H	LC_{50}	1 to 10		218297	77
	Astacus leptodactylus; Crayfish	6.8 G	NR	RSD		50	218908	73
	Balanus amphitrite; Barnacle	ADULT	1 H *	BEH		1	218645	74
	Balanus amphitrite; Barnacle	ADULT	1 H *	BEH		0.1	218645	74
	Balanus improvisus; Barnacle	CYPRIDS	24 H *	BEH		0.03	217940	74
	Balanus improvisus; Barnacle	CYPRIDS	24 H *	CLN		60,000 to 500,000	217940	74
	Balanus improvisus; Barnacle	CYPRIDS	24 H *	BEH		1,000,000	217940	74
	Barbus dorsalis; Two spot african barb	6-8.5 CM, 0.52-0.59 G	96 H	LC_{50}	48		216722	67
	Barbus dorsalis; Two spot african barb	6-8.5 CM, 0.52-0.59 G	24 H	LC_{50}	86		216722	67
	Barbus dorsalis; Two spot african barb	6-8.5 CM, 0.52-0.59 G	48 H	LC_{50}	86		216722	67
	Barbus sophore; Two spot barb, dotted barb	7.1-9.1 CM, 4.0-9.5 G	15 D	CEL, PHY		50	312352	85
	Barytelphusa cunicularis; Crab	NR	72 H	LC_{50}	980		312790	87
	Barytelphusa cunicularis; Crab	NR	24 H	LC_{50}	2,020		312790	87
	Barytelphusa cunicularis; Crab	NR	48 H	LC_{50}	1,540		312790	87
	Barytelphusa cunicularis; Crab	NR	96 H	LC_{50}	560		312790	87
	Biomphalaria glabrata; Snail	14-16 MM SHELL DIAMETER	24 H	PHY		41,100	218797	73
	Biomphalaria glabrata; Snail	14-16 MM SHELL DIAMETER	24 H	PHY		1,100	218797	73
	Bosmina longirostris; Water flea	NEONATE, < 24 H	48 H	EC_{50} IMM		1.72	310658	84
	Bosmina longirostris; Water flea	NEONATE, < 24 H	48 H	EC_{50} IMM		0.63	310658	84
	Branchiura sowerbyi; Oligochaete	NR	72 H	LETH	4,000		212798	73
	Branchiura sowerbyi; Oligochaete	NR	72 H	LETH	4,000		212798	73
4,4' DDT (cont.)	Branchiura sowerbyi; Oligochaete	NR	90 D	MOR	4,000		212798	73
	Branchiura sowerbyi; Oligochaete	NR	72 H	MOR	4,000		212798	73
	Bufo woodhousei fowleri; Fowler's toad	TADPOLE, 28-35 D	96 H	LC_{50}	1,000		212891	70
	Bufo woodhousei fowleri; Fowler's toad	TADPOLE, 28-35 D	48 H	LC_{50}	1,500		212891	70
	Bufo woodhousei fowleri; Fowler's toad	TADPOLE, 28-35 D	24 H	LC_{50}	2,400		212891	70
	Callinectes sapidus; Blue crab	JUVENILE	24 H	EC_{50} EQU		10	212188	63
	Callinectes sapidus; Blue crab	JUVENILE	48 H	EC_{50} EQU		10	212188	63
	Cancer magister; Dungeness or edible crab	ZOEA	96 H	EC_{50} IMM		1.1	212264	89
	Capitella capitata; Polychaete	NR	96 H	LC_{50}	>1,000		213785	91
	Carassius auratus; Goldfish	NR	48 H	LC_{50}	68		315192	67

Table I-1
AQUIRE Freshwater Toxicity Information (µg/L)
Site 15

Remedial Investigation
NAS Whiting Field
Milton, Florida

Chemical Name	Species	Age	Exposure	Effect	Effect Concentration		AQUIRE Reference Number	Year of Publication
					Lethal	Sublethal		
	Carassius auratus; Goldfish	2.72 G	96 H	LC_{50}	9.8		210851	75
	Carassius auratus; Goldfish	25 G	5.9 D	HEM		17.5	218756	74
	Carassius auratus; Goldfish	2.5-6.0 CM	24 H	LC_{50}	160		313000	65
	Carassius auratus; Goldfish	6 CM	48 H	LC_{50}	27,500		310309	72
	Carassius auratus; Goldfish	0.8 G	96 H	LC_{50}	40		212009	66
	Carassius auratus; Goldfish	4.01 CM, 1.04 G	48 H	LC_{50}	68		212682	69
	Carassius auratus; Goldfish	1.9 G	96 H	LC_{50}	180		212009	66
	Carassius auratus; Goldfish	19-31 CM	96 H	BEH		10	218528	73
	Carassius auratus; Goldfish	1.0 G	96 H	LC_{50}	21		212009	66
	Carassius auratus; Goldfish	19-31 CM	96 H	LOC		10	219065	72
	Carassius auratus; Goldfish	2.5-6.0 CM	96 H	LC_{50}	13		313000	65
	Carassius auratus; Goldfish	2.5-6.0 CM	72 H	LC_{50}	18		313000	65
	Carassius auratus; Goldfish	2.5-6.0 CM	48 H	LC_{50}	32		313000	65
	Carassius auratus; Goldfish	NR	48 H	LETH	2,000		212807	50
	Carassius auratus; Goldfish	19-30 CM	96 H	LOC		10	218814	73
	Carassius auratus; Goldfish	2.4 G	96 H	LC_{50}	32		212009	66
	Carassius auratus; Goldfish	NR	96 H	LC_{50}	21		210610	70
	Carassius auratus; Goldfish	2.4 G	96 H	LC_{50}	27		212009	66
	Carassius auratus; Goldfish	0.7 G	96 H	LC_{50}	35		212009	66
	Carassius auratus; Goldfish	25 G	5.9 D	HEM		17.5	218756	74
	Carassius auratus; Goldfish	2.5 G	96 H	LC_{50}	76		212009	66
	Carassius carassius; Crucian carp	25-50 G	96 H	LC_{50}	80		312999	75
	Carassius sp; Carp	FRY	96 H	LC_{50}	710		216270	74
	Catla catla; Catla	30 MM, FINGERLING	96 H	LC_{50}	6,800		212520	86
	Ceriodaphnia cornuta; Water flea	MIXED MICROFAUNA SPECIES	2 D	POP		70	312237	83
	Ceriodaphnia cornuta; Water flea	<= 1 D	24 H	LC_{50}	23		312237	83
	Ceriodaphnia reticulata; Water flea	<= 1 D	24 H	LC_{50}	44		312237	83
	Channa punctatus; Snake-head catfish	10-15 CM	48 H	LC_{50}	46		218371	72
	Channa punctatus; Snake-head catfish	10-15 CM	72 H	LC_{50}	29		218371	72
	Channa punctatus; Snake-head catfish	10-15 CM	96 H	LC_{50}	21.4		218371	72
	Channa punctatus; Snake-head catfish	10-15 CM	24 H	LC_{50}	83		218371	72
	Channa punctatus; Snake-head catfish	NR	24 H	CEL, PHY		100	219363	71
	Chaoborus sp; Phantom midge	JUVENILE	96 H	LC_{50}	7.4		210666	80
	Chasmichthys dolichognathus; Agohaze, goby	0.01-0.02 G	24 H	LC_{50}	8		216128	76
	Chasmichthys dolichognathus; Agohaze, goby	0.01-0.02 G	24 H	LC_{50}	10		216128	76
	Chasmichthys dolichognathus; Agohaze, goby	0.01-0.02 G	48 H	LC_{50}	4.8		216128	76
	Chironomidae; Midge family	LARVAE, 9-11 MM	24 H	LC_{50}	74.65		217954	75
	Chironomus riparius; Midge	4TH INSTAR	24 H	EC_{50} IMM		4.7	216830	79
	Chironomus tentans; Midge	2ND INSTAR, 10-14 D	48 H	LC_{50}	1		217884	86
4,4'-DDT (cont.)	Chironomus tentans; Midge	3RD-4TH INSTAR	24 H	EC_{50} IMM		19.5	216267	74
	Chironomus yoshimatsui; Midge	LARVAE	24 H *	EC_{50} BEH		23	212687	79
	Chlorella sp; Green algae	150000 CELLS/ML INITIAL CONC	10 D	PGR		1,000	218039	62
	Chlorella sp; Green algae	150000 CELLS/ML INITIAL CONC	10 D	PGR		600	218039	62
	Chlorella vulgaris; Green algae	NR	NR	BIO, PHY		100 to 10,000	213306	87
	Chrysophyta; Diatoms, chrysophyte division	NR	48 H	ABD		200	219237	72
	Cipangopaludina malleata; Mud snail	NR	48 H	LC_{50}	13,000		219158	72
	Cirrhinus mrigala; Carp, hawk fish	FINGERLING, 7.1 CM, 3.1 G	48 H	OXC		20	218402	78
	Cirrhinus mrigala; Carp, hawk fish	30 MM, FINGERLING	96 H	LC_{50}	6,400		212520	86
	Claassenia sabulosa; Stonefly	20-25 MM	24 H	LC_{50}	16		210889	68
	Claassenia sabulosa; Stonefly	20-25 MM	48 H	LC_{50}	6.4		210889	68

Table I-1
AQUIRE Freshwater Toxicity Information (µg/L)
Site 15

Remedial Investigation
NAS Whiting Field
Milton, Florida

Chemical Name	Species	Age	Exposure	Effect	Effect Concentration		AQUIRE Reference Number	Year of Publication
					Lethal	Sublethal		
	Claassenia sabulosa; Stonefly	20-25 MM	96 H	LC_{50}	3.5		210889	68
	Clarias batrachus; Walking catfish	NR	72 H	LC_{50}	4.2		311522	84
	Clarias batrachus; Walking catfish	NR	24 H	LC_{50}	18		311522	84
	Clarias batrachus; Walking catfish	NR	48 H	LC_{50}	8.5		311522	84
	Clarias batrachus; Walking catfish	NR	96 H	LC_{50}	1.75		311522	84
	Colisa fasciata; Giant gourami	48-69 MM	48 H	EC_{50} IMM		132	218745	74
	Colisa fasciata; Giant gourami	FINGERLING, 4.4 CM, 1.9 G	48 H	OXC		20	218402	78
	Colisa fasciata; Giant gourami	48-69 MM	96 H	EC_{50} IMM		126	218745	74
	Colisa fasciata; Giant gourami	48-69 MM	6 H	EC_{50} IMM		162	218745	74
	Colisa fasciata; Giant gourami	48-69 MM	24 H	EC_{50} IMM		150	218745	74
	Crangon septemspinosa; Sand shrimp	2.0 G	21 H	LC_{50}	0.9		215409	80
	Crangon septemspinosa; Sand shrimp	26 MM, 0.25 G	24 H	LC_{50}	3		210627	69
	Crangon septemspinosa; Sand shrimp	2.0 G	15 H	LC_{50}	1.1		215409	80
	Crangon septemspinosa; Sand shrimp	2.0 G	96 H	LC_{50}	0.4		215409	80
	Crangon septemspinosa; Sand shrimp	2.0 G	20 H	LC_{50}	1.8		215409	80
	Crangon septemspinosa; Sand shrimp	2.0 G	15 H	LC_{50}	1.9		215409	80
	Crangon septemspinosa; Sand shrimp	26 MM, 0.25 G	48 H	LC_{50}	1		210627	69
	Crangon septemspinosa; Sand shrimp	2.0 G	16 H	LC_{50}	0.9		215409	80
	Crassostrea madrasensis; Oyster	15-20 MM	72 H	LC_{50}	15.75		210276	89
	Crassostrea madrasensis; Oyster	15-20 MM	96 H	LC_{50}	9.36		210276	89
	Crassostrea madrasensis; Oyster	15-20 MM	120 H	LC_{50}	9.28		210276	89
	Crassostrea madrasensis; Oyster	15-20 MM	24 H	LC_{50}	24.82		210276	89
	Crassostrea madrasensis; Oyster	15-20 MM	48 H	LC_{50}	16.19		210276	89
	Crassostrea virginica; American or viginia oyster	2.5-5.1 CM	96 H	GRO		7	212188	63
	Crassostrea virginica; American or viginia oyster	2 MO	1 to 48 WK	HIS, PHY		0.6	210981	71
	Crassostrea virginica; American or viginia oyster	2 D LARVAE	12 D	LC_{50}	34		212400	79
	Crassostrea virginica; American or viginia oyster	2 MO	48 WK	GRO		0.6	210981	71
	Crassostrea virginica; American or viginia oyster	2.5-5.1 CM	96 H	GRO		9	212188	63
	Crithidia fasciculata; Flagellate	NR	NR	PGR		3,500	218552	74
	Culaea inconstans; Brook stickleback	1.6 G	96 H	LC_{50}	67		212009	66
	Culex fatigans; Mosquito	LARVAE, 4TH INSTAR STAGE	24 H	LC_{50}	180		312237	83
	Culex pipiens molestus; Mosquito	4TH INSTAR	72 H	LC_{100}	50		215162	79
	Culex pipiens molestus; Mosquito	NR	3 D *	MOR	250		215162	79
	Culex pipiens molestus; Mosquito	NR	3 D *	MOR	250		215162	79
	Culex pipiens molestus; Mosquito	LARVAE	48 H	LC_{50}	7.2		215162	79
	Culex pipiens molestus; Mosquito	LARVAE	24 H	LC_{50}	8.6		215162	79
	Culex pipiens molestus; Mosquito	4TH INSTAR	72 H	LC_{100}	50		215162	79
	Culex pipiens molestus; Mosquito	NR	3 D *	MOR	250		215162	79
4,4'-DDT (cont.)	Culex pipiens quinquefasciata; Mosquito	3RD-4TH INSTAR LARVAE	24 H	LC_{50}	100		219297	71
	Culex pipiens quinquefasciata; Mosquito	3RD-4TH INSTAR LARVAE	24 H	LC_{50}	80		219297	71
	Culex quinquefasciatus; Mosquito	4TH INSTAR LARVAE	24 H	LC_{50}	2.1		210810	88
	Culex quinquefasciatus; Mosquito	3RD OR 4TH INSTAR LARVAE	24 H	LC_{50}	22		311201	85
	Cyclops sp; Cyclopoid copepod	4TH INSTAR STAGE	24 H	LC_{50}	515		312237	83
	Cyclops sp; Cyclopoid copepod	MIXED MICROFAUNA SPECIES	2 D	POP		70	312237	83
	Cyclotella cryptica; Diatom	INIT CONC 50000 CELLS/ML	6 D	BMS		10	310161	84
	Cyclotella cryptica; Diatom	INIT CONC 50000 CELLS/ML	6 D	BMS		20	310161	84
	Cymatogaster aggregata; Shiner perch	48-104 MM, 1.2-11.0 G	96 H	LC_{50}	0.45		210611	72
	Cymatogaster aggregata; Shiner perch	48-104 MM, 1.2-11.0 G	96 H	LC_{50}	3.7		210611	72
	Cypridopsis vidua; Ostracod	NR	24 H	MOR	250		218599	74
	Cypridopsis vidua; Ostracod	MATURE	48 H	EC_{50} IMM		15	210666	80

Table I-1
AQUIRE Freshwater Toxicity Information (µg/L)
Site 15

Remedial Investigation
NAS Whiting Field
Milton, Florida

Chemical Name	Species	Age	Exposure	Effect	Effect Concentration		AQUIRE Reference Number	Year of Publication
					Lethal	Sublethal		
	Cypridopsis vidua; Ostracod	NR	48 H	MOR	125		218599	74
	Cypridopsis vidua; Ostracod	NR	48 H	MOR	63		218599	74
	Cypridopsis vidua; Ostracod	NR	24 H	MOR	1,000		218599	74
	Cypridopsis vidua; Ostracod	NR	24 H	MOR	63		218599	74
	Cypridopsis vidua; Ostracod	NR	48 H	MOR	250		218599	74
	Cyprinodon variegatus; Sheepshead minnow	NR	24 H	EC_{50} EQU		1,000	210807	65
	Cyprinodon variegatus; Sheepshead minnow	20-40 MM	0.5 H *	AVO		5	215145	69
	Cyprinodon variegatus; Sheepshead minnow	NR	48 H	LC_{50}	5		210807	65
	Cyprinodon variegatus; Sheepshead minnow	JUVENILE	48 H	LC_{50}	5		210646	64
	Cyprinodon variegatus; Sheepshead minnow	JUVENILE	24 H	IRR		100	210646	64
	Cyprinodontidae; Killifish, topminnow family	ADULT, 13-15 CM	72 H	LETH	500		212807	50
	Cyprinus carpio; Common, mirror, colored, carp	15 G	96 H	ENZ		21	219265	72
	Cyprinus carpio; Common, mirror, colored, carp	0.6 G	96 H	LC_{50}	6		212009	66
	Cyprinus carpio; Common, mirror, colored, carp	2.2 G	96 H	LC_{50}	9.2		212009	66
	Cyprinus carpio; Common, mirror, colored, carp	NR	48 H	LC_{50}	110		315192	67
	Cyprinus carpio; Common, mirror, colored, carp	NR	6 H	BIO, PHY		50	311249	84
	Cyprinus carpio; Common, mirror, colored, carp	0.8 G	96 H	LC_{50}	6.9		212009	66
	Cyprinus carpio; Common, mirror, colored, carp	15 G	96 H	ENZ		34	219265	72
	Cyprinus carpio; Common, mirror, colored, carp	2.1 G	96 H	LC_{50}	11.3		212009	66
	Cyprinus carpio; Common, mirror, colored, carp	15 G	96 H	ENZ		34	219265	72
	Cyprinus carpio; Common, mirror, colored, carp	EGGS	96 H	HAT		1,000	219629	70
	Cyprinus carpio; Common, mirror, colored, carp	4.5 CM, 1.1 G	48 H	LC_{50}	110		212682	69
	Cyprinus carpio; Common, mirror, colored, carp	NR	96 H	LC_{50}	10		210610	70
	Cyprinus carpio; Common, mirror, colored, carp	NR	6 H	BIO, PHY		50	311249	84
	Cyprinus carpio; Common, mirror, colored, carp	12-17 CM, 40-80 G	6 H	PHY		50	310912	85
	Cyprinus carpio; Common, mirror, colored, carp	EGGS	96 H	HAT		5,000	219629	70
	Cyprinus carpio; Common, mirror, colored, carp	FRY	96 H	LC_{50}	540		216270	74
	Cyprinus carpio; Common, mirror, colored, carp	EGG	96 H	LC_{50}	350		311812	86
	Cyprinus carpio; Common, mirror, colored, carp	2.0 G	96 H	LC_{50}	4		212009	66
	Cyprinus carpio; Common, mirror, colored, carp	2.5 G	96 H	LC_{50}	12		212009	66
	Cyprinus carpio; Common, mirror, colored, carp	NR	6 H	BIO, PHY		50	311249	84
	Daphnia carinata; Water flea	2-2.5 MM ADULT	48 H	EC_{50} IMM		12	215194	76
	Daphnia carinata; Water flea	2-2.5 MM ADULT	24 H	EC_{50} IMM		23	215194	76
	Daphnia magna; Water flea	NR	26 H	EC_{50} IMM		5.5	217984	66
	Daphnia magna; Water flea	JUVENILE, 6-24 H	24 H	EC_{50} IMM		510	310871	84
	Daphnia magna; Water flea	JUVENILE, 6-24 H	48 H	EC_{50} IMM		1.1	310871	84
	Daphnia magna; Water flea	< 24 H	14 D	REP		0.5	215525	75
4,4'-DDT (cont.)	Daphnia magna; Water flea	JUVENILE, 6-24 H	24 H	EC_{50} IMM		71	310871	84
	Daphnia magna; Water flea	<24 H	14 D	REP		0.75	215525	75
	Daphnia magna; Water flea	1ST INSTAR, < 24 H	26 H	LC_{50}	4.4		212820	67
	Daphnia magna; Water flea	< 24 H	48 H	MOR	0.04		218455	74
	Daphnia magna; Water flea	1ST INSTAR, 9 UG	24 H *	MOR	8		219303	71
	Daphnia magna; Water flea	1ST INSTAR	48 H	EC_{50} IMM		4.7	210666	80
	Daphnia magna; Water flea	2-26 H ADULT	24 H	EC_{50} IMM		6.5	215539	75
	Daphnia magna; Water flea	1ST INSTAR, 9 UG	24 H *	MOR	200		219303	71
	Daphnia magna; Water flea	JUVENILE, 6-24 H	24 H	EC_{50} IMM		0.5	310871	84
	Daphnia magna; Water flea	1ST INSTAR, 9 UG	24 H *	MOR	50		219303	71
	Daphnia magna; Water flea	NR	48 H	LC_{50}	2.66		313007	76
	Daphnia magna; Water flea	< 24 H	24 H	LC_{50}	9		315291	75
	Daphnia magna; Water flea	JUVENILE, 6-24 H	24 H	EC_{50} IMM		42	310871	84

Table I-1
AQUIRE Freshwater Toxicity Information (µg/L)
Site 15

Remedial Investigation
NAS Whiting Field
Milton, Florida

Chemical Name	Species	Age	Exposure	Effect	Effect Concentration		AQUIRE Reference Number	Year of Publication
					Lethal	Sublethal		
	Daphnia magna; Water flea	1ST INSTAR, 9 UG	24 H *	MOR	16		219303	71
	Daphnia magna; Water flea	JUVENILE, 6-24 H	48 H	EC_{50} IMM		0.68	310871	84
	Daphnia magna; Water flea	< 24 H	48 H	EC_{50} IMM		1.7	212076	79
	Daphnia magna; Water flea	JUVENILE, 6-24 H	24 H	EC_{50} IMM		0.99	310871	84
	Daphnia magna; Water flea	JUVENILE, 1-2 MM, <24 H	48 H	EC_{50} IMM		1.08	212554	90
	Daphnia magna; Water flea	JUVENILE, 6-24 H	24 H	EC_{50} IMM		98	310871	84
	Daphnia magna; Water flea	NR	96 H	LC_{50}	3		216270	74
	Daphnia magna; Water flea	JUVENILE, 6-24 H	24 H	EC_{50} IMM		1.3	310871	84
	Daphnia magna; Water flea	1ST INSTAR, 9 UG	24 H *	MOR	1,100		219303	71
	Daphnia magna; Water flea	JUVENILE, 1-2 MM, <24 H	48 H	EC_{50} IMM		1.23	212554	90
	Daphnia magna; Water flea	< 24 H	48 H	MOR	0.9		218455	74
	Daphnia magna; Water flea	<24 H	14 D	EC_{50} IMM		0.67	215525	75
	Daphnia magna; Water flea	12 +/- 12 H	14 D	EC_{50} IMM		0.67	215525	75
	Daphnia magna; Water flea	<24 H	48 H	LC_{50}	3		217884	86
	Daphnia magna; Water flea	<24 H	14 D	REP		0.61	215525	75
	Daphnia magna; Water flea	JUVENILE, 1-2 MM, <24 H	48 H	EC_{50} IMM		1.51	212554	90
	Daphnia magna; Water flea	1ST INSTAR, 9 UG	24 H *	MOR	100		219303	71
	Daphnia magna; Water flea	JUVENILE, 1-2 MM, <24 H	48 H	EC_{50} IMM		1.13	212554	90
	Daphnia magna; Water flea	< 24 H	48 H	EC_{50} IMM		1.1	212076	79
	Daphnia magna; Water flea	12 +/- 12 H	14 D	REP		0.5	215525	75
	Daphnia magna; Water flea	NR	26 H	EC_{50} IMM		195	217984	66
	Daphnia magna; Water flea	JUVENILE, 1-2 MM, <24 H	48 H	EC_{50} IMM		1.2	212554	90
	Daphnia pulex; Water flea	NEONATE, <24 H	48 H	EC_{50} IMM		1.1	213283	88
	Daphnia pulex; Water flea	1ST INSTAR	48 H	EC_{50} IMM		0.36	210888	66
	Daphnia pulex; Water flea	FEMALE ADULT	3 H	LC_{50}	3,500		212682	69
	Daphnia pulex; Water flea	NR	48 H	EC_{50} IMM		2.67	310658	84
	Daphnia pulex; Water flea	NEONATE, < 24 H	48 H	EC_{50} IMM		1.1	312730	87
	Daphnia pulex; Water flea	NR	3 H	LC_{50}	3,500		315192	67
	Daphnia sp; Water flea	NR	48 H	REP		100	210666	80
	Dendraster excentricus; Sand dollar	EMBRYO	72 H	EC_{50} DVP		>17.2	212264	89
	Diphanosoma excisum; Water flea	MIXED MICROFAUNA SPECIES	2 D	POP		70	312237	83
	Diphanosoma excisum; Water flea	<= 1 D	24 H	LC_{50}	28		312237	83
	Diptera; Fly, mosquito, midge order	NR	3 H *	DRF		10 to 11	217387	61
	Donax cuneatus; Marine bivalve	ADULT, 20-25 MM	72 H	FLT		1,000	218286	79
	Donax cuneatus; Marine bivalve	ADULT, 20-25 MM	72 H	PHY		1,000	218286	79
	Donax cuneatus; Marine bivalve	ADULT, 20-25 MM	9 D	LETH	1,000		218286	79
4,4'-DDT (cont.)	Donax cuneatus; Marine bivalve	ADULT, 20-25 MM	8 D	OXC		1,000	218286	79
	Dunaliella euchlora; Green algae	150000 CELLS/ML INITIAL CONC	10 D	PGR		1,000	218039	62
	Dunaliella euchlora; Green algae	150000 CELLS/ML INITIAL CONC	10 D	PGR		600	218039	62
	Dunaliella euchlora; Green algae	NR	24 H	PSE		10	219310	71
	Dunaliella tertiolecta; Green algae	10000 CELLS/ML	1 to 17 D	PGR		80	219047	72
	Emiliania huxleyi; Coccolithophorid	10000 CELLS/ML	1 to 17 D	PGR		80	219047	72
	Ephemerella grandis; Mayfly	NYMPH	96 H	LC_{50}	25		210528	65
	Ephemeroptera; Mayfly order	NR	2.5 H *	DRF		10 to 11	217387	61
	Eretes sticticus; Beetle	NR	24 H	LC_{50}	35		215182	78
	Eretes sticticus; Beetle	NR	48 H	LC_{50}	21.5		215182	78
	Esox lucius; Northern pike	0.7 G	96 H	LC_{50}	2.7		210666	80
	Esox lucius; Northern pike	0.5 G	96 H	LC_{50}	1.7		212009	66
	EuCalanus sp; Calanoid copepod	MATURE	24 H	LC_{50}	12		212658	88
	Euplotes vannus; Ciliate	NR	48 H	REP		10,000	215922	75

Table I-1
AQUIRE Freshwater Toxicity Information (µg/L)
Site 15

Remedial Investigation
NAS Whiting Field
Milton, Florida

Chemical Name	Species	Age	Exposure	Effect	Effect Concentration		AQUIRE Reference Number	Year of Publication
					Lethal	Sublethal		
	Fundulus heteroclitus; Mummichog	55 MM, 20 G	96 H	LC_{50}	5		210628	70
	Fundulus heteroclitus; Mummichog	5 G	6 H	HEM		250	219110	72
	Fundulus heteroclitus; Mummichog	5 G	24 H	LETH	750		219110	72
	Fundulus heteroclitus; Mummichog	55 MM, 20 G	24 H	LC_{50}	11		210628	70
	Fundulus heteroclitus; Mummichog	5 G	96 H	MOR	250		219110	72
	Fundulus heteroclitus; Mummichog	4-5 CM	7 D	RGN		10	218232	75
	Fundulus heteroclitus; Mummichog	5 G	72 H	MOR	250		219110	72
	Fundulus heteroclitus; Mummichog	ADULT	24 H	LC_{100}	1,000		218806	72
	Fundulus heteroclitus; Mummichog	5 G	48 H	MOR	250		219110	72
	Fundulus heteroclitus; Mummichog	42 (36-45) MM	10 D	LC_{50}	2.7		212814	70
	Fundulus heteroclitus; Mummichog	5-10 CM	0.25 H	BIO, PHY		18,000	219485	81
	Fundulus heteroclitus; Mummichog	5 G	24 H	HEM		75	219110	72
	Fundulus heteroclitus; Mummichog	5 G	96 H	MOR	25		219110	72
	Fundulus heteroclitus; Mummichog	5 G	24 H	MOR	250		219110	72
	Fundulus heteroclitus; Mummichog	5 G	24 H	MOR	75		219110	72
	Fundulus heteroclitus; Mummichog	4-5 CM	14 D	RGN		10	218232	75
	Fundulus heteroclitus; Mummichog	5 G	48 H	MOR	75		219110	72
	Fundulus heteroclitus; Mummichog	42 (36-45) MM	96 H	LC_{50}	3		212814	70
	Fundulus heteroclitus; Mummichog	5 G	72 H	MOR	75		219110	72
	Fundulus heteroclitus; Mummichog	55 MM, 20 G	48 H	LC_{50}	5		210628	70
	Fundulus heteroclitus; Mummichog	5 G	6 H	HEM		250	219110	72
	Fundulus heteroclitus, Mummichog	ADULT	24 H	LC_0	70		218806	72
	Fundulus heteroclitus; Mummichog	5 G	96 H	MOR	75		219110	72
	Fundulus majalis; Striped killifish	40 MM, 0.92 G	48 H	LC_{50}	2		210628	70
	Fundulus majalis; Striped killifish	40 MM, 0.92 G	24 H	LC_{50}	3		210628	70
	Fundulus majalis; Striped killifish	40 MM, 0.92 G	96 H	LC_{50}	1		210628	70
	Fundulus similis; Longnose killifish	JUVENILE	48 H	LC_{50}	5.5		212188	63
	Fundulus similis; Longnose killifish	NR	24 H	LC_{50}	28		210807	65
	Fundulus similis; Longnose killifish	NR	48 H	LC_{50}	18		210807	65
	Fundulus similis; Longnose killifish	JUVENILE	24 H	LC_{50}	5.5		212188	63
	Gambusia affinis; Mosquitofish	NR	48 H	LC_{50}	313		215494	73
	Gambusia affinis; Mosquitofish	NR	14.5 D	LT_{50}	4		216978	77
	Gambusia affinis; Mosquitofish	FEMALE, 3.8-5.1 CM, 0.68-0.81 G	48 H	LC_{50}	60		210568	80
	Gambusia affinis; Mosquitofish	NR	13.4 H	LT_{50}	1,500		216978	77
	Gambusia affinis; Mosquitofish	NR	24 H *	MOR	2		212128	61
4,4'-DDT (cont.)	Gambusia affinis; Mosquitofish	1.8-4.8 CM	24 H	MOR	1		219096	72
	Gambusia affinis; Mosquitofish	NR	48 H *	MOR	2		212128	61
	Gambusia affinis; Mosquitofish	NR	13.4 H	LT_{50}	2,500		216978	77
	Gambusia affinis, Mosquitofish	NR	48 H	LC_{50}	528		215494	73
	Gambusia affinis; Mosquitofish	1.9 G, 4.3 CM	24 H	LC_{50}	560		216038	70
	Gambusia affinis; Mosquitofish	1.9 G, 4.3 CM	96 H	LC_{50}	20		216038	70
	Gambusia affinis; Mosquitofish	FEMALE, 3.8-5.1 CM, 0.68-0.81 G	96 H	LC_{50}	40		210568	80
	Gambusia affinis; Mosquitofish	NR	24 H *	MOR	2		212128	61
	Gambusia affinis; Mosquitofish	NR	12.5 H	LT_{50}	1,000		216978	77
	Gambusia affinis; Mosquitofish	NR	48 H *	MOR	2		212128	61
	Gambusia affinis; Mosquitofish	NR	13 H	LT_{50}	500		216978	77
	Gambusia affinis; Mosquitofish	NR	24 H *	MOR	2		212128	61
	Gambusia affinis; Mosquitofish	FRY, 2.06 CM, 222 MG, BEHERA STRAI	96 H	LC_{50}	9.87		313099	86
	Gambusia affinis; Mosquitofish	NR	96 H *	MOR	0.5		212128	61
	Gambusia affinis; Mosquitofish	NR	48 H	LC_{50}	43		215494	73

Table I-1
AQUIRE Freshwater Toxicity Information (µg/L)
Site 15

Remedial Investigation
NAS Whiting Field
Milton, Florida

Chemical Name	Species	Age	Exposure	Effect	Effect Concentration		AQUIRE Reference Number	Year of Publication
					Lethal	Sublethal		
	Gambusia affinis; Mosquitofish	1.9 G, 4.3 CM	48 H	LC_{50}	46		216038	70
	Gambusia affinis; Mosquitofish	NR	0.17 H	ENZ		40,000	217212	78
	Gambusia affinis; Mosquitofish	NR	23 H	LT_{50}	100		216978	77
	Gambusia affinis; Mosquitofish	95 % MATURE FEMALES	0.67 H	ENZ		3	219148	72
	Gambusia affinis; Mosquitofish	NR	13.4 H	LT_{50}	2,000		216978	77
	Gambusia affinis; Mosquitofish	NR	24 H	MOR	2		212128	61
	Gambusia affinis; Mosquitofish	FEMALE, 3.8-5.1 CM, 0.68-0.81 G	72 H	LC_{50}	55		210568	80
	Gambusia affinis; Mosquitofish	NR	48 H	MOR	2		212128	61
	Gambusia affinis; Mosquitofish	2.0-5.8 CM	96 H	LC_{50}	0.45		216033	77
	Gambusia affinis; Mosquitofish	NR	24 H *	MOR	2		212128	61
	Gambusia affinis; Mosquitofish	FRY, 2.06 CM, 222 MG	24 H	LC_{50}	58.58		313099	86
	Gambusia affinis; Mosquitofish	NR	48 H *	MOR	2		212128	61
	Gambusia affinis; Mosquitofish	FRY, 2.06 CM, 222 MG	24 H	LC_{50}	22.74		313099	86
	Gambusia affinis; Mosquitofish	NR	24 H	MOR	0.5		212128	61
	Gambusia affinis; Mosquitofish	NR	14.2 D	LT_{50}	20		216978	77
	Gambusia affinis; Mosquitofish	NR	48 H	MOR	0.5		212128	61
	Gambusia affinis; Mosquitofish	FEMALE, 3.8-5.1 CM, 0.68-0.81 G	24 H	LC_{50}	70		210568	80
	Gambusia affinis; Mosquitofish	NR	24 H *	MOR	0.5		212128	61
	Gambusia affinis; Mosquitofish	0.5 G	96 H	LC_{50}	27		210942	72
	Gambusia affinis; Mosquitofish	NR	48 H *	MOR	0.5		212128	61
	Gambusia affinis; Mosquitofish	FRY, 2.06 CM, 222 MG, BEHERA STRAI	96 H	LC_{50}	27.69		313099	86
	Gambusia affinis; Mosquitofish	95 % MATURE FEMALES	0.67 H	ENZ		3	219148	72
	Gambusia affinis; Mosquitofish	1.8-4.8 CM	24 H	MOR	5		219096	72
	Gambusia affinis; Mosquitofish	NR	72 H *	MOR	0.5		212128	61
	Gammarus duebeni; Scud	ADULT, 50-80 MG	72 H	PHY		3.5	218132	75
	Gammarus fasciatus; Scud	NR	48 H	LC_{50}	1		210887	72
	Gammarus fasciatus; Scud	NR	24 H	LC_{50}	15		210887	72
	Gammarus fasciatus; Scud	NR	96 H	LC_{50}	3.2		210948	72
	Gammarus fasciatus; Scud	NR	96 H	LC_{50}	3.2		210887	72
	Gammarus fasciatus; Scud	NR	24 H	LC_{50}	1.1		210887	72
	Gammarus fasciatus; Scud	NR	24 H	LC_{50}	4.2		210887	72
	Gammarus fasciatus; Scud	NR	5 D	LC_{50}	0.6		210887	72
	Gammarus fasciatus; Scud	NR	48 H	LC_{50}	3.1		210887	72
	Gammarus fasciatus; Scud	NR	5 D	LC_{50}	0.32		210887	72
4,4'-DDT (cont.)	Gammarus fasciatus; Scud	NR	5 D	LC_{50}	0.6		210948	72
	Gammarus fasciatus; Scud	NR	96 H	LC_{50}	0.8		210887	72
	Gammarus fasciatus; Scud	NR	96 H	LC_{50}	1.8		210887	72
	Gammarus lacustris; Scud	2 MONTH OLD	48 H	LC_{50}	2.1		210885	69
	Gammarus lacustris; Scud	2 MO	24 H	LC_{50}	12		210885	69
	Gammarus lacustris; Scud	2 MONTH OLD	24 H	LC_{50}	4.7		210885	69
	Gammarus lacustris; Scud	2 MONTH OLD	96 H	LC_{50}	1		210885	69
	Gammarus lacustris; Scud	MATURE	96 H	LC_{50}	1		210666	80
	Gammarus lacustris; Scud	1 MONTH OLD	24 H	LC_{50}	1.4		210885	69
	Gammarus lacustris; Scud	NR	96 H	LC_{50}	9		212094	64
	Gammarus lacustris; Scud	2 MONTH OLD	24 H	LC_{50}	5.6		210885	69
	Gammarus lacustris; Scud	NR	96 H	LC_{50}	9		210528	65
	Gammarus lacustris; Scud	3 MONTH OLD	24 H	LC_{50}	8		210885	69
	Gammarus lacustris; Scud	2 MONTH OLD	24 H	LC_{50}	7.6		210885	69
	Gasterosteus aculeatus; Three spine stickleback	22-44 MM, 0.38-0.77 G	24 H	LC_{50}	18		210522	61
	Gasterosteus aculeatus; Three spine stickleback	22-44 MM, 0.38-0.77 G	96 H	LC_{50}	11.5		210522	61

Table I-1
AQUIRE Freshwater Toxicity Information (µg/L)
Site 15

Remedial Investigation
NAS Whiting Field
Milton, Florida

Chemical Name	Species	Age	Exposure	Effect	Effect Concentration		AQUIRE Reference Number	Year of Publication
					Lethal	Sublethal		
	Gasterosteus aculeatus; Three spine stickleback	22-44 MM, 0.38-0.77 G	96 H	LC_{50}	18		210522	61
	Gasterosteus aculeatus; Three spine stickleback	22-44 MM, 0.38-0.77 G	72 H	LC_{50}	14.5		210522	61
	Gasterosteus aculeatus; Three spine stickleback	22-44 MM, 0.38-0.77 G	72 H	LC_{50}	18.5		210522	61
	Gasterosteus aculeatus; Three spine stickleback	22-44 MM, 0.38-0.77 G	24 H	LC_{50}	22		210522	61
	Gasterosteus aculeatus; Three spine stickleback	22-44 MM, 0.38-0.77 G	48 H	LC_{50}	21		210522	61
	Gasterosteus aculeatus; Three spine stickleback	22-44 MM, 0.38-0.77 G	48 H	LC_{50}	15		210522	61
	Girella punctata; Green fish	0.15-0.24 G	24 H	LC_{50}	6.5		216128	76
	Girella punctata; Green fish	0.15-0.24 G	48 H	LC_{50}	7		216128	76
	Girella punctata; Green fish	0.15-0.24 G	24 H	LC_{50}	7.2		216128	76
	Girella punctata; Green fish	0.15-0.24 G	48 H	LC_{50}	6		216128	76
	Halodule uninervis; Macrophyte	2-3 G FRESH WT	6 H	PSE		50	310569	84
	Halophila ovalis; Macrophyte	2-3 G FRESH WT	6 H	PSE		50	310569	84
	Hemitripterus americanus; Sea raven	NR	0.5 H	ENZ		1,000	219361	71
	Hesperophylax sp; Caddisfly	LARVAE	0.25 H	LETH	15,000		315079	49
	Hesperophylax sp; Caddisfly	LARVAE	0.25 H	MOR	15,000		315079	49
	Heterocypris incongruens; Ostracod	ADULT	48 H	LETH	5,000		218599	74
	Heterocypris incongruens; Ostracod	ADULT	48 H	MOR	100		218599	74
	Heterocypris incongruens; Ostracod	ADULT	24 H	MOR	5,000		218599	74
	Heterocypris incongruens; Ostracod	ADULT	24 H	MOR	100		218599	74
	Heteropneustes fossilis; Indian catfish	19.8-22.0 CM, 40-57 G	96 H	LC_{50}	2,950		312480	84
	Heteropneustes fossilis; Indian catfish	19.8-22.0 CM, 40-57 G	11 D	HEM, PHY		500	312480	84
	Heteropneustes fossilis; Indian catfish	19.8-22.0 CM, 40-57 G	72 H	LC_{50}	3,020		312480	84
	Heteropneustes fossilis; Indian catfish	19.8-22.0 CM, 40-57 G	48 H	LC_{50}	3,550		312480	84
	Homarus americanus; American lobster	NR	0.17 H	BIO, PHY		1,100	212818	74
	Homarus americanus; American lobster	NR	0.17 H	BIO, PHY		3,500	212818	74
	Hydropsyche californica; Caddisfly	LARVAE	96 H	LC_{50}	48		210528	65
	Hydropsyche morosa; Caddisfly	LARVAE, 42 MG	6 H	EC_{50} IMM		50	212822	72
	Hydropsyche morosa; Caddisfly	LARVAE, 25 MG	6 H	EC_{50} IMM		50	212822	72
	Hydropsyche morosa; Caddisfly	LARVAE, 32.5 MG	40 H	ET_{50} IMM		20	212822	72
	Hydropsyche morosa; Caddisfly	LARVAE, 19.0 MG	6 H	ET_{50} IMM		20	212822	72
	Hydropsyche morosa; Caddisfly	LARVAE, 42 MG	3 H	EC_{50} IMM		70	212822	72
	Hydropsyche morosa; Caddisfly	LARVAE, 25 MG	6 H *	EC_{50} IMM		250	212822	72
	Hydropsyche morosa; Caddisfly	LARVAE, 42 MG	6 H *	EC_{50} IMM		50	212822	72
4,4'-DDT (cont.)	Hydropsyche morosa; Caddisfly	LARVAE, 25 MG	6 H *	EC_{50} IMM		100	212822	72
	Hydropsyche morosa; Caddisfly	LARVAE, 40 MG	6 H	EC_{50} IMM		40	212822	72
	Hydropsyche morosa; Caddisfly	LARVAE, 25 MG	3 H	EC_{50} IMM		40	212822	72
	Hydropsyche morosa; Caddisfly	LARVAE, 40 MG	6 H	EC_{50} IMM		20	212822	72
	Hydropsyche morosa; Caddisfly	LARVAE, 25 MG	3 H	EC_{50} IMM		90	212822	72
	Hydropsyche morosa; Caddisfly	LARVAE, 32.5 MG	9 H	ET_{50} IMM		100	212822	72
	Hydropsyche morosa; Caddisfly	LARVAE, 40 MG	6 H	EC_{50} IMM		30	212822	72
	Hydropsyche morosa; Caddisfly	LARVAE, 40 MG	6 H	EC_{50} IMM		60	212822	72
	Hydropsyche morosa; Caddisfly	LARVAE, 25 MG	3 H	EC_{50} IMM		500	212822	72
	Hydropsyche morosa; Caddisfly	LARVAE, 25 MG	6 H	EC_{50} IMM		150	212822	72
	Hydropsyche morosa; Caddisfly	LARVAE, 40 MG	6 H	EC_{50} IMM		20	212822	72
	Hydropsyche morosa; Caddisfly	LARVAE, 25 MG	6 H *	EC_{50} IMM		50	212822	72
	Hydropsyche morosa; Caddisfly	LARVAE, 25 MG	6 H *	EC_{50} IMM		50	212822	72
	Hydropsyche morosa; Caddisfly	LARVAE, 40 MG	6 H	EC_{50} IMM		20	212822	72
	Hydropsyche morosa; Caddisfly	LARVAE, 25 MG	6 H	EC_{50} IMM		250	212822	72
	Hydropsyche morosa; Caddisfly	LARVAE, 19.0 MG	2 H	ET_{50} IMM		100	212822	72
	Hydropsyche morosa; Caddisfly	LARVAE, 25 MG	6 H	EC_{50} IMM		50	212822	72

Table I-1
AQUIRE Freshwater Toxicity Information (µg/L)
Site 15

Remedial Investigation
NAS Whiting Field
Milton, Florida

Chemical Name	Species	Age	Exposure	Effect	Effect Concentration		AQUIRE Reference Number	Year of Publication
					Lethal	Sublethal		
	Hydropsyche morosa; Caddisfly	LARVAE, 25 MG	3 H	EC_{50} IMM		90	212822	72
	Hydropsyche recurvata; Caddisfly	LARVAE, 25 MG	6 H	EC_{50} IMM		60	212822	72
	Hydropsyche recurvata; Caddisfly	LARVAE, 25 MG	24 H *	EC_{50} IMM		40	212822	72
	Hydropsyche recurvata; Caddisfly	LARVAE, 25 MG	6 H *	EC_{50} IMM		40	212822	72
	Hydropsyche recurvata; Caddisfly	LARVAE, 25 MG	6 H	EC_{50} IMM		30	212822	72
	Hydropsyche recurvata; Caddisfly	LARVAE, 25 MG	3 H	EC_{50} IMM		1,000	212822	72
	Hydropsyche recurvata; Caddisfly	LARVAE, 25 MG	3 H	EC_{50} IMM		10	212822	72
	Hydropsyche recurvata; Caddisfly	LARVAE, 25 MG	3 H	EC_{50} IMM		1,000	212822	72
	Hydropsyche recurvata; Caddisfly	LARVAE, 25 MG	3 H	EC_{50} IMM		100	212822	72
	Hydropsyche recurvata; Caddisfly	LARVAE, 25 MG	6 H *	EC_{50} IMM		20	212822	72
	Hydropsyche recurvata; Caddisfly	LARVAE, 25 MG	6 H	EC_{50} IMM		60	212822	72
	Hydropsyche recurvata; Caddisfly	LARVAE, 25 MG	24 H *	EC_{50} IMM		300	212822	72
	Hydropsyche recurvata; Caddisfly	LARVAE, 25 MG	24 H *	EC_{50} IMM		400	212822	72
	Hydropsyche recurvata; Caddisfly	LARVAE, 25 MG	6 H	EC_{50} IMM		500	212822	72
	Hydropsyche recurvata; Caddisfly	LARVAE, 25 MG	3 H	EC_{50} IMM		90	212822	72
	Hydropsyche recurvata; Caddisfly	LARVAE, 25 MG	6 H	EC_{50} IMM		150	212822	72
	Hydropsyche sp; Caddisfly	LARVAE	0.25 H	LETH	15,000		315079	49
	Hydropsyche sp; Caddisfly	LARVAE	0.25 H	MOR	15,000		315079	49
	Ictalurus melas; Black bullhead	1.2 G	96 H	LC_{50}	4.8		210666	80
	Ictalurus melas; Black bullhead	2.1 G	96 H	LC_{50}	42		212009	66
	Ictalurus melas; Black bullhead	2.4 G	96 H	LC_{50}	23.5		212009	66
	Ictalurus melas; Black bullhead	NR	96 H	LC_{50}	5		210610	70
	Ictalurus melas; Black bullhead	2.2 G	96 H	LC_{50}	20		212009	66
	Ictalurus melas; Black bullhead	2.3 G	96 H	LC_{50}	17		212009	66
	Ictalurus punctatus; Channel catfish	NR	96 H	LC_{50}	16		210610	70
	Ictalurus punctatus; Channel catfish	10.0 G	24 H	LC_{50}	34		210942	72
	Ictalurus punctatus; Channel catfish	2.0 G	96 H	LC_{50}	17.5		212009	66
	Ictalurus punctatus; Channel catfish	2.98 G	96 H	LC_{50}	13.5		210851	75
	Ictalurus punctatus; Channel catfish	1.5 G	96 H	LC_{50}	21.5		210666	80
	Ictalurus punctatus; Channel catfish	43 (39-46) MM, 0.5 (0.4-0.6) G	96 H	LC_{50}	3.3		218048	65
	Ictalurus punctatus; Channel catfish	86.5 G, 194.6 MM	96 H	BEH		10	218528	73
	Ictalurus punctatus; Channel catfish	43, (39-46) MM, 0.5 (0.4-0.6) G	48 H	LC_{50}	4.1		218048	65
4,4'-DDT (cont.)	Ictalurus punctatus; Channel catfish	43 (39-46) MM, 0.5 (0.4-0.6) G	24 H	LC_{50}	4.9		218048	65
	Ictalurus punctatus; Channel catfish	1.9 G	96 H	LC_{50}	17.5		212009	66
	Ictiobus cyprinellus; Bigmouth buffalo	ADULT	45 D	MOR	1,000		212807	50
	Indonaia caerulea; Unionid clam	ADULT, 55-65 MM	72 H	LT_{50}	1,000		218286	79
	Indoplanorbis exustus; Snail	NR	48 H	LC_{50}	5,500		219158	72
	Ischnura verticalis; Damselfly	NR	96 H	LC_{50}	56		210948	72
	Isoperla sp; Stonefly	JUVENILE	96 H	LC_{50}	1.2		210666	80
	Katelysia opima; Marine bivalve	10-15 MM	24 H	LC_{50}	16.48		210276	89
	Katelysia opima; Marine bivalve	ADULT, 25-30 MM	72 H	FLT		1,000	218286	79
	Katelysia opima; Marine bivalve	10-15 MM	96 H	LC_{50}	13.19		210276	89
	Katelysia opima; Marine bivalve	ADULT, 25-30 MM	80 H	MOR	1,000		218286	79
	Katelysia opima; Marine bivalve	10-15 MM	72 H	LC_{50}	14.62		210276	89
	Katelysia opima; Marine bivalve	10-15 MM	120 H	LC_{50}	11.05		210276	89
	Katelysia opima; Marine bivalve	ADULT, 25-30 MM	72 H	OXC		1,000	218286	79
	Katelysia opima; Marine bivalve	ADULT, 25-30 MM	72 H	PHY		1,000	218286	79
	Katelysia opima; Marine bivalve	10-15 MM	48 H	LC_{50}	15.78		210276	89
	Kuhlia sandvicensis; Aholehole	1.49 G, 4.3 CM	48 H	LC_{50}	6.3		216038	70
	Kuhlia sandvicensis; Aholehole	1.49 G, 4.3 CM	96 H	LC_{50}	3.9		216038	70

Table I-1
AQUIRE Freshwater Toxicity Information (µg/L)
Site 15

Remedial Investigation
NAS Whiting Field
Milton, Florida

Chemical Name	Species	Age	Exposure	Effect	Effect Concentration		AQUIRE Reference Number	Year of Publication
					Lethal	Sublethal		
	Kuhlia sandvicensis; Aholehole	1.49 G, 4.3 CM	24 H	LC_{50}	12		216038	70
	Labeo rohita; Rohu	30 MM, FINGERLING	96 H	LC_{50}	6,400		212520	86
	Labeo rohita; Rohu	FINGERLING, 5.9 CM, 1.9 G	48 H	OXC		20	218402	78
	Leiostomus xanthurus; Spot	JUVENILE	24 H	LC_{50}	5		210646	64
	Leiostomus xanthurus; Spot	JUVENILE	48 H	LC_{50}	2		210646	64
	Lepomis cyanellus; Green sunfish	1.1 G	96 H	LC_{50}	6.7		212009	66
	Lepomis cyanellus; Green sunfish	1.4 G	96 H	LC_{50}	3.9		212009	66
	Lepomis cyanellus; Green sunfish	0.7 G	96 H	LC_{50}	4.4		212009	66
	Lepomis cyanellus; Green sunfish	0.8 G	96 H	LC_{50}	5		212009	66
	Lepomis cyanellus; Green sunfish	1.0 G	96 H	LC_{50}	3		212009	66
	Lepomis cyanellus; Green sunfish	0.7 G	96 H	LC_{50}	2.8		212009	66
	Lepomis cyanellus; Green sunfish	0.8 G	96 H	LC_{50}	6.4		212009	66
	Lepomis cyanellus; Green sunfish	0.8 G	96 H	LC_{50}	3.6		212009	66
	Lepomis gibbosus; Pumpkinseed	1.4 G	96 H	LC_{50}	6.7		212009	66
	Lepomis gibbosus; Pumpkinseed	1.3 G	96 H	LC_{50}	3.6		212009	66
	Lepomis gibbosus; Pumpkinseed	1.3 G	96 H	LC_{50}	2.8		212009	66
	Lepomis gibbosus; Pumpkinseed	1.4 G	96 H	LC_{50}	7.5		212009	66
	Lepomis gibbosus; Pumpkinseed	1.3 G	96 H	LC_{50}	1.8		212009	66
	Lepomis macrochirus; Bluegill	1.3 G	96 H	LC_{50}	7		212009	66
	Lepomis macrochirus; Bluegill	42 MM, 0.8 G	24 H	LC_{50}	16.5		313045	71
	Lepomis macrochirus; Bluegill	2.5 CM	96 H	LC_{50}	0.2 to 1.0		218343	77
	Lepomis macrochirus; Bluegill	38 (35-42) MM, 0.6 (0.5-0.8) G	24 H	LC_{50}	8.4		218048	65
	Lepomis macrochirus; Bluegill	1.1 G	96 H	LC_{50}	3		212009	66
	Lepomis macrochirus; Bluegill	0.6 G	96 H	LC_{50}	1.7		212009	66
	Lepomis macrochirus; Bluegill	2.5 CM	8 D	LOC		0.008	218343	77
	Lepomis macrochirus; Bluegill	0.6 G	96 H	LC_{50}	4.3		212009	66
	Lepomis macrochirus; Bluegill	2.5-5.0 CM	48 H	LC_{50}	3.3		313000	65
	Lepomis macrochirus; Bluegill	42 MM, 0.8 G	48 H	LC_{50}	13.5		313045	71
	Lepomis macrochirus; Bluegill	3.8-6.4 CM, 1.0-2.0 G	96 H	LC_{50}	8.8		210936	59
	Lepomis macrochirus; Bluegill	0.26 G ; < 1 YEAR	96 H	LC_{50}	9		212076	79
	Lepomis macrochirus; Bluegill	NR	96 H	LC_{50}	8		210610	70
4,4'-DDT (cont.)	Lepomis macrochirus; Bluegill	0.5 G	96 H	LC_{50}	7		210942	72
	Lepomis macrochirus; Bluegill	ADULT, 13-15 CM	7 WK	LETH	500		212807	50
	Lepomis macrochirus; Bluegill	2.5-5.0 CM	72 H	LC_{50}	3		313000	65
	Lepomis macrochirus; Bluegill	1.0 G	96 H	LC_{50}	2.8		212009	66
	Lepomis macrochirus; Bluegill	1.2 G	96 H	LC_{50}	9.4		212009	66
	Lepomis macrochirus; Bluegill	ADULTS, 13-15 CM	7 WK	MOR	200		212807	50
	Lepomis macrochirus; Bluegill	0.8 G	96 H	LC_{50}	1.2		212009	66
	Lepomis macrochirus; Bluegill	FINGERLING, 5-7.6 CM	7 WK	LETH	100		212807	50
	Lepomis macrochirus; Bluegill	0.6 G	96 H	LC_{50}	7		212009	66
	Lepomis macrochirus; Bluegill	ADULT	45 D	MOR	1,000		212807	50
	Lepomis macrochirus; Bluegill	2.5-5.0 CM	96 H	LC_{50}	2.7		313000	65
	Lepomis macrochirus; Bluegill	1.5 G	96 H	LC_{50}	8.6		210666	80
	Lepomis macrochirus; Bluegill	0.26 G ; < 1 YEAR	96 H	LC_{50}	3.4		212076	79
	Lepomis macrochirus; Bluegill	38 (35-42) MM, 0.6 (0.5-0.8) G	48 H	LC_{50}	6		218048	65
	Lepomis macrochirus; Bluegill	0.5 G	96 H	LC_{50}	2.2		210851	75
	Lepomis macrochirus; Bluegill	38 (35-42) MM, 0.6 (0.5-0.8) G	96 H	LC_{50}	4.7		218048	65
	Lepomis macrochirus; Bluegill	1.1 G	96 H	LC_{50}	3.6		212009	66
	Lepomis macrochirus; Bluegill	NR	96 H	LC_{50}	21		218046	66
	Lepomis macrochirus; Bluegill	2.5-5.0 CM	24 H	LC_{50}	10		313000	65

Table I-1
AQUIRE Freshwater Toxicity Information (µg/L)
Site 15

Remedial Investigation
NAS Whiting Field
Milton, Florida

Chemical Name	Species	Age	Exposure	Effect	Effect Concentration		AQUIRE Reference Number	Year of Publication
					Lethal	Sublethal		
	Lepomis macrochirus; Bluegill	0.5 G, 35-45 MM	96 H	LC_{50}	2.9		313034	72
	Lepomis macrochirus; Bluegill	0.9 G	96 H	LC_{50}	4.6		212009	66
	Lepomis macrochirus; Bluegill	3.8-6.4 CM, 1.0-2.0 G	96 H	LC_{50}	6.4		210936	59
	Lepomis macrochirus; Bluegill	42 MM, 0.8 G	96 H	LC_{50}	12.5		313045	71
	Lepomis macrochirus; Bluegill	3.8-6.4 CM, 1.0-2.0 G	96 H	LC_{50}	16		210936	59
	Lepomis megalotis; Longear sunfish	1.0 G	96 H	LC_{50}	4.9		212009	66
	Lepomis megalotis; Longear sunfish	1.0 G	96 H	LC_{50}	12.5		212009	66
	Lepomis microlophus; Redear sunfish	NR	96 H	LC_{50}	5		210610	70
	Leuresthes tenuis; California grunion	FRY	51 D *	LETH	100		219010	73
	Limanda ferruginea; Yellowtail flounder	NR	0.5 H	ENZ		50,000	219361	71
	Lucifer sp; Decapod	MATURE	24 H	LC_{50}	26		212658	88
	Lumbriculus variegatus; Oligochaete	NR	7 D *	LC_{50}	>130		216502	80
	Lumbriculus variegatus; Oligochaete	NR	6 D *	LC_{50}	>130		216502	80
	Lymnaea stagnalis; Great pond snail	28.16 (25-35) MM	45 D	EGP		0.9	215094	92
	Macrobrachium kistnensis; Shrimp	ADULT MALE, 50-66 MM, 1.2-1.5 G	24 H	LC_{50}	48		216296	83
	Macrobrachium kistnensis; Shrimp	ADULT MALE, 50-66 MM, 1.2-1.5 G	24 H	BIO, PHY		9.6	216296	83
	Macrobrachium kistnensis; Shrimp	ADULT MALE, 50-66 MM, 1.2-1.5 G	24 H	ENZ		9.6	216296	83
	Macrobrachium lamarrei; Prawn	INTERMOLT, 12-17 MM, *	72 H	LC_{50}	4.7		311973	86
	Macrobrachium lamarrei; Prawn	INTERMOLT, 12-17 MM, *	48 H	LC_{50}	6.1		311973	86
	Macrobrachium lamarrei; Prawn	INTERMOLT, 12-17 MM, *	24 H	LC_{50}	8.6		311973	86
	Macropodus cupanus; Paradise fish	20-28 MM STD LENGTH	24 H	LC_{50}	2,813		311081	82
	Macropodus cupanus; Paradise fish	20-28 MM STD LENGTH	48 H	LC_{50}	2,277		311081	82
	Menidia menidia; Atlantic silverside	59 MM, 1.2 G	96 H	LC_{50}	0.4		210628	70
	Menidia menidia; Atlantic silverside	59 MM, 1.2 G	24 H	LC_{50}	4		210628	70
	Menidia menidia; Atlantic silverside	59 MM, 1.2 G	48 H	LC_{50}	0.4		210628	70
	Mercenaria mercenaria; Northern quahog or hard clam	ADULT, 82 MM, 21 G SHELL WT	96 H	MOR	10,000		212896	70
	Meretrix casta; Bivalve	12-17 MM	24 H	LC_{50}	24.04		210276	89
	Meretrix casta; Bivalve	12-17 MM	48 H	LC_{50}	20		210276	89
	Meretrix casta; Bivalve	12-17 MM	72 H	LC_{50}	14.42		210276	89
	Meretrix casta; Bivalve	12-17 MM	96 H	LC_{50}	14.16		210276	89
4,4'-DDT (cont.)	Meretrix casta; Bivalve	12-17 MM	120 H	LC_{50}	11.28		210276	89
	Metapenaeus monoceros; Sand shrimp	70.0 MM	48 H	LC_{50}	81		212505	88
	Metapenaeus monoceros; Sand shrimp	2.5 G, 77 MM	96 H	BIO, PHY		6	213081	90
	Micrometrus minimus; Dwarf perch	48-104 MM, 1.2-11.0 G	96 H	LC_{50}	5		210611	72
	Micrometrus minimus; Dwarf perch	48-104 MM, 1.2-11.0 G	96 H	LC_{50}	0.26		210611	72
	Micropterus salmoides; Largemouth bass	YEARLING, 15-20 CM	7 WK	MOR	50		212807	50
	Micropterus salmoides; Largemouth bass	0.8 G	96 H	LC_{50}	1.5		210666	80
	Micropterus salmoides; Largemouth bass	NR	96 H	LC_{50}	2		210610	70
	Micropterus salmoides; Largemouth bass	0.5 G	96 H	LC_{50}	0.8		212009	66
	Micropterus salmoides; Largemouth bass	ADULT	45 D	MOR	1,000		212807	50
	Micropterus salmoides; Largemouth bass	YEARLING, 15-20 CM	7 WK	LETH	100		212807	50
	Moina brachiata; Water flea	<= 1 D	24 H	LC_{50}	49		312237	83
	Moina brachiata; Water flea	MIXED MICROFAUNA SPECIES	2 D	POP		70	312237	83
	Moina macrocopa; Water flea	NR	3 H	LC_{50}	4,800		315192	67
	Moina macrocopa; Water flea	FEMALE ADULT	3 H	LC_{50}	4,800		212682	69
	Moronoe saxatilis; Striped bass	JUVENILE 2.7 G	96 H	LC_{50}	0.53		210602	74
	Mugil cephalus; Striped mullet	46 MM, 1.0 G	24 H	LC_{50}	4		210628	70
	Mugil cephalus; Striped mullet	88 MM, 6.8 G	96 H	LC_{50}	3		210628	70
	Mugil cephalus; Striped mullet	15.3 G	12.2 H	LC_{50}	56		310891	82
	Mugil cephalus; Striped mullet	MATURE	96 H	PHY		0.1	315978	83

Table I-1
AQUIRE Freshwater Toxicity Information (µg/L)
Site 15

Remedial Investigation
NAS Whiting Field
Milton, Florida

Chemical Name	Species	Age	Exposure	Effect	Effect Concentration		AQUIRE Reference Number	Year of Publication
					Lethal	Sublethal		
	Mugil cephalus; Striped mullet	15.3 G	26.6 H	LT_{50}	56		310891	82
	Mugil cephalus; Striped mullet	100-110 MM	72 H	LC_{50}	0.4		210276	89
	Mugil cephalus; Striped mullet	MATURE	96 H	GRO		1	315978	83
	Mugil cephalus; Striped mullet	100-110 MM	48 H	LC_{50}	0.72		210276	89
	Mugil cephalus; Striped mullet	15.3 G	11.6 H	LT_{50}	56		310891	82
	Mugil cephalus; Striped mullet	100-110 MM	24 H	LC_{50}	1.19		210276	89
	Mugil cephalus; Striped mullet	100-110 MM	96 H	LC_{50}	0.26		210276	89
	Mugil cephalus; Striped mullet	MATURE	96 H	HEM		1	315978	83
	Mugil cephalus; Striped mullet	100-110 MM	120 H	LC_{50}	0.2		210276	89
	Mugil cephalus; Striped mullet	46 MM, 1.0 G	96 H	LC_{50}	0.9		210628	70
	Mugil cephalus; Striped mullet	MATURE	96 H	HEM		0.05	315978	83
	Mugil cephalus; Striped mullet	88 MM, 6.8 G	24 H	LC_{50}	7		210628	70
	Mugil cephalus; Striped mullet	46 MM, 1.0 G	48 H	LC_{50}	0.9		210628	70
	Mugil cephalus; Striped mullet	15.3 G	48 H	LC_{50}	42 to 56		310891	82
	Mugil cephalus; Striped mullet	15.3 G	7.4 H	LT_{50}	56		310891	82
	Mugil cephalus; Striped mullet	88 MM, 6.8 G	48 H	LC_{50}	6		210628	70
	Mugil curema; White mullet	JUVENILE	24 H	LC_{50}	0.8		212188	63
	Mugil curema; White mullet	0.60-1.51 G, 40.0-53.2 MM, *	24 H *	BEH		9	218124	73
	Mugil curema; White mullet	JUVENILE	48 H	LC_{50}	0.4		212188	63
	Myoxocephalus octodecemspinosu; Longhorn sculpin	NR	0.5 H	ENZ		50,000	219361	71
	Nassarius obsoletus; Eastern mud snail	15 MM, 0.16 G - SHELL	96 H	MOR	10,000		212896	70
	Nassarius obsoletus; Eastern mud snail	15 MM, 0.16 G SHELL	96 H	REP		10	212896	70
	Neanthes grubei; Polychaete	NR	96 H	LC_{50}	>1,000		213785	91
	Nereis arenaceodentata; Polychaete	NR	96 H	LC_{50}	>1,000		213785	91
	Nereis virens, Polychaete	NR	12 D	MOR	10		315468	82
	Nereis virens; Polychaete	NR	12 D	MOR	30		315468	82
	Nitocra spinipes; Harpacticoid copepod	0.6-0.8 MM, ADULTS	96 H	LC_{50}	30		215185	79
	Nitzschia delicatissima; Diatom	LOG PHASE, 75000 CELLS/ML	24 H	CLR, PHY		23.5	219126	72
	Nitzschia delicatissima; Diatom	LOG PHASE, 75000 CELLS/ML	24 H	PSE		100	219126	72
4,4'-DDT (cont.)	Nitzschia delicatissima, Diatom	LOG PHASE, 75000 CELLS/ML	24 H	LETH	1,000		219126	72
	Nitzschia delicatissima; Diatom	LOG PHASE, 75000 CELLS/ML	24 H	PSE		100	219126	72
	Nitzschia delicatissima; Diatom	LOG PHASE, 75000 CELLS/ML	24 H	CLR, PHY		220	219126	72
	Nitzschia delicatissima; Diatom	LOG PHASE, 75000 CELLS/ML	24 H	PSE		100	219126	72
	Nitzschia delicatissima; Diatom	LOG PHASE, 75000 CELLS/ML	24 H	PSE		100	219126	72
	Nitzschia delicatissima, Diatom	LOG PHASE, 75000 CELLS/ML	24 H	CLR, PHY		220	219126	72
	Nitzschia delicatissima; Diatom	LOG PHASE, 75000 CELLS/ML	24 H	CEL, PHY		9.4	219126	72
	Notemigonus crysoleucas; Golden shiner	1.02-1.31 G, 54.0-60.0 MM, ADULT	24 H *	BEH		15	218124	73
	Notopterus notopterus; Featherback	92-212 MM	6 H	EC_{50} IMM		92	218745	74
	Notopterus notopterus; Featherback	92-212 MM	96 H	EC_{50} IMM		43	218745	74
	Notopterus notopterus; Featherback	92-212 MM	48 H	EC_{50} IMM		62	218745	74
	Notopterus notopterus; Featherback	92-212 MM	24 H	EC_{50} IMM		84	218745	74
	Oligochaeta; Annelid worm class	NR	48 H	LETH	200		219237	72
	Oncorhynchus clarki; Cutthroat trout	1.25 G	96 H	LC_{50}	1.37		210964	71
	Oncorhynchus clarki; Cutthroat trout	.33 G	96 H	LC_{50}	0.85		210964	71
	Oncorhynchus clarki; Cutthroat trout	.33 G	48 H	LC_{50}	1.63		210964	71
	Oncorhynchus kisutch; Coho salmon, silver salmon	1.65 G	96 H	LC_{50}	18.5		210964	71
	Oncorhynchus kisutch; Coho salmon, silver salmon	< 1 YR, FINGERLING, 0.63 G	22.5 D	LT_{50}	100,000		212448	69
	Oncorhynchus kisutch; Coho salmon, silver salmon	< 1 YR, FINGERLING, 0.63 G	>95 D	LT_{50}	25,000		212448	69
	Oncorhynchus kisutch; Coho salmon, silver salmon	57-76 MM, 2.7-4.1 G	48 H	LC_{50}	46		210522	61
	Oncorhynchus kisutch; Coho salmon, silver salmon	< 1 YR, FINGERLING, 0.63 G	>95 D	LT_{50}	6,250		212448	69

Table I-1
AQUIRE Freshwater Toxicity Information (µg/L)
Site 15

Remedial Investigation
NAS Whiting Field
Milton, Florida

Chemical Name	Species	Age	Exposure	Effect	Effect Concentration		AQUIRE Reference Number	Year of Publication
					Lethal	Sublethal		
	Oncorhynchus kisutch; Coho salmon, silver salmon	1.0 G	96 H	LC_{50}	4		210666	80
	Oncorhynchus kisutch; Coho salmon, silver salmon	< 1 YR, FINGERLING, 3.7 G	6.5 D	LT_{50}	400,000		212448	69
	Oncorhynchus kisutch; Coho salmon, silver salmon	NR	96 H	LC_{50}	4		210610	70
	Oncorhynchus kisutch; Coho salmon, silver salmon	< 1 YR, FINGERLING, 3.7 G	60 D	LT_{50}	100,000		212448	69
	Oncorhynchus kisutch; Coho salmon, silver salmon	FRY	25 H	LT_{50}	3.2		212298	74
	Oncorhynchus kisutch; Coho salmon, silver salmon	JUVENILE	48 H	LC_{50}	24		212003	67
	Oncorhynchus kisutch; Coho salmon, silver salmon	FRY	7.3 D	LT_{50}	0.8		212298	74
	Oncorhynchus kisutch; Coho salmon, silver salmon	JUVENILE	96 H	LC_{50}	13		212003	67
	Oncorhynchus kisutch; Coho salmon, silver salmon	< 1 YR, FINGERLING, 3.7 G	>60 D	LT_{50}	100,000		212448	69
	Oncorhynchus kisutch; Coho salmon, silver salmon	JUVENILE	96 H	PHY		50	212003	67
	Oncorhynchus kisutch; Coho salmon, silver salmon	FRY	7 D	LC_{50}	> 0.7		212298	74
	Oncorhynchus kisutch; Coho salmon, silver salmon	JUVENILE, SMALLER FISH	30 H	LETH	50		212003	67
	Oncorhynchus kisutch; Coho salmon, silver salmon	1.65 G	72 H	LC_{50}	24		210964	71
	Oncorhynchus kisutch; Coho salmon, silver salmon	JUVENILE, LARGER FISH	96 H	LETH	50		212003	67
	Oncorhynchus kisutch; Coho salmon, silver salmon	< 1 YR, FINGERLING, 0.63 G	7.5 D	LT_{50}	400,000		212448	69
	Oncorhynchus kisutch; Coho salmon, silver salmon	JUVENILE, LARGER FISH	12 H	LETH	200		212003	67
	Oncorhynchus kisutch; Coho salmon, silver salmon	57-76 MM, 2.7-4.1 G	24 H	LC_{50}	66		210522	61
	Oncorhynchus kisutch; Coho salmon, silver salmon	JUVENILE, LARGER FISH	7 H	LETH	350		212003	67
	Oncorhynchus kisutch; Coho salmon, silver salmon	57-76 MM, 2.7-4.1 G	96 H	LC_{50}	44		210522	61
	Oncorhynchus kisutch; Coho salmon, silver salmon	< 1 YR, FINGERLING, 3.7 G	60 D	LT_{50}	25,000		212448	69
	Oncorhynchus kisutch; Coho salmon, silver salmon	FRY	14 D	LT_{50}	> 0.5		212298	74
	Oncorhynchus kisutch; Coho salmon, silver salmon	< 1 YR, FINGERLING, 3.7 G	>60 D	LT_{50}	6,250		212448	69
	Oncorhynchus kisutch; Coho salmon, silver salmon	.5 G	24 H	LC_{50}	25		210964	71
	Oncorhynchus kisutch; Coho salmon, silver salmon	< 1 YR, FINGERLING, 0.63 G	23.8 D	LT_{50}	100,000		212448	69
	Oncorhynchus kisutch; Coho salmon, silver salmon	57-76 MM, 2.7-4.1 G	72 H	LC_{50}	44		210522	61
	Oncorhynchus kisutch; Coho salmon, silver salmon	.5 G	96 H	LC_{50}	11.3		210964	71
	Oncorhynchus kisutch; Coho salmon, silver salmon	FRY	55 H	LT_{50}	1.4		212298	74
	Oncorhynchus kisutch; Coho salmon, silver salmon	.5 G	72 H	LC_{50}	11.7		210964	71
4,4'-DDT (cont.)	Oncorhynchus kisutch; Coho salmon, silver salmon	1.65 G	48 H	LC_{50}	30		210964	71
	Oncorhynchus kisutch; Coho salmon, silver salmon	FRY	25 H	LT_{50}	3.3		212298	74
	Oncorhynchus kisutch; Coho salmon, silver salmon	FRY	55 H	LT_{50}	1.9		212298	74
	Oncorhynchus kisutch; Coho salmon, silver salmon	.5 G	48 H	LC_{50}	12.5		210964	71
	Oncorhynchus mykiss; Rainbow trout, donaldson trout	33 (30-38) MM, 0.3 (0.2-0.4) G	24 H	LC_{50}	3		218048	65
	Oncorhynchus mykiss; Rainbow trout, donaldson trout	YOUNG, 9-11 CM	1 H	MOR	40,000		219634	70
	Oncorhynchus mykiss; Rainbow trout, donaldson trout	3-7 CM	48 H	LC_{50}	5.6		313000	65
	Oncorhynchus mykiss; Rainbow trout, donaldson trout	YOUNG, 9-11 CM	1 H	MOR	40,000		219634	70
	Oncorhynchus mykiss; Rainbow trout, donaldson trout	JUVENILE, 1-1.5 YR, 120 G, 22.8 CM	5 H	RES		52.5	217846	76
	Oncorhynchus mykiss; Rainbow trout, donaldson trout	JUVENILE, 1-1.5 YR, 120 G, 22.8 CM	5 H	RES		140	217846	76
	Oncorhynchus mykiss; Rainbow trout, donaldson trout	51-79 MM, 3.2 G	72 H	LC_{50}	42		210522	61
	Oncorhynchus mykiss; Rainbow trout, donaldson trout	.41 G	96 H	LC_{50}	1.72		210964	71
	Oncorhynchus mykiss; Rainbow trout, donaldson trout	51-79 MM, 3.2 G	48 H	LC_{50}	42		210522	61
	Oncorhynchus mykiss; Rainbow trout, donaldson trout	.41 G	72 H	LC_{50}	2.25		210964	71
	Oncorhynchus mykiss; Rainbow trout, donaldson trout	51-79 MM, 3.2 G	24 H	LC_{50}	42		210522	61
	Oncorhynchus mykiss; Rainbow trout, donaldson trout	0.16 G, 28-35 MM	96 H	LC_{50}	1.9		313034	72
	Oncorhynchus mykiss; Rainbow trout, donaldson trout	NR	10 D	LC_{50}	0.87		210948	72
	Oncorhynchus mykiss; Rainbow trout, donaldson trout	15 G	140 D	HEM, PHY		1	315101	71
	Oncorhynchus mykiss; Rainbow trout, donaldson trout	0.9 G	96 H	LC_{50}	4.6		212009	66
	Oncorhynchus mykiss; Rainbow trout, donaldson trout	0.8 G	96 H	LC_{50}	18		313046	72
	Oncorhynchus mykiss; Rainbow trout, donaldson trout	1.0 G	96 H	LC_{50}	8.7		210666	80
	Oncorhynchus mykiss; Rainbow trout, donaldson trout	0.8 G	48 H	LC_{50}	16.7		313046	72

Table I-1
AQUIRE Freshwater Toxicity Information (µg/L)
Site 15

Remedial Investigation
NAS Whiting Field
Milton, Florida

Chemical Name	Species	Age	Exposure	Effect	Effect Concentration		AQUIRE Reference Number	Year of Publication
					Lethal	Sublethal		
	Oncorhynchus mykiss; Rainbow trout, donaldson trout	1.6 G	96 H	LC_{50}	15		212009	66
	Oncorhynchus mykiss; Rainbow trout, donaldson trout	0.8 G	24 H	LC_{50}	17.8		313046	72
	Oncorhynchus mykiss; Rainbow trout, donaldson trout	1.9 G	96 H	LC_{50}	17		212009	66
	Oncorhynchus mykiss; Rainbow trout, donaldson trout	25-50 G	96 H	LC_{50}	60		312999	75
	Oncorhynchus mykiss; Rainbow trout, donaldson trout	3.1 G	96 H	LC_{50}	12		212009	66
	Oncorhynchus mykiss; Rainbow trout, donaldson trout	33 (30-38) MM, 0.3 (0.2-0.4) G	96 H	LC_{50}	1.5		218048	65
	Oncorhynchus mykiss; Rainbow trout, donaldson trout	6 CM	48 H	LD_{50}	17,000		310309	72
	Oncorhynchus mykiss; Rainbow trout, donaldson trout	YEARLING	0.25 H	ENZ, PHY		40,000	219308	71
	Oncorhynchus mykiss; Rainbow trout, donaldson trout	JUVENILE, 1-1.5 YR, 120 G, 22.8 CM	5 H	PHY		140	217846	76
	Oncorhynchus mykiss; Rainbow trout, donaldson trout	.41 G	48 H	LC_{50}	3.05		210964	71
	Oncorhynchus mykiss; Rainbow trout, donaldson trout	NR	15 D	LC_{50}	0.26		210948	72
	Oncorhynchus mykiss; Rainbow trout, donaldson trout	33 (30-38) MM, 0.3 (0.2-0.4) G	48 H	LC_{50}	2		218048	65
	Oncorhynchus mykiss; Rainbow trout, donaldson trout	NR	5 D	LC_{50}	2.26		210948	72
	Oncorhynchus mykiss; Rainbow trout, donaldson trout	5-13 CM	0.25 H	MOR	12,000		315079	49
	Oncorhynchus mykiss; Rainbow trout, donaldson trout	3.4 G	96 H	LC_{50}	3.8		210851	75
	Oncorhynchus mykiss; Rainbow trout, donaldson trout	51-79 MM, 3.2 G	96 H	LC_{50}	42		210522	61
	Oncorhynchus mykiss; Rainbow trout, donaldson trout	2.5 G	96 H	LC_{50}	13		212009	66
	Oncorhynchus mykiss; Rainbow trout, donaldson trout	.41 G	24 H	LC_{50}	6.9		210964	71
	Oncorhynchus mykiss; Rainbow trout, donaldson trout	JUVENILE, 1-1.5 YR, 120 G, 22.8 CM	5 H	PHY		140	217846	76
	Oncorhynchus mykiss; Rainbow trout, donaldson trout	5-13 CM	0.25 H	MOR	35,000		315079	49
	Oncorhynchus mykiss; Rainbow trout, donaldson trout	0.9 G	96 H	LC_{50}	14		212009	66
	Oncorhynchus mykiss; Rainbow trout, donaldson trout	3-7 CM	24 H	LC_{50}	5.6		313000	65
	Oncorhynchus mykiss; Rainbow trout, donaldson trout	NR	96 H	LC_{50}	7		210610	70
	Oncorhynchus mykiss; Rainbow trout, donaldson trout	3-7 CM	96 H	LC_{50}	3.4		313000	65
	Oncorhynchus mykiss; Rainbow trout, donaldson trout	JUVENILE, 1-1.5 YR, 120 G, 22.8 CM	5 H	PHY		350	217846	76
	Oncorhynchus mykiss; Rainbow trout, donaldson trout	0.5 G	96 H	LC_{50}	2.4		212009	66
	Oncorhynchus mykiss; Rainbow trout, donaldson trout	1.2 G	96 H	LC_{50}	7.2		212009	66
4,4'-DDT (cont.)	Oncorhynchus mykiss; Rainbow trout, donaldson trout	3-7 CM	72 H	LC_{50}	5.6		313000	65
	Oncorhynchus tshawytscha; Chinook salmon	< 1 YR, FINGERLING, 1.1 G	12.3 D	LT_{50}	100,000		212448	69
	Oncorhynchus tshawytscha; Chinook salmon	< 1 YR, FINGERLING, 0.61 G	26.6 D	LT_{50}	37,500		212448	69
	Oncorhynchus tshawytscha; Chinook salmon	51-114 MM, 1.45-5 G	96 H	LC_{50}	11.5		210522	61
	Oncorhynchus tshawytscha; Chinook salmon	< 1 YR, FINGERLING, 1.1 G	>60 D	LT_{50}	6,250		212448	69
	Oncorhynchus tshawytscha; Chinook salmon	51-114 MM, 1.45-5 G	72 H	LC_{50}	14		210522	61
	Oncorhynchus tshawytscha; Chinook salmon	51-114 MM, 1.45-5 G	48 H	LC_{50}	17		210522	61
	Oncorhynchus tshawytscha; Chinook salmon	< 1 YR, FINGERLING, 4.4 G	35.5 D	LT_{50}	100,000		212448	69
	Oncorhynchus tshawytscha; Chinook salmon	< 1 YR, FINGERLING, 0.61 G	4.8 D	LT_{50}	150,000		212448	69
	Oncorhynchus tshawytscha; Chinook salmon	< 1 YR, FINGERLING, 0.61 G	>40 D	LT_{50}	9,400		212448	69
	Oncorhynchus tshawytscha; Chinook salmon	< 1 YR, FINGERLING, 0.61 G	1.6 D	LT_{50}	600,000		212448	69
	Oncorhynchus tshawytscha; Chinook salmon	51-114 MM, 1.45-5 G	24 H	LC_{50}	38		210522	61
	Oncorhynchus tshawytscha; Chinook salmon	< 1 YR, FINGERLING, 1.1 G	>60 D	LT_{50}	25,000		212448	69
	Oncorhynchus tshawytscha; Chinook salmon	< 1 YR, FINGERLING, 1.1 G	13.7 D	LT_{50}	100,000		212448	69
	Oncorhynchus tshawytscha; Chinook salmon	< 1 YR, FINGERLING, 1.1 G	4.8 D	LT_{50}	400,000		212448	69
	Ophryotrocha labronica; Polychaete	NR	96 H	LC_{50}	>1,000		213785	91
	Orconectes nais; Crayfish	35 D, 50 MG	96 H	LC_{50}	0.9		210887	72
	Orconectes nais; Crayfish	80 D, 1200 MG	96 H	LC_{50}	30		210887	72
	Orconectes nais; Crayfish	1 D, 15 MG	24 H	LC_{50}	1.4		210887	72
	Orconectes nais; Crayfish	14 D, 23 MG	96 H	LC_{50}	0.2		210887	72
	Orconectes nais; Crayfish	21-35 D	24 H	LC_{50}	1		210887	72
	Orconectes nais; Crayfish	56 D, 500 MG	24 H	LC_{50}	45		210887	72
	Orconectes nais; Crayfish	MATURE	24 H	LC_{50}	1,100		210887	72

Table I-1
AQUIRE Freshwater Toxicity Information (µg/L)
Site 15

Remedial Investigation
NAS Whiting Field
Milton, Florida

Chemical Name	Species	Age	Exposure	Effect	Effect Concentration		AQUIRE Reference Number	Year of Publication
					Lethal	Sublethal		
	Orconectes nais; Crayfish	21 D, 30 MG	24 H	LC_{50}	1		210887	72
	Orconectes nais; Crayfish	80 D, 1200 MG	24 H	LC_{50}	50		210887	72
	Orconectes nais; Crayfish	21 D, 30 MG	96 H	LC_{50}	0.24		210887	72
	Orconectes nais; Crayfish	14 D, 23 MG	24 H	LC_{50}	1.2		210887	72
	Orconectes nais; Crayfish	7 D, 20 MG	24 H	LC_{50}	1		210887	72
	Orconectes nais; Crayfish	1 D, 15 MG	96 H	LC_{50}	0.3		210887	72
	Orconectes nais; Crayfish	7 D, 20 MG	96 H	LC_{50}	0.18		210887	72
	Orconectes nais; Crayfish	JUVENILE	96 H	LC_{50}	0.18		210666	80
	Orconectes nais; Crayfish	21-35 D	96 H	LC_{50}	0.24		210887	72
	Orconectes nais; Crayfish	56 D, 500 MG	96 H	LC_{50}	28		210887	72
	Orconectes nais; Crayfish	NR	96 H	LC_{50}	100		210948	72
	Orconectes nais; Crayfish	MATURE	96 H	LC_{50}	100		210887	72
	Orconectes nais; Crayfish	35 D, 50 MG	24 H	LC_{50}	3.2		210887	72
	Oryzias latipes; Medaka, high-eyes	YOLK SAC FRY STAGE	96 H	LC_{50}	14		311174	84
	Oryzias latipes; Medaka, high-eyes	NR	24 H	LC_{50}	380		312497	86
	Oryzias latipes; Medaka, high-eyes	NR	48 H	LC_{50}	450		312497	86
	Oryzias latipes; Medaka, high-eyes	2.54 CM, 0.16 G	48 H	LC_{50}	12		212682	69
	Oryzias latipes; Medaka, high-eyes	ADULT FEMALE, SEXUALLY INACTIVA	96 H	LC_{50}	48.7		311174	84
	Oryzias latipes; Medaka, high-eyes	ADULT MALE, SEXUALLY INACTIVATE	96 H	LC_{50}	35.6		311174	84
	Oryzias latipes; Medaka, high-eyes	NR	48 H	LC_{50}	540		312497	86
	Oryzias latipes; Medaka, high-eyes	POST-LARVAE, STAGE II	96 H	LC_{50}	4.9		311174	84
	Oryzias latipes; Medaka, high-eyes	NR	48 H	LC_{50}	12		315192	67
	Oryzias latipes; Medaka, high-eyes	ADULT MALE, SEXUALLY ACTIVATED	96 H	LC_{50}	31.6		311174	84
	Oryzias latipes; Medaka, high-eyes	NR	48 H	LC_{50}	290		312497	86
	Oryzias latipes; Medaka, high-eyes	NR	24 H	LC_{50}	10,000		312497	86
	Oryzias latipes; Medaka, high-eyes	ADULT FEMALE, SEXUALLY ACTIVAT	96 H	LC_{50}	43.7		311174	84
4,4'-DDT (cont.)	Oryzias latipes; Medaka, high-eyes	JUVENILE, 70 D POST-HAT	96 H	LC_{50}	76 to 157		311174	84
	Oryzias latipes; Medaka, high-eyes	NR	24 H	LC_{50}	490		312497	86
	Ostracoda; Ostracod, seed shrimp subclass	MIXED MICROFAUNA SPECIES	2 D	POP		70	312237	83
	Pagurus longicarpus; Longwrist hermit crab	3.5 MM, 0.28 G	48 H	LC_{50}	6		210627	69
	Pagurus longicarpus; Longwrist hermit crab	3.5 MM, 0.28 G	24 H	LC_{50}	7		210627	69
	Palaemon squilla; Black sea shrimp	NR	3 H	LC_{100}	100		217260	72
	Palaemon squilla; Black sea shrimp	NR	24 H	LC_{100}	1		217260	72
	Palaemon squilla; Black sea shrimp	200-300 MG	15 D	OXC		0.001	217260	72
	Palaemon squilla; Black sea shrimp	NR	24 H	LC_{100}	10		217260	72
	Palaemon squilla; Black sea shrimp	NR	3 H	LC_{100}	100		217260	72
	Palaemon squilla; Black sea shrimp	NR	6.5 D	LC_{100}	0.1		217260	72
	Palaemon squilla; Black sea shrimp	ADULTS, 750-850 MG	10 D	OXC		0.00001	217260	72
	Palaemon squilla; Black sea shrimp	ADULTS, 750-850 MG	96 H	OXC		0.01	217260	72
	Palaemonetes kadiakensis; Grass shrimp	NR	24 H *	LC_{50}	3.7		212665	70
	Palaemonetes kadiakensis; Grass shrimp	NR	5 D	LC_{50}	1		210948	72
	Palaemonetes kadiakensis; Grass shrimp	LATE INSTAR	5 D	LC_{50}	1		210887	72
	Palaemonetes kadiakensis; Grass shrimp	NR	5 D	LC_{50}	1.3		210948	72
	Palaemonetes kadiakensis; Grass shrimp	LATE INSTAR	96 H	LC_{50}	2.3		210887	72
	Palaemonetes kadiakensis; Grass shrimp	LATE INSTAR	24 H	LC_{50}	6.8		210887	72
	Palaemonetes kadiakensis; Grass shrimp	NR	24 H *	LC_{50}	5.7		212665	70
	Palaemonetes kadiakensis; Grass shrimp	LATE INSTAR	5 D	LC_{50}	1.3		210887	72
	Palaemonetes kadiakensis; Grass shrimp	NR	24 H *	LC_{50}	2.6		212665	70
	Palaemonetes kadiakensis; Grass shrimp	LATE INSTAR	96 H	LC_{50}	3.5		210887	72
	Palaemonetes kadiakensis; Grass shrimp	MATURE	96 H	LC_{50}	2.3		210666	80

Table I-1
AQUIRE Freshwater Toxicity Information (µg/L)
Site 15

Remedial Investigation
NAS Whiting Field
Milton, Florida

Chemical Name	Species	Age	Exposure	Effect	Effect Concentration		AQUIRE Reference Number	Year of Publication
					Lethal	Sublethal		
	Palaemonetes kadiakensis; Grass shrimp	LATE INSTAR	24 H	LC_{50}	9.4		210887	72
	Palaemonetes kadiakensis; Grass shrimp	NR	24 H *	LC_{50}	6.8		212665	70
	Palaemonetes kadiakensis; Grass shrimp	LATE INSTAR	48 H	LC_{50}	4.7		210887	72
	Palaemonetes kadiakensis; Grass shrimp	LATE INSTAR	48 H	LC_{50}	7.7		210887	72
	Palaemonetes pugio; Daggerblade grass shrimp	10-40 MM	0.5 H *	AVO		0.1	215146	73
	Palaemonetes vulgaris; Marsh grass shrimp	31 MM, 0.47 G	24 H	LC_{50}	12		210627	69
	Palaemonetes vulgaris; Marsh grass shrimp	31 MM, 0.47 G	48 H	LC_{50}	5.1		210627	69
	Paratanytarsus parthenogenetic; Midge	LARVAE	24 H *	EC_{50} BEH		1.4	212687	79
	Paratelphusa jacuemontii; Crab	INTERMOLT, MALE AND FEMALE	96 H	LC_{50}	62.129		213938	91
	Paratelphusa jacuemontii; Crab	INTERMOLT, MALE AND FEMALE	24 H	LC_{50}	116.43		213938	91
	Paratelphusa jacuemontii; Crab	INTERMOLT, MALE AND FEMALE	48 H	LC_{50}	91.24		213938	91
	Paratelphusa jacuemontii; Crab	INTERMOLT, MALE AND FEMALE	72 H	LC_{50}	74.35		213938	91
	Pavlova lutheri; Haptophyte	150000 CELLS/ML INIT CONC	10 D	PGR		1,000	218039	62
	Pavlova lutheri; Haptophyte	150000 CELLS/ML INIT CONC	10 D	PGR		600	218039	62
	Pelecypoda; Bivalve, clam, mussel class	OYSTER, 3.8-6.4 CM	96 H	EC_{50} SHD		40	313008	65
	Peltodytes sp; Beetle	ADULT, 5 MG	48 H	LC_{50}	4		217775	76
	Peltodytes sp; Beetle	ADULT, 5 MG	96 H	LC_{50}	1		217775	76
	Peltodytes sp; Beetle	ADULT, 5 MG	72 H	LC_{50}	2		217775	76
	Peltodytes sp; Beetle	ADULT, 5 MG	24 H	LC_{50}	7		217775	76
	Penaeus aztecus; Brown shrimp	ADULT	48 H	EC_{50} EQU		1	212188	63
	Penaeus aztecus; Brown shrimp	ADULT	24 H	EC_{50} EQU		5.5	212188	63
	Penaeus indicus; Indian prawn	70.0 MM	48 H	LC_{50}	63		212505	88
	Penaeus indicus; Indian prawn	2.5 G, 70.0 MM	48 H	LC_{50}	63		210015	87
	Penaeus indicus; Indian prawn	2.5 G, 70.0 MM	96 H	LC_{50}	37		210015	87
	Penaeus indicus; Indian prawn	75 MM, 2.5 G	48 H	LC_{50}	120		213434	90
4,4'-DDT (cont.)	Penaeus sp; Penaeidean shrimp	NR	30 D	GRO		0.1	219156	72
	Penaeus sp; Penaeidean shrimp	NR	30 D	PHY		0.05	219156	72
	Penaeus sp; Penaeidean shrimp	NR	30 D	PHY		0.1	219156	72
	Pentaneura sp; Midge	JUVENILE	96 H	LC_{50}	1.5		210666	80
	Perca flavescens; Yellow perch	1.1 G	96 H	LC_{50}	0.8		212009	66
	Perca flavescens; Yellow perch	0.8 G	96 H	LC_{50}	0.6		212009	66
	Perca flavescens; Yellow perch	1.2 G	96 H	LC_{50}	1.5		212009	66
	Perca flavescens; Yellow perch	1.4 G	96 H	LC_{50}	9		210666	80
	Perca flavescens; Yellow perch	NR	96 H	LC_{50}	9		210610	70
	Phaeodactylum tricornutum; Diatom	NR	24 H	PSE		1,000	219310	71
	Phaeodactylum tricornutum; Diatom	INIT CONC 50000 CELLS/ML	6 D	BMS		20	310161	84
	Phaeodactylum tricornutum; Diatom	250000 CELLS/ML INITIAL CONC	10 D	PGR		20	218039	62
	Phaeodactylum tricornutum; Diatom	INIT CONC 50000 CELLS/ML	6 D	BMS		10	310161	84
	Phaeodactylum tricornutum; Diatom	250000 CELLS/ML INITIAL CONC	10 D	PGR		40	218039	62
	Phaeodactylum tricornutum; Diatom	250000 CELLS/ML INITIAL CONC	10 D	PGR		1,000	218039	62
	Phaeodactylum tricornutum; Diatom	NR	24 H	PSE		100	219310	71
	Phagocata gracilis; Turbellarian, flatworm	NR	10 D	LC_{50}	3,980		312705	87
	Phoxinus eos; Northern redbelly dace	1.1 G	96 H	LC_{50}	68		212009	66
	Physa acuta; Bladder snail	NR	48 H	LC_{50}	3,500		219158	72
	Phytoconis sp; Green algae	150000 CELLS/ML INITIAL CONC	10 D	PGR		600	218039	62
	Phytoconis sp; Green algae	150000 CELLS/ML INITIAL CONC	10 D	PGR		1,000	218039	62
	Phytoconis sp; Green algae	150000 CELLS/ML INITIAL CONC	10 D	PGR		40	218039	62
	Pimephales promelas; Fathead minnow	3.8-6.4 CM, 1-2 G	24 H	LC_{50}	78		210878	59
	Pimephales promelas; Fathead minnow	3.8-6.4 CM, 1-2 G	48 H	LC_{50}	68		210878	59
	Pimephales promelas; Fathead minnow	3.8-6.4 CM, 1-2 G	96 H	LC_{50}	45 ; 34		210878	59

Table I-1
AQUIRE Freshwater Toxicity Information (µg/L)
Site 15

Remedial Investigation
NAS Whiting Field
Milton, Florida

Chemical Name	Species	Age	Exposure	Effect	Effect Concentration		AQUIRE Reference Number	Year of Publication
					Lethal	Sublethal		
	Pimephales promelas; Fathead minnow	RECENTLY HATCHED	1 WK	LETH	400		212807	50
	Pimephales promelas; Fathead minnow	3.8-6.4 CM, 1-2 G	24 H	LC_{50}	29		210878	59
	Pimephales promelas; Fathead minnow	3 CM	48 H	LC_{50}	> 40		219615	70
	Pimephales promelas; Fathead minnow	NR	96 H	LC_{50}	34		218046	66
	Pimephales promelas; Fathead minnow	LARVAE	5 D	LETH	1.53		210534	77
	Pimephales promelas; Fathead minnow	41 D	266 D	PHY		1.53	210534	77
	Pimephales promelas; Fathead minnow	3.8-6.4 CM, 1-2 G	48 H	LC_{50}	27		210878	59
	Pimephales promelas; Fathead minnow	LARGE	48 H	LETH	2,000		212807	50
	Pimephales promelas; Fathead minnow	PROGENY	60 D	GRO		1.53	210534	77
	Pimephales promelas; Fathead minnow	3 CM	48 H	LC_{50}	7.4		219615	70
	Pimephales promelas; Fathead minnow	NR	96 H	LC_{50}	19		210610	70
	Pimephales promelas; Fathead minnow	1.2 G	96 H	LC_{50}	12.2		210666	80
	Pimephales promelas; Fathead minnow	3.8-6.4 CM, 1-2 G	96 H	LC_{50}	26		210878	59
	Plecoglossus altivelis; Ayu	YOUNG, 8-9 CM	1 H	MOR	60,000		219634	70
	Plecoglossus altivelis; Ayu	YOUNG, 5-7 CM	1 H	MOR	60,000		219634	70
	Plecoptera; Stonefly	NR	1 H *	DRF		10 to 11	217387	61
	Poecilia reticulata, Guppy	7 WK	0.5 H	MOR	7,000		219297	71
	Poecilia reticulata; Guppy	0.17 G, 1.8 CM	48 H	LC_{50}	8		216038	70
	Poecilia reticulata; Guppy	7 WK	24 H	LC_{50}	200		219297	71
	Poecilia reticulata; Guppy	MALE, 70 MG	12 D	HIS, PHY		2.5 to 5.8	312501	86
	Poecilia reticulata; Guppy	NR	12 D	HIS, PHY		1.2 to 3.0	219916	80
	Poecilia reticulata; Guppy	MALE, 70 MG	12 D	HIS, PHY		1.3 to 3.0	312501	86
	Poecilia reticulata; Guppy	7 WK	24 H	LC_{50}	50		219297	71
	Poecilia reticulata; Guppy	MALE, 70 MG	12 D	HIS, PHY		1.3 to 3.5	312501	86
4,4'-DDT (cont.)	Poecilia reticulata; Guppy	0.17 G, 1.8 CM	96 H	LC_{50}	3		216038	70
	Poecilia reticulata; Guppy	0.17 G, 1.8 CM	24 H	LC_{50}	20		216038	70
	Polycelis felina; Turbellarian	0.80 CM	96 H	LC_{50}	1,230		212015	74
	Polypedilum nubifer; Midge	LARVAE	24 H *	EC_{50} BEH		15	212687	79
	Porphyridium sp; Red algae	10000 CELLS/ML	1 to 17 D	PGR		80	219047	72
	Procambarus acutus acutus; White river crayfish	0.7 G	96 H	LC_{50}	28		210942	72
	Procambarus acutus acutus; White river crayfish	0.25-0.40 G; 11.8-14.6 MM	48 H	EC_{50} IMM		3	212029	72
	Procladius sp; Midge	LARVAE	24 H	LC_{50}	3.6		212687	79
	Procladius sp; Midge	LARVAE	24 H *	EC_{50} BEH		3.8	212687	79
	Procladius sp; Midge	LARVAE	48 H	LC_{50}	1		212687	79
	Psectrocladius sp; Midge	LARVAE	24 H *	EC_{50} BEH		57	212687	79
	Pseudacris triseriata triseria; Western chorus frog	TADPOLE, 7 D	48 H	LC_{50}	900		212891	70
	Pseudacris triseriata triseria; Western chorus frog	TADPOLE, 7 D	96 H	LC_{50}	800		212891	70
	Pseudacris triseriata triseria; Western chorus frog	TADPOLE, 7 D	24 H	LC_{50}	1,400		212891	70
	Pseudopleuronectes americanus; Winter flounder	NR	0.5 H	ENZ		1,000	219361	71
	Pseudopleuronectes americanus; Winter flounder	NR	0.5 H	ENZ		50,000	219361	71
	Pteronarcella badia; Stonefly	15-20 MM	48 H	LC_{50}	9		210889	68
	Pteronarcella badia; Stonefly	15-20 MM	24 H	LC_{50}	12		210889	68
	Pteronarcella badia; Stonefly	15-20 MM	96 H	LC_{50}	1.9		210889	68
	Pteronarcys californica; Stonefly	30-35 MM	48 H	LC_{50}	19		210889	68
	Pteronarcys californica; Stonefly	NAIAD, 4-6 CM	72 H	LC_{50}	2,450		212667	64
	Pteronarcys californica; Stonefly	NAIADS	25 D	LC_{50}	290		212238	64
	Pteronarcys californica; Stonefly	2ND YR CLASS	96 H	LC_{50}	7		210666	80
	Pteronarcys californica, Stonefly	NAIADS	4 D	LC_{50}	3,800		212238	64
	Pteronarcys californica; Stonefly	NAIAD, 4-6 CM	48 H	LC_{50}	2,450		212667	64
	Pteronarcys californica; Stonefly	NAIAD, 4-6 CM	96 H	LC_{50}	1,800		212667	64

Table I-1
AQUIRE Freshwater Toxicity Information (µg/L)
Site 15

Remedial Investigation
NAS Whiting Field
Milton, Florida

Chemical Name	Species	Age	Exposure	Effect	Effect Concentration		AQUIRE Reference Number	Year of Publication
					Lethal	Sublethal		
	Pteronarcys californica; Stonefly	30-35 MM	96 H	LC_{50}	7		210889	68
	Pteronarcys californica; Stonefly	NAIADS	15 D	LC_{50}	510		212238	64
	Pteronarcys californica; Stonefly	NAIADS	10 D	LC_{50}	1,100		212238	64
	Pteronarcys californica; Stonefly	30-35 MM, NYMPHS	96 H	LC_{50}	7		218048	65
	Pteronarcys californica; Stonefly	NAIADS	30 D	LC_{50}	265		212238	64
	Pteronarcys californica; Stonefly	30-35 MM, NYMPHS	24 H	LC_{50}	41		218048	65
	Pteronarcys californica; Stonefly	NAIAD; 4-6 CM	96 H	LC_{50}	1,800		210528	65
	Pteronarcys californica; Stonefly	NAIADS	20 D	LC_{50}	365		212238	64
	Pteronarcys californica; Stonefly	NAIADS	5 D	LC_{50}	3,000		212238	64
	Pteronarcys californica; Stonefly	30-35 MM, NYMPHS	48 H	LC_{50}	19		218048	65
	Pteronarcys californica; Stonefly	30-35 MM	24 H	LC_{50}	41		210889	68
	Rana temporaria; Frog	TADPOLE, STAGE 28, 689 MG	48 H	MOR	100		315713	79
	Rana temporaria; Frog	TADPOLE, STAGE 28, 363 MG	48 H	BEH		100	315713	79
	Rana temporaria; Frog	TADPOLE, STAGE 28, 363 MG	48 H	DVP		100	315713	79
	Rana temporaria; Frog	TADPOLE, STAGE 28, 363 MG	48 H	BEH		100	315713	79
	Rasbora daniconia; Slender rasbora	ADULT, 12 CM, 40 G	8 D	LC_{50}	6,000		313217	88
	Rasbora daniconia; Slender rasbora	ADULT, 12 CM, 40 G	8 D	PHY		< 6,000	313217	88
	Rasbora heteromorpha; Harlequinfish, red rasbora	1.3-3 CM	24 H	LC_{50}	20		210542	69
	Rasbora heteromorpha; Harlequinfish, red rasbora	1.3-3 CM	24 H	LC_{50}	10		210542	69
	Rasbora heteromorpha; Harlequinfish, red rasbora	1.3-3 CM	48 H	LC_{50}	17		210542	69
	Rasbora heteromorpha; Harlequinfish, red rasbora	1.3-3 CM	24 H	LC_{50}	140		210542	69
	Rasbora heteromorpha; Harlequinfish, red rasbora	1.3-3 CM	24 H	LC_{50}	14,200		210542	69
	Rasbora heteromorpha; Harlequinfish, red rasbora	1.3-3 CM	24 H	LC_{50}	13		210542	69
4,4'-DDT (cont.)	Rasbora heteromorpha; Harlequinfish, red rasbora	1.3-3 CM	48 H	LC_{50}	110		210542	69
	Rasbora heteromorpha; Harlequinfish, red rasbora	1.3-3 CM	48 H	LC_{50}	3.1		210542	69
	Rasbora heteromorpha; Harlequinfish, red rasbora	1.3-3 CM	24 H	LC_{50}	10,700		210542	69
	Rasbora heteromorpha; Harlequinfish, red rasbora	1.3-3 CM	48 H	LC_{50}	0.54		210542	69
	Rasbora heteromorpha; Harlequinfish, red rasbora	1.3-3 CM	48 H	LC_{50}	1		210542	69
	Rasbora heteromorpha; Harlequinfish, red rasbora	1.3-3 CM	48 H	LC_{50}	8,000		210542	69
	Rasbora heteromorpha; Harlequinfish, red rasbora	1.3-3 CM	24 H	LC_{50}	3.8		210542	69
	Rasbora heteromorpha; Harlequinfish, red rasbora	1.3-3 CM	48 H	LC_{50}	170		210542	69
	Rasbora heteromorpha; Harlequinfish, red rasbora	1.3-3 CM	48 H	LC_{50}	1.4		210542	69
	Rasbora heteromorpha; Harlequinfish, red rasbora	1.3-3 CM	24 H	LC_{50}	200		210542	69
	Rotifera; Rotifer phylum	NR	48 H	LETH	200		219237	72
	Sagitta sp; Chaetognaths; Arrowworms	MATURE	24 H	LC_{50}	37		212658	88
	Salmo salar; Atlantic salmon	YEARLING, 10-12 CM	24 H	PRB		70	218872	72
	Salmo salar; Atlantic salmon	20.1 G	24 H	MOR	20		219591	70
	Salmo salar; Atlantic salmon	20.1 G	24 H	MOR	200		219591	70
	Salmo salar; Atlantic salmon	EGG AT GASTRULATION	1 MO	BEH		50	218533	74
	Salmo salar; Atlantic salmon	2.5-4 CM	24 H	BEH		30	218952	73
	Salmo salar; Atlantic salmon	EGG AT GASTRULATION	1 MO	BEH		10	218533	74
	Salmo salar; Atlantic salmon	20.1 G	24 H	BEH		200	219591	70
	Salmo trutta; Brown trout	ALEVIN	24 H	LC_{50}	4.2		210542	69
	Salmo trutta; Brown trout	ALEVIN	24 H	LC_{50}	16		210542	69
	Salmo trutta; Brown trout	ALEVIN	48 H	LC_{50}	2.5		210542	69
	Salmo trutta; Brown trout	NR	96 H	LC_{50}	2		210610	70
	Salmo trutta; Brown trout	4.0 G	96 H	LC_{50}	10.9		212009	66
	Salmo trutta; Brown trout	ALEVIN	48 H	LC_{50}	11		210542	69
	Salvelinus fontinalis; Brook trout	3.3 G	96 H	LC_{50}	20		212009	66
	Salvelinus fontinalis; Brook trout	FINGERLING, 1-3 G	24 H	LC_{50}	30		212825	73

Table I-1
AQUIRE Freshwater Toxicity Information (µg/L)
Site 15

Remedial Investigation
NAS Whiting Field
Milton, Florida

Chemical Name	Species	Age	Exposure	Effect	Effect Concentration		AQUIRE Reference Number	Year of Publication
					Lethal	Sublethal		
	Salvelinus fontinalis; Brook trout	UNDERYEARLING, 2-3 MO	24 H	THL		10	215531	75
	Salvelinus fontinalis; Brook trout	UNDERYEARLING, 2-3 MO	24 H	LC_{50}	54		215531	75
	Salvelinus fontinalis; Brook trout	FINGERLING, 1-3 G	24 H	THL		20	212825	73
	Salvelinus fontinalis; Brook trout	105.0 G	24 H	MOR	1,000		219591	70
	Salvelinus fontinalis; Brook trout	3.3 G	96 H	LC_{50}	17		212009	66
	Salvelinus fontinalis; Brook trout	213 G	48 H	LC_{50}	12.75		210964	71
	Salvelinus fontinalis; Brook trout	1.4 G	96 H	LC_{50}	7.2		212009	66
	Salvelinus fontinalis; Brook trout	0.4 G	96 H	LC_{50}	1.8		212009	66
	Salvelinus fontinalis; Brook trout	213 G	96 H	LC_{50}	11.9		210964	71
	Salvelinus fontinalis; Brook trout	105.0 G	24 H	BEH		1,000	219591	70
	Salvelinus fontinalis; Brook trout	1.15 G	96 H	LC_{50}	7.4		210964	71
	Salvelinus fontinalis; Brook trout	213 G	72 H	LC_{50}	11.9		210964	71
	Salvelinus fontinalis; Brook trout	213 G	24 H	LC_{50}	23.1		210964	71
	Salvelinus fontinalis; Brook trout	1.15 G	48 H	LC_{50}	7.35		210964	71
	Salvelinus fontinalis; Brook trout	1.15 G	72 H	LC_{50}	7.4		210964	71
	Salvelinus namaycush; Lake trout, siscowet	2.8 G	96 H	LC_{50}	9.5		212009	66
	Salvelinus namaycush; Lake trout, siscowet	2.5 G	96 H	LC_{50}	9.1		212009	66
	Salvelinus sp; Trout, charr	FRY	96 H	LC_{50}	46		216270	74
	Scenedesmus quadricauda, Green algae	NR	6 D	PSE		1,000	212251	71
	Scenedesmus quadricauda; Green algae	NR	48 H	PSE		100	212251	71
	Scenedesmus quadricauda; Green algae	NR	96 H	PSE		100	212251	71
	Scenedesmus quadricauda; Green algae	NR	8 D	PSE		1,000	212251	71
4,4' DDT (cont.)	Scomber scombrus; Atlantic mackerel	NR	0.5 H	ENZ		50,000	219361	71
	Selenastrum capricornutum; Green algae	NR	to 3 D	PSE		36	212249	76
	Semisulcospira libertina; Marsh snail	NR	48 H	LC_{50}	3,800		219158	72
	Seriola quinqueradiata; Yellowtail	6.1-7.6 G	24 H	LC_{50}	6.5		216128	76
	Simocephalus serrulatus; Water flea	1ST INSTAR	48 H	EC_{50} IMM		2.5	210888	66
	Simocephalus serrulatus; Water flea	1ST INSTAR	48 H	EC_{50} IMM		2.8	210888	66
	Simocephalus sp; Water flea	NR	48 H	EC_{50} IMM		5.8	219859	80
	Simuliidae; Blackfly family	LARVAE	72 H	MOR	200		219237	72
	Simuliidae; Blackfly family	LARVAE, 3RD-6TH INSTAR	0.083 H	DRF		400	212837	66
	Simuliidae; Blackfly family	LARVAE, 3RD-6TH INSTAR	0.083 H	DRF		40	212837	66
	Simulium ornatum; Blackfly	EGG	24 H	HAT		1,000	212805	69
	Simulium sp; Blackfly	LARVAE	0.17 H	MOR	1,000		219634	70
	Simulium sp; Blackfly	LARVAE	0.017 H	MOR	10,000		219634	70
	Simulium sp; Blackfly	LARVAE	0.17 H	MOR	100		219634	70
	Simulium sp; Blackfly	LARVAE	0.017 H	MOR	1,000		219634	70
	Skeletonema costatum; Diatom	NR	24 H	PSE		10	219310	71
	Skeletonema costatum; Diatom	10000 CELLS/ML	1 to 17 D	PGR		80	219047	72
	Sphoeroides maculatus; Northern puffer	146 MM, 63 G	48 H	LC_{50}	89		210628	70
	Sphoeroides maculatus; Northern puffer	146 MM, 63 G	96 H	LC_{50}	89		210628	70
	Sphoeroides maculatus; Northern puffer	146 MM, 63 G	24 H	LC_{50}	115		210628	70
	Spicodiaptomus chilospinus; Calanoid copepod	ADULT, 2.2-2.8 MM	48 H	LC_{50}	24		215264	76
	Spicodiaptomus chilospinus; Calanoid copepod	ADULT, 2.2-2.8 MM	24 H	LC_{50}	32		215264	76
	Stizostedion vitreum vitreum; Walleye	1.4 G	96 H	LC_{50}	2.9		210666	80
	Stolephorus purpureus; Nehu	0.39 G, 3.6 CM	12 H	LC_{50}	1		216038	70
	Stronglyocentrotus droebachien; Green sea urchin	SPERM	1.3 H	REP		3	212264	89
	Stronglyocentrotus droebachien; Green sea urchin	EMBRYO	120 H	EC_{50} DVP		>82	212264	89
	Stronglyocentrotus purpuratus; Purple sea urchin	EMBRYO	120 H	EC_{50} DVP		>8.2	212264	89
	Stronglyocentrotus purpuratus; Purple sea urchin	SPERM	1.3 H	REP		>0.5 to <1.0	212264	89

Table I-1
AQUIRE Freshwater Toxicity Information (µg/L)
Site 15

Remedial Investigation
NAS Whiting Field
Milton, Florida

Chemical Name	Species	Age	Exposure	Effect	Effect Concentration		AQUIRE Reference Number	Year of Publication
					Lethal	Sublethal		
	Stylonychia notophora; Ciliate	NR	36 H	PGR		1,000	219892	80
	Stylonychia notophora; Ciliate	NR	36 H	PGR		40,000	219892	80
	Stylonychia notophora; Ciliate	NR	9 H	PGR		100,000	219892	80
	Tetrahymena pyriformis; Ciliate	LOG PHASE	96 H	PGR		100	315127	70
	Thalassiosira guillardii; Diatom	NR	24 H	PSE		100	219310	71
	Thalassiosira guillardii; Diatom	10000 CELLS/ML	1 to 17 D	PGR		80	219047	72
	Thalassiosira guillardii; Diatom	NR	96 H	PGR		100	212225	72
	Thalassiosira guillardii; Diatom	NR	24 H	PSE		10	219310	71
	Thalassiosira weissflogii; Diatom	10000 CELLS/ML	1 to 17 D	PGR		80	219047	72
	Thalassoma bifasciatum; Bluehead wrasse	80 MM, 5.4 G	96 H	LC_{50}	7		210628	70
	Thalassoma bifasciatum; Bluehead wrasse	80 MM, 5.4 G	24 H	LC_{50}	17		210628	70
	Thalassoma bifasciatum; Bluehead wrasse	80 MM, 5.4 G	48 H	LC_{50}	4		210628	70
	Therapon jarbua; Tigerfish, crescent perch	6.9-9.2 CM, 6.5-13.1 G, 6-9 MO	96 H	LC_{50}	3.6		216020	78
	Tilapia mossambica; Mozambique tilapia	1.3 G, 3.4 CM	96 H	LC_{50}	7		216038	70
	Tilapia mossambica; Mozambique tilapia	15-20 G	to 15 D	ENZ		10	312483	85
	Tilapia mossambica; Mozambique tilapia	1.3 G, 3.4 CM	48 H	LC_{50}	12		216038	70
	Tilapia mossambica; Mozambique tilapia	ADULT, 22 G, 9.2 CM	20 D	CEL, PHY		1	312488	84
	Tilapia mossambica; Mozambique tilapia	1.3 G, 3.4 CM	24 H	LC_{50}	20		216038	70
	Tilapia mossambica; Mozambique tilapia	ADULT, 9.2 CM, 22.5 G	20 D	HIS, PHY		1	311764	86
	Tilapia mossambica; Mozambique tilapia	FEMALE, 22.0 G, 9.3 CM	20 D	HIS, PHY		1	311558	85
	Tilapia mossambica; Mozambique tilapia	15-20 G	to 15 D	BIO, PHY		10	210552	88
4,4'-DDT (cont.)	Tilapia mossambica; Mozambique tilapia	MATURE, 22.00 G, 9.2 CM	10 D	HIS, PHY		1	311851	86
	Tilapia nilotica; Nile tilapia	NR	NR	RSD		0.04	312855	86
	Tilapia zillii; Tilapia	FRY, 3.36 CM, 825 MG *	96 H	LC_{50}	9.5		313099	86
	Tilapia zillii; Tilapia	FRY, 3.36 CM, 825 MG *	24 H	LC_{50}	63		313099	86
	Tilapia zillii; Tilapia	FRY, 3.36 CM, 825 MG, BEHERA STRAI	96 H	LC_{50}	15.5		313099	86
	Tilapia zillii; Tilapia	FRY, 3.36 CM, 825 MG, BEHERA STRAI	24 H	LC_{50}	12.78		313099	86
	Tilapia zillii; Tilapia	FRY, 3.36 CM, 825 MG, BEHERA STRAI	24 H	LC_{50}	21.81		313099	86
	Tilapia zillii; Tilapia	FRY, 3.36 CM, 825 MG *	24 H	LC_{50}	27.5		313099	86
	Tilapia zillii; Tilapia	FRY, 3.36 CM, 825 MG *	96 H	LC_{50}	42		313099	86
	Tilapia zillii; Tilapia	FRY, 3.36 CM, 825 MG, BEHERA STRAI	96 H	LC_{50}	9.52		313099	86
	Tinca tinca; Tench	FRY	96 H	LC_{50}	370		216270	74
	Trichoptera; Caddisfly order	NR	3 H *	DRF		10 to 11	217387	61
	Uca pugilator; Fiddler crab	FEMALE	72 H	LOC		80	218349	79
	Uca pugilator; Fiddler crab	MALE	72 H	LOC		80	218349	79
PAL Metals								
Aluminum	Brachionus calyciflorus; Rotifer;	NEONATE	24 H	LC_{50}	> 3,000		219385	91
	Myriophyllum spicatum; Water-milfoil;	4 CM APEX	32 D	$EC_{50}GR$		12,700	212262	74
	Myriophyllum spicatum; Water-milfoil;	4 CM APEX	32 D	$EC_{50}BM$ *		7,600	212262	74
	Myriophyllum spicatum; Water-milfoil;	4 CM APEX	32 D	$EC_{50}BM$ *		2,500	212262	74
	Myriophyllum spicatum; Water-milfoil;	4 CM APEX	32 D	$EC_{50}GR$		5,100	212262	74
	Salmo trutta; Brown trout;	ALEVIN	28 D	LC_{50}	19		213472	90
	Salmo trutta; Brown trout;	ALEVIN	42 D	LC_{50}	72		213472	90
	Salmo trutta; Brown trout;	ALEVIN	21 D	LC_{50}	84 to 105		213472	90
	Salmo trutta; Brown trout;	ALEVIN	42 D	LC_{50}	15		213472	90
	Salmo trutta; Brown trout;	ALEVIN	28 D	LC_{50}	79		213472	90
	Salmo trutta; Brown trout;	FERT EGG	<4 MO	HAT		<677	213472	90
	Salvelinus fontinalis; Brook trout;	FRY	43.2 H	LC_{50}	1,000		216632	80
	Salvelinus fontinalis; Brook trout;	FRY	7.3 D	LC_{50}	630		216632	80

Table I-1
AQUIRE Freshwater Toxicity Information (µg/L)
Site 15

Remedial Investigation
NAS Whiting Field
Milton, Florida

Chemical Name	Species	Age	Exposure	Effect	Effect Concentration		AQUIRE Reference Number	Year of Publication
					Lethal	Sublethal		
	Salvelinus fontinalis; Brook trout;	FRY	79.2 H	LC_{50}	500		216632	80
	Salvelinus fontinalis; Brook trout;	ADULT, 25-30 CM	5 D	LET	320		216632	80
	Salvelinus fontinalis; Brook trout;	FRY	86.4 H	LT_{50}	1,000		216632	80
	Salvelinus fontinalis; Brook trout;	FRY	11.5 D	LT_{50}	100		216632	80
	Salvelinus fontinalis; Brook trout;	FRY, 22-23 MM	10.67 D	LT_{50}	480		216188	80
	Salvelinus fontinalis; Brook trout;	FRY	4.7 D	LT_{50}	650		216632	80
	Salvelinus fontinalis; Brook trout;	FRY, 22-23 MM	19.67 D	LT_{50}	470		216188	80
	Salvelinus fontinalis; Brook trout;	FRY	5 D	LT_{50}	1,000		216632	80
	Salvelinus fontinalis; Brook trout;	FRY, 22-23 MM	20.83 D	LT_{50}	20		216188	80
	Salvelinus fontinalis; Brook trout;	FRY	50.4 H	LT_{50}	500		216632	80
	Salvelinus fontinalis; Brook trout;	FRY, 22-23 MM	4.79 D	LT_{50}	42		216188	80
	Salvelinus fontinalis; Brook trout;	FRY	67.2 H	LT_{50}	500		216632	80
	Salvelinus fontinalis; Brook trout;	FRY, 22-23 MM	8.42 D	LT_{50}	500		216188	80
	Salvelinus fontinalis; Brook trout;	EYED EGGS	5 D	MOR *	320		216632	80
	Salvelinus fontinalis; Brook trout;	FRY, 22-23 MM	>20.83 D	LT_{50}	10		216188	80
	Salvelinus fontinalis; Brook trout;	0.2 G, 30 D	3 D	GRO *		268	213592	91
	Salvelinus fontinalis; Brook trout;	FRY, 22-23 MM	>20.83 D	LT_{50}	500		216188	80
	Salvelinus fontinalis; Brook trout;	FRY	55.2 H	LT_{50}	500		216632	80
	Salvelinus fontinalis; Brook trout;	FRY, 22-23 MM	>20.83 D	LT_{50}	500		216188	80
	Salvelinus fontinalis; Brook trout;	FRY	38.4 H	LT_{50}	500		216632	80
Aluminum (cont.)	Salvelinus fontinalis; Brook trout;	0.2 G, 30 D	56 D	MOR *	268		213592	91
	Salvelinus fontinalis; Brook trout;	FRY	5.2 D	LT_{50}	100		216632	80
	Salvelinus fontinalis; Brook trout;	RECENTLY HATCHED FRY	5 D	LET	320		216632	80
	Salvelinus fontinalis; Brook trout;	YEARLINGS, 13-17 CM	5 D	LET	320		216632	80
Aluminum chloride	Ambystoma opacum; Marbled salamander;	EGGS	8 D	LC_{50}	2,280		216199	78
	Brachydanio rerio; Zebra danio, zebrafish;	LARVAE, 7-8 D POST-SPAWN	48 H	LC_{50}	106,000		311199	85
	Brachydanio rerio, Zebra danio, zebrafish;	LARVAE, 7-8 D POST-SPAWN	48 H	LC_{50}	80,000		311199	85
	Carassius auratus; Goldfish;	EGGS	7 D	LC_{50}	150		215305	78
	Chilomonas paramecium; Cryptomonad;	NR	0.17 H	LET	2,400		212863	73
	Cyprinus carpio; Common, mirror, colored, carp;	7.5-8.5 CM, 10.5-12.5 G	24 H	MOR *	8,000		315166	81
	Cyprinus carpio; Common, mirror, colored, carp;	7.5-8.5 CM, 10.5-12.5 G	48 H	MOR *	2,000		315166	81
	Cyprinus carpio; Common, mirror, colored, carp;	7.5-8.5 CM, 10.5-12.5 G	24 H	MOR *	4,000		315166	81
	Cyprinus carpio; Common, mirror, colored, carp;	7.5-8.5 CM, 10.5-12.5 G	48 H	MOR *	2,000		315166	81
	Cyprinus carpio; Common, mirror, colored, carp;	7.5-8.5 CM, 10.5-12.5 G	24 H	MOR *	8,000		315166	81
	Cyprinus carpio; Common, mirror, colored, carp;	7.5-8.5 CM, 10.5-12.5 G	48 H	MOR *	8,000		315166	81
	Daphnia magna; Water flea;	12 H	21 D	EC_{50}IM ?		1,400	212022	72
	Daphnia magna; Water flea;	4 H	64 H	EC_{50}IM		1,400	212054	48
	Daphnia magna; Water flea;	12 H	48 H	EC_{50}IM ?		3,900	212022	72
	Daphnia magna; Water flea;	12 H	21 D	EC_{50}RE ?		680	212022	72
	Euglena gracilis; Flagellate euglenoid;	NR	3 H	MOR *	1,000,000		212863	73
	Gambusia affinis; Mosquitofish; Poeciliidae;	ADULT, FEMALE	48 H	LC_{50}	27,500		210508	57
	Gambusia affinis; Mosquitofish; Poeciliidae;	ADULT, FEMALE	24 H	LC_{50}	29,600		210508	57
	Gambusia affinis; Mosquitofish; Poeciliidae;	ADULT, FEMALE	96 H	LC_{50}	27,100		210508	57
	Gambusia affinis; Mosquitofish; Poeciliidae;	ADULT, FEMALE	96 H	MOR * (Calc)	20,400		210508	57
	Microhyla carolinensis; Narrow mouthed frog;	EGGS	7 D	LC_{50}	50		215305	78
	Micropterus salmoides; Largemouth bass;	EGGS	8 D	LC_{50}	170		216199	78
	Oncorhynchus mykiss; Rainbow trout, donaldson trout;	EGGS	28 D	LC_{50}	560		215305	78
	Oncorhynchus mykiss, Rainbow trout, donaldson trout;	FINGERLING, 6 WK	9.25 D	PHY *		5,140; 1,570	218830	73
	Oncorhynchus mykiss; Rainbow trout, donaldson trout;	EGGS	28 D	LC_{50}	560		216199	78
	Oncorhynchus mykiss; Rainbow trout, donaldson trout;	FINGERLING, 6 MO	45 D	PHY *		514; 514	218830	73

Table I-1
AQUIRE Freshwater Toxicity Information (µg/L)
Site 15

Remedial Investigation
NAS Whiting Field
Milton, Florida

Chemical Name	Species	Age	Exposure	Effect	Effect Concentration		AQUIRE Reference Number	Year of Publication
					Lethal	Sublethal		
	Oncorhynchus mykiss; Rainbow trout, donaldson trout;	FINGERLING, 11 WK	43.9 D	LC_{50}	513		219328	71
	Oncorhynchus mykiss; Rainbow trout, donaldson trout;	FINGERLING, 6 WK	4.7 D	PHY *		5,200; 5,050	218830	73
	Oncorhynchus mykiss; Rainbow trout, donaldson trout;	FINGERLING, 6 MO	31.96 D	LT_{50}	5,230		219328	71
	Oncorhynchus mykiss; Rainbow trout, donaldson trout;	FINGERLING, 6 WK	7.46 D	LT_{50}	5,140		219328	71
	Oncorhynchus mykiss; Rainbow trout, donaldson trout;	FINGERLING, 6 MO	45 D	GRO *		51.6; 51.6	218830	73
	Oncorhynchus mykiss; Rainbow trout, donaldson trout;	FINGERLING, 6 WK	71.52 H	LT_{50}	5,200		219328	71
	Oncorhynchus mykiss; Rainbow trout, donaldson trout;	FINGERLING, 11 WK	45 D	GRO *		513	219328	71
	Oncorhynchus mykiss; Rainbow trout, donaldson trout;	FINGERLING, 6 MO	45 D	GRO *		514	219328	71
	Oncorhynchus mykiss; Rainbow trout, donaldson trout;	FINGERLING, 6 MO	45 D	GRO *		51.6	219328	71
	Oncorhynchus mykiss; Rainbow trout, donaldson trout;	FINGERLING, 11 WK	38.9 D	LT_{50}	5,140		219328	71
	Peranema trichophorum; Flagellate;	NR	0.17 H	LET	>1,000,000		212863	73
	Pimephales promelas; Fathead minnow;	LARVAE, <24 H	14 D	GRO *		66; 35	213070	89
	Pimephales promelas; Fathead minnow;	EMBRYO	4 D	HAT *		66; 35	213070	89
	Pimephales promelas; Fathead minnow;	30 D	to 109 D	HIS		30 to 60	213182	90
	Pimephales promelas; Fathead minnow;	12 D LARVAE	to 96 H	MOR	50 to 400		210836	89
	Pimephales promelas; Fathead minnow;	JUVENILE	to 96 H	MOR	50 to 400		210836	89
	Pimephales promelas; Fathead minnow;	1 D LARVAE	to 96 H	MOR	50 to 400		210836	89
	Pimephales promelas; Fathead minnow;	LARVAE, <24 H	14 D	MOR *	66; 35		213070	89
	Pimephales promelas; Fathead minnow;	ADULT	2 MO	REP *		66; 35	213070	89
Aluminum chloride (cont.)	Tetrahymena pyriformis; Ciliate;	NR	0.17 H	LET	3,200		212863	73
	Tropisternus lateralis; Beetle;	ADULT	14 D	PHY * (Calc)		27,000	212868	69
Aluminum sulfate	Asellus aquaticus; Aquatic sowbug;	ADULT, 7 MM, 1.5 MG DRY WT	48 H	EC_{50}IM ?		6,570	311972	86
	Asellus aquaticus; Aquatic sowbug;	ADULT, 7 MM, 1.5 MG DRY WT	72 H	EC_{50}IM ?		4,370	311972	86
	Biomphalaria glabrata; Snail;	ADULT, 4-4.5 SUTURE WHORL	24 H	STR *		100	212853	63
	Biomphalaria glabrata; Snail;	ADULT, 4-4.5 SUTURE WHORL	24 H	STR *		1,000	212853	63
	Cladocera; Water flea order;	NR	2 MO *	POP *		500	217183	78
	Crangonyx pseudogracilis; Amphipod;	ADULT, 4 MM, 0.2 MG DRY WT	48 H	EC_{50}IM ?		12,800	311972	86
	Crangonyx pseudogracilis; Amphipod;	ADULT, 4 MM, 0.2 MG DRY WT	96 H	EC_{50}IM ?		9,190	311972	86
	Crustacea; Crustacean class;	NR	2 MO *	ABD *		500	217183	78
	Cyprinus carpio; Common, mirror, colored, carp;	7.5-8.5 CM, 10.5-12.5 G	24 H	MOR *	8,000		315166	81
	Cyprinus carpio; Common, mirror, colored, carp;	7.5-8.5 CM, 10.5-12.5 G	24 H	MOR *	8,000		315166	81
	Cyprinus carpio; Common, mirror, colored, carp;	7.5-8.5 CM, 10.5-12.5 G	48 H	MOR *	2,000		315166	81
	Cyprinus carpio; Common, mirror, colored, carp;	7.5-8.5 CM, 10.5-12.5 G	48 H	MOR *	4,000		315166	81
	Cyprinus carpio; Common, mirror, colored, carp;	7.5-8.5 CM, 10.5-12.5 G	48 H	MOR *	4,000		315166	81
	Cyprinus carpio; Common, mirror, colored, carp;	7.5-8.5 CM, 10.5-12.5 G	48 H	MOR *	8,000		315166	81
	Daphnia magna; Water flea;	8 H, YOUNG	0.25 H *	LOC *		136,000	212171	44
	Fundulus heteroclitus; Mummichog;	NR	36 H	LC_{100} (Calc)	2,200		212865	15
	Fundulus heteroclitus; Mummichog;	NR	5 D	LC_{100} (Calc)	1,100		212865	15
	Gambusia affinis; Mosquitofish;	ADULT, FEMALE	24 H	LC_{50}	69,000		210508	57
	Gambusia affinis; Mosquitofish;	ADULT, FEMALE	48 H	LC_{50}	38,000		210508	57
	Gambusia affinis; Mosquitofish;	ADULT, FEMALE	48 H	MOR * (Calc)	< 28,000		210508	57
	Gambusia affinis; Mosquitofish;	ADULT, FEMALE	96 H	LC_{50} ? (Calc)	37,000		210508	57
	Micropterus dolomieui; Smallmouth bass;	13.8(12-17) MM, 32.5(9-59) MG	30 D	GRO *		251.6	312723	87
	Micropterus dolomieui; Smallmouth bass;	LARVAE	30 D	MOR *	251.6		312723	87
	Micropterus dolomieui; Smallmouth bass;	LARVAE, 48 H POST-HATCH	96 H	MOR *	100		312723	87
	Micropterus dolomieui; Smallmouth bass;	LARVAE, 48 H POST-HATCH	96 H	MOR *	196		312723	87
	Micropterus dolomieui; Smallmouth bass;	LARVAE, 48 H POST-HATCH	96 H	MOR *	217		312723	87
	Micropterus dolomieui; Smallmouth bass;	LARVAE, 48 H POST-HATCH	96 H	MOR *	32		312723	87
	Micropterus dolomieui; Smallmouth bass;	LARVAE, 48 H POST-HATCH	96 H	MOR *	320		312723	87
	Micropterus dolomieui; Smallmouth bass;	LARVAE, 48 H POST-HATCH	96 H	MOR *	56		312723	87

Table I-1
AQUIRE Freshwater Toxicity Information (µg/L)
Site 15

Remedial Investigation
NAS Whiting Field
Milton, Florida

Chemical Name	Species	Age	Exposure	Effect	Effect Concentration		AQUIRE Reference Number	Year of Publication
					Lethal	Sublethal		
	Micropterus dolomieui; Smallmouth bass;	LARVAE, 48 H POST-HATCH	96 H	MOR *	560		312723	87
	Notemigonus crysoleucas; Golden shiner;	NR	45 D	MOR *	100,000		312756	86
	Notemigonus crysoleucas; Golden shiner;	NR	45 D	MOR *	100,000		312756	86
	Oncorhynchus mykiss; Rainbow trout, donaldson trout;	118-355 G, 22-31 CM FORK LENGTH	24 H	MOR *	910		212508	88
	Oncorhynchus mykiss; Rainbow trout, donaldson trout;	118-355 G, 22-31 CM FORK LENGTH	24 H	MOR *	9,100		212508	88
	Oncorhynchus mykiss; Rainbow trout, donaldson trout;	118-355 G, 22-31 CM FORK LENGTH	48 H	LET	9,100		212508	88
	Oncorhynchus mykiss; Rainbow trout, donaldson trout;	118-355 G, 22-31 CM FORK LENGTH	48 H	MOR *	910		212508	88
	Oncorhynchus mykiss; Rainbow trout, donaldson trout;	118-355 G, 22-31 CM FORK LENGTH	72 H	MOR *	910		212508	88
	Oncorhynchus mykiss; Rainbow trout, donaldson trout;	118-355 G, 22-31 CM FORK LENGTH	96 H	HEM *		90	212508	88
	Oncorhynchus mykiss, Rainbow trout, donaldson trout;	118-355 G, 22-31 CM FORK LENGTH	96 H	HEM *		910	212508	88
	Oncorhynchus mykiss; Rainbow trout, donaldson trout;	118-355 G, 22-31 CM FORK LENGTH	96 H	HEM *		910	212508	88
	Oncorhynchus mykiss; Rainbow trout, donaldson trout;	118-355 G, 22-31 CM FORK LENGTH	96 H	MOR *	90		212508	88
	Oncorhynchus mykiss; Rainbow trout, donaldson trout;	118-355 G, 22-31 CM FORK LENGTH	96 H	MOR *	910		212508	88
	Oncorhynchus mykiss; Rainbow trout, donaldson trout;	50-80 MM	10 D	LC_0	200,000		216520	80
	Oncorhynchus mykiss; Rainbow trout, donaldson trout;	50-80 MM	10 D	LC_0	50,000		216520	80
	Oncorhynchus mykiss; Rainbow trout, donaldson trout;	50-80 MM	42 H	LC_{100}	50,000		216520	80
	Oncorhynchus mykiss; Rainbow trout, donaldson trout;	50-80 MM	42 H	LC_{100}	50,000		216520	80
	Oncorhynchus mykiss; Rainbow trout, donaldson trout;	50-80 MM	96 H	MOR *	50,000		216520	80
Aluminum sulfate (cont.)	Oncorhynchus mykiss, Rainbow trout, donaldson trout;	FINGERLING, 11 WK	45 D	PHY *		513	218830	73
	Salvelinus fontinalis; Brook trout;	14 MO, 210 MM, 130 G	24 H	LC_{50} ?	4,000		216115	75
	Salvelinus fontinalis; Brook trout;	14 MO, 210 MM, 130 G	24 H	LC_{50} ?	4,450		216115	75
	Salvelinus fontinalis; Brook trout;	14 MO, 210 MM, 130 G	24 H	MOR *	5,000		216115	75
	Salvelinus fontinalis; Brook trout;	14 MO, 210 MM, 130 G	24 H	MOR *	5,000		216115	75
	Salvelinus fontinalis; Brook trout;	14 MONTHS, 210 MM, 130 G	96 H	LC_{50} ?	3,600		216115	75
	Salvelinus fontinalis; Brook trout;	EYED EMBRYO - LARVAE	45 D	GRO *		283	312720	87
	Salvelinus fontinalis; Brook trout;	EYED EMBRYO - LARVAE	60 D	BEH *		283	312720	87
	Salvelinus fontinalis; Brook trout;	EYED EMBRYO - LARVAE	60 D	MOR *	283		312720	87
	Stizostedion lucioperca; Pikeperch;	11.5-16 MM	24 H	MOR *	400		212700	75
Cobalt	Anabolia nervosa; Quiver fly	LARVAE	7 D	LET	400,000		210725	57
	Chironomus thummi; Midge	LARVAE	7 D	LET	600,000		210725	57
	Corbicula fluminea; Asiatic clam	NR	NR	RSD		130 to 150	215024	80
	Cyprinidae; Minnow, carp family	1 SUMMER	7 D	MOR *	90,000		210725	57
	Cyprinidae; Minnow, carp family	1 SUMMER	29 H	LET *	500,000		210725	57
	Cyprinidae; Minnow, carp family	1 SUMMER	10 H	LET *	1,000,000		210725	57
	Cyprinidae; Minnow, carp family	1 SUMMER	4.5 D	LET *	150,000		210725	57
	Cyprinidae; Minnow, carp family	1 SUMMER	7 D	MOR *	100,000		210725	57
	Cyprinidae; Minnow, carp family	2 SUMMERS	66 H	LET *	300,000		210725	57
	Cyprinidae; Minnow, carp family	1 SUMMER	65 H	LET *	200,000		210725	57
	Cyprinidae; Minnow, carp family	1 SUMMER	43 H	LET *	300,000		210725	57
	Cyprinidae; Minnow, carp family	1 SUMMER	7.08 D	LET *	125,000		210725	57
	Gammarus roeseli; Scud	NR	7 D	LET	8,000		210725	57
	Lemna minor; Duckweed	NR	NR	BCF *		15	218581	75
	Oncorhynchus mykiss; Rainbow trout, donaldson trout	1 SUMMER	7 D	MOR *	30,000		210725	57
	Oncorhynchus mykiss; Rainbow trout, donaldson trout	2 SUMMERS	58 H	LET *	50,000		210725	57
	Oncorhynchus mykiss; Rainbow trout, donaldson trout	1 SUMMER	36 H	LET *	50,000		210725	57
	Oncorhynchus mykiss; Rainbow trout, donaldson trout	1 SUMMER	63 H	LET *	40,000		210725	57
	Oncorhynchus mykiss, Rainbow trout, donaldson trout	1 SUMMER	14 H	LET *	100,000		210725	57
	Oncorhynchus mykiss; Rainbow trout, donaldson trout	1 SUMMER	26 H	LET *	55,000		210725	57
	Oncorhynchus mykiss; Rainbow trout, donaldson trout	1 SUMMER	4.08 D	LET *	35,000		210725	57

Table I-1
AQUIRE Freshwater Toxicity Information (µg/L)
Site 15

Remedial Investigation
NAS Whiting Field
Milton, Florida

Chemical Name	Species	Age	Exposure	Effect	Effect Concentration		AQUIRE Reference Number	Year of Publication
					Lethal	Sublethal		
	Salvelinus fontinalis; Brook trout	1 SUMMER	3.58 D	LET *	45,000		210725	57
	Salvelinus fontinalis; Brook trout	1 SUMMER	7 D	MOR *	40,000		210725	57
	Salvelinus fontinalis; Brook trout	2 SUMMERS	75 H	LET *	50,000		210725	57
	Salvelinus fontinalis; Brook trout	1 SUMMER	67 H	LET *	50,000		210725	57
	Salvelinus fontinalis; Brook trout	1 SUMMER	20 H	LET *	100,000		210725	57
	Salvelinus fontinalis; Brook trout	1 SUMMER	60 H	LET *	55,000		210725	57
	Tinca tinca; Tench	1 SUMMER	6.42 D	LET *	150,000		210725	57
	Tinca tinca; Tench	2 SUMMERS	72 H	LET *	300,000		210725	57
	Tinca tinca; Tench	1 SUMMER	32 H	LET *	500,000		210725	57
	Tinca tinca; Tench	1 SUMMER	72 H	LET *	200,000		210725	57
	Tinca tinca; Tench	1 SUMMER	7 D	MOR *	125,000		210725	57
	Tinca tinca; Tench	1 SUMMER	46 H	LET *	300,000		210725	57
	Tinca tinca; Tench	1 SUMMER	14 H	LET *	1,000,000		210725	57
	Tubifex tubifex; Tubificid worm	NR	7 D	LET	400,000		210725	57
Cobalt chloride	Austropotamobius pallipes pall; Crayfish	19-32 MM	96 H	LC_{50}	8,800		232888	73
	Carassius auratus; Goldfish	60-90 MM, 3-5 G	to 7 D	MOR	100,000		221110	37
	Ceriodaphnia dubia; Water flea	<24 H	24 H	LC_{50}	2,347		317084	92
Cobalt chloride (cont.)	Colisa fasciata; Giant gourami	4.56 G, ADULT, FEMALE	96 H	LC_{50}	102,000		221932	79
	Crangonyx pseudogracilis; Amphipod	ADULT, 4 MM, 0.2 MG DRY WT	48 H	IMM		167,000	299125	86
	Cyclops abyssorum prealpinus; Cyclopoid copepod	ADULT, 0.62 MM	48 H	IMM		15,500	232882	74
	Daphnia hyalina; Water flea	ADULT, 1.27 MM	48 H	LC_{50}	1,320		232884	74
	Daphnia magna; Water flea	NR	24 H	IMM		2,610	305743	89
	Daphnia magna; Water flea	12 H	48 H	IMM		1,620	232878	72
	Daphnia magna; Water flea	1ST AND 2ND INSTAR LARVAE	96 H	LC_{50}	1,500		298195	86
	Daphnia magna; Water flea	12 H	21 D	REP		12	232881	72
	Dugesia tigrina; Turbellarian, flatworm	JUVENILE, 0.006 G	96 H	LC_{50}	12,000		298196	86
	Eudiaptomus padanus padanus; Calanoid copepod	ADULT, 0.43 MM	48 H	IMM		4,000	232883	74
	Heteropneustes fossilis; Indian catfish	4.0 MM, 3 D, HATCHLINGS	18 D	MOR	454		238822	73
	Orconectes limosus, Crayfish	19-32 MM	30 D	LC_{50}	790		232887	73
	Philodina acuticornis; Rotifer	0.2-0.5 MM	24 H	IMM		32,000	225424	74
	Pimephales promelas; Fathead minnow	JUVENILE, 0.2-0.5 G	96 H	LC_{50}	22,000		298198	86
	Pimephales promelas; Fathead minnow	5-15 D	48 H	MOR	13,733		317082	92
	Rana hexadactyla; Frog	20(15-25) MM, 500(350-800) MG,	96 H	LC_{50}	17,590		276775	85
	Spirulina platensis; Blue-green algae	NR	168 H	GRO		8,130	299978	87
	Stizostedion lucioperca; Pikeperch	11.5-16 MM	24 H	MOR	11		255008	75
	Tubifex tubifex; Tubificid worm	NR	24 H	IMM		447,710	234412	91
Iron	Dugesia dorotocephala; Turbellarian, flatworm;	18-20 MM	1 H	BEH *		1,000 to 50,000	310581	91
	Lemna minor; Duckweed;	20 COLONIES OR 40 FRONDS	4 D	EC_{50}GR		3,700	311789	86
	Oncorhynchus mykiss; Rainbow trout, donaldson trout;	EGGS AND LARVA	NR	DVP *		5,700	315523	82
	Salmo trutta; Brown trout;	ALEVIN	NR	MOR *	5,170		311637	83
	Salmo trutta, Brown trout;	EGG	NR	HAT *		460	311637	83
	Salmo trutta; Brown trout;	EYED EGGS	NR	MOR *	5,170		311637	83
	Salmo trutta; Brown trout;	NEWLY HAT ALEVIN	NR	MOR *	3,020		311637	83
	Tilapia sparrmanii; Banded bream;	10.24-99.43 G	2 to 72 H	OC *		88,000	213066	89
Lead	Astacus astacus; European crayfish,	8-10 CM	2 WK	ENZ *		20	210376	91
	Astacus astacus; European crayfish;	8-10 CM	to 10 WK	HIS		20	210376	91
	Barbus arulius; Barb;	1.24 G	4 D	HIS		200,000 to 400,000	219972	87
	Brachionus calyciflorus; Rotifer;	NEONATE	24 H	LC_{50}	> 4,000		219385	91

Table I-1
AQUIRE Freshwater Toxicity Information (µg/L)
Site 15

Remedial Investigation
NAS Whiting Field
Milton, Florida

Chemical Name	Species	Age	Exposure	Effect	Effect Concentration		AQUIRE Reference Number	Year of Publication
					Lethal	Sublethal		
	Brachydanio rerio; Zebra danio, zebrafish;	DECHLORIONATED EGG	24 H			72	219870	80
	Brachydanio rerio; Zebra danio, zebrafish;	EGG	48 H			72	219870	80
	Bufo arenarum; Toad;	EMBRYO	24 H	DVP *		1,000	213162	90
	Bufo arenarum; Toad;	EMBRYO	24 H	MOR *	1,000		213162	90
	Carassius auratus; Goldfish;	UNDERYEARLING	1 WK *	ENZ *		470	315460	77
	Ceriodaphnia reticulata; Water flea;	< 4 H	48 H	LC_{50}	530		311181	84
	Daphnia magna; Water flea;	< 24 H	48 H	LC_{50}	4,400		311181	84
	Daphnia pulex; Water flea;	< 24 H	48 H	LC_{50}	5,100		311181	84
	Dugesia dorotocephala; Turbellarian, flatworm;	18-20 MM	1 H	BEH *		100 to 1,000	310581	91
	Dugesia tigrina; Turbellarian, flatworm;	NR	96 H	LC_{50}	160,000		218709	74
	Hyalella azteca; Scud;	NR	5 D	LC_{100}	5,000		219804	80
	Lemna minor; Duckweed;	20 COLONIES OR 40 FRONDS	4 D	EC_{50}GR		8,000	311789	86
	Lepomis gibbosus; Pumpkinseed;	> 1.75 YR	<=2 WK *	ENZ *		90	315460	77
	Micropterus dolomieui; Smallmouth bass;	EGG	96 H	MOR *	<=15,900		312153	86
	Micropterus dolomieui; Smallmouth bass;	FINGERLING	10 WK	LOC *		405	312153	86
	Micropterus dolomieui; Smallmouth bass;	FINGERLING	90 D	GRO *		405	312153	86
Lead (cont.)	Micropterus dolomieui; Smallmouth bass;	FINGERLING	90 D	HEM *		405	312153	86
	Micropterus dolomieui; Smallmouth bass;	FINGERLING	96 H	LC_{50}	29,000		312153	86
	Micropterus dolomieui; Smallmouth bass;	SAC FRY, 7 D POST-SPAWN	96 H	MOR *	<=15,900		312153	86
	Micropterus dolomieui; Smallmouth bass;	SWIM-UP FRY, 17 D POST-SPAWN	96 H	LC_{50}	2,800		312153	86
	Micropterus dolomieui; Smallmouth bass;	SWIM-UP, FRY 17 D POST-SPAWN	96 H	LC_{50}	2,200		312153	86
	Micropterus salmoides; Largemouth bass;	NR	24 H	BEH *		1,500	311127	78
	Micropterus salmoides; Largemouth bass;	NR	24 H	RES *		1,050	311127	78
	Myriophyllum spicatum; Water-milfoil;	4 CM APEX	32 D	EC_{50}BM *		363,000	212262	74
	Myriophyllum spicatum; Water-milfoil;	4 CM APEX	32 D	EC_{50}BM *		808,000	212262	74
	Myriophyllum spicatum; Water-milfoil;	4 CM APEX	32 D	EC_{50}GR		725,000	212262	74
	Myriophyllum spicatum; Water-milfoil;	4 CM APEX	32 D	EC_{50}GR		767,000	212262	74
	Oncorhynchus mykiss; Rainbow trout, donaldson trout;	10 5 G	32 WK	HIS *			310573	83
	Oncorhynchus mykiss; Rainbow trout, donaldson trout;	15 G	24 H	HEM *		130	315719	78
	Oncorhynchus mykiss; Rainbow trout, donaldson trout;	4 MO, 15 G	4 to 72 H	MOR *	110		315719	78
	Oncorhynchus mykiss; Rainbow trout, donaldson trout;	4 MO, 15 G	4 to 72 H	MOR *	120		315719	78
	Oncorhynchus mykiss; Rainbow trout, donaldson trout;	4 MO, 15 G	4 to 72 H	MOR *	120		315719	78
	Oncorhynchus mykiss; Rainbow trout, donaldson trout;	4 MO, 15 G	4 to 72 H	MOR *	210		315719	78
	Oncorhynchus mykiss; Rainbow trout, donaldson trout;	4 MO, 15 G	4 to 72 H	MOR *	300		315719	78
	Oncorhynchus mykiss; Rainbow trout, donaldson trout;	4 MO, 15 G	4 to 72 H	MOR *	470		315719	78
	Oncorhynchus mykiss; Rainbow trout, donaldson trout;	4 MO, 15 G	4 to 72 H	MOR *	490		315719	78
	Oncorhynchus mykiss; Rainbow trout, donaldson trout;	4 MO, 15 G	4 to 72 H	MOR *	500		315719	78
	Oncorhynchus mykiss; Rainbow trout, donaldson trout;	4 MO, 15 G	4 to 72 H	MOR *	52		315719	78
	Oncorhynchus mykiss; Rainbow trout, donaldson trout;	4 MO, 15 G	4 to 72 H	MOR *	53		315719	78
	Oncorhynchus mykiss; Rainbow trout, donaldson trout;	4 MO, 15 G	4 to 72 H	MOR *	740		315719	78
	Oncorhynchus mykiss; Rainbow trout, donaldson trout;	4 MO, 15 G	4 to 72 H	MOR *	80		315719	78
	Oncorhynchus mykiss; Rainbow trout, donaldson trout;	4 MO, 15 G	4 to 72 H	MOR *	85		315719	78
	Oncorhynchus mykiss; Rainbow trout, donaldson trout;	4 MO, 15 G	4 to 72 H	MOR *	900		315719	78
	Oncorhynchus mykiss; Rainbow trout, donaldson trout;	4 MO, 15 G	4 to 72 H	MOR *	910		315719	78
	Oncorhynchus mykiss; Rainbow trout, donaldson trout;	53 G	1 WK	MOR *	1,000		315719	78
	Oncorhynchus mykiss; Rainbow trout, donaldson trout;	6-18 MO	<=2 WK *	ENZ *		10	315460	77
	Oncorhynchus mykiss; Rainbow trout, donaldson trout;	6.5 G	30 WK	HIS *		120	310573	83
	Oncorhynchus mykiss; Rainbow trout, donaldson trout;	NEWLY HAT, SAC FRY	189 D	ABN *		32	219830	80
	Oncorhynchus mykiss; Rainbow trout, donaldson trout;	NEWLY HAT, SAC FRY	189 D	ENZ *		100	219830	80
	Oncorhynchus mykiss; Rainbow trout, donaldson trout;	NEWLY HAT, SAC FRY	189 D	HEM *		100	219830	80

Table I-1
AQUIRE Freshwater Toxicity Information (µg/L)
Site 15

Remedial Investigation
NAS Whiting Field
Milton, Florida

Chemical Name	Species	Age	Exposure	Effect	Effect Concentration		AQUIRE Reference Number	Year of Publication
					Lethal	Sublethal		
	Pimephales promelas; Fathead minnow;	JUVENILE	4 WK	PHY		500 to 1,000	210204	89
	Potamogeton crispus; Curled pondweed;	NR	NR	PSE *		25,000	217552	77
	Salvelinus fontinalis; Brook trout;	6-18 MO	<=2 WK *	ENZ *		90	315460	77
	Simocephalus vetulus; Water flea;	< 24 H	48 H	LC_{50}	4,500		311181	84
Manganese	Algae; Algae, phytoplankton, algal mat,	NATURAL COLONY	38 D	POP *		280	212862	69
	Anabolia nervosa; Quiver fly;	LARVAE	7 D	LET	2,000,000		210725	57
	Chironomus thummi; Midge;	LARVAE	7 D	LET	1,000,000		210725	57
	Cyprinidae; Minnow, carp family;	1 SUMMER	2.25 H	LET *	1,000,000		210725	57
	Cyprinidae; Minnow, carp family;	1 SUMMER	24 H	LET *	2,000,000		210725	57
	Cyprinidae; Minnow, carp family;	1 SUMMER	25 H	LET *	1,800,000		210725	57
	Cyprinidae; Minnow, carp family;	1 SUMMER	4.17 D	LET *	800,000		210725	57
	Cyprinidae; Minnow, carp family;	1 SUMMER	5.13 D	LET *	700,000		210725	57
	Cyprinidae; Minnow, carp family;	1 SUMMER	6.63 D	LET *	650,000		210725	57
	Cyprinidae; Minnow, carp family;	1 SUMMER	7 D	MOR *	600,000		210725	57
Manganese (cont.)	Cyprinidae; Minnow, carp family;	1 SUMMER	78 H	LET *	900,000		210725	57
	Cyprinidae; Minnow, carp family;	2 SUMMERS	48 H	LET *	2,000,000		210725	57
	Gammarus roeseli; Scud;	NR	7 D	LET	70,000		210725	57
	Lemna minor; Duckweed;	20 COLONIES OR 40 FRONDS	4 D	EC_{50}GR		31,000	311789	86
	Oncorhynchus mykiss; Rainbow trout, donaldson trout;	1 SUMMER	10 H	LET *	700,000		210725	57
	Oncorhynchus mykiss; Rainbow trout, donaldson trout;	1 SUMMER	13 H	LET *	600,000		210725	57
	Oncorhynchus mykiss; Rainbow trout, donaldson trout;	1 SUMMER	34 H	LET *	300,000		210725	57
	Oncorhynchus mykiss; Rainbow trout, donaldson trout;	1 SUMMER	5 D	LET *	100,000		210725	57
	Oncorhynchus mykiss; Rainbow trout, donaldson trout;	1 SUMMER	7 D	MOR *	75,000		210725	57
	Oncorhynchus mykiss; Rainbow trout, donaldson trout;	1 SUMMER	77 H	LET *	150,000		210725	57
	Oncorhynchus mykiss; Rainbow trout, donaldson trout;	2 SUMMERS	34 H	LET *	600,000		210725	57
	Salvelinus fontinalis; Brook trout;	1 SUMMER	15 H	LET *	700,000		210725	57
	Salvelinus fontinalis; Brook trout;	1 SUMMER	23 H	LET *	600,000		210725	57
	Salvelinus fontinalis; Brook trout;	1 SUMMER	4.79 D	LET *	150,000		210725	57
	Salvelinus fontinalis; Brook trout;	1 SUMMER	66 H	LET *	300,000		210725	57
	Salvelinus fontinalis; Brook trout;	1 SUMMER	7 D	MOR *	100,000		210725	57
	Salvelinus fontinalis; Brook trout;	2 SUMMERS	41 H	LET *	600,000		210725	57
	Tinca tinca; Tench;	1 SUMMER	48 H	LET *	2,000,000		210725	57
	Tinca tinca; Tench;	1 SUMMER	6.75 D	LET *	1,500,000		210725	57
	Tinca tinca; Tench;	1 SUMMER	7 D	MOR *	1,200,000		210725	57
	Tinca tinca; Tench;	1 SUMMER	7 D	MOR *	1,300,000		210725	57
	Tinca tinca; Tench;	1 SUMMER	96 H	LET *	1,800,000		210725	57
	Tinca tinca; Tench;	2 SUMMERS	7 D	LET *	2,000,000		210725	57
	Tubifex tubifex; Tubificid worm;	NR	7 D	LET	700,000		210725	57
Mercury	Aedes aegypti; Mosquito	LARVAE	48 H	LC_{50}	290		313255	88
	Algae; Algae, phytoplankton, algal mat	PHYTOPLANKTON	14 D	BMS *		100	313109	88
	Amoeba sp; Amoeba	NR	>1.66 H	LT_{50}	500		218981	73
	Anabolia nervosa; Quiver fly	LARVAE	7 D	LET	2,000		210725	57
	Brachionus calyciflorus; Rotifer	NEONATE	24 H	LC_{50}	60		219385	91
	Carassius auratus; Goldfish	20-25 G	to 15 D	BIO *		50	219207	72
	Carassius auratus; Goldfish	NR	8 D	RSD *		230	219568	71
	Carassius auratus; Goldfish	15-25 G	to 15 D	BIO *		50	219207	72
	Caridina rajadhari; Freshwater prawn	NR	48 H	LC_{50}	6.918		311025	85
	Caridina rajadhari; Freshwater prawn	NR	72 H	LC_{50}	5.784		311025	85

Table I-1
AQUIRE Freshwater Toxicity Information (µg/L)
Site 15

Remedial Investigation
NAS Whiting Field
Milton, Florida

Chemical Name	Species	Age	Exposure	Effect	Effect Concentration		AQUIRE Reference Number	Year of Publication
					Lethal	Sublethal		
	Caridina rajadhari; Freshwater prawn	NR	24 H	LC_{50}	9.12		311025	85
	Caridina rajadhari; Freshwater prawn	STAGE C, 2.5 CM	30 D	HIS * (Calc)		0.51	311025	85
	Caridina rajadhari; Freshwater prawn	NR	96 H	LC_{50}	4.786		311025	85
	Catostomus commersoni; White sucker	JUVENILE, 142 MM, 28.7 G	1 WK	RSD		190	312412	87
	Chironomus plumosus; Midge	LARVA-STATE L3	24 H	LC_{50}	2,430		215356	89
	Chironomus plumosus; Midge	LARVA-STATE L3	72 H	LC_{50}	1,360		215356	89
	Chironomus plumosus; Midge	LARVA-STATE L3	48 H	LC_{50}	1,760		215356	89
	Chironomus plumosus; Midge	LARVA-STATE L4	48 H	LC_{50}	1,280		215356	89
	Chironomus plumosus; Midge	LARVA-STATE L4	96 H	LC_{50}	880		215356	89
	Chironomus plumosus; Midge	LARVA-STATE L3	96 H	LC_{50}	600		215356	89
	Chironomus plumosus; Midge	LARVA-STATE L4	24 H	LC_{50}	3,230		215356	89
	Chironomus plumosus; Midge	LARVA-STATE L4	72 H	LC_{50}	880		215356	89
	Chironomus plumosus; Midge	LARVA-STATE L1	24 H	LC_{50}	3,180		215356	89
	Chironomus riparius; Midge	LARVA-STATE L3	72 H	LC_{50}	230		215356	89
Mercury (cont.)	Chironomus riparius; Midge	LARVA-STATE L2	72 H	LC_{50}	260		215356	89
	Chironomus riparius; Midge	LARVA-STATE L2	48 H	LC_{50}	820		215356	89
	Chironomus riparius; Midge	LARVA-STATE L4	48 H	LC_{50}	790		215356	89
	Chironomus riparius; Midge	LARVA-STATE L2	24 H	LC_{50}	1,960		215356	89
	Chironomus riparius; Midge	LARVA-STATE L3	96 H	LC_{50}	230		215356	89
	Chironomus riparius; Midge	LARVA-STATE L1	24 H	LC_{50}	1,690		215356	89
	Chironomus riparius; Midge	LARVA-STATE L3	48 H	LC_{50}	240		215356	89
	Chironomus riparius; Midge	EGGS	<=24 H	MOR *	10,000		215356	89
	Chironomus riparius; Midge	LARVA-STATE L2	96 H	LC_{50}	220		215356	89
	Chironomus riparius; Midge	EGGS	7 to 96 H	MOR *	320		215356	89
	Chironomus riparius; Midge	LARVA-STATE L4	24 H	LC_{50}	4,800		215356	89
	Chironomus riparius; Midge	EGGS	<=24 H	MOR *	3,200		215356	89
	Chironomus riparius; Midge	LARVA-STATE L3	24 H	LC_{50}	750		215356	89
	Chironomus riparius; Midge	LARVA-STATE L4	96 H	LC_{50}	480		215356	89
	Chironomus riparius; Midge	LARVA-STATE L4	72 H	LC_{50}	710		215356	89
	Chironomus riparius; Midge	EGGS	7 to 96 H	MOR *	320		215356	89
	Chironomus tentans; Midge	LARVA-STATE L1	24 H	LC_{50}	2,280		215356	89
	Chironomus tentans; Midge	LARVA-STATE L3	96 H	LC_{50}	280		215356	89
	Chironomus tentans; Midge	LARVA-STATE L3	48 H	LC_{50}	6,700		215356	89
	Chironomus tentans; Midge	LARVA-STATE L2	48 H	LC_{50}	8,040		215356	89
	Chironomus tentans; Midge	LARVA-STATE L2	24 H	LC_{50}	23,400		215356	89
	Chironomus tentans; Midge	LARVA-STATE L4	72 H	LC_{50}	3,040		215356	89
	Chironomus tentans; Midge	LARVA-STATE L3	24 H	LC_{50}	29,600		215356	89
	Chironomus tentans; Midge	LARVA-STATE L4	24 H	LC_{50}	32,300		215356	89
	Chironomus tentans; Midge	LARVA-STATE L2	96 H	LC_{50}	240		215356	89
	Chironomus tentans; Midge	LARVA-STATE L4	96 H	LC_{50}	570		215356	89
	Chironomus tentans; Midge	LARVA-STATE L3	72 H	LC_{50}	580		215356	89
	Chironomus tentans; Midge	LARVA-STATE L4	48 H	LC_{50}	6,860		215356	89
	Chironomus tentans; Midge	LARVA-STATE L2	72 H	LC_{50}	570		215356	89
	Chironomus thummi; Midge	LARVAE	7 D	LET	3,500		210725	57
	Cyclops sp; Cyclopoid copepod	ADULT	48 H	LC_{50}	600		313255	88
	Cyprinidae; Minnow, carp family	1 SUMMER	7 D	MOR *	300		210725	57
	Cyprinidae; Minnow, carp family	1 SUMMER	7 D	MOR *	700		210725	57
	Cyprinidae; Minnow, carp family	1 SUMMER	60 H	LET *	1,000		210725	57
	Cyprinidae; Minnow, carp family	1 SUMMER	8.5 H	LET *	5,000		210725	57
	Cyprinidae; Minnow, carp family	1 SUMMER	24.25 H	LET *	1,500		210725	57

Table I-1
AQUIRE Freshwater Toxicity Information (µg/L)
Site 15

Remedial Investigation
NAS Whiting Field
Milton, Florida

Chemical Name	Species	Age	Exposure	Effect	Effect Concentration		AQUIRE Reference Number	Year of Publication
					Lethal	Sublethal		
	Cyprinidae; Minnow, carp family	1 SUMMER	84 H	LET *	800		210725	57
	Cyprinidae; Minnow, carp family	1 SUMMER	2.5 H	LET *	75,000		210725	57
	Cyprinidae; Minnow, carp family	1 SUMMER	7 D	MOR *	290		210725	57
	Cyprinidae; Minnow, carp family	1 SUMMER	4.5 H	LET *	50,000		210725	57
	Cyprinidae; Minnow, carp family	1 SUMMER	7 D	MOR *	500		210725	57
	Cyprinidae; Minnow, carp family	2 SUMMERS	58 H	LET *	4,500		210725	57
	Cyprinidae; Minnow, carp family	1 SUMMER	1.25 H	LET *	100,000		210725	57
	Dugesia tigrina; Turbellarian, flatworm	NR	96 H	LC_{50}	270		218709	74
	Gambusia affinis; Mosquitofish	NR	<24 H	LT_{50}	50 to 500		315524	79
	Gambusia affinis; Mosquitofish	NR	30 D	BCF *		1	315524	79
	Gambusia affinis; Mosquitofish	NR	30 D	BCF *		1	315524	79
	Gambusia affinis; Mosquitofish	NR	30 D	BCF *		1	315524	79
	Gammarus roeseli; Scud	NR	7 D	LET	100		210725	57
Mercury (cont.)	Gnathonemus petersii; Electric fish	JUVENILE, 5-20 G	20 H	PHY *		100	310685	84
	Lamellidens marginalis; Mussel	5.0-6.0 CM	1 to 30 D	OC		500 to 2,000	213776	91
	Lamellidens marginalis; Mussel	5.0-6.0 CM	96 H	LC_{50}	5,000		213776	91
	Lamellidens marginalis; Mussel	NR	96 H	LC_{50}	10,000		213311	89
	Lamellidens marginalis; Mussel	5.0-6.0 CM	1 to 30 D	GRO		500 to 2,000	213776	91
	Lamellidens marginalis; Mussel	7 CM	3. to 6.5 H	PHY *		500 to 2,000	213311	89
	Lamellidens marginalis; Mussel	32 G	48 H	OC *		5,910	311622	84
	Myriophyllum spicatum; Water-milfoil	4 CM APEX	32 D	EC_{50}GR		1,200	212262	74
	Myriophyllum spicatum; Water-milfoil	4 CM APEX	32 D	EC_{50}BM *		3,400	212262	74
	Myriophyllum spicatum; Water-milfoil	4 CM APEX	32 D	EC_{50}GR		12,000	212262	74
	Myriophyllum spicatum; Water-milfoil	4 CM APEX	32 D	EC_{50}BM *		4,400	212262	74
	Oncorhynchus mykiss; Rainbow trout, donaldson trout	1 SUMMER	11 H	LET *	500		210725	57
	Oncorhynchus mykiss; Rainbow trout, donaldson trout	1 SUMMER	7 D	MOR *	150		210725	57
	Oncorhynchus mykiss; Rainbow trout, donaldson trout	2 SUMMERS	24 H	LET *	500		210725	57
	Oncorhynchus mykiss; Rainbow trout, donaldson trout	1 SUMMER	5.33 D	LET *	250		210725	57
	Oncorhynchus mykiss; Rainbow trout, donaldson trout	5.8-15.6 CM, 1.7-52.5 G	2 to 209 D	RSD		48,200	210503	71
	Oncorhynchus mykiss; Rainbow trout, donaldson trout	1 SUMMER	13.67 H	LET *	350		210725	57
	Oncorhynchus mykiss; Rainbow trout, donaldson trout	1 SUMMER	8.17 H	LET *	800		210725	57
	Planaria sp; Planarian, flatworm	NR	6.6 H	LT_{50}	500		218981	73
	Potamogeton crispus; Curled pondweed	NR	NR	PSE *		5,000	217552	77
	Salvelinus fontinalis; Brook trout	1 SUMMER	7 D	MOR *	250		210725	57
	Salvelinus fontinalis; Brook trout	2 SUMMERS	88 H	LET *	500		210725	57
	Salvelinus fontinalis; Brook trout	1 SUMMER	21 H	LET *	350		210725	57
	Salvelinus fontinalis; Brook trout	1 SUMMER	18 H	LET *	500		210725	57
	Salvelinus fontinalis; Brook trout	1 SUMMER	4.25 D	LET *	300		210725	57
	Salvelinus fontinalis; Brook trout	1 SUMMER	16.33 H	LET *	800		210725	57
	Tilapia mossambica; Mozambique tilapia	7-10 CM, 6-10 G	1 WK	HEM *		4,000	212931	87
	Tilapia mossambica; Mozambique tilapia	7.0-11.8 CM	11 WK	BIO *		10	310166	84
	Tinca tinca; Tench	1 SUMMER	72 H	LET *	1,500		210725	57
	Tinca tinca; Tench	1 SUMMER	7 D	MOR *	1,000		210725	57
	Tinca tinca; Tench	1 SUMMER	7.17 D	LET *	1,100		210725	57
	Tinca tinca; Tench	1 SUMMER	12.58 H	LET *	5,000		210725	57
	Tinca tinca; Tench	1 SUMMER	4.5 H	LET *	50,000		210725	57
	Tinca tinca; Tench	1 SUMMER	4.25 D	LET *	1,300		210725	57
	Tinca tinca; Tench	2 SUMMERS	4.3 D	LET *	1,500		210725	57
	Tubifex tubifex; Tubificid worm	NR	7 D	LET	300		210725	57

Table I-1
AQUIRE Freshwater Toxicity Information (µg/L)
Site 15

Remedial Investigation
NAS Whiting Field
Milton, Florida

Chemical Name	Species	Age	Exposure	Effect	Effect Concentration		AQUIRE Reference Number	Year of Publication
					Lethal	Sublethal		
Silver	Brachionus calyciflorus; Rotifer	NEONATE	24 H	LC_{50}	7.5		219385	91
	Ceriodaphnia reticulata; Water flea	< 4 H	48 H	LC_{50}	11		311181	84
	Daphnia pulex; Water flea	< 24 H	48 H	LC_{50}	14		311181	84
	Simocephalus vetulus; Water flea	< 24 H	48 H	LC_{50}	15		311181	84
Vanadium oxide sulfate	Carassius auratus; Goldfish	3-5 CM, 0.3-2.9 G	6 D	LC_{50}	1,020		228999	79
	Lepomis macrochirus; Bluegill	NR	96 H	LC_{50}	6,000		287133	60
	Pimephasles promelas; Fathead minnow	NR	96 H	LC_{50}	4,800		287131	60
	Poecilia reticulata; Guppy	1.5-2.5 CM, 0.1-0.5 G	6 D	LC_{50}	128		229000	79
Zinc	Algae; Algae, phytoplankton, algal mat;	CLADOCERA, COPEPODA, ROTIFERA	2 WK	CLR *		15 to 30	311256	83
	Algae; Algae, phytoplankton, algal mat;	EXPO GRO PHASE	24 H	PSE		<=98100	213095	89
Zinc (cont.)	Asellus communis; Aquatic sowbug;	NR	20 D	RSD *		0.11 to 0.12	312027	86
	Brachionus calyciflorus; Rotifer;	NEONATE	24 H	LC_{50}	1,300		219385	91
	Canthocamptus sp; Copepod;	LARVAE	24 H	LET	1,250		311797	85
	Carassius auratus; Goldfish;	20-25 G	to 15 D	BIO *		500	219207	72
	Catostomus commersoni; White sucker;	JUVENILE, 142 MM, 28.7 G	1 WK	RSD		890	312412	87
	Ceriodaphnia reticulata; Water flea;	< 4 H	48 H	LC_{50}	76		311181	84
	Channa punctatus; Snake-head catfish;	2.4 G, 58 MM	24 H	ENZ *		56,000	315190	81
	Chironomidae; Midge family;	LARVAE	12 MO	POP		1,140	213176	88
	Chironomus riparius; Midge;	4TH INSTAR LARVAE	>10 D	RSD		50 to 100	212729	89
	Clarias lazera; Catfish;	IMMATURE, 12-15 G	2 to 96 H	BIO *		32,000	312716	87
	Clarias lazera; Catfish;	JUVENILE, 230 MM, 130 G	24 H	RSD *		15,000	312717	87
	Cyclops sp; Cyclopoid copepod;	ADULT	48 H	LC_{50}	3,310		313255	88
	Cypris subglobosa; Ostracod;	NR	12 H	LC_{50}	47,780		312365	88
	Cypris subglobosa; Ostracod;	NR	24 H	LC_{50}	50,620		312365	88
	Cypris subglobosa; Ostracod;	NR	48 H	LC_{50}	34,990		312365	88
	Cypris subglobosa; Ostracod;	NR	96 H	LC_{50}	8,352		312365	88
	Daphnia lumholzi; Water flea;	NR	12 H	LC_{50}	10,740		312365	88
	Daphnia lumholzi; Water flea;	NR	24 H	LC_{50}	6,704		312365	88
	Daphnia lumholzi; Water flea;	NR	48 H	LC_{50}	2,290		312365	88
	Daphnia lumholzi; Water flea;	NR	96 H	LC_{50}	437.5		312365	88
	Daphnia magna; Water flea;	24-48 HR, NEONATE	21 D	GRO *		150	213950	91
	Daphnia magna; Water flea;	24-48 HR, NEONATE	21 D	MOR	50 to 150		213950	91
	Daphnia magna; Water flea;	24-48 HR, NEONATE	21 D	REP *		150	213950	91
	Daphnia magna; Water flea;	< 24 H	48 H	LC_{50}	68		311181	84
	Daphnia pulex; Water flea;	< 24 H	48 H	LC_{50}	107		311181	84
	Dugesia dorotocephala; Turbellarian, flatworm;	18-20 MM	1 H	BEH *		1,000 to 10,000	310581	91
	Dugesia tigrina; Turbellarian, flatworm;	NR	96 H	LC_{50}	7,400		218709	74
	Gambusia affinis; Mosquitofish;	MIXED SIZES	to 30 D	RSD		50	312897	88
	Gambusia affinis; Mosquitofish;	NR	48 H	LC_{50} ?	116		315578	78
	Gammarus lacustris; Scud;	NR	96 H	LC_{50}	2,240		313058	88
	Gomphonema parvulum; Diatom;	MIXED SPECIES	to 28 D	ABD *		1,000	212397	84
	Hyphessobrycon serpae; Serpa tetra;	JUVENILE & OLDER FISH	14 D	RSD		66,000	212709	78
	Invertebrates; Invertebrates;	CLADOCERA, COPEPODA, ROTIFERA	2 WK	POP *		17.1 to 89.6	311256	83
	Invertebrates; Invertebrates;	CLADOCERA, COPEPODA, ROTIFERA	2 WK	POP *		30 to 90	311256	83
	Lemna minor; Duckweed;	20 COLONIES OR 40 FRONDS	4 D	EC_{50}GR		10,000	311789	86
	Lepomis gibbosus; Pumpkinseed;	15-25 G	to 15 D	BIO *		500	219207	72
	Lepomis macrochirus; Bluegill;	NR	6 MO	MOR *	5,000		212143	73
	Limnodrilus sp; Sludge worm;	NR	14 D	RSD		1,000	311865	83

Table I-1
AQUIRE Freshwater Toxicity Information (µg/L)
Site 15

Remedial Investigation
NAS Whiting Field
Milton, Florida

Chemical Name	Species	Age	Exposure	Effect	Effect Concentration		AQUIRE Reference Number	Year of Publication
					Lethal	Sublethal		
	Lophopodella carteri; Bryozoa;	ANCENSTRULAE, 2-3 D	96 H	LC_{50}	5,630		216703	80
	Macrobrachium hendersodayanus; Prawn;	NR	96 H	OC *		7,870	311545	84
	Myriophyllum spicatum; Water-milfoil;	4 CM APEX	32 D	EC_{50}BM *		21,600	212262	74
	Myriophyllum spicatum; Water-milfoil;	4 CM APEX	32 D	EC_{50}GR		20,900	212262	74
	Myriophyllum spicatum; Water-milfoil;	4 CM APEX	32 D	EC_{50}GR		21,600	212262	74
	Mystus vittatus; Catfish;	80-100 MM, 6-10 G	96 H	LC_{50} ?	209,000		315793	82
	Oncorhynchus mykiss; Rainbow trout, donaldson trout;	20-50 G	6 H	PHY *		2,000	311200	82
	Oncorhynchus mykiss; Rainbow trout, donaldson trout;	FINGERLING	12 D	RSD *		910 to 2,320	311689	86
	Oncorhynchus mykiss; Rainbow trout, donaldson trout;	JUVENILE	to 4 WK	BIO		44 to 140	310107	84
	Oncorhynchus mykiss; Rainbow trout, donaldson trout;	NR	48 H	LC_{50}	2,600		310185	68
	Oncorhynchus mykiss; Rainbow trout, donaldson trout;	NR	48 H	LC_{50}	2,800		218317	68
Zinc (cont.)	Oncorhynchus mykiss; Rainbow trout, donaldson trout;	NR	48 H	LC_{50}	3,500		218317	68
	Oncorhynchus mykiss; Rainbow trout, donaldson trout;	SAC-FRY	42 D	GRO *		430	310527	83
	Oncorhynchus mykiss; Rainbow trout, donaldson trout;	SAC-FRY	42 D	MOR *	120		310527	83
	Oncorhynchus mykiss; Rainbow trout, donaldson trout;	SAC-FRY	42 D	MOR *	430		310527	83
	Oncorhynchus mykiss; Rainbow trout, donaldson trout;	SAC-FRY	42 D	MOR * (Calc)	220		310527	83
	Oncorhynchus mykiss; Rainbow trout, donaldson trout;	SAC-FRY	42 D	MOR * (Calc)	80		310527	83
	Osteichthyes; Bony fish class;	ADULT GUPPY, 20-30 MM	48 H	LC_{50}	2,630		212882	88
	Osteichthyes; Bony fish class;	ADULT GUPPY, 20-30 MM	96 H	LC_{50}	1,860		212882	88
	Osteichthyes; Bony fish class;	JUVENILE GUPPY, 8-15 MM	48 H	LC_{50}	1,970		212882	88
	Osteichthyes; Bony fish class;	JUVENILE GUPPY, 8-15 MM	96 H	LC_{50}	1,360		212882	88
	Pectinatella magnifica; Bryozoa;	ANCENSTRULAE, 2-3 D	96 H	LC_{50}	4,310		216703	80
	Phaenopsectra sp; Chironomid;	MIXED SPECIES	to 28 D	ABD *		10,000	212397	84
	Pimephales promelas; Fathead minnow;	NEWLY HAT, < 24 H	7 D	GRO *		184	311182	85
	Pimephales promelas; Fathead minnow;	NEWLY HAT, < 24 H	7 D	GRO *		85	311182	85
	Pimephales promelas; Fathead minnow;	NEWLY HAT, < 24 H	7 D	LC_{50}	238		311182	85
	Pimephales promelas; Fathead minnow;	NEWLY HAT, < 24 H	96 H	LC_{50}	238		311182	85
	Pimephales promelas; Fathead minnow;	SUBADULT, 8-12 WK, <=250 MG	2 to 35 D	GRO *		600	210678	89
	Pimephales promelas; Fathead minnow;	SUBADULT, 8-12 WK, <=250 MG	96 H	LC_{50}	2,540		210678	89
	Plumatella emarginata; Bryozoan;	ANCENSTRULAE, 2-3 D	96 H	LC_{50}	5,300		216703	80
	Salmo trutta; Brown trout;	NR	2 to 40 D	RSD		366 to 832	311216	85
	Tilapia sparmanii; Banded bream;	12.13-81.77 G	2 to 72 H	OC *		98,000	213066	89
	Tilapia zillii; Tilapia;	IMMATURE, 7-9 G	2 to 96 H	BIO *		22,000	312716	87
	Tubifex sp; Tubificid worm;	NR	14 D	RSD		1,000	311865	83

NOTES:

ABD = Abundance
ABN = Abnormalities
BCF = Bioconcentration factor
BEH = Behavioral change
BIO = Biochemical effect
BM = Biomass
BMS = Biomass
C = Celcius
CLR = Chlorophyll content
CM = Centimeter
D = Days
EC_{50} = Effect of concentration to 50% of the population
EMS = Emergance?
G = Grams
GR = Growth
GRO = Growth
H = Hours
HAT = Hatchability
HEM = Hematological effect
HIS = Histological effect
IM = Immobilization
LC d50 = Lethal concentration to 50% of test organisms
LET = Lethality
LOC = Locomotor Behaviour
LT d50 = Lethal threshold to 50% of test organisms
MM = Millimeter
OC = Oxygen consumption
PGR = Population growth
PHY = Physiological effects
POP = Population, species diversity
PSE = Photosynthesis effect
RE = Reproduction
REP = Adverse effect to reproduction
RES = Respiratory effects
RN = Renewel
RSD = Residue
ST = Static
STR = Stress
THL = Thermal effect

Table I-1
AQUIRE Freshwater Toxicity Information (µg/L)
Site 15

Remedial Investigation
NAS Whiting Field
Milton, Florida

Chemical Name	Species	Age	Exposure	Effect	Effect Concentration		AQUIRE Reference Number	Year of Publication
					Lethal	Sublethal		

ENZ = Enzyme effect
F = Farenheit
MOR = Mortality
NR = Not reported
VTE = Vertebral effect
µg/L = Microgram per liter

APPENDIX J

APPENDIX J

NAVY RESPONSE TO COMMENTS

Final Response to Review Comments
For Remedial Investigation Report
Site 15, Southwest Landfill

Florida Department of Environmental Protection

1. As we have previously discussed for other sites at NAS Whiting Field, please insure that the soil, surface water and ground water are evaluated with respect to the soil, surface and ground water (Table 1 and Table 3b) values in Chapter 62-785, F.A.C. Please note that the evaluation for soil should be the lower of either the direct exposure or the leachability level, if ground water is indicated to be contaminated. Please modify the appropriate tables to reflect this change. Please reevaluate the existing COPC, risk evaluation, etc., as necessary to also reflect this change. Table G-1 should be corrected to reflect the screening concentrations for those contaminants that were detected in significant concentrations in the groundwater, for example, the screening value for total xylenes is 300 ug/kg, not 100 ug/kg. Note that Table G-3 lists incorrect Florida groundwater guidance concentrations for 1,2-dichloroethene, chlorobenzene, naphthalene, xylenes and cyanide. Some of the TCLs in the Department's former guidelines, 1994 Ground Water Guidance Concentrations, have been superseded by the values in Chapter 62-785, F.A.C. (Table 3b). Finally, the previous Soil Cleanup Goals Memoranda from Mr. John Ruddell and others should not be used since they have also been superseded by Chapter 62-785, F.A.C. The use of the TCLs from Chapter 62-785, F>A.C. will eliminate the errors such as those seen in copper, vanadium, and others presently noted in Tables 5-9 and 5-10. Finally, footnote 12 in Table 5-10 (page 5-44) is incorrect in that the 1998 FDEP document is not appended and my name in the references (page Ref-3) is misspelled.

   Response: As recommended by the reviewer, all data will be compared against the criteria specified in Chapter 62-785, F.A.C. All relevant tables will be updated as necessary.

2. Please present a modified version of Figure 3-4 which shows the analytical values for significant contaminants in the site ground water such as benzene and TCE. If the ground water contaminant data are plotted as requested, there is the suggestion that some of the TCE contamination that is observed may originate from Site 15. The figure will also illustrate the areal distribution of contaminants at Site 15 and also the fact that TCE and petroleum compounds are found in the ground water between Site 15 and the base boundary. I suggest that this be included and discussed in Section 9.1, Conclusions. In addition, a statement should be added which relates the contaminants in the soil and ground water, including exceedances of leaching values from Chapter 62-785, F.A.C., if any are present. All of the previous suggestions will help make the final report more comprehensive and help link data from Site 15, which has significant ground water contamination, to the information that will be obtained in the basewide ground water study.

   Response: As recommended by the reviewer, a modified version of Figure 3-4 will be presented showing significant contaminants in the site ground water. Discussion

of areal distribution of contaminants will be provided in section 9.1, as well as statements relating soil and ground water contamination.

3. Please provide a discussion for the use of the terms, "shallow," "intermediate" and "deep" when discussing monitoring wells. A summary table which explains the depth ranges for each type and which groups the various wells into those classifications would be good. A cross-section diagram similar to the one presently used for the Clear Creek area would also help the reader understand the situation, especially if the diagram can be related to the figure that was requested in comment 2.

   Response: As recommended by the reviewer, discussion of use of terms "shallow," "intermediate," and "deep" will be provided when discussing monitoring wells. A summary table and cross-section diagram will also be provided.

4. I have concerns as to whether the characterization of the subsurface soil for Site 15 is adequate since only five samples were obtained and there was no testing to determine if the landfill is a continuing source of contamination to the ground water. If a cap is determined to be a potential remedy in the future, additional information regarding the groundwater levels and how they may interact with the base of the landfill will also be required in order to assess the adequacy of the cap. In this regard, a review of the Test Pit and CPT Logs data in Appendix C is quite informative, especially Test Pit 15-06, which notes the presence of "solvent cans with solvent." With respect to those CPT logs, there is much information to be obtained from it and I respectfully suggest that prior to preparing a focused feasibility study (which I think is not appropriate at this time), the author of that study should carefully review it.

   Response: *Subsurface soil samples were collected per the scope and protocols presented in the approved workplan. Notes in the field log book state that at a depth of 12-13 feet bls, solvent cans were found in test pit TP-15-06. The logbook describes municipal and industrial (aircraft parts, motor cycle muffler, etc) waste as being found in the test pits. Although collection of additional samples may enable the Navy to better characterize the site, the presumptive remedy for the Site 15 landfill (e.g. land use restrictions) eliminates any future intrusive work at this site.. With restrictions as part of any remedial alternative, additional data will not be necessary.*

5. Figure 6-6: please correct this figure, placing the FDEP acceptable level as 1E-06.

   Response: Figure 6-6 will be revised as recommended.

Final Response to Review Comments
For Remedial Investigation Report
Site 15, Southwest Landfill

U.S. Environmental Protection Agency

GENERAL COMMENTS

1. In each of the statistical summary tables presented in the report, the mean of the detected concentrations is presented. Since any exceedances of the screening criteria should be based on the maximum detected concentrations, it is not clear why the mean of the detected concentrations are presented. This purpose of presenting the mean of the detected concentrations should be clarified.

   Response: The mean of the detected concentrations is a byproduct of the statistical analysis for the risk assessment and has been included in the tables. The maximum detected concentration is also represented in the tables under the detected concentration range.

2. The Soil Cleanup Goals for Florida (FSCGs) Memorandum from John M. Ruddell, dated September 29, 1995 states in the first paragraph that "If there is groundwater contamination above Florida standards and minimum criteria or if there was a recent discharge, the leachability-based cleanup goals should also be considered using the applicable direct contact scenario (residential and industrial). The lowest of the two should be the final cleanup goal for the upper two feet of soil. For below two feet, the leachability based-goal should be applied if the parameters of concern are detected above the Florida criteria." It is not apparent that this procedure was followed in the screening process. This should be clarified. It should also be noted that the FSCGs usually only apply to the upper two feet of soil as stated in the Applicability of Soil Cleanup Goals for Florida from John M. Ruddell, dated January 19, 1996. However, the report uses these goals for comparison to subsurface soils collected from depths to 12 feet below ground surface. This apparent deviation from the procedures specified in the RSCGs should be addressed.

   Response: As recommended by the reviewer, the leachability-based cleanup target levels will also be considered during the screening process, due to ground water contamination.

3. Surface soil samples were collected from 0 to 12 inches. However, Florida guidance (as referenced in the previous comment) suggests that surface soil is defined as the upper two feet of soil. The rationale for collecting samples from 0 to 12 inches should be provided.

   Response: *At the time the surface soil samples were collected the EPA sample depth requirement was 0-1 foot bls which was adopted by the Whiting Field team.*

4. The statistical summary tables should identify the exceedances of the screening criteria

by highlighting or bolding the analytes and/or the concentrations. In addition, figures should be provided to show the locations of the exceedances.

Response: As recommended by the reviewer, exceedances of the screening criteria will be bolded in the statistical summary tables. Figures will also be provided to show the locations of the exceedances.

5. Several errors were noted in the text of the report including changes in font and redundant page numbers (for an example, see Page 5-46). The report should be reviewed carefully by the Navy.

   Response: Errors in the text of the report, including font changes and redundant page numbering will be corrected, as requested.

SPECIFIC COMMENTS

6. **Page 1-1, Fifth Paragraph**. The depth of the trenches and information on whether the waste is located beneath the water table should be provided, if known (note that the test pit and monitoring well logs do not provide this information). This information is relevant to the Feasibility Study and the selection of alternatives and/or the design of the selected alternative. If not presently known, this information should be determined.

   Response: There is no documentation available on the depth of the trenches at Site 15. Based on the depth to the water table (approximately 16 to 90 feet bls) it is not anticipated that the trenches intersect the water table.

7. **Page 3-1, Eighth Paragraph**. Subsurface soil samples were collected in October 1992 and a soil gas survey for methane and total VOCs was conducted in September 1995. Figures 5-7 through 5-10 show the results of the screening at 1.5 feet and 3.0 feet below land surface. The following comments concern these soil gas survey results:

   It is not clear why subsurface soil samples were not collected during Phase IIB in the area from soil gas survey locations 17, 6, 97 and 98 (see Figures 5-7 and 5-9) on the western part of the site, or sample location 20 (Figure 5-9) on the northern part of the site. This additional information would have been useful in attempting to identify the source and nature of the VOCs which were shown by the soil gas concentrations as being in excess of 5,000 ppm. Justification for not collecting these subsurface soil samples should be provided.

   Groundwater samples collected downgradient of these elevated VOC areas (e.g., from WHF-15-1, WHF-15-6S, and WHF-15-6D) in 1996 and 1997 do not appear to

substantiate the elevated VOC levels detected during the soil gas survey. Potential explanations for this anomaly should be provided.

Response: *Data presented on Figures 5-7 through 5-10 provide soil gas surveys as total organic vapor readings including methane. For most of the samples, methane contributed 100% to the reading. These results support a general absence of VOCs in monitoring wells CEF-15-1S, CEF-15-6S, and CEF-15-6D.*

8. **Page 3-5, Sixth Paragraph**. This paragraph does not continue logically to the next page of text (Page 3-7). It appears that a number of words are missing. This discrepancy should be corrected.

   Response: The text in question will be revised to include the missing words.

9. **Page 5-2, Figure 5-1**. It is recommended that an additional downgradient geologic cross-section be constructed. For example, WHF-1466-6 to WHF-15-7 to WH-15-6 to WHF-15-8 would be a good selection for constructing the additional geologic cross-section.

   Response: It appears that the existing cross-sections provide an adequate profile of the subsurface geology at Site 15. Therefore, additional cross-sections are not necessary.

10. **Pages 5-16 and 5-17, Table 5-3**. Monitoring wells WHF-15-8S, WHF-15-8I, WHF-15-8D, WHF-16-7S, WHF-16-7I, and WHF-16-7D should be added to this table to provide vertical hydraulic gradients between Sites 15 & 16 and Clear Creek. In particular, the gradient for WHF- 16-7 may indicate whether the groundwater was discharging to Clear Creek on the date(s) that the measurements were collected.

    Response: From a hydrogeologic standpoint it is known that groundwater discharges to Clear Creek. Vertical gradients in Site 16 monitoring wells are not relevant to the Site 15 RI as they are cross-gradient from the site. Groundwater flow issues will be further addressed in the basewide groundwater investigation.

11. **Page 5-19, First Paragraph**. This paragraph presents seepage velocities for the shallow zone of the aquifer only. The seepage velocities for the intermediate and deep zones should also be discussed.

    Response: Seepage velocities for other parts of the aquifer will be addressed in the basewide groundwater investigation.

12. **Page 5-20, Table 5-5**. The seepage velocities presented in this table only apply to the shallow zone of the sand and gravel aquifer. The seepage velocities for the intermediate and deep zones should also be presented in this table.

Response: Seepage velocities for other parts of the aquifer will be addressed in the basewide groundwater investigation.

13. **Page 5-45, Second Paragraph**. This paragraph should be checked for accuracy (it appears that a sentence was repeated). In addition, a concentration of 1,7000 is listed. This should be corrected to 1,700, 17,000, or whatever is correct.

    Response: As recommended, the repeated sentence will be removed and the concentration will be changed to 1,700.

14. **Page 5-51, Table 5-14**. It seems highly coincidental that the mean of the detected concentrations is the same as the background concentrations for mercury through zinc. These numbers should be confirmed.

    Response: The values will be confirmed and modified if necessary.

15. **Page 5-53, Fifth Paragraph**. It is stated that the preferred groundwater data set is from the Phase IIB sampling event since low-flow sampling methodology was applied. This statement is acceptable. However, Table 5-20 and 5-21 only present the statistics from the second Phase IIB sampling event in 1997. It is not clear why the data from the first Phase IIB sampling event in 1996 was not included. This should be explained and, if appropriate, the 1996 data should be added to the data set. In addition, note that the reference to Tables 6-20 and 6-21 in this paragraph should be Tables 5-20 and 5-21.

    Response: The 1996 data was not used in Tables 5-20 and 5-21 because the 1997 was the most current data set and represents the most current condition of groundwater quality. The 1996 data will be used as appropriate to discuss groundwater concentration trends and distribution. The reference to the tables will be changed as suggested.

16. **Page 5-79, Fourth Paragraph**. With respect to the filtered and non-filtered samples, this paragraph should also note that, in several instances, the filtered samples contained higher concentrations of the same analytes than non-filtered samples. In addition, the authors of the RI report should be aware that EPA Region 4 will not consider the use of filtered samples in any steps of the CERCLA decision making process, including risk assessment determinations.

    Response: The text will be revised to include a discussion comparing filtered and unfiltered data. Only unfiltered data was used in the RI including the risk assessment.

17. **Page 5-74, Table 5-20**. The reporting limit ranges for several analytes exceeded the screening criteria including 1,1-dichloroethene, 1,2-dichloroethane, benzene, trichloroethene, naphthalene, and bis-(2-ethylhexyl)phthalate. This should be noted in

the text of the report.

Response: It will be noted in the text that the reporting limit ranges for the above analytes exceeded the screening criteria.

18. **Page 5-76, Table 5-21**. The reporting limit range for antimony exceeded the screening criteria. This should be noted in the text of the report.

    Response: It will be noted in the text that the reporting limit range for antimony exceeded the screening criteria.

19. **Page 8-12, Sixth Paragraph**. It is noted in this paragraph that subsurface soil is discussed with respect to fate and transport. However, this discussion is missing from this section. A discussion of the fate and transport of contaminants in the subsurface soil should be added.

    Response: The subsurface soil fate and transport section will be added to this section.

20. **Page 8-13, Second Paragraph**. This paragraph (regarding surface soil) states that the metals in the soil are not likely to be mobile since metal analytes readily adsorb to, or are natural constituents of, clays and other minerals. While the statement may be true, it is not apparent that it is highly applicable to the conditions at Site 15. The test pits and monitoring well logs show that the surface soil is predominantly sand. This paragraph should be modified or removed from the report.

    Response: The paragraph will be removed from the report.

21. **Page 8-13, Third Paragraph**. In addition to surface water contamination via runoff from contaminated surface soil, the potential for the contamination of Clear Creek via groundwater discharge should be discussed.

    Response: The potential for groundwater discharge to Clear Creek will be included in this paragraph.

22. **Page 8-13, Seventh Paragraph**. According to this paragraph, contaminated sediment transport to Clear Creek is not believed possible. It should be stated that this hypothesis will be evaluated during the Site 39, Clear Creek Flood Plain investigation. Additionally, the surface transport of contaminated sediment to the ditch along the southern end of the site, and potential ecological exposure, should be discussed.

    Response: Text will be included to identify that sediment transport to Clear Creek will be addressed during the Clear Creek Flood Plain investigation. Transport of sediment to the ditch at the southern end of the site will be included in the report.

23. **Page 8-14, First Paragraph**. The last sentence states that Clear Creek is located 1500 feet southwest of the site. This is inconsistent with other statements in the report which specify the distance as 1200 feet (e.g., Page vi, Bullet 6). This discrepancy should be corrected.

    Response: The last sentence has been changed to state that Clear Creek is located 1200 feet southwest of the site.

24. **Page 8-14, Fifth Paragraph**. In the second sentence, it is stated that a seepage velocity of 139 feet/year was calculated for the surficial aquifer from eight monitoring wells at Site 15. This sentence should be clarified since:

    - the identification of discrete aquifers ("surficial aquifer" implies that there are deeper aquifers) has not been made in the report, and

    - the seepage velocity was calculated from four monitoring wells at Site 15 and four monitoring wells at Site 16.

    Additionally, the seepage velocity of 139 feet/year was calculated based on data from shallow monitoring wells and does not represent the seepage velocity of the deeper aquifer zones. Information on the seepage velocities in the deeper aquifer zones should be added. Also, it should be noted that WHF-15-2I and WHF-15-3I had significantly higher hydraulic conductivities (see Page 5-18, Table 5-4) than the shallow wells at Site 15.

    It is not clear why the last sentence contains the phrase "50-year time frame". The distance of 4,587 feet for potential contaminant migration is calculated based on the seepage velocity of 139 feet/year and a 33-year time frame. To avoid confusion, the "50-year time frame" should be removed. Furthermore, the calculation of the distance of potential contaminant migration should be based on the "worst-case scenario" using the maximum seepage velocity from the shallow, intermediate, and deep zones.

    Response: Seepage velocities in deeper zones of the aquifer will be addressed in the basewide groundwater investigation. The "50-year time frame" phrase will be removed from the text.

25. **Page 8-14, Seventh Paragraph**. It should be clarified whether additional sediment and surface water samples will be collected from Clear Creek in the RI for Site 39, Clear Creek Flood Plain, to evaluate the potential impacts of Site 15.

Response: Text will be added to indicate that additional surface water and sediment samples will be collected during the RI for Site *39 to evaluate potential impacts of the IR sites on Clear Creek.*

26. **Page 9-1, First Paragraph**. The second bullet refers to "total organic carbon" which is not relevant with respect to the soil gas survey. "Total organic carbon" should be replaced with "total VOCs".

The fifth bullet incorrectly states that the detected concentrations of arsenic in surface soil did not exceed the FDEP-approved site-specific non-residential goal of 4.2 ug/l (note that ug/l is not the correct units for soil samples). Table 5-10 on page 5-43 shows that arsenic concentrations ranged from 0.75 mg/kg to 6.8 mg/kg. In addition, the FDEP-approved site specific non-residential goal is shown as 4.62 mg/kg in Table 5-10 and not 4.2 ug/l as stated in this paragraph. These discrepancies should be corrected.

The first sentence of the sixth bullet should refer to "subsurface soil" samples and not "surface soil" samples. In addition, it is stated that the concentration of Arochlor-1242 exceeded the Florida industrial-use soil cleanup goal. However, the detected concentration was 2,200 ug/kg and the Florida industrial-use soil cleanup goal is 3,500 ug/kg (see Page 5-49, Table 5-13). The Region III RBC (industrial) was exceeded, as stated. These discrepancies should be corrected.

Response: *The reference to "total organic carbon" in the second bullet will be replaced with "total VOCs."*

The fifth bullet will be changed to include arsenic's correct FDEP-approved site-specific target level of 4.62 mg/kg. Text stating that arsenic did exceed the site-specific non-residential target level will be added.

The sixth bullet will be changed to refer to "subsurface soil." Aroclor-1242 has exceeded the Florida SCTL for leachability instead of the industrial value and will be changed accordingly.

Site 15 Human Health and Ecological Risk Review Comments:

GENERAL COMMENTS

27. The results of investigations conducted at Site 15 are presented in Section 5 (Investigative Results section) of the document. Throughout the chapter, the analytical results and the various screening criteria are presented in table form for each media evaluated. Generally, it appears that USEPA Region III Risk-Based Concentrations (RBCs) are not adjusted by 0.1 for noncarcinogenic constituents. However, this does not

seem to be consistent throughout the section. For example, it appears that the values have been adjusted on Table 5-14. The RBCs have been appropriately adjusted during screening in the risk assessment section of the document. Therefore, it is acceptable for the values to remain unadjusted in the Investigative Results section since they are presented for informational purposes only. However, the information that is presented should be consistent. Section 5 of the document should be reviewed and corrected accordingly.

Response: Section 5 tables will be revised to be consistent in the presentation of USEPA Region III Risk-Based Concentrations.

SPECIFIC COMMENTS

28. **Section 5.5, Page 5-45**. The section presents a discussion of the surface soil analytical results for Site 15. The text states that dibutylphthalate was detected in six samples at concentrations ranging from 730 to 1,100 ug/kg. This is inconsistent with the information presented on Table 5-9. According to the table, the range of dibutylphthalate concentrations is 560 to 1,100 ug/kg. The discrepancy between the text and table should be corrected.

    Response: The range of dibutylphthalate will be changed to 560 to 1,100 ug/kg as shown in Table 5-9.

29. **Table 6-8**. The table presents a summary of the risks calculated for receptors identified under future land use. According to Table 6-8, the hazard indices calculated for ingestion of groundwater for the adult and child are three and seven, respectively. However, this is inconsistent with the values presented in Tables G-24 and G-25. These tables indicate that adult and child hazard indices are four and eight, respectively. The discrepancy should be corrected.

    Response: Table 6-8 has been reviewed and the hazard indices for ingestion of groundwater for the adult and child will be changed, according to Tables G-24 and G-25, to four and eight, respectively.

30. **Section 6.8, Page 6-34**. It is stated in the text that the human health contaminants of potential concern (HHCPCs) detected in subsurface soil do not pose unacceptable carcinogenic risk to the receptors evaluated. However, no subsurface HHCPC were identified at Site 15. The text of this section and the Executive Summary should be amended in order to avoid unnecessary confusion.

    Response: The text will be revised to indicate that no HHCPCs were identified for subsurface soil.

31. **Figure 7-2, Page 7-6**. Figure 7-2 shows the contaminant pathway model for Site 15 ecological receptors. Shading of the boxes indicates exposure pathways that are quantitatively evaluated for receptors in Site 15. Nonshaded boxes indicate insignificant exposure pathways. The soil-to-food-to-ingestion pathway for terrestrial invertebrates is not shaded meaning it is not considered to be a significant exposure pathway. This is somewhat misleading because the soil-to-food-to-ingestion pathway is a significant route of exposure. However, since the majority of food for terrestrial invertebrates comes from soil, exposure via soil ingestion and food ingestion can be lumped into one exposure route. Soil ingestion and food ingestion should both be shaded and a note should be provided about them being essentially one pathway and that they will be analyzed as such.

    Response: The box for terrestrial invertebrate soil-to-food-to-ingestion pathway will be shaded in Figure 7-2. The following footnote will be added to the table; The ingestion exposure routes for terrestrial invertebrates include the ingestion of soil and food items containing chemicals accumulated from Site 15 surface soil.

32. **Section 7.2.3, Pages 7-7 and 7-8**. This section presents the hypotheses developed to gauge risks associated with exposure to surface soil. Hypothesis number 4 on page 7-8 discusses ECPC in groundwater. The first sentence of the fifth paragraph on page 7-7 should be changed to, "Four hypotheses were developed to gauge potential risks associated with exposure to Site 15 surface soil *and groundwater*."

    Response: The second paragraph in Section 7.2.3 will replaced with the following: *"Four questions were developed to gauge potential risks associated with exposure to Site 15 surface soil and groundwater. These questions are designed for multiple species and trophic levels and represent both individual and community dynamics. Questions for the Site 15 ERA include the following:"*

33. **Table 7-1, Page 7-8**. Table 7-1 shows the endpoints selected for the ecological risk assessment. In Section 7.2.3, the assessment endpoints are defined as representing the ecological component to be protected. However, in Table 7-1 the assessment endpoints for terrestrial plants and terrestrial invertebrates are stated as being a reduction in the biomass of terrestrial plants used as forage material and a reduction in the abundance of earthworms used as forage material, respectively. Reductions in forage material are not ecological components to be protected. The assessment endpoints in Table 7-1 are not consistent with the definition of an assessment endpoint provided in section 7.2.3. This inconsistency should be corrected.

    Response: The receptors for the first two assessment endpoints in Table 7-1 will be changed from terrestrial plants and invertebrates to wildlife species. Therefore, a reduction in forage material is an ecological component to be protected, as a reduction in

forage material would have a direct effect on the receptors of concern (i.e. wildlife species).

34. **Table 7-2, Page 7-13**. Table 7-2 provides information on the selection of ECPCs such as detected concentrations and screening values. It is reported in Table 7-2 that the ecological screening value for zinc is not available. However, when referencing Beyer (1990), a screening value of 200 mg/kg was found. This value should be use in Table 7-2.

    Response: The screening value of 200 mg/kg will be added to Table 7-2, and the ERA will be revised accordingly.

35. **Section 7.4.1, Page 7-18**. The second paragraph on page 7-18 involves groundwater EPCs. It is explained that a 10-fold attenuation factor is applied to the RME concentration in order to derive a realistic exposure concentration for groundwater constituents in the surface water of Clear Creek. It is unclear as to how the "10-fold attenuation factor" was derived. This needs to be clarified.

    Response: The 10-fold attenuation factor is a conservative estimate of the attenuation that occurs between groundwater and surface water exposure.

36. **Section 7.4.2, Page 7-18**. Several sections in chapter 7 (e.g. Section 7.4.2 and Section 7.3) refer the reader to information in the General Information Report (GIR) prepared by ABB-ES in 1998. Information such as PDE calculation methodologies and background investigation data are only available in the GIR and are not provided in this report. It would be helpful for pertinent information to be provided in an appendix to this report.

    Response: The background data are provided in the NAS Whiting Field GIR and will not be added to the RI report. The GIR was created to reduce the presentation of redundant information in the RI reports and contains a large amount of technical information that would be unwieldy to append to each RI report.

37. **Table 7-4, Page 7-19**. This table provides the equations used to calculate the potential dietary exposures for wildlife receptors. The variable "TN" is given three different definitions in Table 7-3. They are as follows, 1) the tissue concentration in food item N, 2) the secondary prey item concentration, and 3) the primary prey item concentration. Clarification (e.g., T_p for primary prey item tissue concentration and T_s for secondary prey item tissue concentration) in Table 7-3 would be beneficial.

    Response: The variable T_N will be modified so that T_{N1} refers to the tissue concentraion of the primary prey item, T_{N2} refers to the tissue concentration of the secondary prey item, and T_N refers to the tissue concentration of either the primary or secondary prey item.

The rationale provided in the ERA for not calculating bird tissue concentrations is the lack of avian bioaccumulation factors (BAFs). Since contaminant concentrations in birds as a secondary prey items were not calculated, it should be stated in section 7.4 how PDEs for the red fox and red-tailed hawk were calculated without the avian BAFs.

Response: The text in section will not be revised however an uncertainty will be added in Section 7.7 to address this issue. The following uncertainty will be added to section 7.7. The PDEs for the red fox and red-tailed hawk assume no exposure from small birds as prey items due to a lack of avian BAFs. Birds make-up a small portion of the red fox and red-tailed hawk diet, and for this evaluation it is assumed that small birds would not provide a source of contaminant exposure. In addition, the risks predicted (i.e. the HQs and HIs) for the red fox and red-tailed hawk were so low that it is unlikely that including avian BAFs (if they were available) would alter the findings of the ERA.

38. **Section 7.4.2, Pages 7-18 and 7-20**. The second bullet in Section 7.4.2 provides a discussion of the short-tailed shrew as a wildlife receptor. The home range of the short-tailed shrew is not provided in this discussion although the home ranges for other ecological receptors are provided in this section. The home range of the short-tailed shrew should be provided in the first bullet.

The second bullet on page 7-20 provides a discussion of the red-tailed hawk as a wildlife receptor. The home range of the red-tailed hawk is not provided in this discussion, although the home ranges for other ecological receptors are provided in this section. The home range of the red-tailed hawk should be provided in the fourth bullet.

Response: The home range for the short-tailed shrew will be included as suggested. The first sentence in this paragraph will be revised as follows; "…. , and brush, and has a home range of approximately 1 acre".

The home range for the red-tailed hawk will be included as suggested. The first sentence of this paragraph will be revised as follows; "… on small mammals, and has a home range of approximately 800 acres".

39. **Table 7-6, Page 7-21**. This table describes the exposure parameters for representative wildlife species used as receptors in this remedial investigation. Many of the parameters are cited from the *Wildlife Exposure Factors Handbook* (USEPA, 1993); however, it is not consistently stated whether an average of the exposure parameter is calculated or if a certain study was selected. For example, it is not explained in Table 7-5 how the values in the column titled, "Assumed Diet for Terrestrial Exposure Assessment (% of diet)," were derived. The dietary composition data for the deer mouse (surrogate for the cotton mouse) provided in the handbook are seasonal percentages with invertebrates comprising as much as 63% of the deer mouse's diet, but Table 7-6 states that invertebrates make up

10% of the deer mouse's diet. It should be clarified in Table 7-6 how the values in the dietary composition column were derived from the data provided in the handbook.

The food ingestion rate (FIR) for the red-tailed hawk was calculated using the bird equation based on body weight from the *Wildlife Exposure Factors Handbook* (USEPA, 1993). An FIR of 0.133 kg/day for the red-tailed hawk is presented in table 7-6; however, when calculated using the EPA bird equation and the body weight provided in Table 7-6, an FIR of 0.059 kg/day results. This calculation should be reevaluated and checked for accuracy.

In Table 7-6 it is stated that the body weight of the red-tailed hawk is 1.02 kg with a footnote of [I]. However, footnote [I] refers to the bird food ingestion equation, not to the derivation of body weight. The footnote for the red-tailed hawk body weight should be changed to indicate the source of the body weight value.

Response: The dietary composition data in Table 7-6 were derived based on average exposure parameters cited in the *Wildlife Exposure Factors Handbook* (USEPA, 1993). The table footnotes will be revised to clarify this distinction.

The food ingestion rates were re-calculated for the eastern meadowlark and red-tailed hawk. The FIR for the eastern meadowlark is correct. However, the FIR for the red-tailed hawk was calculated incorrectly, the correct FIR for the red-tailed hawk should be 0.059 kg/day. The ERA will be revised as required.

The footnote will be changed to [h], as the body weight for the red-tailed hawk, used in this evaluation was presented in Terres 1980.

40. **Section 7.6.4, Page 7-32**. In this section, it was concluded that it is unlikely that the predicted levels of zinc in the groundwater will have an adverse effect on aquatic receptors in Clear Creek. This was concluded in spite of the fact that the predicted groundwater exposure concentrations of zinc (27 μg/L) exceed the AQUIRE value of 17 μg/L. The reasoning behind this conclusion is that a review of additional AQUIRE data for zinc indicated that the predicted 27 μg/L exposure concentration would not result in adverse effects to the majority of the aquatic receptors in Clear Creek. Although this conclusion is believed to be accurate, the reasoning behind this conclusion should be further discussed in this section.

Response: The text will be modified to include more details on the reasoning behind the conclusion of no adverse effect to aquatic receptors from exposure to zinc. The following text will be added to this section: The AQUIRE data on zinc was reviewed for toxicity information on specific receptors that would most likely inhabit Clear Creek. The results of this review indicated that exposure to concentrations of zinc at 27 ug/L would not pose a risk to these aquatic receptors.

41. **Section 9.1, Page 9-1**. The text states that three volatile organic compounds (VOCs), seven semi-volatile organic compounds (SVOCs), and one pesticide compound were detected in Site 15 surface soil samples. However, these constituents are actually found in subsurface soil samples. The text of this section and the Executive Summary should be corrected accordingly.

    Response: The text of section 9.1 and the Executive Summary will be corrected to refer to subsurface soil samples.

42. **Table H-1**. This table presents bioaccumulation factors (BAFs) for terrestrial invertebrates, terrestrial plants, mammals, and birds.

    It is not possible to confirm the mammal BAFs for semivolatiles using the cited Travis and Arms equation for biotransfer factors with conversion to BAFs. The average ingestion rate used for this calculation in the ERA was not provided. Provide more information on the calculation of the mammal BAFs and re-confirm the calculated mammal BAFs.

    Table F-1 provides a plant BAF of 6.7E-03 for bis(2-ethylhexyl)phthalate, Di-n-butylphthalate, and butylbenzylphthalate. However, when recalculated using the equation in footnote [d], a plant BAF of 8.7E-03 was obtained for bis(2-ethylhexyl)phthalate, 7.6E-03 for Di-n-butylphthalate, and 1.1E-02 for butylbenzylphthalate. Please review these calculations and address the discrepancies.

    Response: The average ingestion rate for lactating and non-lactating cows is 12 kg feed/day (dry weight). As noted in footnote [e] in Table H-1, this value was converted to a wet weight prior to calculation of a BAF. This ingestion rate for lactating and non-lactating cows will be included in footnote [e], in Table H-1. The mammal BAFs for Di-n-butylphthalate, and bis(2-ethylhexyl)phthalate, calculated using this equation are 2.4E-01 and 1.9E-01, respectively. The BAF for Di-n-butylphthalate will be used as a surrogate for butylbenzylphthalate, as a BAF was not calculated for this analyte because it has a log Kow value of <5.

    The calculations were reviewed and the USEPA reviewer is correct in stating that the plant BAF for bis(2-ethylhexyl)phthalate and Di-n-butylphthalate should be 7.6E-03 and 8.7E-03, respectively. However, the BAF for Di-n-butylphthalate will be used as a surrogate for butylbenzylphthalate, as a BAF was not calculated for this analyte because it has a log Kow value of <5.

43. **Table H-2**. Table H-2 presents ingestion toxicity information. The Lowest Observed Adverse Effect Level (LOAEL) column heading should not be under the lethal reference toxicity value (RTV) heading. The LOAEL should be presented only with sublethal

RTVs. The column headings need to be verified to ensure that they reflect the data in the column and be revised as necessary.

Response: LOAEL values for mortality are available (i.e., mortality in 6% of the population); therefore, it is appropriate to list these values under the "lethal RTV" heading. As described in Section 7.5.1 of the ERA, data used to select lethal RTVs includes NOAEL and LOAEL data, as well as well as LD 50 values from literature.

44. **Table H-3**. Table H-3 presents the RTVs selected for the ERA while Table H-2 presents ingestion toxicity data for wildlife.

For zinc, an LD50 derived lethal RTV of 502 mg/kg/BW/day was used in Table H-3 and a LOAEL derived sublethal RTV of 20 mg/kg/BW/day was used in Table H-3. However a lower lethal RTV of 3.9 mg/kg/BW/day and a lower sublethal RTV of 16 mg/kg/BW/day are both available as listed in Table H-2. The lowest possible RTVs should be used in Table H-3. Please review this calculation and address this discrepancy.

Response: The lethal and sublethal RTVs presented in Table H-3 were used as the selected RTVs because the effects measured in the laboratory tests were more closely related to the chosen assessment endpoints. The alternatives listed in Table H-2 (i.e., lethal RTV of 390mg/kg/BW-day and sublethal RTV of 160 mg/kg/BW-day) are consistent with the selected RTVs, and are based on effects that are not as closely related to the chosen assessment endpoints as the selected RTVs. In addition, the RTV values identified in the reviewers comment are not consistent with the RTVs listed in Table H-2.

EDITORIAL COMMENTS

45. **Section 7.5, Page 7-25**. The first sentence on page 7-25 mentions Site 18 when it is believed that Site 15 is being referred to. This discrepancy should be addressed.

Response: The first sentence on page 7-25 will be corrected to refer to site 15.

APPENDIX K

APPENDIX K

EVALUATION OF BACKGROUND CONCENTRATIONS FOR COVERED LANDFILL SITES

Evaluation of Background Arsenic Concentrations for Covered Landfill Sites

Naval Air Station (NAS) Whiting Field, Milton, Florida

At NAS Whiting Field nine soil types, as identified by the U. S. Department of Agriculture, Soil Conservation Service (USSCS), are present. The Remedial Investigation (RI) sites at NAS Whiting Field are associated with seven of the nine soil types. The background surface soil data set for each RI site was initially determined to be comprised of background surface soil samples from the same USSCS soil types as occur on the individual sites. However, available information and review of historical aerial photographs indicated that in the construction of landfills at the facility, a borrow pit was dug to an approximate depth of 10 to 15 feet below land surface (bls) and the excavated soil was piled to the side. Following landfill operations, the borrow materials comprised of undifferentiated surface and subsurface soils, were used for the landfill cover. Any additional soils required to complete the landfill cover are believed to have been obtained from other borrow pits located at the facility.

If a mix of surface and subsurface soils were used in the cover for landfills, it would be appropriate to use the combined data set of surface and subsurface soil samples as the background screening value. However in order to be protective of human health and the environment, it is proposed that the background surface and subsurface data set be combined to a single value as be used as the "Industrial Use Soil Cleanup Goal". This modified "Industrial Use Soil Cleanup Goal" is specifically limited to the covered landfill sites including: Site 1, 2, 9, 10, 11, 13, 14, 15, and 16 and to the inorganic analyte arsenic.

Tables 3-8 through 3-18 in the General Information Report present the detected concentrations and summarize the analytical data for the individual background soil samples collected at NAS Whiting Field. A summary of the arsenic background data set and the modified "Industrial Use Soil Cleanup Goal" for arsenic is presented Table I-1. As indicated on the table the modified "Industrial Use Soil Cleanup Goal" for arsenic to be used at covered landfill sites is 4.62 mg/kg.

Table A-1
Summary of Arsenic Detected in Surface and Subsurface Background Soil Samples

Feasibility Study
Site 12, Tetraethyl Lead Disposal Area
Naval Air Station Whiting Field
Milton, Florida

Analyte	Frequency of Detection Surface Soil Samples[1]	Mean of Detected Concentrations Surface Soil Samples[2]	Frequency of Detection Sub-surface Soil Samples[1]	Mean of Detected Concentrations Subsurface Soil Samples[2]	Frequency of Detection Surface and Subsurface Soil Samples[1]	Mean of Detected Concentrations Surface and Subsurface Soil Samples[2]	Surface and Subsurface Soil Background Screening Concentration (modified Industrial Use Cleanup Goal)
Inorganic Analytes (mg/kg)							
Arsenic	15/15	1.54	14/14	3.14	29/29	2.31	4.62

[1] Frequency of detection is the number of samples in which the analyte was detected divided by the total number of samples analyzed.
[2] The mean of detected concentrations is the arithmetic mean of all samples in which the analyte was detected. It does not include those samples in which the analyte was not detected.

Note: mg/kg = milligrams per kilogram.

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Table A-2
Comparison of Detected Arsenic Concentrations in Surface and Subsurface Soil Samples to Florida Soil Cleanup Goals

Feasibility Study
Site 12, Tetraethyl Lead Disposal Area
Naval Air Station Whiting Field
Milton, Florida

Analyte	Minimum Detected Concentration	Maximum Detected Concentration	Mean of Detected Concentrations	Soil Cleanup Target Levels for Florida (Residential)[1]	Soil Cleanup Target Levels for Florida (Industrial)[1]	Surface and Subsurface Soil Background Screening Concentration (modified Industrial Use Cleanup Goal)[2]
Inorganic Analyte (mg/kg)						
Arsenic	0.52	6.3	2.31	0.8	3.7	4.62

[1] Source: Chapter 62-785, Florida Administrative Code.
[2] The modified Industrial Use Cleanup Goal for arsenic is the Florida Department of Environmental Protection approved site specific cleanup gaol for Perimeter Road sites at Naval Air Station, Whiting Field.

Note: mg/kg = milligrams per kilogram.

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